

MULTI-GRADE RURAL SCHOOLS INTERVENTION IN THE
WEST COAST WINELANDS EMDC: A CASE STUDY

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**MULTI-GRADE RURAL SCHOOLS INTERVENTION IN THE
WEST COAST WINELANDS EMDC: A CASE STUDY**

by

PETRUS JOHANNES VISSER BOONZAAIER

THESIS

Submitted in fulfillment of the requirements for the degree

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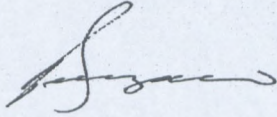
Promoter: Doctor J. Joubert

Wellington

September 2008

DECLARATION

I, P.J.V. Boonzaaier, declare that the contents of this thesis represent my own unaided work, and that the thesis has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.



24 September 2008

Signed

Date

ABSTRACT

Multi-grade teaching is a worldwide phenomenon. Meeting the basic needs of rural people in developing countries is a major challenge to achieve the Millennium Development Goals of the Education for All programmes. Situation analyses carried out by Little (1995, 2001, 2003, 2004 and 2005), Juvane (2005), Taylor and Mulhall (1997) and Atchoarena and Gasperini (2003) indicate that multi-grade schools are common in impoverished, low population settlements such as remote areas and small villages. Researchers like Berry (2001), Pratt (1986) and Bryk (1994) report evidence that multi-grade schools can be positive places for learners and teachers. Observations done by Rao (2004), McGinn (1996) and McEwan and Benveniste (2001) show that successful models of multi-grade teaching already exist. Examples of addressing the isolation of multi-grade settings are found in Finland and Greece, where ICT is utilized to address this challenge.

The “active” pedagogy which researchers like Little (1995, 2003 and 2005), Juvane (2005), Miller (1999) and McEwan and Benveniste (2001) promote for multigrade schools expects teachers to guide activities to be completed, and allows for free activities, which require application of the knowledge gained. It also involves creative exploration and application of regional-specific knowledge and relies upon learners to acquire and construct knowledge for themselves, guided by the teacher. Atchoarena and Gasperini (2005:6) believe in an integrated learning concept which bases its focus on the notion that effective learning is not limited to the classroom, but that, through use of community resources the curricula can “come alive.” The “active” pedagogy and the expected participation of communities in the teaching and learning process should not only be for the benefit of the multi-grade class but should also be applicable to teaching and learning in mono-grade classes. This contributes to Bingham’s (1995:6) view that a natural community of learners is inclusive of experiences outside school boundaries in the larger world.

According to the Ministerial Committee on Rural Education (2005:12), South Africa’s first ten years of democracy, are after 1994, characterized by an overwhelming commitment to equality, to treat everyone in the same way no matter what his or her differences are. Hence, the management and funding of rural schools are similar to the principles and formulas of those of urban schools. So too, curriculum and pedagogies of rural schooling are planned to be the same as those found in rural settings.

Emerging Voices (2205:12) and Joubert (2005:3) agree that rural education has to provide the means to enable generations to break out of the recurring cycle of unskilled labour and resultant poverty. State education must deliver learners who are able to read, write and are numerate and furthermore deliver trained teachers for the multi-grade /rural school system.

In the literacy reviewed, it is clear that curricula, learning materials, teacher education and assessment are necessary components of an integrated strategy for learning and teaching in multi-grade settings. Surrounding these strategies is the need for national policies for curriculums, materials, teacher education and assessment that recognize, legitimate and support learners and teachers in multi-grade settings. The researcher identified two interventions, which addressed the above mentioned multi-grade phenomenon in South Africa, namely the Kgatelopele project of the Limpopo Education Department launched in 2000 and the Multi-grade Rural School Intervention (MGRSI) in the Western Cape Province launched in 2001.

Both these interventions focused on the needs of multi-grade schools, and ways to address those needs. The MGRSI was structured according to a logic model, which provided the objectives of the intervention and the strategy, which it intended to follow in order to reach the stated outcomes. This study provided the opportunity to do a case study, which revealed the successes and the challenges of the intervention implemented from 2001 to 2006.

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Finally, my profound gratitude goes to my daughters Matilda, Delene, Jo-Dine and my son in law Johan for their understanding and tolerance while I was busy with my studies

DEDICATION

This thesis is dedicated to:

- My loving mother Maria Magdalena Boonzaaier and my late father Hermias Cornelius Boonzaaier;
- My wife, Tilla, my daughters Matilda Boonzaaier Venter, Delene Boonzaaier and Jo-Dine Boonzaaier and my son in law Johan Venter;
- My grandchildren Strauss Venter and P.J. Venter;
- All those who seek to understand multi-grade schools in pursuit of taking the study further.

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GLOSSARY

Abbreviations	Explanation
ABET	Adult Basic Education and Training
ACE	Advanced Certificate for Education
ANUC	Asociación Nacional de Usuarios Campesinos
APEID	The Asia Pacific Programme of Educational Innovation for Development
CAP	Country Area Program
CARE	Cooperative for American Remittance to Europe
COREVIP	The African Conference of Rectors, Vice Chancellors and Presidents of African Universities
CPUT	Cape Peninsula University of Technology
CTI	Cape Teaching Institute
DEET	Department of Employment Education and Training
DFID	Department for International Development
ECD	Early Childhood Development
EFA	Education For All
ELRC	The Education Labour Relations Council
ELSEN	Education of Learners with Special Education Needs
EMDC	Education Management and Development Centre
EN	Escuela Nueva
EQUIP	Education Quality Improvement Partnership
ERP	Education for Rural People
FAO	Food and Agriculture Organisation
FET	Further Education and Training
GET	General Education and Training
HEI	Higher Education Institute
HELLAS SAT	Hellenic Telecommunications Satellite
HIV/AIDS	Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome
HSRC	Human Science Research Council
ICT	Information Communication Technology
IDB	Inter-American Development Bank
IICBA	International Institute for Capacity Building in Africa
IIEP	International Institute for Education Planning
INSET	In-Service Education Training
INSPIRE	Integrated System of Programme Instruction for Rural Environment
IOE	Institute of Education
IT	Information Technology
JET	Joint Education Trust
JFK	John F Kennedy
LATIMS	Learning and Teaching in Multi-grade Settings
LEID	Lifelong Education and International Development
LSEN	Learners with Special Education Needs
MDG	Millennium Development Goals
MFT	Multi Functional Team

MGI	Multi-grade Intervention
MGRSI	Multi-grade Rural School Intervention
MLC	Minimum Levels of Competency
MLL	Minimum Levels of Learning
MoE	Ministry of Education
MST	Mathematics, Science and Technology
MTRP	Multi-grade Trainers Resource Pack
MUSE	Multi-grade School Education
NBI	National Business Initiative
NEU	Nueva Escuela
NGO	Non Government Organisation
NSW	New South Wales
NWREL	Northwest Regional Educational Laboratory
OERI	Office of Educational Research and Improvement
PDP	Professional Development Programme
PRESET	Pre-Service Education Training
QCA	The Qualifications and Curriculum Development
RIVER	Rishi Valley Institute for Educational Resources
RUPEP	Rural Primary English Project
RVEC	Rishi Valley Education Centre
SDU	Schools Development Unit - The United Nations Children's Fund
SLO	Netherlands Institute for Curriculum Development
UCT	University of Cape Town
UK	United Kingdom
UN	United Nations
UNESCO	United Nations Educational Scientific and Cultural Organisation
UNICEF	The United Nations Children's Fund
US	University of Stellenbosch
USAID	United States Assistance to supporting economic growth, agriculture and trade, global health and democracy, conflict prevention and humanitarian assistance
WCED	Western Cape Education Department

*I've come to the frightening conclusion
that I am the decisive element in the
classroom.*

*My personal approach creates the climate.
My daily mood makes the weather.*

*As a teacher I possess a tremendous power
to make a child's life miserable or joyous.
I can be a tool of torture or an instrument
of inspiration. I can humiliate or humor,
hurt or heal.*

*In all situations it is my response that
decides whether a crisis will be escalated
or de-escalated and a child humanized or
dehumanized.*

Hiam Ginot

<http://www.ricelake.k12.wi.us/staff/roskama/StudentTeaching/Quotes/QuoteGinot.htm>:

13 July 2008

CHAPTER ONE

THE RATIONALE FOR A CASE STUDY ON THE MULTI-GRADE RURAL SCHOOLS INTERVENTION IN THE WEST COAST WINELANDS EDUCATION MANAGEMENT AND DEVELOPMENT CENTRE (EMDC)

1.1 INTRODUCTION

Multi-grade teaching is, most of the time, according to Benveniste and McEwan (2000:33), synonymous with schooling found in environments, which refer to poor, rural, and farm settings where the teacher is responsible for teaching learners of different grade levels at the same time. Multi-grade schools are widespread in developing, as well as industrialised countries. Surprisingly, the needs of multi-grade teachers and learners remain invisible to those who plan, design and fund education centrally (Litshani, 2004:1).

The circumstances facing rural schools in South Africa, Africa and the rest of the global world have the effect that, according to Little (2005:6) and (Forgotten Schools, 2004:54), multi-grade teaching arises through necessity rather than choice. It therefore requires consideration of quality improvement interventions that take account of the special needs that are particular to schools in rural communities. South Africa is, as the rest of Africa, committed not only to providing education for all, but also ensuring that what it provides is of the best quality that the country can afford. Therefore, the investment in the skills of multi-grade teaching should be seen as contributing to the goal of basic quality for all.

1.2 AN INTERNATIONAL PERSPECTIVE ON MULTI-GRADE RURAL EDUCATION

Gasperini and Atchoarena (2005:2) report that 53% of the world population is still rural and according to the Food and Agriculture Organization of the United Nations (FAO) projections, this situation is not going to change drastically over the next 20 years. About 80% of the population in developing countries is rural. However, the strongest rationale for a focus on rural people is that 70% of the world's poor live in rural areas. Given that, globally, rural people are the majority of the population, and the urbanization trend cannot be an excuse not to address their basic needs and rights.

UNESCO (2002:16) estimates that a large percentage of the 115 million learners still out of school live in the poorest and most remote regions of certain countries. A vast majority of other learners for whom formal education is not an option are orphaned, working, affected by HIV/AIDS or living in countries in crisis or in transition.

According to Gasperini and Atchoarena (2005:1) illiteracy often coincides with poverty and hunger, with problems of learner and maternal health and with greater exposure to HIV/AIDS. It is mainly a rural phenomenon with implications for the achievement of sustainable development, participatory democracy, social cohesion, equity (including gender equity) and peace.

If the world wants to achieve sustainable development and reach the Millennium Development Goals (MDGs) then Education for All (EFA), formulated for the first time in Jomtien Thailand in 1990, has to include all rural people. This will be an urgent task for the international community at large. There is, according to Gasperini and Atchoarena (2005:1), a low level of awareness amongst decision makers about the impact of rural peoples' illiteracy on development. Moreover, weaknesses of basic education services in rural areas are related to the fact that countries lack knowledge, trained people, experience, resources and infrastructure to plan and deliver effective basic education services to rural people. In addition, weaknesses in the coordination mechanisms between Ministries of Education, Ministries of Agriculture and civil society are yet to be addressed in most developing countries. The UNESCO's 2002 EFA monitoring report warns that "almost one-third of the world's population live in countries where achieving the EFA goals will remain a dream, unless governments make a strong concerted effort" (Bellamy, 2002:3).

Hartwell, DeStefano and Benbow (2004:3) report that national education systems in developing countries have provided primary education to the great majority of urban learners and youth, but they have not been able to provide quality education to historically underserved populations and regions. In the least developed parts of the world, traditionally managed public education systems hold little promise for meeting EFA goals. Gasperini and Atchoarena (2005:2) argue that the reason for this is that rural people often do not have a strong political voice and leadership. Priorities for the allocation for public expenditures are also heavily skewed to the urban sector. Consequently poverty, including food insecurity, poor educational participation and attainment, and gender inequity are among the critical issues affecting rural people. Therefore, addressing MDGs and EFA goals requires a stronger and specific focus on rural people, i. e. understanding that rural people are there, why they are neglected, what their needs are and how to address them. The Education for Rural People flagship partnership, which was launched in Johannesburg, South Africa in 2002, takes a people-centered approach which contrasts with some others that are semantically synthesized by the expression "rural education" and focus on geography or institutions. Hartwell, DeStefano and Benbow (2004:3) are of the opinion that to be able to meet the goals entails political will and institutional capacity.

They further state that public educational bureaucracies have not been capable of allowing learners in underserved populations to acquire literacy and numeracy skills and the chance to learn material relevant to their lives and communities.

The concern with respect to improving access to learning for rural people includes, according to Gasperini and Atchoarena (2005:4), the concept of a learning community as a tool to foster community development and raise the quality of local life through life-long learning, and thus helping to make more inclusive the "all" in Education for All. The lack of learning opportunities is, according to Shibeshi (2006:7), both a cause and effect of rural poverty. Therefore education and training strategies need to be interpreted within all aspects of sustainable rural development through plans of action that are multi-sectored and interdisciplinary. This means creating new partnerships between people working in agriculture and rural development and people working in education. The relevance of the curricula used in primary schooling and other basic education programmes in rural areas determines, according to Gasperini and Atchoarena (2005:5), their appeal to learners and their effectiveness at meeting basic learning needs. Defining what is "basic" and what are true "needs" is not always straight forward. Most learners, whether learners at school, young people or adults, want and expect to learn to read and write and manipulate numbers, but their expectations regarding other content and skills can vary.

Juvane (2005:3) honours the viewpoint that all teaching and learning is multi-grade. Even in a mono-grade class with just one grade group, there is always a considerable range of interests, abilities, maturity and needs. In fact, all teachers in all classrooms should consider themselves multi-grade teachers. Multi-grade teaching is a strategy for improving equitable access to primary education as well as improving teaching and learning in the classroom. Quality teaching implies providing teachers with skills and strategies that will promote learner's active learning. Multi-grade teaching can appropriately address the required paradigm shift from teacher to learner-centred. Multi-grade education makes it possible to provide basic education to small-scattered settlements. Multi-grade teaching encompasses teacher development, curriculum reform, language issues, learning, support materials and tutor pedagogic awareness. While systems are predicated on "gradedness" and the majority schools and classes, in most countries, are mono-graded, very large numbers of learners and teachers, according to Little (2005:2), work together in settings where two or more 'official' grades are combined. Most national policies on education do not acknowledge multi-graded settings. They expect teachers to cover curricula and fulfil assessment expectations as if the class was mono-graded. The exacerbation of general issues of quality that arise in teacher preparation, curricula, materials and assessment, appears in settings where teachers do not meet the basic systemic premise of one teacher per class of single grade learners.

Little (1995:13) reports that primary curriculum documents and their associated lists of "minimum learning competencies" have not been specifically designed for use by teachers in multi-grade schools. School plans, instructional materials and methodological guidelines are often difficult to apply to multi-grade teaching situations. There is also a shortage of support materials for teachers and individualized instructional materials for learners. There is a need for more work on the kinds of continuous evaluation, diagnostic testing, remediation and feedback which would best assist multi-grade teaching. Although many teachers work in multi-grade teaching situations few countries have developed special teacher training curricula for pre- or in-service training. Teaching practice during pre-service training is invariably carried out in mono-grade schools. According to Little (1995:4) teachers posted to teach in multi-grade schools "develop a sort of psychological alienation from the school". The education system as a whole pays inadequate attention to the proper functioning of multi-grade schools through, for example, not filling vacant teaching positions in rural areas. The absence of systems of teacher accountability, a lack of basic physical facilities in these schools, lack of training for supervisors of multi-grade schools and a general "inattentiveness of education officers to the needs of these schools" are situations which contribute to the dissimilar situation the multi-grade rural school is in.

Complementary models and approaches found in the USA, NSW in Australia, Escuela Nueva programme in Colombia, River programme in India, Asia and Pacific regions, Norway, Northern Ireland and the Sub Saharan region in Africa, will be discussed in this study. These models demonstrate how governments can meet the challenge of reaching underserved people and places in the world. It also provides alternative means of reaching underserved populations, provide unprecedented levels of access, ensure equity and produce significant learning outcomes, which enable learners to learn to read and write fluently. These models provide ways in which governments can increase access to education, completion and learning achievement with precisely the populations who need it. For them alternative models provide primary education with high levels of quality, relevance and cost effectiveness.

1.3 THE BACKGROUND AND DEVELOPMENT OF THE WEST COAST WINELANDS MULTI-GRADE INTERVENTION (MGRSI)

It is clear, from the literacy reviewed, that multi-grade teaching in rural farm schools is probably more common than we realise or care to admit. Any school with more grades than teachers must organise learning for some of its teachers and learners along multi-grade lines.

Educational problems in rural farm schools are a national priority in South Africa.

Mr Mandela, our previous President, has emphasised the need for effective, coherent strategies. In January 2000, the government announced the Tirisano Plan (which means working together). As their contribution towards the National Rural Upliftment plan, the Western Cape Education Department implemented the Multi-grade Rural School Intervention in April 2002 for an initial three-year period (Joubert, 2005:3).

1.3.1 The origins of the Multi-Grade Rural Schools Intervention

According to Mouton (2003:3) the origins of the Multi-grade Rural Schools Intervention go back to around 1999 when an Education Quality Improvement Partnership (EQUIP) initiative in the West Coast Winelands EMDC was discussed with the Western Cape Education Department (WCED) and the National Business Initiative (NBI) as partners. Equip conducted a systemic survey of the special needs of multi-grade schools during this period which led to a report that emphasized the urgency of an intervention in this domain. Two pilot projects in multi-grade teaching followed during January 2001 and June 2001. These two pilot projects led to the approval of the Multi-grade Rural School Intervention on the 11th December 2001 by the WCED. After further refinement and development work the first implementation cycle commenced on the 27th August 2002 followed by a further nine implementation cycles in the West Coast Winelands EMDC, which ended in the September holiday of 2006. The first eight cycles lasted 5 months per cycle.

1.3.2 The reason for a multi-grade rural school intervention

Beukes and others (2001:4) state the following reasons for addressing the need for an intervention project with the intention to improve multi-grade teaching in the rural districts of the Western Cape Province:

- "Assessments of learning at the end of grade 3 in 36 rural schools indicate that learners are already a good two years behind their counterparts in developed countries;
- Amongst the constraints identified in multi-grade rural schools are teacher isolation, poverty and poor health of learners.
- The training of teachers for multi-grade classes does not meet the required standard in either quality or quantity;
- Several home background disadvantages, such as lack of parental interest in education, poor nutrition and differences between home and school cultures;
- The multi-grade classroom is labour intensive and requires more planning, collection and professional development than the conventional graded classroom. Insufficiencies in planning, staff development, materials, support and assessment will have an influence on a multi-grade programme;
- In-service activities are often ineffective if they consist of one short activity or short-term activities without any follow-up support. Professional development is all about learning, which means that teachers need to collaborate with others, try things out, reflect on the results, modify their attempt and try again;

- Training should be grounded in a field-based experience where the novice has the opportunity to observe and teach with a master teacher;
- School clustering is an innovative way of building capacity in remote schools and removing the impression teachers may have that they are isolated from innovation;
- Teachers learning in networks can lead to more transfer of professional development activities to the classroom than the more-traditional learning or training approaches. ”

1.3.3 The aim and objectives of the Multi-grade rural school intervention in West Coast Winelands EMDC

The target of the project was, according to Beukes and others (2001:5) that at the start of the 2006 academic year, every teacher at every multi-grade rural primary school would be empowered to apply relevant classroom management approaches and receive support and resources to improve learner's performance in reading, writing and mental maths. The extent of the project was as follows:

Table 1.1: The multi-grade context of the West Coast Winelands EMDC

EMDC	SCHOOLS	MULTI- GRADE CLASSES	TEACHERS	LEARNERS	CLASSROOMS AVAILABLE
West Coast Winelands	95	285	285	8494	373

1.3.4 Assumptions

The multi-grade rural school intervention was built, according to Beukes and others (2001:6), on the following assumptions:

- Teachers who were targeted did not have previous training in multi-grade teaching
- Technology will make a significant contribution to improved curriculum delivery (this assumption needs to be tested regularly as new technologies are introduced)
- Funding will be available for the completion of the project;
- By the start of the 2006 academic year, every teacher at every multi-grade rural primary school will be empowered to apply relevant classroom management approaches and receive support and resources to measurably improve learners performance in reading, writing and mental maths;
- Sustainable models will be developed for all schools and
- Advocacy and education programmes targeting teachers will persuade all of them to avail themselves of opportunities presented by professional development.

1.3.5 Risks

Beukes and others (2001:6) identify the following risks for the multi-grade rural school intervention.

1.3.5.1 Availability of key staff

The success of the project depends on the way in which the management of it ensures good results on time and within budget. The management can contain this risk by appointing good people on contract and ensuring that their remuneration packages are market related.

1.3.5.2 Bureaucracy

The bureaucratic regulations of a provincial department can stifle the smooth running and rapid implementation of a large project. The Project Support Office should manage this risk and should endeavour to understand the regulations and work in harmony with these. When unnecessary bureaucratic blockages occur, WCED senior management should intervene to remove obstacles.

1.3.5.3 Willingness of teachers to be educated

Teachers should play a critical role in the success of the intervention but there are early indications that many of them will not willingly adopt new approaches and strategies. A variety of advocacy and communication programmes would address this risk.

1.3.5.4 Resistance of WCED Officials

Some officials in the WCED may perceive the intervention to be a threat to their positions and may fear that the project will take over some of their job functions. The risk would be that they might not give their full co-operation to the project. The management should manage this risk by ongoing liaison with management of all directorates, ensuring that all officials understand how the matrix structure within the project operates.

1.3.5.5 Electronic communication medium

Time, access and lack of routine are major inhibitors in the use of an electronic communication medium. Time to explore, digest and experiment should perhaps be the most critical need of teachers who want to use telecommunication in their personal and professional lives. Electronic communication should be stimulated and structured. Stimulation of the communication should be done by not only providing the participating teachers with lesson material and homework assignments, but by having them react to the materials in a structured way, for example, in a manner that is related to the adaptation of the materials.

The next step should be to ask the participants to develop their own materials and to find a way to make them feel obliged to share them with others electronically.

1.3.6 The design of the intervention

The design of the intervention was according to Mouton (2003:4) strongly influenced by a set of publications from the international Multi-grade Education Conference held in Canada in 1992. The research at the Northwest Regional Educational Laboratory (NWREL) in Oregon, Canada, as well as, research funded by DFID at the University of London was equally influential. In addition to the focus on classroom management and organisation, the implementation committee decided that the main intervention mode, which the intervention would follow, would consist of INSET. In this regard, the research by Joyce, Calhoun and Hopkins (1999) cited in Mouton (2003:5), which discusses the components of such training was relevant. A visit to the University of Twente in 2000 also confirmed that the components of this model, which similar interventions had implemented for at least ten years, consisted of the following:

- Presentation of theory;
- Modelling and demonstrations;
- Practice in the workshop setting or under simulated conditions;
- Structured feedback and
- Coaching for classroom application

Mouton (2003:5) indicates that the IT component in the intervention also benefited from experiences at the University of Twente and specifically the doctoral studies of Bert Moonen (Teacher Learning in In-service Networks on Internet, 2001). Another important resource mentioned in this regard is the work of Pat Maier and Adam Warren (2000) entitled Integrated Technology in Learning and Teaching. It is also reported by Mouton (2003:5) that visits to the Netherlands (1999 and 2001) and the SLO (Nederlandse Instituut vir Leerplanontwikkeling) developed an awareness of the value that mental maths can add to the improvement of numeracy. The particular approach to the concept of number followed by the Freudenthal Institute at the University of Utrecht was equally useful, as were two other publications: Kinderen leren rekenene and Jonge kinderen leren rekenen. A visit to the Qualifications and Curriculum Development (QCA, England) as well as to schools in London, where they implemented the National Numeracy Strategy, followed the visits to the Netherlands.

It is evident from above that the real need of schools in the rural areas of the Western Cape led to the development of an initiative which was subsequently designed and adapted, based on systematic study of relevant theory, research and practice elsewhere in the world.

According to Mouton (2003:8), this initiative, based on the core programme theory of the Multi-grade Rural School Intervention, stated that:

IF

- Teachers are trained to efficiently manage and organise their multi-grade classrooms;
- Relevant learning programmes and resources are developed and made available to schools;
- Teachers in these schools are trained to use, develop and apply such learning programmes optimally with the support of Information Communication Technologies and
- EMDC officials are trained to provide ongoing support to such teachers

THEN

- The quality of teaching in multi-grade schools will improve and
- Learner participants and performance in reading, writing and mental mathematics will improve.

This theory links the project components, namely the training activities and the IT support, directly to the expected outcomes which are improvement of the quality of teaching and learning and performance in reading, writing and mental mathematics in multi-grade rural schools. The Case Study on the Multi-grade Rural School Intervention in the West Coast Winelands EMDC will focus on effective practices, which contribute towards quality education in multi-grade schools and consider stakeholders like the state, the community, the parent, the cluster, the principal, the teacher, the learner, resources and support staff. A case study of the Multi-grade Rural School Intervention will further put strategies and content in place, which will guide future initiatives of this kind and will consequently give marginalised farm learners an equal chance in life with city mono-grade scholars.

1.4 STATEMENT OF THE PROBLEM

The research problem is evident from the context of the study and the literature review will elucidate it further. Policy makers need to note that there is widespread consensus in the literature from developed and developing countries that multi-grade teaching is:

- Complex and demanding;
- Requires high levels of organisation and planning and
- Requires large measures of learning resources especially self-directed learning material.

In this context, the development of teacher training courses and learning materials suitable for multi-grade classes would benefit all teachers especially those with mixed ability levels and ages. It is clear that a strong need exists for training in how to work effectively in rural schools with multi-grade classes in order to improve learning.

Taking into account the above information the following research problem was formulated:

“What do teachers perceive to be successes and challenges of the Multi-grade Rural School Intervention in the West Coast Winelands EMDC? The following questions encapsulate the research problem:

- What was the short-term impact in terms of successes and challenges of the Multi-grade Intervention Project on quality teaching and learning in multi-grade classes and education in the broader sense of the word as seen and experienced by the involved teachers? and
- What are the lessons, which the researcher can learn from the Multi-grade Intervention Project in terms of the development of models for professional development?

The research problem stresses the need to investigate what the school level structure perceives to be successes and challenges of the Multi-grade Rural School Intervention. Answers on the research problem will further highlight the expectations for success of the management level structure and the awareness of intervention activities by the support level structure. Knowledge of identified successes and challenges derived through this case study will inform future multi-grade rural school INSET strategies and the impact of it on the improvement of education practices in the multi-grade schools.

Having identified the research problem it is now necessary to state the aims of the case study.

1.5 RESEARCH AIMS

The case study will focus on the lessons from the Multi-grade Rural School Intervention regarding inset processes followed as well as the impact it possibly had on the improvement of education practices in the multi-grade rural schools. The possible lessons learned from the Multi-grade Rural School Intervention will inform future curriculum inset strategies.

The Multi-grade Rural School Intervention targeted grades R to seven in reading, writing and mental maths. The case study will focus on the attainment of the project management outcomes, cluster level outcomes and school level outcomes and on the impact it had on the improvement of teaching and learning of literacy and numeracy in a sample of involved multi-grade rural schools. It will study the aims, the intervention strategies followed and the successes and challenges achieved because of the implementation of its strategies.

This links to a couple of key concepts namely:

- Strategies for change;
- Resource provision;
- Classroom methodology for quality teaching and learning;
- Inset models;
- Teacher motivation;
- Policies on rural school education;
- School curriculum organisation and

- Knowledge dissemination.

1.6 THE VALUE OF THE RESEARCH PROJECT

The value of the Case Study of the Multi-grade Rural School Intervention will lie in the possible lessons learned from this intervention as well as how it will compare with international tendencies regarding inset strategies for multi-grade teaching not only in the multi-grade rural context but also with the focus on differentiated individualized learning in a single-grade classroom. It will also contribute towards the improvement of classroom management approaches and will provide strategies for support and resource development to improve learners' performance in reading, writing and mental maths.

This study will further contribute towards the understanding of:

- The concept of multi-grade teaching;
- The international and South African context of multi-grade teaching;
- The influence of rural development theories on the development of multi-grade teaching and the role government policies play in addressing the development and challenges of multi-grade teaching;
- Multi-grade teaching as an option for education provision in the rural areas;
- International case studies already done focusing on Multi-grade Rural School Interventions and
- The intention, impact and lessons learned from the Multi-grade Rural School Intervention in the West Coast Winelands EMDC in the Western Cape Province in South Africa.

1.7 RESEARCH METHODOLOGY

This research, based on a case study of the Multi-grade Rural School Intervention in the West Coast Winelands EMDC, will include consideration of the applicability of the different types of case studies described in Chapter 3 of this study. The researcher will generate both quantitative and qualitative data to address the problem of the study adequately.

The researcher will follow the six steps to conduct a case study recommended by Palmquist (1997:1):

- Determining and defining the research questions;
- Selection of the cases and determination of data gathering and analysis techniques;
- Preparation to collect the data;
- Collection of data in the field;
- Evaluation and analyzing of the data and
- Preparation of the report.

The researcher will also include the following four stages of the case study methodology as recommended by Yin (1994) cited in Tellis (1997b: 3-12):

- The development of the case study protocol which includes:
 - The determination of the skills which the researcher requires and

- The development and review of the research protocol.
- The conduct of the case study where data collection is the primary activity relating to the:
 - Preparation for data collection;
 - Distribution of the questionnaire and
 - Conducting Interviews.
- The following is an analytic strategy which consists of examining, categorising, tabulating or otherwise recombining the evidence to address the initial propositions of the study which include:
 - Pattern-matching;
 - Explanation-building and
 - Time-series analysis.
- The reporting aspect where the researcher must refrain from technical jargon and resort to clear explanations so that the user is able to understand the implications of the findings.

The methodology, which the researcher will follow, will further take into consideration the following:

- An open-ended start to each piece of data collection with regard to each interview or focus group;
- The use of multiple and diverse data sources;
- The use of a number of different data collection methods;
- A step by step process in which the later steps could be designed to take account of what was learned from the early steps and
- A continuing focus on challenging the data and interpretations already collected, in particular, when there are apparent agreements between informants, exceptions will be deliberately sought and when there are disagreements explanations will be sought.

As the validity of the study is of utmost importance, the researcher will give attention to the different kinds of validity measures as described by Yin (1989) cited in Tellis (1997b:3) namely, construct validity, internal validity, external validity and reliability.

1.7.1 The case study protocol

Tellis (1997b:3) sees the first stage in the design of the case study protocol as the development of the required skills and the development of a protocol.

1.7.1.1 Determining the required skills

The researcher is well aware of Palmquist (1997:3) expectation of the skills the researcher must possess and acquire. Therefore the researcher will take into consideration Yen's, cited in Tellis (1997b:3-4), suggestion to "ask good questions and to interpret the responses, be a good listener, be adaptive and flexible so as to react to various situations, have a firm grasp of issues being studied and be unbiased by preconceived notions". The researcher will bare these expectations in mind while conducting the research in question.

1.7.1.2 Development and review of a protocol

According to Tellis (1997b:4), an early criticism of the case study as a research methodology was that it is unscientific in nature. Therefore, the researcher will make some effort to fulfil the outline of a case study protocol as suggested by Tellis (1997b:4). The protocol will include the following sections:

- An overview of the case study project which communicates to the reader the general topic of inquiry and the purpose of the case study;
- Field procedures which mostly involve data collection issues will be properly designed;
- Case study questions which the researcher will keep in mind during the data collection and
- A guide for the case study report, which will indicate the outline and the format for the report.

Yin (1994) cited in Tellis (1997b:4) asserts that the rules and procedures contained in the protocol enhance reliability of case study research. The researcher will do extensive relevant readings on the topic. This will help in developing the general topic of inquiry and the purpose of the case study as indicated in the background and development of the West Coast Winelands Multi-grade Rural School Intervention (MGRSI). It will also contribute towards the research aims and the value of the research project.

The researcher will explain the field procedures extensively in the conduct of the case study, which will cover the preparation for the data collection, distribution of the questionnaire and the conducting of the interviews. The researcher will provide extensive information on the rationale concerning procedures, credentials for access to data sources and the location of the resources.

The questions, which the researcher will consider during data collection, are, as explained above, extensively covered in the problem statement. These questions will lead to the research problem, which stresses the need to investigate what teachers perceive to be successes and challenges of the Multi-grade Rural School Intervention. The researcher will be aware that, as indicated by Tellis (1997b:4), the case study questions, are those under study, not those that will be contained in the survey instrument. The researcher will link each question to probable sources found in the literacy review, reports, and summaries available in the MGRSI documents and other relevant sources identified.

According to Tellis (1997b:4), there is no fixed reporting format for case studies and therefore each case study is unique.

This study will follow Yin's (1994), cited in Tellis (1997b:4), suggestion of a general analytic strategy, to guide the decision regarding what the researcher will analyse and for what reason. The researcher will consider the different analytic techniques as described by Yin (1994) cited in Tellis (1997b:10).

1.7.2 The conduct of the case study

In this stage, the collection of data is the primary activity. According to Yin (1994), cited in Tellis (1997b:6), there are three tasks, which the researcher must carry out during this stage for a successful project. They are the preparation for data collection, the distribution of the questionnaire and conducting interviews.

1.7.2.1 Preparation for data collection

The researcher will consider the following three principles of data collection for case studies as suggested by Yin (1994) cited in Tellis (1997b:8):

- The use of multiple sources of data which will lead to the triangulation of evidence and increased reliability;
- The creation of a case study database which will be organised and documented just as in experimental studies;
- The maintenance of a chain of evidence by having an external observer who must follow the derivation of evidence from initial research questions to ultimate case study conclusions.

As part of the process of preparing for data collection, the researcher feels it necessary to get permission to collect data from schools in the West Coast Winelands EMDC at the Directorate Research as well as EMDC Directorate, which are both directorates of the Western Cape Education Department. The reason for this is that the research initiative does not only need the support of the Provincial Education Department as a service provider but also the support of the schools, which are the client in this scenario.

(a) Sources of evidence for data collection

Preceding the case study the literature review will cover past research on the multi-grade challenge, which will focus on international comparative interventions and will summarise what other people have written and published around the theme of research. It will add value to the structuring of the eventually completed case study. The six primary sources of evidence for data collection in the case study protocol as identified by Yin (1994), cited in Tellis (1997b:3), will be employed to collect the data.

These sources will be in the form of documentation, archival records, interviews, direct observation, participant observation and physical evidence.

The researcher will do data collection according to the guidelines for sampling as stated by Cohen, Manion and Morrison (2000:99). Mouton (1996:132) asserts that in social research, sampling involves procedures that have some form of random selection of elements from a target population. The researcher therefore will take into consideration that the aim of sampling is to produce representative selections of the population elements.

Interviews will be taped, transcribed and analysed. A covering letter will explain the nature of the tasks and this will lead to honest, reflective responses. The researcher agrees with Tellis (1997b:5) that an empirical investigation of contemporary phenomenon within its real-life context is one situation in which case study methodology is applicable. The researcher will record observations to supplement the evidence.

(i) Literature Review

Yin (1984) cited in Tellis (1997b:5) defines the case study research method as “an empirical inquiry that investigates a contemporary phenomenon within its real-life context where the boundaries between phenomenon and context are not evident and where multiple sources of evidence are used”. The review is according to Stevens and Dial (1993:66) the basis for comparing and contrasting the findings of a qualitative study. The literature review will therefore focus on international and national tendencies regarding the multi-grade phenomenon. It will also contribute as a reference and a resource towards the contextualisation of the case under study. This review will provide, according to Bell (1993:35), a picture of major questions in the subject area, which the researcher investigates. In this regard, the literature study will provide views of other researchers, which will serve as a framework for the data collection.

The parameters of the study will include the historical background of the Multi-grade Rural School Intervention in the West Coast Winelands EMDC. It will further include the attention to case studies of multi-grade school interventions already done globally. It also will consider the understanding of what the Multi-grade Rural School Intervention in the West Coast Winelands Education EMDCintended to achieve.

The literacy review will consider historical and the most recent publications on the topic of addressing the multi-grade challenge experienced in South Africa, Africa and the rest of the world.

The publications will include journals, past and present policies (RSA and International), conference papers and books that attempt to explain the phenomenon in depth. The researcher will do an extensive review of material related to the multi-grade challenge.

(ii) Documentation

The researcher will consult available documents relating to the question under research. These documents will be represented as Multi-grade Rural School Intervention records and reports, letters, recommendations received from principals and teachers, learners' workbooks and results from questionnaires which will be sent to the school, support and management level structures.

(iii) Archival records

Archival records, like lists of names of participating schools in the MGRSI, names of participating teachers in the MGRSI, national systemic results, provincial diagnostic results and schools' progression results will serve as resources for consultation.

(iv) Interviews

In this study interviews will be arranged on different levels namely:

- Provincial management level;
- District support level and
- School level.

The researcher will select respondents for interviews according to their involvement in the MGRSI and their positions in the Western Cape Education Department. This selection will concur, according to the Babbie (1992:200) and Boaduo (1998:35), the concept of sampling which involves taking a portion of a population and making observations on it. This will mean that the findings from the conducted interviews and observations with the smaller group will then be generalized with respect to the larger population.

The researcher will design and utilize unstructured in-depth, open-ended and focused questionnaires with the purpose of clarifying, through one-on-one interviews, the influential roles of the different role players involved in the MGRSI as determined by the case study protocol. The researcher will apply these interviews to elicit particular information from the respondents. The researcher will deem it necessary to apply the open-ended interview described by Tellis (1997b:7) as an opportunity to ask for the informant's opinion on events and facts and will serve to corroborate previously gathered data.

As suggested by Bell (1993:94) the researcher will afford the respondents the opportunity to talk about what is of central significance to them rather than to the interviewer.

Mason (1996:35) calls this type of interview qualitative interviewing, which acknowledges people as data sources and repositories of knowledge, evidence and experiences, all of which are relevant to the research.

(v) Direct observation

Schutz cited in Siedman (1991:3-4) recognizes the relatedness of interviewing and observing as procedures for data collection and uses as an example, how to make meaning of "observational understanding", from a woodchopper's behaviour (chopping wood). The observer will have to gain access to the woodchopper's "subjective understanding", that is, know what meaning he/she attaches to his wood chopping. What the observer understands because of this observation may not be at all consistent with how the woodchopper views his own behaviour.

Observations will be indispensable in this study and as indicated in the woodchopper's case interviews will reveal only how people perceive what happens, not what actually happens. Tellis (1997b:7) is concerned about the reliability of the observation and suggests the utilization of multiple observers as a way to guard against this problem. In this instance a classroom observation instrument will be designed to assess the application of multi-grade intervention strategies in the classrooms and what teachers perceived as successes and challenges for their curriculum related professional development as a result of the MGRSI. This will reveal characteristics that are according to Bell (1993:109) impossible to discover by other means. For example, Nisbet and Watt (1980) cited in Bell (1993:109) maintain that direct observation may be more reliable than what people say in many instances and one discovers whether people do what they say they do, or behave in the way they claim to behave.

In this study, the researcher will employ a representative sampling for interviews to establish a sample, which represents different categories of schools. The researcher will base these categories upon the number of grades in multi-grade classes and the proportion of teachers in a specific school trained by the MGRSI. The sample will also include classes where teachers teach learners in their mother tongue in a multi-grade context, which differs from the language of instruction of the rest of the school.

The researcher will also include schools identified by circuit managers, as schools perceived to apply the multi-grade strategies the best in their circuit and schools, as well as schools which receive specialized support from the district office. Participation in the MGRSI, size of schools, distances from support centres, teaching learners from grade one to six and the implementation phases of the Multi-grade Rural School Intervention will be the major criteria for selecting the sample. These selection criteria will afford the researcher the opportunity to compare the sustainability of the impact with the different implementation phases.

Eight Multi-grade Rural School Intervention implementation cycles and the previously mentioned selection criteria will form a broad basis for the random selection of a sample of nine schools where classroom visits will be done. The observation instrument for classroom visits will be a partly close-ended and partly open-ended questionnaire.

(vi) Participant observation

As the researcher was not an active participant in the events under study, he will not consider this kind of observation as an option.

(vii) Physical evidence (artefacts)

The researcher will consider physical evidence (artefacts) such as notebooks of learners and planning sheets of teachers during the direct observation. As a result of the discoveries the perspective of the researcher will be broadened (Tellis, 1997a:7).

1.7.2.2 Distribution of the questionnaire

In the West Coast Winelands EMDC, 90 schools took part in the Multi-grade Rural School Intervention. Six of them have closed down since 2003. Another six were involved in the project for a second time. Two close-ended questionnaires, an A-questionnaire requesting demographic data and a B-questionnaire requesting data regarding multi-grade implementation were sent in August 2007 to a random selection of forty five schools. The selection was based on an even spread of participating schools across the two pilot and ten implementation cycles.

The researcher sent questionnaires to eight members of the West Coast Winelands EMDC's support level structure and to three members of the provincial MGRSI management level during October 2007.

1.7.2.3 Conducting interviews

The arrangement of the interviews with the school level structure took place during August and September 2007 and with the support and provincial MGRSI management level structures during October and November 2007.

The three officials in the provincial management structures were identified according to their direct involvement in giving the go ahead for the project. The eight members of the support level structure, who were involved in the training and support of the multi-grade teachers, who took part in the MGRSI, were identified according to their involvement

The interviewer phoned the interviewee sample explaining what the research is about and negotiating a time to meet. At the start of each interview, the interviewer explained his role in some detail. The interviewer made it clear how he would use the data and provided assurance that the interviewer would take pains to protect the interviewee's identity in the reports.

All the interviews began in the same open-ended way. The interviewer ensured that the informants contributed freely when information was collected from them and did not want it to be determined by the questions asked. As the interviews progressed, the probes increased in number and detail.

Where classroom observation took place the researcher followed it up by an interview structured in such a manner, that it probed the insight and understanding of matters related to in the observation instrument. This enabled the researcher to verify the observations made against how the teacher perceived his or her relating actions and subsequently understood his or her behaviour in context.

The researcher preferred that the interviewing would provide a necessary avenue for inquiry and that it would contextualize observations made in a setting. The researcher furthermore expected that the assertions on the value of the interview would be value adding. Based on the researcher's experience of supporting rural schools with multi-grade classes he affirmed his understanding of the experiences of the stakeholders of these schools and the meaning of their experiences.

To eliminate any bias in the interviews the researcher took certain measures. The researcher abided by Best and Kahn (1985:45-47) views, which state that "subjects are informed of the purpose of the research".

They call it “informed consent” and it is clear that participants should be free to participate or to decline to take part. Best and Kahn (1985:45-47) also warn against the invasion of privacy, especially where access has been granted, but content is being used without clearance from the participants. All those who were interviewed for the purposes of this research, had full knowledge of the purpose of their interview and had the option of reading the relevant areas of the document/s before submission.

The researcher taped the interviews with government officials while the transcriptions of interviews done with teachers were sent back for checking and further commentary. A tape recording and the feedbacks allowed the researcher to confirm the wording of any statement one might wish to quote and to check that notes were accurate for content analysis. The respondents also had the option of remaining anonymous when submitting feedback. The researcher sought permission from the project manager of the multi-grade intervention with the assurance that publishing the findings of the study would not harm him in any way or the intervention.

1.7.3 Analytic strategy

In order to strengthen research findings and conclusions, the researcher used multiple data collection methods and analysis techniques, as described by Palmquist (1997:5), to triangulate data. This ensured validity and reliability of the case study research.

In the light of the above the researcher will put into practice the evaluation and analysis methodology as described by Palmquist (1997:5) and will consider, where applicable, the following activities in the process:

- The sorting of data in many different ways to expose or create new insights and to deliberately look for conflicting data to contradict the analysis;
- The use of quantitative data which was collected to correlate and support the qualitative data which could be most useful for understanding the rationale or theory underlying relationships;
- The utilisation of multiple investigators to gain the advantage - when a variety of perspectives and insights examine the data and the patterns – it is stated that where multiple observations converge, confidence in the findings will increase and
- The application of the cross-case search for patterns which prevents the investigator from reaching premature conclusions, by requiring that investigators look at data in many different ways.

The researcher will consider the three analytical techniques namely pattern-matching, explanation-building and time-series analysis as suggested by Yin (1994) cited in Tellis (1997b: 10).

1.7.4 The reporting aspect

The researcher will structure the outline of the report according to the guidelines set by Palmquist (1997:9) and includes:

- Thanking all of the participants;
- Stating the problem;
- Listing the research questions;
- Describing the methods used to conduct the research and any potential flaws in the method used;
- Explaining the data gathering and analysis techniques used, and
- Concluding with the answers to the questions and suggestions for further research.

The report will also include a retelling of specific stories related to the successes or disappointments experienced by the organizations, which they conveyed during data collection and answers, or commitments illuminating issues directly related to the research questions. The researcher will develop each issue from quotations or other details from the data collected, and points out the triangulation of data where applicable.

The report will also include confirming and conflicting findings from the literature review. The conclusion of the report will make assertions and suggestions for further research activity, so that other researchers may apply these techniques.

1.8 EXPLANATION OF RELEVANT KEY CONCEPTS

The researcher felt it necessary to clarify some critical concepts, which enhanced the understanding of the context of this study. As concepts like "poor", "rural" and "farm" schools, district, multi-grade and others are not always understood in the context in which it is meant or explained clearly by international literature, it is therefore necessary to explain the differences, similarities and interrelatedness amongst these concepts as explained by the literature. The critical concepts described, are:

1.8.1 West Coast Winelands EMDC

The West Coast Winelands EMDC was one of three Rural Education EMDCs in the Western Cape Education Department where the Multi-grade Rural School Intervention took place. The Western Cape Education Department called them EMDCs, which stand for Education Management and Development Centres. At the time when the implementation of the Multi-grade Rural School Intervention took place, there were seven EMDCs in total in the Western Cape Province.

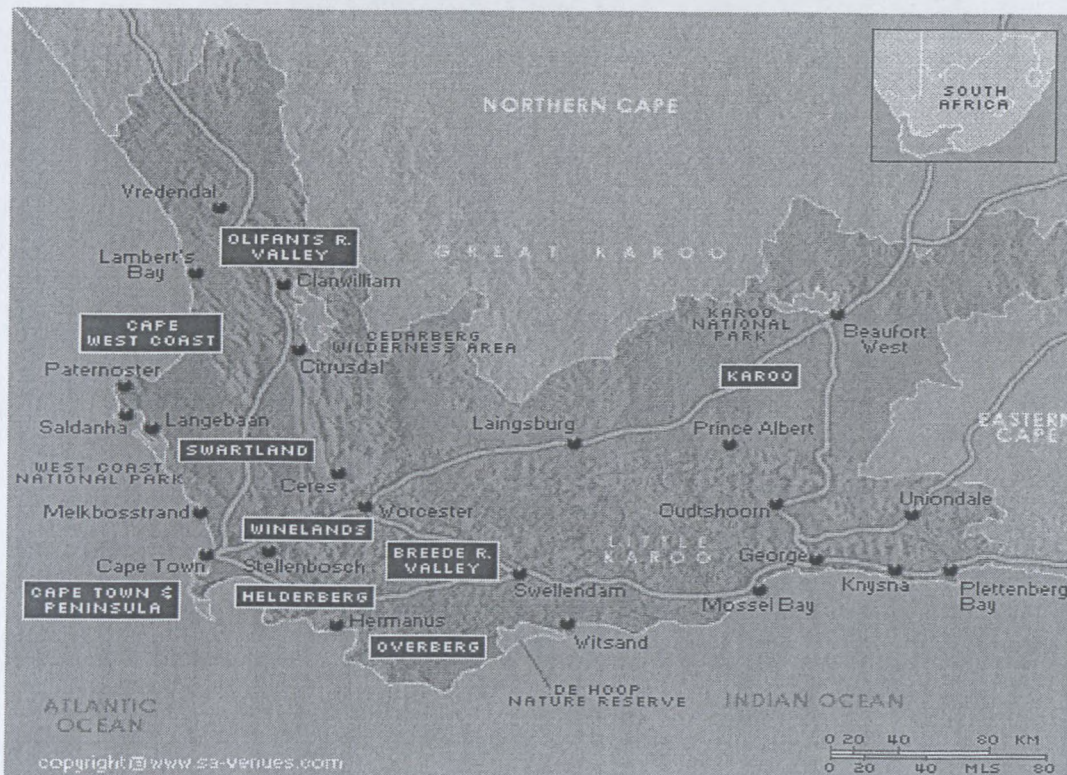


Figure 1.1: Relief Map showing the 4 municipalities and towns which form the West Coast Winelands EMDC within the context of the Western Cape and South Africa. (www.sa-venues.com 2007-05-14)

The West Coast Winelands EMDC stretches over a distance of approximately 400 km in length and 150 km in breath, from Stellenbosch in the south to Bitterfontein in the north, reaching the Northern Cape border. It includes the Olifants River Valley, Cape West Coast, Swartland and Winelands municipalities. This EMDC serves 210 primary schools and 60 High schools.

The EMDC rendered support to these schools on four different levels namely:

- Management;
- Curriculum;
- Learning support and
- Administrative.

Geographically the West Coast Winelands EMDC can be divided into a metropolitan region, which is represented by the Winelands Municipality (Stellenbosch, Paarl and Wellington) and a rural region which is represented by the Olifants River Valley (Vredendal, Clanwilliam, Lambertsbay and Citrusdal), the Cape West Coast (Vredenburg, Saldanha and Paternoster) and the Swartland (Piketberg, Moorreesburg and Malmesbury) Municipalities. 87 Multi-grade schools are spread across these regions. Most of these schools are found in vast poor, rural and farm environments.

1.8.2 Rural Schools

Weisheit, Wells and Falcone (1995:1) refer to a United Nations Educational Scientific and Cultural Organisation (UNESCO) Institute of Statistics study and suggest a more inclusive definition of rural which is based on demographic composition, economic situation, the social structure and cultural milieu.

The **demographic** composition does not refer to who people are or what they do but where they live. Rural schools are, according to Weisheit, Wells and Falcone (1995:7), geographically isolated, physically removed from other population areas and from major urban centres and located outside the political boundaries of an urban area. An area may also have few people, yet not be considered rural, because it is within urban or metropolitan boundaries.

According to Weisheit, Wells and Falcone (1995:8) the **economic** situation implies how the people in the area make a living. It refers to a single common industry within the community, which involves most of the residents and results in a simple division of labour and a low degree of economic specialization.

It also implies a lack of variety in the ways people make a living and a low degree of functional differentiation in the community's social structure. It also does not mean a place where people tend to "live off the land" (i. e., are close to nature) and depend directly on the exploitation of natural resources.

Rural also includes, according to Weisheit, Wells and Falcone (1995:8), **social structure**. This consideration reflects the distinctive character of social life and social order in rural communities, which looks at the attributes of rural life in terms of intimacy, informality, and homogeneity. By virtue of the smaller numbers of people in rural settings, social connections are immediate (face-to-face), more intense or primary (often based on kinship ties) and more complete based on knowledge of personal biographies rather than formal role positions. Informal mechanisms of social control (based on kinship and personal acquaintance) maintain rural social order, rather than formal mechanisms and legal institutions.

The picture of rural is traditional, slow to change, provincial, and fatalistic. According to Weisheit, Wells and Falcone (1995:8) the characteristics of **rural culture** have been relatively intolerant of diversity and un-accepting of outsiders. Rural is a worldview, a way of thinking that is different from that common among urban dwellers.

Viewing rural as a cultural phenomenon that goes beyond geographic or demographic conditions has much intuitive appeal. While it may be conveniently consistent to define rural in demographic, economic and social-structural terms, the cultural typology can however complicate any systematic research.

Joubert (2006:2) refers to the indifference towards rural people, which is the result of a strong urban bias on the part of politicians and policy-makers. "Rural people have no real political voice, so when there is competition for limited resources, and education for remote areas can be costly, they tend to lose out" (Atchoarena and Gasperini, 2005:1). What counts as rural or even urban is, according to Soudien (2005) in Nelson Mandela Foundation (2005:5), extremely difficult to define, especially given the deep, continuous and intertwined relationships of urban and rural communities in South Africa, and declares that ruralism highlights "isolation, vulnerability, lack of opportunity". It also represents "a sense of community and a commitment to traditional values."

According to the Nelson Mandela Foundation (2005:5) advocating for rural quality education, that is responsive to the realities of rural communities, does not accordingly imply that rural communities should be prepared solely for rural livelihoods. Rural education has to prepare young people for a complex and interspersed world of rural and urban life. According to Gasperini and Atchoarena (2005:2) education is the most effective way to empower the rural poor through ensuring that the MDGs and EFA targets are met. Joubert (2006:6) alerts to the occurrence that the availability of education is relatively difficult in rural areas where population density is low and where schooling does not easily fit into the patterns of rural livelihoods and lifestyles.

1.8.3 Farm Schools

Factors such as geographical context, access, distances and lack of transport determine that farm schools are the only accessible sites of education for many learners who live with their parents or relatives on commercial farms. The Education Rights Project (ERP) cited in Kollapen (2004:29) indicates that farm school conditions in South Africa have altered little since the end of Apartheid. The ERP identified three main obstacles to providing quality education in farm schools. These obstacles are the dependence on and often their vulnerability to, the farmer on whose land the farm schools are situated and the chronic levels of poverty in the communities, served by farm schools. Further obstacles are the deeply entrenched and inherited culture of violence and oppression on farms as well as the fact that, relatively few schools enjoy access to a full range of services and resources.

Most farm schools lack even the most basic facilities. Data presented at a Farm Schools Conference held on 13 May 2000 in South Africa, confirmed that buildings in 19 percent of farm schools were either “weak” or “very weak”. Just over 80 percent of farm schools had no telephones and 76 percent were without electricity. Forty three percent of farm schools had no water inside the building or on site. Seventeen percent had no toilet facilities at all.

According to *Forgotten Schools* (2006:7) the South African Schools Act makes provision for two types of schools—public (state-run) and independent (private). Farm schools have a hybrid status deemed public schools on private property. Section 14(1), of the South African Schools Act, states that, “a public school may be provided on private property only in terms of an agreement between the member of the executive council (the provincial education minister) and the owner of the private property”. According to section 14(5) of the Schools Act, such an agreement must provide for:

- The provision of education and the performance of the normal functions of a public school;
- Governance of the school, including the relationship between the governing body of the school and the owner;
- Access by all interested parties to the school property;
- Maintenance and improvement of the school buildings and the property on which the school stands and the supply of necessary services and
- Protection of the owner’s rights in respect of the property occupied, affected or used by the school.

Forgotten Schools (2004:2) states that under apartheid South Africa, farm owners established these schools in part to keep the learners occupied by providing a basic, limited education while their parents or relatives worked on the farm. The owner was effectively in charge of the school, though he/she received a state subsidy under an agreement with the government. The joint government and farm owner of farm schools confused the roles of government and farm owner in the provision of education in a way that continues today.

1.8.4 Poor Schools

Nelson Mandela has said on numerous occasions, “you can smell poverty” (Nelson Mandela Foundation, 2005:viii) when you visit many parts of rural South Africa. A recent South African study (Samuel, 2005: viii) points to a singular conclusion, namely that the great majority of learners in rural poor communities are receiving less than their right in a democratic South Africa.

The opportunities that rural people, according to Gasperini and Atchoarena (2005:3), have to access and complete basic education in low-income countries is still much lower than in better served urban areas.

Gasperini and Atchoarena (2005:3) refer to “the school under the tree” which is still a very common situation in many developing countries and which symbolizes the unequal distribution of school buildings among urban and rural citizens. Joubert (2006:8) reports that official HSRC statistics reflect an enormous need for rural schools to be given priority attention in order to ensure equal educational opportunities for the 600 000 learners (4604 schools) currently registered as rural schools in South Africa. To meet the basic learning needs of rural people and marginalized and neglected groups and categories of learners’ additional and special efforts are necessary.

1.8.5 Multi-grade Teaching

Tambulukani and Silwimba (2004) in Juvane (2005:4) stress that samples of definitions of multi-grade teaching illustrate that some education managers do not show an accurate understanding of the concept of multi-grade teaching and see multi-grade teaching as:

- Teaching pupils at once;
- Teaching many grades together using the syllabus of one grade;
- Provision of learning where two different grades learn in the same room and
- Teaching more than one grade in one class.

Joubert (2005:4-5) explains that multi-grade is not one teacher running between two classrooms to teach two separate grades with separate programmes. Multi-grade is also not two classes working in isolation in the same room seated at each end of the classroom being taught separate programmes by one teacher. Little (1995:4), Berry (2001:1) and Juvane (2005:4) refer to multi-grade teaching as teaching where one teacher instructs pupils of different ages, grades and abilities at the same time. This system of teaching is also referred to in the literature as multi-age, multi-level, multiple, composite class. Little (2005:5) also refers to the terms “combination classes”, “forced mixed age classes” and “forced mixed grades” that usually refer to situations arising through necessity and the characteristics of enrolment and the terms “vertical grouping”, “un-graded”, “non graded” and “family grouping” usually refer to situations arising through pedagogic choice.

Although the understanding of the term multi-grade teaching is universally not the same, the practice is widespread. Multi-grade schooling is, according to Berry (2001:1), also common in larger urban and suburban schools as a response to uneven learner enrolment as well as a deliberate response to educational problems. Multi-grade schooling is also, most of the time, according to Benveniste and McEwan (2000:33), synonymous with schooling found in environments, which refer to poor, rural and farm settings where the teacher is responsible for teaching learners of different grade levels at the same time.

Juvane (2005:5) explains the following as the main reasons for the introduction of multi-grade teaching:

- Increase access to education provision to disadvantaged areas;
- Increase access to learning in understaffed schools;
- Maximise use of available teachers and classroom space and
- Cost effective use of available resources.

1.8.6 Intervention

The Oxford Thesaurus (1991) describes the concept intervene as “interfere”, “intrude”, “break in”, “interrupt”, “intercede”, “meddle”, “interpose” and “step in”. It does not only include treatment but also furthering activities in order to prevent problems and to reach certain goals.

An intervention is therefore an influencing force or act that occurs as a professional, planned and intentional action, which facilitates and modifies a given state of affairs that can be evident in an individual-environmental-situation. It may include the intervention amongst groups, happenings, planning of activities or the inner conflicts of individuals.

1.8.7 Professional development

The teaching of a broad range of grade levels in the same classroom is complex and demanding. According to Little et al (2006:1) in most countries, either teacher education for multi-grade teaching does not exist at all or education departments offer it as part of in-service training. Teachers in multi-grade environments receive training in mono-grade pedagogy and have few, if any, relevant teaching and learning resources. Clearly, teachers harm learners when they fail to recognise and teach to the different individual needs of learners. It is also apparent that teachers, when they have not been adequately prepared to teach learners with varying ages and abilities, experience disempowerment.

Little (2005:16) and Little et al (2006:2) refer to several research studies done with relation to different models of professional development of teachers teaching in multi-grade settings. These and other similar studies can form the basis for further development and implementation of multi-grade teacher development strategies. Suzuki (2004), cited in Little (2005:16), identifies a number of areas for improvement but also identifies “hearts and minds” obstacles that would endure even if training were to improve. These include the lack of awareness on the part of policymakers of the existence and needs of multi-grade classes, the absence of teacher training expertise in the practices of multi-grade teaching, and the overwhelmingly negative attitudes towards it held by teachers, their trainers and supervisors.

1.9 The outline of the thesis

Chapter One explains in short an international perspective on multi-grade rural education and the background and development of the Multi-grade Rural School Intervention. It gives a brief description on the rationale and justification for the study and the method to consider in the data collection and interpretation process. It further clarifies some relevant key concepts which enhanced the understanding of the content of the study.

Chapter Two discusses a historical background of multi-grade teaching, the influence of rural development theories on the development of multi-grade teaching and multi-grade teaching as an option for education provision in rural areas.

Chapter Three describes the theoretical framework, which the researcher intends to follow in the study including the case study as research method and the framework of the case study. It also refers to case studies done in multi-grade teaching else where in the world.

Chapter Four is concerned mainly with creating meaning from what the researcher has heard, observed, written and experienced.

Chapter Five contains conclusions drawn from questionnaires, interviews and school visits. This chapter also offers recommendations, which might strengthen multi-grade teaching.

CHAPTER 2

LITERATURE REVIEW

2.1 A HISTORICAL BACKGROUND OF MULTI-GRADE TEACHING

2.1.1 Understanding the concept of multi-grade teaching

Benveniste and McEwan (2000:33) see multi-grade schools as a commonly advocated means of providing primary education to learners in the rural areas of developing countries where one teacher has to teach several grade levels. These schools are common in impoverished, low population settlements such as remote areas and small villages.

Little (2005:4) gives a broad description for the manifestation of the different contexts of the concept multi-grade teaching. They are:

- Schools in areas of low population density which are widely scattered and inaccessible with low enrolments and perhaps only one or two teachers responsible for all grades;
- Schools that comprise a cluster of classrooms spread across different locations, in which some classes are multi-grade and some are mono-grade. Some teachers within the same school will spend most of their time with multi-grade classes and some with mono-grade classes;
- Schools in areas where the learner and teacher numbers are declining and where there was previously mono-graded teaching;
- Schools in areas of population growth and school expansion, where enrolments in the expanding upper grades remain small and teacher numbers few;
- Schools in areas where parents send their learners to more popular schools within reasonable traveling distance, leading to a decline in the potential population of learners and teachers in the less popular school;
- Schools in which the number of learners admitted to a class exceeds official norms on class size, necessitating the combination of some learners from one class grade with learners from another grade;
- Mobile schools in which one or more teachers move with nomadic and pastoralist learners spanning a wide range of ages and grades;
- Schools in which teacher absenteeism is high and supplementary teacher arrangements are ineffective or non-existent;
- Schools in which the official number of teachers deployed is sufficient to support mono-grade teaching but where the actual number deployed is less and
- Schools, in which learners are organised, for pedagogic reasons, in multi-grade rather than mono-grade groups, and often as part of a more general curriculum and pedagogic reform of the education system.

Berry (2001:1) mentions three reasons why multi-grade teaching may occur in both developed and developing countries. They occur in cases where multi-grade teaching:

- Is often associated with “small” schools in remote and sparsely populated areas;
- Is common in larger urban and suburban schools where two grade levels have to be combined to make up class sizes and
- Is a deliberate response to educational problems.

It is often seen that teaching in multi-grade schools fails to recognise and teach the different individual needs of learners. Berry (2001:8) reports that there is evidence that multi-grade schools can be very positive places for learners when constraints like, lack of parental interest in education, poor nutrition, mismatch between home and school culture, poor supply of materials and infrastructure and inappropriately trained and unqualified teachers can be overcome. Pratt (1986:111) expresses the opinion that there are advantages in mixed age settings and uses findings from anthropology to show that the “natural” way in which infants are socialised in many cultures is in mixed age groups and he points out that age segregation is a relatively recent phenomenon. The biggest advantage for learners in a mixed age setting lies in the development of wider friendship groups and a reduction in competition and aggression.

Education for rural people, according to Emerging Voices (2005:137), lies at the heart of rural development and is fundamental for reducing poverty worldwide. It stresses the need to improve the opportunities for development, capabilities and lives of learners who are receiving less than the right they deserve from education.

2.1.2 Understanding the context in which multi-grade teaching takes place

2.1.2.1 International Context

(a) The origins of multi-grade education

Literature on multi-grade teaching is mainly concerned with primary school education and reflects mostly on developed countries like the United States of America, which include Montana, Alaska and Oklahoma as rural areas, Australia, Canada, Sweden, Norway, the United Kingdom, Holland, Finland, Greece and Northern Ireland. A small percentage of literature listed deals with multi-grade classes in Zambia, Columbia, Peru and a number of countries in the East like Malaysia, Vietnam, India, Korea, the Maldives, Nepal, Thailand, Philippines, Sri Lanka and Indonesia. The researcher will divide the literature surveyed in two different ways:

- Literature on developed countries and literature on developing countries
- Literature on schools or classes where multi-grade classes are a reality of small, isolated communities and literature on schools which choose multi-grade classes as an alternative to mono-grade because of the advantages they offer

Sigsworth and Solstad (2001:1) report that with the establishment of basic education for all in Europe and North America during the eighteenth and nineteenth centuries, large sections of the populations lived in rural areas where transport was poor or non-existent. Of necessity, schools had to be located where people lived and such schools tended to be small. This was particularly the case in countries with large sparsely populated areas such as Norway where harsh winter conditions did not allow long walks between home and school. Miller (1999: x) adds that in a country like the United States the one-room multi-grade schools were the norm until they were phased out in the early part of the 1900s. Vincent and Ley (1999: x) report that although some schools continued to refine and develop the multi-grade concept many of these programmes disappeared from public schools. With the beginning of the industrial revolution and large-scale urban growth, the ideal of massed public education took root and the practice of graded schools began in earnest. Urban education administrators in the US, according to Little (1995:5), recommended that schools be divided on the lines of age and grade, a development which was consistent with the division of labour in industry. Bruck quoted in Pratt (1986:112) agrees as follows: "The principle of the division of labour holds well in schools, as in mechanical industry". According to Little (1995:6) the mono-grade model was to become a universal ideal in the late nineteenth and twentieth centuries and came to dominate the basis of school, class and curriculum organisation used by central authorities.

According to Sigsworth and Solstad (2001:1), in the second half of the twentieth century, many politicians and planners, especially those in countries with vastly improved transport facilities, became convinced that only large schools could provide effective schooling. Commonly, their argument was that small schools disadvantaged learners, because a small teaching staff cannot provide an adequate curriculum. Teachers in remote areas would be professionally isolated being far from urban in-service centres. They believed that multi-grade classes are harder to teach than single-grade classes. The learners perform less well and suffer socially, for their single-age peer groups are too small. It is costlier to educate learners in small schools than it is in large ones. Where this line of reasoning was accepted, many small communities saw their small schools closed and their learners transported long distances to school. However, as the century was moving towards its end and as the effects of school closures upon learners and their communities became apparent, a much more positive view of small schools began to appear.

Little (1995:4) points out that the first state-supported elementary schools in North America and Europe were ungraded. A number of schools implemented open education, ungraded classrooms and multi-grade groupings from the mid-1960s through the mid-1970s.

The school often consisted of a single room in which one teacher taught basic literacy and numeracy to learners from six to fifteen years of age.

Development policies largely neglected rural areas. Similarly, the rural dimension of basic education issues in most developing countries was, according to Atchoarena and Sedel (2003:35), largely overlooked in the 1990's. What has changed is the context in which rural development takes place. The formation and exploration of the conceptual framework linked the rural environment to learning.

The multi-grade class has however remained a significant part of schooling in developed and developing countries. The primary shaping of the history of multi-grade classes happened according to Vinjevold, Schindler and May (1997:134) by:

- Population considerations;
- Extension of universal primary education and
- Pedagogical theories that led to an interest in multi-grade or multi-age teaching

Achieving the targets set by the international community for the year 2015 regarding poverty reduction and basic education will require particular emphasis on rural areas. The development challenge will therefore continue to relate to rural trends and conditions. "...the multi-grade reality has characterised hundreds of thousands of schools throughout the twentieth century and will continue to do so well into the twenty first" (Little 1995:5).

(b) International population trends

Atchoarena and Sedel (2003:39) state that the twentieth century witnessed an important redistribution of the world's population towards urban areas. Whereas 66 per cent of human beings lived in rural areas in 1960, that proportion had declined to 53 per cent by 2000, which however, still constitutes the majority of the world population. Thapa (2004:2) indicates that projections suggest that the rural population of the less developed regions will increase very slowly until 2025. A publication by United Nations Department of Economic and Social Affairs/Population Division (2008:1) affirms that between 2007 and 2050, the world population is expected to increase by 2.5 billion, passing from 6.7 billion to 9.2 billion. At the same time, the population living in urban areas is projected to gain 3.1 billion, passing from 3.3 billion in 2007 to 6.4 billion 2050. Thus, the urban areas of the world are expected to absorb all the population growth expected over the next four decades while at the same time drawing in some of the rural population. As a result, the world rural population is projected to start decreasing in about a decade and 0.6 billion fewer rural inhabitants are expected in 2050 than today. Furthermore, most of the population growth expected in urban areas will be concentrated in the cities and towns of the less developed regions.

Asia, in particular, is projected to see its urban population increase by 1.8 billion, Africa by 0.9 billion and Latin America and the Caribbean by 0.2 billion. Population growth is therefore becoming largely an urban phenomenon concentrated in the developing world.

Although the indications are that the rural population is expected to decline (Atchoarena and Sedel, 2003:40) there are also variables like demographic contraction and staffing cuts, which, according to Veenman and Raemaekers (1995:3), will not necessarily mean that multi-grade teaching will also decline. According to Little (2005:7) the adoption of the expansion of multi-grade schools may be the only strategy for the achievement of universal access to primary education in some countries. It is therefore, inevitable that for the near future multi-grade schools will exist in most Commonwealth countries. The majority of 850 million people in the world are undernourished and live in rural areas, 860 million of them are illiterate adults and 130 million are out of school learners (Atchoarena and Gasperini, 2005:1). The rural-urban education gap is increasing and is threatening efforts to achieve sustainable development and the Millennium Development Goals.

(c) The occurrence of multi-grade education internationally

Juvane (2005:4), reports that Ministries of Education see multi-grade teaching approaches as a key pedagogic tool, which can assist teachers, to cope with teaching in these difficult situations. This point of departure will change the belief that multi-grade teaching was initially adapted as a necessity, rather than to address teacher shortages especially in rural, hard-to-reach areas with small school enrolments. It can also be viewed as a cost effective measure to expand access to basic education and assist countries to achieve MDG's and EFA goals.

It is clear from available international data that the appearance of multi-grade teaching is not an isolated phenomenon in some parts of the world. Therefore it would be impossible and criminal for policy makers to ignore the existence and occurrence of these schools and classes. It is also clear that the reasons and motivation for multi-grade teaching and learning differs in relation to the specific education needs which are experienced at specific times and in specific contexts.

Veenman and Raemaekers (1995:3) point out that in the Netherlands 53% of primary school teachers have multi-grade classes. In a survey conducted by Little (1995:70) in England and Wales 40% of the schools reported an increase in multi-grade grouping as a result of falling enrolments. A further 15% reported that falling enrolments might lead to an increase in the extent of multi-grade teaching in the future. Almost one-half of new teachers in England and Wales had a first appointment in multi-grade classes.

Little (2003:13) and Little (2005:2) refers in table 2. 1 to a review done by the Overseas Development Agency covering twenty-five countries and illustrates the extent of multi-grade teaching in both developed and developing countries.

Table 2.1: The extent of multi-grade teaching (adapted from Little 2003:13 and Little 2005:4-5)

Australia	1988	40% of schools in the Northern Territories had multi-grade classes
Tuvalu	1990	91% of schools had multi-grade classes
Turks & Caicos	2000	30% of primary schools (3 out of 10 schools) were multi-grade
India	1996	84% of schools had multi-grade classes. Since primary schools have 5 curriculum grades this means that if learners are to be 'on task' for most of the prescribed school day, then some teachers must be responsible for two or more grades for some part of each day;
Sri Lanka	1999	63% of all public schools had 4 or fewer teachers. Some are primary schools with 5 grades and some are primary and post-primary with up to 11 grades. If learners are 'on task' for most of the prescribed school day, it follows that some teachers must be responsible for classes spanning two or more grades for some part of each day.
Nepal	2003	73% of primary schools in the 3 districts surveyed. The teacher-primary school ratio was 3. 8 1998. Primary schools comprised 5 grades. If learners are 'on task' for most of the prescribed school day, it follows that most teachers must be responsible for two or more grades for some part of each day;
Peru	1998	78% of all public primary schools were multi-grade and 41% had only one teacher
Vietnam	2001	2. 5% of all primary classes were multi-grade (169,662 learners)
England	2000	25. 4% of primary classes were 'mixed year which means that two or more grades were being taught by one teacher';
Northern Ireland	2002/2003	21. 6% of all classes (Years 1-7) were 'composite' classes (i. e. two or more grades taught together)
Ireland	2004	42% of primary classes were mixed year
Norway	2004	35% of primary schools were multi-grade schools
Zambia	1984	26% of primary schools had only one teacher
Mauritania	2002/ 2003	39% of all learners were educated in multi-grade classes
Mexico	2003	20% of schools were one-teacher schools
Zambia	2003	20% of schools were one-teacher schools
Sweden's	2003	35% of primary schools were multi-grade
Wales	2003	30% of schools had multi-grade classes

Other reports on multi-grade teaching provide further data on the extent of multi-grade teaching. About 37% of all primary schools in Norway have only three classes or less. Each class in a two-class school will generally include three grade levels, whereas the one-class school comprises six grade levels (Vinjevold, Schindler and May, 1997:135). One of every seven classrooms in Canadian schools is a multi-grade classroom and interestingly, greater numbers of multi-grade classrooms are in urban areas than in the rural districts (Gayfer and Gajadharsingh, 1991:51). The World Bank, which supports multi-grade schools in a number of developing countries, reports approximately 420 000 multi-grade schools in China, 20 000 in Indonesia and 1 540 in Malaysia (Thomas and Shaw, 1992 in Vinjevold, Schindler and May, 1997:135). In South Africa according to Saloshini (1999:35) it is estimated that over 50% of schools in South Africa are multigrade. According to Brunswic and Valérien (2003:39 - 42) it is found that the results in Sub Saharan Africa vary considerably from one country to the next. In Benin for example the occurrence of one class teaching is 6.19% and of 2 class teaching 10.9% whilst in Lesotho 50% to 60% of the schools are multi-grade schools.

In the USA, there is another reason for the increase in multi-grade classes. Developmental theories of learning and learner-centred models of instruction have resulted in the multi-age classroom seen as a way to restructure schools (Millar, 1999: x). The state of Kentucky has mandated multi-age classrooms in all junior primary grades and Alaska, California, Florida, Georgia, New York, Pennsylvania and Texas are considering the implementation of multi-age classrooms, while the current multi-age classrooms have groups of 9, 10 and 11 year olds.

Multi-grade teaching offers the opportunity to address the challenge of the occurrence of so-called incomplete schooling in rural Africa. According to Juvane (2005:6) multi-grade teaching attempts to address and redress the disjuncture between the education systems in African countries and the needs of learners in a changing society. It makes it possible to provide basic education for such populations and encompasses teacher development, curriculum reform, language issues, learning, support materials and tutor pedagogic awareness.

(d) The importance of an international co-ordinated multi-grade data collection strategy

Little (1995:6) states that the multi-grade reality has characterised hundreds of thousands of schools throughout the twentieth century and will continue to do so well into the twenty-first century. Notwithstanding this occurrence, Little (2005:2) stresses that national and international agencies do not collect comparable data on multi-grade classes.

In some countries data on number and percentage of one and two teacher schools are available, in others the number of teachers teaching in multi-grade schools is captured, in others the number and/or percentage of multi-grade classes within an education system is available and in others again number and/or percentage of schools which have multi-grade classes is provided. Therefore, the full extent of multi-grade teaching worldwide is unknown. This lack of information is, according to Berry (2001:2), typical of the peripheral position that these kinds of school settings frequently have. Although few Ministries of Education collect data on numbers of multi-grade schools, multi-grade classes and multi-grade teachers, United Nations Educational Scientific and Cultural Organisation (UNESCO) does not invite Ministries of Education routinely to return such data (Costas, Sofoklis and Michail, 2003:42).

However, the available evidence suggests that multi-grade teaching is very widespread. Although the data is not in all instances comparable it is evident that multi-grade classes are a feature of all countries, which have rural or isolated communities. "Small schools with multi-grade classes are uncommon in towns and cities and it is in the sparsely populated regions of countries that these schools are mostly to be found" (Sigsworth and Solstad, 2001:1). In developing countries, multi-grade schools and even one-teacher schools are a significant feature of the education systems. Little (1995:11) adds that isolated small communities are also, albeit to a lesser extent, found in industrialised countries.

(e) The need for an international multi-grade education strategy

Hartwell, DeStefano and Benbow (2004:1) raise the concern that a large percentage of 115 million learners in the world, which are still out of school, live in the poorest and most remote regions of countries like sub-Saharan Africa, Asia and the Pacific, North Africa and the Middle East. To render a quality service to all learners will require an extensive overhaul of policies and programmes and far more public resources than are likely to be available. The challenge is, according to Hartwell, DeStefano and Benbow (2004:2), to develop and scale up complementary models that have demonstrated that they can effectively reach chronically underserved populations and regions.

All countries became increasingly aware of the need to build internal partnerships not only among various governments, ministries and agencies, but also with civil society organizations and the private sector. Therefore, the UNESCO programme, Education for All, which is the result of three major World Conferences, will provide the means to co-ordinate and align quality education for all internationally. The first conference took place in Jomtien Thailand in 1990, the second in Amman Jordan 1996 and the third one in Dakar, Senegal in 2000.

These Conferences provided the blueprint and set up strategies for achieving the goals of the Education for All Programme by the year 2015. Lakin and Gaspirini (2003:167) describe Education for All as a prerequisite for rural transformation and the general improvement of rural life. Consequently, the provision of basic education in rural areas requires and merits far more attention, effort and resources than it presently receives.

While the education authorities in each country have the primary responsibility for managing the education system, the active co-operation of numerous partners inside and outside government is necessary to expand and improve the range of basic education opportunities on the scale needed in rural areas. This effort calls, according to Lakin and Gaspirini (2003:168), for strong and continuous support at political level, while action needs to take place in each and every rural community. The community is an essential partner in defining the basic learning needs of its members and in establishing and maintaining basic education programmes and activities in rural areas. Rural communities can often offer significant human, material and intellectual resources. Once these resources are mobilised and given adequate support and direction, rural communities and their members can become both beneficiaries and important role-players in the provision of basic education and in the transformation of the rural space.

Education for rural people lies at the heart of rural development and this is fundamental for reducing poverty worldwide (Emerging Voices, 2005:137). Meeting the basic learning needs of rural people in the developing countries is clearly a major challenge to achieving Education for All (EFA). The FAO and UNESCO took this priority further and launched the global Education for Rural People (ERP) flagship partnership in Johannesburg during the World Summit on Sustainable Development in 2002. The ERP is, according to Gasperini and Atchoarena (2005:1), based on three main Millennium Development Goals (MDGs). These MDGs strive to:

- Eradicate extreme poverty and hunger;
- Focus on achieving universal primary education and
- Equality of gender and empowerment of women.

The Dakar Framework for Action outlines a number of goals in order to meet the EFA challenges, each with special relevance to Education for Rural People. These goals include the expansion and improvement of comprehensive early learning care and education. It will ensure that by 2015, all learners, with a special emphasis on girls and learners who live in difficult circumstances, have access to complete free and compulsory primary education of good quality. These goals will ensure that it will meet the learning needs of all young people and adults through equitable appropriate learning and life skills programmes as well as the consequent improvement in levels of adult literacy by 2015, especially for women.

It will include equitable access to basic and continuing education for all adults. It will address the elimination of gender disparities in primary and secondary education, the achievement of gender equality in education by 2015 and the improvement of all aspects of the quality of education (Atchoarena and Gasperini, 2005:3).

Costas, Sofoklis and Michail (2003:33) stress the importance of national ownership of the Education for All process and consider it as particularly vital to have reliable data at rural level. They therefore underline the following fundamental strategic operating assumptions which lie at the heart of Education for All activity at national level, namely:

- The need for co-operation with civil society, regional and sub-regional forums;
- High level groups and
- Working groups.

(f) Examples of progression made in addressing identified diverse needs with relation to the expectations of Education for All

Costas, Sofoklis and Michail (2003:35) explain the importance of monitoring the progress that countries and agencies should achieve for the programme in which they are involved. In a few words this stresses the need for additional school places, literacy campaigns and teacher educational materials and so on, in order to achieve the EFA goals and targets set for 2015.

(i) Finland

Paasimaki from the Chydenius Institute in Finland, as cited by Costas, Sofoklis and Michail (2003:67), reports that the Finnish education system operates in a very sparsely populated country characterised by large distances and plenty of small villages. Thirty three percent of Finnish schools are small multi-grade schools. Although multi-grade schools employ 19% of the junior schoolteachers, only 7% of school age learners attend these schools. Twenty five percent of multi-grade schools have closed since 1996. Better employment opportunities, the decrease in birth rate, financial problems and municipalities are offered as reasons for this.

The Finns apply education methods developed in Finnish multi-grade schools to large schools. They call these methods "grade free teaching". They include learners, grouped by their capabilities, interests and potentials and not by their age. They also see multi-grade teaching as a modern way of teaching and safe for learners.

They have successfully integrated some learners suffering from severe behavioural or concentration problems in multi-grade schools. They evaluated this as the cheapest way to address these problems.

The defenders of multi-grade schools see them as a basic human right of learners to go to schools near their home. Paasimaki from the Chydenius Institute in Finland, as cited by Costas, Sofoklis and Michail (2003:68), believes that the multi-grade teachers' work is very demanding and that teachers need contacts and professional networks. Therefore Finnish schools' equipment in information technology is quite high and teachers are used to having access to computers during the learning process. Nevertheless, teachers are professionally isolated and only have a few colleagues with whom they can share pedagogical ideas, problems and materials. The 2001-2003 curriculum course created for Finnish multi-grade teachers, offered the opportunity of two weeks to get acquainted with multi-grade teaching. It included the multi-grade curriculum, differentiation and individualization of teaching in multi-grade schools with learners of less than 50. Observation, participation in the planning and evaluation of the actual teaching and seminars were some of the methods used.

According to Paasimaki from the Chydenius Institute in Finland, as cited by Costas, Sofoklis and Michail (2003:69), the trainers offered the Finnish teachers the opportunity to come up with thoughts, hopes for a proper training programmes, and identify priorities, which should be addressed in future training events. The training programmes equipped teachers with elements of new and different learning methods, explained these methods and provided adequate knowledge of how to use these methods in a multi-grade class. It also supplied teachers with information and technical support on how to use these ITC-environments and programmes in multi-grade teaching and gave teachers knowledge of how to organize teaching in a multi-grade class.

(ii) Spain

Gomex from the University of Cadiz in Spain, cited by Costas, Sofoklis and Michail (2003:73), reports that multi-level schools are not a frequent reality in the Spanish Education system and the majority of schools that have this kind of organisational structure are, in the main, those in rural areas. The characteristics of the learners they deal with are similar to multi-level schools because this type of organisation allows them to meet the needs of a learner body that is exceptionally diverse.

The educational law of Spain, according to Gomex, from the University of Cadiz in Spain, cited by Costas, Sofoklis and Michail (2003:73), considers that teaching should be personalised and adapted to the learning pace of each learner. Therefore, they see the needs of Spanish teachers, involved in multi-level schools in rural areas, as similar to those of other teachers who work in schools of this type in environments other than rural.

This resulted in the "Grouped Rural Schools", which were set up by Royal Decree and made flexible forms of grouping more possible in Spain.

(iii) Greece

Sotiriou, cited by Costas, Sofoklis and Michail (2003:79), reports that most of the primary schools in the southeastern part of the Aegean Sea near Greece are multi-grade and play a vital role in the small societies in the region. The spreading of the schools is over several hundred small islands. These islands are mostly far away from the mainland and face geographical isolation. The population density in these islands is low and there are serious communication problems amongst them. Multi-grade schoolteachers, who are usually young and inexperienced, have to teach in very difficult conditions. Specialized training is more than a necessity for them. Apart from some sparse programmes and activities, national educational curricula do not offer training targeted to them.

According to Sotiriou, cited by Costas, Sofoklis and Michail (2003:80), the Hellenic Telecommunications Satellite HELLAS SAT launched in May 2003 has significant advantages compared to conventional ways of training based on more traditional telecommunication services. The ZEUS project provides remote, rural areas in Greece high-speed downlink connections and offers the opportunity to deliver training and use of the capabilities of multimedia tools. It aims at fully exploiting and validating the use of satellite communications as a platform for delivery of educational content to isolated rural schools in both the Aegean Sea and on the mainland. The aim is to create a network of about 10 pilot schools in different areas across Greece. They will be equipped with the appropriate infrastructure in order to get involved in the project's activities. Satellite links provide an excellent solution to meet the identified needs experienced by these remote education sites.

Kallinikos from the primary school of Pyles Karpathos, cited by Costas, Sofoklis and Michail (2003:85), reports that the idea of creating school centres in the Greek countryside is advancing systematically with the full support of the educational organization. Kallinikos mentions economic constraints, workload of teachers and unsuitability of multi-grade teaching as reasons for this occurrence.

Nevertheless, Costas, Sofoklis and Michail (2003:86) could not find any single Greek scientific research that proves that the multi-grade schools are less effective. Modern methods like multi-grade grouping, peer tutoring and total cognitional perceptions, start to form part of the school organization which were previously perceived as disadvantages of multi-grade schools.

Kallinikos, from the primary school of Pyles Karpathos, cited by Costas, Sofoklis and Michail (2003:86), supports the advantages of small schools remaining in villages and recognises social reasons for it. Pyles Karpathos further stresses the importance of the maintenance of multi-grade schools and the advantages, which telecommunication developments have for them.

2.1.2.2 South African context

Nelson Mandela once said, "that one could find the most profound challenges to South Africa's development and democracy in its rural hinterlands, deprived systematically and intentionally of the most basic resources under apartheid, which continue to lag behind the rest of the county in the post-apartheid era" (Emerging Voices, 2005: vii).

(a) Available research on multi-grade teaching in rural South Africa

Although extensive literature from developed and to a lesser extent developing countries can be found relating to multi-grade rural teaching, the literature reviewed revealed only three topics relating to case studies done in South Africa between 1998 and 2004 with regard to multi-grade rural teaching. They are:

(i) An investigation into the availability and use of teaching and learning material in multi-grade classes in the Free State by I. P. Strauss (1999)

Strauss (1999:11) recommends from findings during the study that the Free State education Department should involve other agencies and NGOs, as well as tertiary institutions, to assist the subject advisory services in the in-service training of teachers.

Strauss (1999:11) supports the creation of equal opportunities for all schools to advance the education of all learners. Strauss (1999:11) recommends that together with this action, the monitoring of quality of education in all schools is a necessity to iron out problems.

(ii) Re-tooling and re-skilling of teachers in multi-grade schools: promoting quality education in farm schools by N. F. Litshani (2004)

This study refers to a qualitative and quantitative research done in four farm schools in the Soutpansberg district in the Limpopo region.

The intended outcomes of the study was to equip teachers with appropriate skills and tools as practitioners, benefit learners as participants in their learning, commit parents as critical stakeholders and acquaint landowners of new legislation with respect to farm schools now being public schools.

(iii) Struggling no more: An evaluation of Molteno's multi-grade foundation phase classroom model by H. Kotze (2000)

The conclusion made by Kotze (2000:67) is that the well-organised multi-grade model offers a superior form of classroom organisation to single grade classes because "The model provides an environment that allows for each learner to progress at his/her own pace." The model promotes the development of co-operative learning skills and sees it as essential to work in a democratic society. Success amongst learners increased because learners had more opportunity to become role models and to take on leadership roles. It also enhanced self-esteem, and formative assessment is the standard assessment approach.

(b) The South African reality

South African society is still divided by huge economic and social disparities. We need to ask ourselves where they stem from and how we (can) overcome them. How are we going to overcome poverty? Perhaps the answer lies in "our ability to replicate the best elements of our society, at all levels and among all communities". (Nelson Mandela, 1999, cited in *Emerging Voices*, 2005: viii). The rural education reality in South Africa needs mentioning and explaining so that it can add depth to the understanding of the phenomenon.

(i) The political an ideologic level

The Report of the Ministerial Committee on Rural Education (2005:82) states that the rural education experience has been a tool used by architects of apartheid to divide and rule racially, culturally and educationally.

Now in the democratic era, it is a tool used by the government, to implement trial and error programmes at the expense of poor people, who need real development. Rural education and farm schools in particular are special cases warranting special policy attention. It recommended that the government treat rural schools as a separate category of "special" schools and that they (and other schools in poor areas) receive more funding (over and above their "quintile" based allocation).

(ii) The Characteristics of rural schools in South Africa

Rural schools are situated in South Africa in underdeveloped areas which are characterised by poverty, unemployment, illiteracy, unavailability of clean water, lack of electricity and proper sanitation, inequitable distribution of available resources and diseases such as Cholera, Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome (HIV/Aids) and Dysentery (The Report of the Ministerial Committee on Rural Education, 2005:82).

According to the Report of the Ministerial Committee on Rural Education (2005:82), the government can only address these characteristics when it follows an interdisciplinary approach and not entirely a remuneration approach. The Education, Sport, Arts & Culture, Health, Public Works, Social Development and Trade and Industry Departments and the private sector should produce a development strategy to deal with rural decay.

(iii) The influence of Poverty

Surveys done in the former homeland areas Limpopo, Eastern Cape and Kwazulu-Natal, as described in *Emerging Voices* (2005: x), demonstrate the highest levels of poverty and unemployment. It shows that these rural poor are mainly woman living in households facing food-insecurity on a daily basis. They rely on meagre sources of income derived from pensions, social grants or migrant labour. In the absence of income, employment and food-security, families have to rely on child labour to help ends meet. Although there is a deep underlying support amongst parents and communities for the schooling of learners, the conditions of life imposed by poverty and unemployment constantly undermine their efforts.

(iv) Barriers to participation in schooling

In the remote rural areas, the learners experience many obstacles to participation in schooling. *Emerging Voices* (2005:64) is referring to those obstacles as patterns of daily life, which include the following:

- Household chores such as minding animals, collecting wood and water, collecting social grants, cooking and cleaning and looking after siblings, all of which are shaped by domestic economics;
- Domestic economics rely on learners participating in activities that help raise funds necessary to pay school fees and put food on the table;
- Rural geographies and lack of basic services such as good roads and transport systems result in learners having to walk long distances to school;
- The inability to pay school fees, to afford school uniforms and to cope with hunger means that the experience of schooling is associated with shame and humiliation;
- Ill-health, (HIV/AIDS) and teenage pregnancy form part of the daily lives of learners and

- Learners's patterns of schooling are not gender-neutral and are exacerbated in the case of learners with special needs.

(v) The lack of basic services

There is a fundamental interrelationship between the lack of basic services, like water, roads, electricity and sanitation in schools and in the community. Emerging Voices (2005:71) states that lack of basic services in the community impacts on the access to and quality of schooling. Therefore, rural development strategies need to integrate both educational issues as well as community participation in order to be sustainable.

(vi) The vision and reality offered by the curriculum

Emerging Voices (2005:103) identifies two visions for rural education amongst parents and learners and describes them as:

- An education that will promote rural development and
- An education that will promote learners participation as equals in social, economic and political life.

A survey done by Emerging Voices (2005:103) however found that teachers are insufficiently trained and are ill equipped to meet the extraordinary high expectations of the curriculum and that inadequate resources and support hampered them in their work. Learners on the other hand experience their classrooms as authoritarian rather than democratic places, spaces in which there is little learning and less understanding. Parents and teachers see corporal punishment as a normal way to discipline learners, where learners again experience it as abusing their fundamental rights within education.

(vii) School community relationships

Emerging Voices (2005:129) reports that schools and School Governing Bodies in the remote areas do not live up to the expectations of democracy to form firm links between schools and communities.

However, there is a strong sense among all communities of the need to unite across divisions and to form structures around common problems, to discuss these problems and to work out ways of dealing with them. There is evidence that a greater role by district authorities brings positive benefits in improving morale and attendance.

(c) The extent of government involvement in multi-grade education in rural South Africa

Vinjevold, Schindler and May (1997:132) remark that communication with South African provincial education departments, non-governmental education organisations and university education departments indicates that there were until 1997 no local projects or programmes dealing specifically with multi-grade teaching. It is significant to mention that two multi-grade related intervention strategies, which were initiated by two provinces in South Africa after 1997, are mentioned in the Report of the Ministerial Committee on Rural Education (2005:73). These projects focussed on the universal striving for ensuring Education for All, which includes all rural people and was regarded as an urgent task for the South African community at large. They are:

(i) The Kgatelopele project of the Limpopo Education Department

This three-year project launched in 2000 in the Limpopo province follows, according to Perold (2002:12), an action/reflection/practice approach. It was intended to share practices and adapt them to the accepted aims of learners' performance and the quality of learners' life experience. Although the project focussed on the whole system, it also addressed the needs of the multi-grade schools. The Report of the Ministerial Committee on Rural Education (2005:73) states that, with support, the cluster model which was applied in this project, appears to be sustainable: "Clusters can now run the model on their own, but do need back-up resources: this should be the approach".

(ii) The Multi-grade Rural Schools Intervention of the Western Cape Education Department

This three-year project has been running since 2002. Considerable amounts of experience, which includes dominant practices that are different from those in urban areas, developed as the project went on. One form of support worth mentioning is the utilization of technology in the form of the Multi-grade website, which is accessible on <http://wced.wcape.gov.za>.

(d) The occurrence of multi-grade education in rural South Africa

Schools in South Africa, with multi-grade classes, are generally in rural or remote areas and in the majority of cases are characterised by extremely inadequate facilities such as classrooms and libraries, the absence of physical infrastructure such as roads, electricity, telephones, water etc. and unqualified or under qualified teachers.

The promulgation of the Bantu Education Act No. 47 of 1953 defined the status of public schools on private land. It classified the link between education delivery and agricultural production on white-owned farms as "state-aided". Although the Bantu Education Department (renamed the Department of Education and Training) was directly responsible for these schools, farm owners still subsidised schooling through the provision of buildings, facilities and services. The Report of the Ministerial Committee on Rural Education (2005:48) states that property owners have the final say on the selection of teachers, have the power to open and close schools, can decide which learners should be allowed to attend the school and what grade levels the school should offer. Although farmers received a 50% subsidy for building the school and maintaining services, schools were still in a parlous state by 1994.

The Report of the Ministerial Committee on Rural Education (2005:50) states that farm schools are not only amongst the poorest in the country regarding physical infrastructure, provision of facilities, services and teaching resources, but they also experience significantly lower attendance rates than other schools. Access to education in the former homelands was somewhat better than on commercial farms during the apartheid era, leaving farm workers on commercial farms less educated than those working in various sectors in the former homelands (Report of the Ministerial Committee on Rural Education, 2005:50). As the constitution provides for both the basic right to education as well as the private property right, the placement of farm schools on private land has meant that the interests of learners at schools on private land sometimes clash with those of property owners to the detriment of all.

Wilson (2002:1) reports that farm schools constitute 17% of all schools in South Africa. Many of these schools in South Africa are in very impoverished settings. The close correlation found between multi-grade settings and disadvantaged communities means that learners in those contexts have little hope of escaping from the vicious cycle of having no access to the services and opportunities that might lift them out of poverty. The 1996 Schools Register of Needs Survey affirmed this observation when it indicated that farm schools had the greatest need.

Table 2.2: Distribution of learners, teachers and schools in South Africa (GCIS, 2005:4, Joubert, 2005:5 and Joubert 2006:6)

South-Africa: As a whole		
Learners	Teachers	Schools
12.5 Million	366 000	28 000
South-Africa: Rural picture		
Learners	Teachers	Schools
800 000	9 000	5 400
Western Cape Province: Rural picture		
Learners	Teachers	Schools
25 700	900	315

The comparative statistics on rural schools in South Africa, indicated in table 2.2, are of significant importance in the contextualisation of the rural education challenge, which is very important in South Africa:

Table 2.3: Farm schools learners per province: 1996-2000 (Report of Ministerial Committee on Rural Education (2005)

PROVINCES	1996	2000	% Increase/Decrease 1996-2000
Eastern Cape	50307	18333	-64
Free State	104268	56618	-46
Gauteng	25297	12576	-50
Kwa Zulu-Natal	192615	55304	-71
Limpopo	48294	24877	-48
Mpumalanga	93352	32847	-65
Northern Cape	16528	8321	-50
North West	61107	35503	-42
Western Cape	47264	11769	-75
Total	639032	256148	-60

Vinjevold, Schindler and May (1997:132) note that in South Africa the number of multi-grade classes and different grades taught in one class will increase in the years to come with increasing urbanisation and new teacher/learner ratios. The Report of the Ministerial Committee on Rural Education (2005:84) states that since the 2002 report, public schools on private commercial farms, actually declined by 4%. They constitute 13% of all state funded schools and provide education to 3 % of learners in the public school system.

Farm schools actually appear to have been declining since 1994 as shown by table 2.3. The report further shows that between 1988 and 1996 the number of full-time workers declined from 724 430 to 625 451 whilst the number of farms decreased from 62 428 to 60 938. Job losses not only result in farm workers losing jobs but also result in many workers, largely women, compelled to seek temporary work affecting their learners's access to regular schooling.

(e) The challenge of suitable curricula for multi-grade rural education in South Africa

The National Government in South Africa requires all teaching to follow the national curricula. This prescribed curriculum is the same for urban and rural schools. The curricula consist of a list of minimum learning competencies stated in terms of behavioural objectives. Joubert (2006:9) feels that it is necessary for the South African syllabi to be prepared specifically for the multi-grade teaching context or be adaptable to it.

Joubert (2006:4) identified several related aspects associated with the biggest problems in the South African education system. South Africa is struggling with a segregated and authoritarian system brought about by apartheid and with national large-scale top-down curriculum reform, which is slow and prescriptive. This centralised effort towards curriculum change has resulted in overloaded and fragmented programmes. None or little motivation or support during implementation of renewal in the classroom is experienced. Teachers have difficulty in overcoming the anxiety they experience when attempting new ways of teaching and consequently do not stay with the new strategies long enough. They abandon their efforts and return to the old familiar strategies. The differences between schools are so great in terms of capacities, leadership, culture and relationships with the environment that finding a blueprint for school improvement remains an elusive holygrail. A lack of available classroom and school-based research to guide curriculum development is experienced.

Educational research should assist policy makers and practitioners to implement the intentions of the new educational system more effectively.

Finding a balance between change and stability is perhaps the most crucial challenge facing schools. A common problem is that many schools overload their development plans. A one-size-fits-all delivery system demanding that everyone learn the same thing at the same time in the same way, no matter what his or her individual needs may be is experienced. Teachers still focus on drill and practice instead of focussing on learner's understanding and application of knowledge.

(f) The challenge for the South African Government

Human Rights Watch produced a report under the heading "South Africa: Government Fails Rural School Learners". In the report, among others things, they made the following very important accusation: "The South African government's neglect of schools on commercial farms prevents thousands of rural learners from receiving an adequate education. Farm schools provide the only educational opportunity to farm workers' learners in South Africa" (Forgotten Schools, 2004:1)

The 1996 South African Schools Act provides for the transition of farm schools from their previous status to public schools. As part of this process, the conclusion of contractual agreements between farm owners and provincial departments of education has to happen.

The Schools Act makes provision for the expropriation of the land on which a school building stands in the event that an agreement cannot be concluded. Government is aware, as stated in *Forgotten Schools* (2004:18) that the service to farm schools is not great. To provide education in rural areas and for the farming community in particular, some challenges are important to note. It includes farm owners who do not want the government on the land, poverty, transport and access. In the event of the eviction of a parent, who is a farm worker, the learner also has to leave the property and in turn the school unless the learner can find appropriate accommodation near the school to continue attending classes.

Kollopan (2006:13-14) points out that during the Apartheid era poorly resourced farm schools were established for the educational needs of rural black children, whereas, well-resourced schools were provided for rural white children in towns. Very little change in the conditions of farm schools is visible since the apartheid era in South Africa. Kollopan (2004:29-30) identified the main obstacles to the provision of quality education in farm schools. Farm schools are dependent on and are often vulnerable to the farmer on whose land they built the schools. They are often extreme examples of indigence in the South African education system, with relatively few schools enjoying access to a full range of services and resources. Communities served by farm schools, experience chronic levels of poverty as well as a deeply entrenched culture of violence and oppression. Inadequate and incomplete infrastructure that should enhance learning is also a cause for concern in farm schools. The State's scheme for ensuring security of land tenure for farm schools depends irrationally on the co-operation of landowners who have no intention of signing the agreements referred to in section 14(62) of [SASA].

It is clear that the South African government faces enormous challenges in attempting to protect the rights of those living in remote rural areas, particularly the right of learners, living on commercial farms, to education. *Forgotten Schools* (2004:1) indicates that without adequately addressing the conditions in farm schools, which provide an education for farmworkers' children, they will remain impoverished and limit children's educational opportunities. Consequently, the report states possible solutions for addressing the current situation in farm schools. The fact is stressed clearly that the obligation to guarantee the right to education falls within the purview of the state. Where the management of farm schools is clearly not operating in the interests of a learner receiving education, the state should consider as a last resort the option of expropriating land in the public interest as provided for by the South African Constitution and the Schools Act. The amalgamation of schools is a further option. Because of the shutting down of schools, the consideration of the provision of transport for learners, who are required to travel long distances, should be an option. Local government should play a role in cooperating in the provision of transport and waiving the cost of services such as water and electricity consumption for schools to make these services affordable. According to *Forgotten schools* (2004:53), the provision of education in rural areas and for the farming community in particular has its difficulties. The report refers to the following difficulties, which farm schools experience:

(i) Farm schools are under-resourced

The under-resourcing of farm schools affects both the quality of education received by learners as well as the general health and well-being of learners. Some of the characteristics of these schools include lack of access to basic amenities such as toilets and electricity (1273 farm schools do not have toilets). Virtually no schools have libraries or specialised classrooms for science or home economics and the provision of learning materials is poor. When Schools are small, only one or two teachers serve them. Teachers are often poorly qualified and often may not benefit from in-service courses despite the fact that teachers require additional skills to manage multi-grade classes.

(ii) Insecurity of land tenure and lack of independent governance

The perceived oppressive power relations on farms can result in interference with or arbitrary closure of schools.

Although section 14 of the South African Schools Act makes provision for MECs to sign agreements with individual farmers, allowing them to retain ownership of the land, 88% of agreements remained unsigned by 2000.

(iii) Poverty and parental illiteracy

The rural poor are amongst the poorest of South Africans and literacy rates are low. This means that farm labourers are seldom able to contribute morally (for example helping with homework) or materially (by paying school fees) to their childrens' education. There is, therefore, a clear need to establish free adult basic education in rural areas.

(iv) Geographical isolation

Many rural learners walk long distances to primary schools and even longer distances to secondary schools. The investigation of the possibility of compelling provincial departments to provide transport subsidies for parents or to enter into transport contracts with taxi associations should therefore be a priority.

(v) Forced learner labour

The practice of enlisting learners for work direct from schools is still common on farms. The potential for legal redress in individual cases is obvious and the potential stigmatisation and/or deterrent effect of high-profile litigation should not be underestimated.

2.1.3 Conclusion

In the relative literature, it is commonly agreed that multi-grade schools provide primary education to learners in rural areas of developing countries where the practice of one teacher having to teach several grade levels is the norm. These schools are common to impoverished, low population settlements such as remote areas and small villages.

Multi-grade teaching is not only an isolated phenomenon but receives attention worldwide. The ultimate goal of the Education for All Programme is lifelong learning for all persons and the objective is as relevant to lower income countries, as it is to developing countries. Little (2005:2) is of the belief that the quality of existing data does not provide a sufficient basis for decision-making. Ministries of Educations must tap into the UNESCO initiative to obtain statistics for real-time data to use as a basis for operational decision making. Close attention, according to Little (2005:19), must be paid to what is known with respect to good teaching and learning, and efficient system management. The need is to increase not only the pace of investment of financial and human resources devoted to basic education, but also the political will to make the Education for All Programme a reality for every learner, young person and adult in every nation.

The importance of national ownership of the Education for All process is therefore of significant importance. It is particularly vital to have reliable data at rural level. If statistics are not available to countries, much in terms of overall planning has to be completed. Providing quality data will require a combination of action at the national level and support at the sub-regional and global level.

Governments have to acknowledge and address the remoteness of the rural school. Therefore, measures for improving the technical infrastructure of those schools should be a priority. The development of quality indicators, accepted both nationally and internationally is necessary, in order to sustain broad support for the objectives of the Education for All. If governments are serious about improving multi-grade rural education, it is of significant importance that they take note and research thoroughly the current education delivery, especially in sub Saharan Africa. They should do it in a manner that can provide sustainable solutions for education of learners deprived of resources and quality teaching and learning.

In South Africa, the multi-grade challenge is in essence no different from the experience in other parts of the world and receives more attention especially after the establishment of the new democracy after 1994. According to the Report of the Ministerial Committee on Rural Education (2005:12), South Africa's first ten years of democracy are characterised by an overwhelming commitment to equality, to treat everyone in the same way no matter what his or her differences are. Hence, the management and the funding of rural schools have been similar to the related principles and formulas of the urban schools. So too, curriculum and pedagogies of rural schooling are planned to be the same as those found in urban settings. The Report of the Ministerial Committee on Rural Education (2005:12) found wide support for the view that allows for state provision of rural schooling. Of necessity, to meet the needs of rural learners, the organisation and resources of rural schools will be different from urban schools.

Emerging Voices (2005:140) mentions reasons as to why it is important to argue for rural education. The reasons for this are that the constitution requires it, that people are living there and that there is a popular demand for it. It can further enhance human development, experience the joy of learning and individual well-being and can ensure that social progress, political participation, social justice, democracy and development can take place.

Joubert (2006:1) stresses that education is a basic right in itself and an essential prerequisite for reducing poverty, improving the living conditions of rural people and for building a food-secure world.

Poverty continues to put large numbers of learners at risk of school failure. Illiteracy often coincides with poverty and hunger, with problems of health and with greater exposure to HIV/AIDS. Although the performance levels in literacy and numeracy of learners in multi-grade rural schools in South Africa are at least two years behind their counterparts in developed countries (Beukes, Boonzaaier, Joubert and Jordaan, 2001:4), there is, according to Joubert (2006:2), a low level of awareness amongst decision makers with respect to the impact of rural people's illiteracy on development. Joubert (2005:3) states that to enable generations to break out of the recurring cycle of unskilled labour and resultant poverty, state education must deliver learners who are able to read, write and who are numerate and furthermore deliver trained teachers for the multi-grade/rural school system.

The Department of Education affirms its commitment to quality education as follows: "The system needs to increasingly open access to education and training of good quality, to all learners, youths and adults and to provide the means for learners to move easily from one learning context to another" (Chapter 4 of the White Paper on Education and Training, 1995:6). In the report on the Systemic Evaluation of the Intermediate Phase, the DoE made a similar point when it stated, "one of the immediate transformation goals of the immediate post-apartheid government was to ensure that all learners, irrespective of their race, class, gender, religion and/or characteristics, had access to basic education" (Grade 6 Intermediate Phase Systemic Evaluation Report, 2005:5). It is clear that the South African Government is committed to, not only providing education for all, but also ensuring that what they provide is of the best quality that they can afford. Investment in the skills of multi-grade teaching has to contribute to the goal of quality basic education for all (Joubert, 2006:12).

Nelson Mandela stresses that the most important challenge facing South Africa is the task of improving the quality of education, which often overlooks, in this process, the immense, untapped potential of rural communities to take the lead in shaping a better future for themselves (Emerging Voices, 2005: vii).

2.2 THE INFLUENCE OF RURAL DEVELOPMENT THEORIES ON THE DEVELOPMENT OF MULTI-GRADE TEACHING

2.2.1 Factors that influence the broader rural development concept

Stamoulis (2001:4) as well as Ashley and Maxwell (2001:411) note that the discussion about education in rural areas is closely related to the broader rural development concept.

Within the framework of a broader rural development strategy, schools in rural areas have their own unique challenges, relating to the specific demographic and geographic variables, they have to consider. These challenges can be categorised as a demand side and as a supply side. Mulkeen (2006:3) mentions the following three factors as **demand** factors:

- The opportunity costs of attending schools are often higher in rural areas because many households are dependent on learners for help at busy times of the agricultural year;
- Parents in rural areas often have a lower level of education and may attach a lower value to schooling which is enhanced by a curriculum that is not adapted to local needs;
- Parents have less ability to provide support for their children and the homes are often ill equipped, and lack facilities like electricity to meet the needs of learners in order to study.

Mulkeen (2006:4) mentions the following factors as **supply** factors:

- Teachers prefer to teach in urban areas, which as a result leave rural schools with empty posts. There are often longer delays in filling of posts, and they have fewer qualified and less experienced teachers;
- Teachers in rural schools may teach less than their counterparts in urban areas as any trip away from the rural area can involve missed school days or result in starting late and finishing early and
- Even when rural teachers are teaching, the quality of their work may be lower as they have less access to support services, books and materials than their urban counterparts do. Parents are less likely to monitor the quality of teaching, or to take action if the teaching is of poor quality.

Dove (1985:6) mentions four broad categories of factors which influence teachers' and would-be teachers' attitudes to teaching in remote rural schools. These are personal and familial, social, economic and professional factors which teachers in these settings usually face. These include assignment to more subjects, more grade levels, inadequate materials, more extracurricular activities, lower budgets and salaries. Keith (1989:3) states that despite the necessity of dealing with heterogeneous ages and abilities in one classroom, most rural teachers do not receive special training or materials for multi-grade instruction. According to Colbert, Chiappe and Arboleda (1993), cited in Taylor and Mulhall (1997:77), inflexible schedules often bind rural schools despite variable agricultural calendars. The inaccessibility of supervisory offices, according to Benveniste and McEwan (2000:41), hinders the distribution of resources and limits the opportunities for teacher merit reviews and district administrative support. It translates into fewer chances of promotion, professional development or interaction with peers. Benveniste and McEwan (2000:41) stress the inhospitability of environmental conditions. Local housing and health facilities may be poor and weather conditions extreme. Teachers may be, at times, unfamiliar with local languages or value systems (UNESCO, 1989 cited in Benveniste and McEwan, 2000:41). They may have trouble in integrating with and acceptance by the local community. In some extreme instances, they may also experience outright hostility.

Many Colombian teachers for instance teach learners whose parents were involved in political strife (Loera and McGinn 1992 cited in Benveniste and McEwan 2000:41).

The factors, as mentioned above, make it difficult to recruit and retain multi-grade teachers and undermine the motivation and commitment of teachers to their jobs. High teacher turnover undermines the stability of schools and exposes learners to inexperienced mentors year after year (Lahren 1983) cited in Benveniste and McEwan (2000:42). In the Philippines and Sri Lanka teacher absenteeism in multi-grade schools is greater than in other schools, as teachers tend to take all the leave to which they are entitled to travel to their hometowns or more attractive places (UNESCO 1982:2). Scott (1984:5) states that despite teacher incentives, including housing subsidies and isolation salaries, districts cannot always fill teaching positions. Thomas and Shaw (1992) cited in Benveniste and McEwan 2000:42) add that teacher recruitment and posting in isolated locales demands organized central level support. In some countries, the state intervenes through compulsory assignment to rural areas. However, this strategy does not circumvent teacher retention and attrition problems. It may in fact result in unmotivated teaching staff prone to frequent absences (Murnane 1993 cited in Benveniste and McEwan 2000:42).

2.2.2 Shaping of development policies on multi-grade teaching

According to Kydd and Dorward (2001:367) the design of development policies on multi-grade teaching took two decades to complete and have been shaped by two approaches, which reflected contradictions within the UN system. On the one hand, the specialised agencies of the UN put emphasis on social justice and human rights and on the other hand, the so-called Washington Consensus promoted a development model based on liberalisation, deregulation, privatisation and the decreasing role of the state, which generally led to greater inequalities.

Lakin and Gasperinini (2003:80) refer to two main streams of development policy. The first is that the focus of basic education for all is not only on a fundamental obligation to respect human rights but also a prerequisite for social and economic development. The second is to alleviate poverty and give increased attention to helping the poorest in poor countries.

2.2.2.1 Emphasis on social justice and human rights

Tomasevski (2002) cited in Atchoarena and Sedel (2003:53-54) recognises the need to invest in human capital for agriculture and rural development, starting with basic education.

On the other hand Atchoarena and Sedel (2003:55) state that human capital theory regards education as an investment "like any other". In addition Lewis (1954) cited in Atchoarena and Sedel (2003:55) comments, "if agriculture is in a slump, it offers only a stagnant market and hampers the development of the rest of the economy. The neglect of agricultural development makes it more difficult to develop anything else. This is the fundamental principle of balanced growth."

Educational policies should not neglect the characteristics and needs of the rural environment. The Addis Ababa Conference of 1961 recognised the necessity with regard to "reforming the content of education in order to adapt programmes to the conditions of rural life, to establish linkages between the school and the local community and to meet the needs and interests of the rural population" (Atchoarena and Gasperini, 2003:59).

In the 1960s and 1970s, the objective of education reforms was to bring schools closer to the rural world not only by instruction in agricultural techniques but also by the use of new teaching methods. These policies referred to collectively as "ruralisation" actually recalled certain practices used under the colonial regime. Atchoarena and Gasperini (2003) refer to the following two facets of the colonial strategy:

- Humanistic education to equip the elites and the staff of the colonial authorities and
- In addition, a second track of practically orientated education for the rural population.

Atchoarena and Sedel (2003:60) refer to a seminar organised by the International Institute for Education Planning (IIEP) in 1975 on "Problems of planning rural education" which suggested that a distinction has to be made between the ruralisation of programmes and the ruralisation of education. The ruralisation of programmes referred to an overhaul of existing school programmes to promote the acquisition of agricultural skills and the ruralisation of education encompassed various measures to provide rural areas with schools so that all learners who live in them receive a primary education.

Bergmann (1985) cited in Atchoarena and Sedel (2003:64) indicates that some parents send their children to schools, so that they can "escape from rural life and find a job in the city". Some studies though, according to Atchoarena and Sedel (2003:65), show that some families are not concerned that schooling, irrelevant to their environment, will alienate their learners from the family and from the rural environment. Some parents, on the other hand, will consider it important that schooling should not completely separate their learners from their environment.

Atchoarena and Sedel (2003:64) mention that the various educational measures implemented to address the creation of diversified programmes, appropriate teaching aids and the provision of schoolbooks in rural contexts did not succeed, because governments experienced many shortfalls in resource provision. Atchoarena and Sedel (2003:64) state that a recurrent problem was often the establishment of inadequate training programmes for primary school teachers and the lack of motivational strategies and incentives.

The recognition of basic education as a prerequisite for sustainable rural development is visible within the FAO launched in 2002 in collaboration with UNESCO, an 'Education for ALL' flagship on education for rural people. According to Atchoarena and Sedel (2003:54) the following has to be involved to promote basic education in rural areas:

- To target multiple stakeholders, focusing on 'Education for All' in harmony with renewed commitment made by the international community at the World Education Forum held in Dakar, 2000 and on 'Food for All' as stated at the World Food Summit;
- To contribute to placing education at the core of the global and national development and food security agenda and to focus on expanded access to education, improved school attendance in rural areas, improved quality of education and to find appropriate ways to incorporate rural development and food security in the basic education curriculum and
- Strengthen the institutional capacity in planning and managing education for rural development and food security.

2.2.2.2 Washington Consensus: A development model based on liberalisation, deregulation and privatisation

The original formulation of the Washington Consensus was largely concerned with macroeconomics and financial management. It covered topics like fiscal and monetary policy, the exchange rate, trade and the regulatory framework (Maxwell, 2004:2). The Millennium Declaration adopted by the UN in 2000 provides, according to Maxwell (2004:3), a powerful and politically attractive framework to approach international development as well as to provide a basis for saying that there is more to poverty than lack of income. Maxwell (2004:3) suggests that international support for an economic policy of 'same destination, different speeds', including risk protection, should be obtained.

It is evident that the research agenda on the mentioned approach is by no means exhausted. There are many possible topics like social inclusion, development trajectories and aid, which, according to Maxwell (2004:8), relate to the areas of challenge mentioned. These are all variables which have to be considered when the application of quality education in rural poor contexts are debated with the intention of influencing government policies related to multi-grade teaching in rural areas.

2.2.3 Examples of how government policies address the occurrence and challenge of multi-grade teaching in rural areas

Little (1995:11), Sigsworth and Solstad (2001:5) and Miller (1999:14) report that, despite the widespread nature of multi-grade schools and classes, policy makers, ministries of education, administrators and teacher education institutions have paid very little attention to this sector of schooling. Joubert (2006:3) stresses that the lack of policies to support quality learning and teaching in multi-grade schools is a concern, given that as many as one-third of all classrooms worldwide are reported to be multi-grade and that there is close correlation between multi-grade settings and disadvantage. Little (1995:12) furthermore provides a brief review of standard texts on curriculum development to illustrate the point that "a mono-grade structure appears to be the taken-for granted form of organisation". Little (1995:12) adds that texts focusing on conditions of schools in developing countries are also characterised by the widespread exclusion of discussion of multi-grade teaching and the assumption that most teaching is mono-grade.

Joubert (2006:3) furthermore finds it ironical that while multi-grade classes could be a solution for educating rural people in many African countries, governments tend to focus on improving conventional schools, often leaving the development of multi-grade schools to local initiative. For this reason, according to Joubert (2006:3), multi-grade schools in rural Africa tend to show poor results, which in turn create a negative image.

Atchoarena and Sedel (2003:54) state that in most countries public policies fail to integrate rural development and basic education. This is often due to division of responsibility at national level. The provision of a strong conceptual framework, which gives support to rural development and basic education, should contribute to increased overall policy effectiveness.

From the above it is clear that literature is seeking government policies, which will focus on sustainable rural development, which underscores 'Education for ALL' and will promote basic education in rural areas. Boylan, Nor and Rahman (1996:1) state that the provision of access to schooling for learners in rural locations is a challenge that faces governments throughout the world. It is therefore of importance to have a look at some government policies on multi-grade rural teaching to establish an understanding of how the following selected countries worldwide address the occurrence and challenge of multi-grade teaching in rural areas.

2.2.3.1 The impact of government policy on education provision for rural learners in New South Wales, Australia

The majority of Australia's sparse population lives along the coastal edge where most large cities are situated. Behind this coastal fringe lies a remote inland region where small villages and towns are scattered along rivers, railway lines or highways.

In New South Wales (NSW), access to free secular education has been a state responsibility for over 100 years. Boylan, Nor and Rahman (1996:1) report that NSW historically adopted an equality notion, which focussed on the provision of educational access for learners, particularly in rural areas where they encounter vast distances and very low population density. This led to the opening of a large number of small rural schools in NSW. The programme also focussed on school organisation, curricula and special target programmes.

According to Boylan, Nor and Rahman (1996:2) Australia has both state level and federal education departments. The state funded Country Area Programme (CAP) is linked to the federal government policy on rural education and aims to assist schools and their communities to work together to improve educational participation, achievement and the personal development of learners. Due to geographic isolation access to social, cultural and educational activities and services are restricted. Boylan, Nor and Rahman (1996:2) state that the priority areas of CAP are consistent with its equity focus and seek to redress educational disadvantages.

Boylan, Nor and Rahman (1996:3) indicate that the state government policy on rural education formed the basis for the operation, staffing and resourcing of rural schools and applied the notion of equality for most of the century. This centralised policy treated all schools the same and appointed teachers across the state from the Head Office in Sydney. Sydney based experts developed the curricula centrally and had little or no understanding of particular local rural needs and all learners receive the same education. Policy makers later acknowledged, according to Boylan, Nor and Rahman (1996:3), that there were inherent, implicit and significant differences between urban and rural schools. This reflected a shift in emphasis from equality in provision to equity in outcomes.

As a result, the rural Schools Plan for NSW, according to Metherell (1989:2), ensures access to schooling as near as practicable to the learners' homes, increases retention of rural learners at school and improves the quality of education for rural learners.

Chadwick (1993) in Boylan, Nor and Rahman (1996:3) report that this was followed by the Rural Education and Training Plan, which provides equitable, quality education and training for rural learners, and assists rural learners to achieve participation rates and educational outcomes at least equivalent to those of learners in urban areas.

Boylan, Nor and Rahman (1996:3) report that the federal and state policies on NSW rural schools held significant benefits for rural learners, teachers and school communities. The CAP supports access for isolated learners to live theatre, drama activities, specialised artists or musical experiences. Teachers in the isolated areas meet regularly to discuss matters relating to the CAP and use these opportunities to establish a professional network of colleagues from whom they seek advice, support and help. This network has a significant, positive effect on the rural teacher by reducing the feeling of professional isolation. Distance Education Centres established in rural locations bring the teacher and the isolated learners into closer and more regular contact. As part of the commitment to increase access, a teacher who may be up to 250 km away, delivers lessons via audio graphics to groups of learners at their home school. Principals in small primary schools are given additional release time to attend to administrative duties and all central school principal positions are non-teaching appointments. The government provides all small, remote primary schools and all central schools with satellite reception facilities. In addition, all central schools are given additional telecommunications facilities. Each small remote rural school is provided with a per capita grant which acknowledges the impact that geographic isolation has on the school's operating budget (e. g. every phone call/fax is a long distance call) in addition to their school's annual entitlement grant (recurrent funding/budget).

Boylan, Nor and Rahman (1996:4) report that the importance of rural schooling was demonstrated in 1995 when the government introduced a new administrative unit within the NSW Department of School Education known as the Rural and Distance Education Directorate. These policies have outcomes at four levels namely the learner, the teacher, the school community and pre-service teacher education. At the learner level improved access to the participation in a diverse range of curricular experiences, social activities and cultural experiences either at school or in a different location were established. The teacher level addressed colleague networks, professional isolation, closer involvement with community representatives and the use of telecommunications technology for delivery of lessons.

The school community level brought about improved access to cultural and social activities as well as closer school/community links and community members having a direct role in determining the educational activities provided to their learners.

The pre-service teacher education level met the challenge to prepare teachers for rural appointments and the inclusion of courses that provide the necessary skills and expertise to teach using telecommunicated modes of delivery.

2.2.3.2 The impact of government policy on education provision for rural learners in Malaysia

According to Boylan, Nor and Rahman (1996:5) Malaysia has a centralised education system that necessitates the implementation of a common curriculum for all schools. The system ensures optimal use of physical resources, available expertise in the education sector and prevents wasteful duplication of duties. It focuses on education that contributes towards integrating its multi-ethnic population. The responsibility for the administration of the entire education system rests with the Ministry of Education (MOE) with administrative machinery that exists at four hierarchical levels: national, state, district and school levels.

The government took several measures that indicate its concern for rural education. Boylan, Nor and Rahman (1996:6) report that the Ministry of Education of Malaysia identified in 1996 the following five categories of rural schools based on basic facilities, communication and parental socio-economic status:

- **Remote schools** in isolated areas, having no infrastructure and basic facilities;
- **Traditional village schools** in traditional Malay villages, having moderate infrastructure but where the socio-economic status of the population is still low;
- **Planned settlement schools** in estates and other areas of planned agricultural activities, run by agencies;
- **Suburban schools** in neighbouring town areas, endowed with facilities and good infrastructure but where the socio-economic status of the population is low and
- **High-risk schools** in urban or suburban areas with poor academic achievement, disciplinary problems and majority learners from low socio-economic backgrounds.

Boylan, Nor and Rahman (1996:7) state that one of the most persistent problems facing rural education in Malaysia is underachievement. This is exacerbated by the lack of parental participation and interest, poverty, the availability of trained teachers, the availability of resources and background factors such as learner's locus of control, learner aspirations and family and home environments. Boylan, Nor and Rahman (1996:9) refer to a study done by Azizah and Sharifah in 1992, which identified different factors, described as personal, professional development and environmental factors. These factors affected Malaysian teachers' classroom effectivity.

Boylan, Nor and Rahman (1996:11) mention the following programmes instituted by MOE and other agencies to promote the education of rural learners:

- **Residential schools** for the purpose of selective enrolment of bright learners from rural areas were established. The criteria considered for intake were excellent examination results and the socio-economic status of learners. These learners performed well and achieved success, which led to an increase in fully residential schools.
- **Residential Science Schools** also took in learners from rural areas, the criteria for entry was also examination grades and socio economic background.
- **Hostel facilities** were set up in towns to provide improved education for rural learners. It set up rural hostels for learners of the chronically poor. It solved the problem for rural parents who could ill afford the learners' busfare to school. It also provided the diet greatly needed by poor rural learners and a more conducive environment for learning that resulted in increased academic attainment of learners.
- **The textbook Loan Scheme** contributed towards facilitating rural schooling. It ensured that disadvantaged learners had access to textbooks, prescribed for their class and the teachers invariably use textbooks to facilitate learning.
- **Nutrition** of learners in the rural areas was low if compared to urban learners. Poor nutrition associated with poor health led to frequent absenteeism, poor performance and lack of achievement in schools. Since the introduction of a pilot project known as Supplementary Food Programme, the percentage attendance in schools improved.
- The government allocated **scholarships** and assisted rural learners financially by giving deserving learners small amounts to cover expenses other than textbooks and accommodation.
- **Under-achievement** was addressed by The Integrated System of Programmed Instruction for Rural Environment (INSPIRE) among rural learners by improving teaching and learning in rural schools through the provision of curriculum packages and various teaching aids.
- **The Multiple-Class Teaching Project** designed specifically for under-enrolled schools produced materials and trained teachers to conduct multi-grade teaching.
- **Resource development** done through a project known as Rural Primary English Project (RUPEP) seeks to develop materials and teaching strategies to raise the level of achievement of rural learners in the project schools. These materials were unfortunately, in some cases, underutilized by teachers as they found them to be too small, impractical and difficult to store. They preferred to make their own materials or to buy them, as these were more relevant to the learners' needs. Schools who took part in the projects increased the number of library books and learners were encouraged to read. It was also found that the availability of funds, full official support, effective networking and training of facilitators had contributed to its success.

The MoE proposed an 'intervention model' in 1996 which encompasses teachers, learners and the curriculum, school resources and organizations, society and the environment. The problems faced by rural education in Malaysia and the various programmes undertaken by the government as well as projects carried out by agencies with the cooperation of MoE, were all aimed at improving rural education. It is clear that the impact of these programmes and projects are somewhat limited and rural education needs a great deal more. According to Boylan, Nor and Rahman (1996:14) it is of the utmost importance that a national policy on rural education should be established which would ensure that there would be definite funding for rural education in the annual budget, which could be utilised for various improvement programmes.

2.2.3.3 The impact of government policy on education provision for rural learners in India

Although rural schools in India are, according to Rao (2004:1), largely multi-grade, there are very few serious attempts to handle the problem with adequate methods and materials. Inequality in classroom management and teaching/learning practices, lack of clarity with respect to monitoring learning outcomes and inadequate teaching/learning materials are the major constraints observed. Consequently, the poor mastering of the foundation knowledge and skills in Language and Mathematics, lead to unsatisfactory rates of transition and completion in primary schools. According to Yasmeen (2003:3) the Education for All initiative in India which guarantees "free and compulsory education to all learners between ages six and 14", is already behind schedule. The initial deadline for all learners to be in school by 2003 has already passed unfulfilled. Everybody is aware that government schools suffer terribly in comparison with independent schools (Yasmeen, 2003:3), but there is widespread ignorance of the extent to which foundational education has stagnated particularly in rural India.

(a) Schools of thought

Shukla (1999:1) mentions three schools of thought regarding multi-grade teaching in India namely the 'governmental' approach, the 'self-learning' and 'learning-ladder' approach and the 'autonomy of learning' and 'multi-level' approach.

- **The 'governmental' approach** is perceived as pedagogically very naive and continues to be teacher-oriented. The teacher is believed to merely fill the empty heads of learners, and multi-grade classrooms continue to be looked upon as an aberration, which is contrary to what is desired and a problem, which needs to be overcome.
- **The 'self-learning' and 'learning-ladder' approach** resembles the Colombian model but is more oriented towards the use of locally available natural material, rather than paper alone. The approach evolved in the Rishi Valley rural schools in South India. Part of the approach is to evolve a learning ladder, create self-learning material and to allow learners to work on their own or in groups, marking their own progress as they go along. It is believed that it can cover the MLLs (Milestones) faster than a normal school would, but does not question whether the MLLs are worth 'covering'. Insufficient spiralling, few whole-class activities and little emphasis on oral activities are seen as a quick-fix solution satisfying managers rather than curriculum developers and are the major weaknesses identified. Teachers view this model as a model for 'alternative schooling' and therefore it has expanded to several hundreds of schools in a few states.
- **The 'autonomy of learning' and 'multi-level' approach** places an emphasis on a learning continuum where a learner moves through a loosely graded system at his or her own pace and has been adapted by some states as 'alternative schooling'. The model contains great conceptual depth and solid pedagogical understanding. The major weaknesses identified are that it is a little too 'philosophical', with little 'system tolerance', much too serious and operational only in class sizes of around 20.

(b) The RIVER multi-grade multi-level teaching and learning programme

(i) Geography and location

The Rishi Valley Education Centre (RVEC) is, according to Rao (2004:2), located in a dry tropical landscape among the broken hills that border the Mysore Plateau. The population consists of marginal farmers, shepherds and daily wage earners living in small isolated, sometimes inaccessible, hamlets. According to Rao (2004:2), the State ranks low on the human development index and the infant mortality rates are the highest in South India. Malnutrition is widespread, female literacy rates are lower than the national average and 25% of learners between age 5-14 in Andhra Pradesh work as child labour as per global definition.

(ii) Historical Background

Rao (2004:2) indicates that the Rishi Valley Education Centre (RVEC) started in the 1940s in Madanapalle, in the interior of Andhra Pradesh, India as a small residential fee-paying school with an independent entity, for learners from middle class families. It is a centre known for its high standards and outstanding staff and considered one of the best in the country. RVEC promotes a love of nature, concern for fellow human beings and a global outlook. Rao (2004:3) finds the solution to the problem of rural schooling in substituting the idea of schools as isolated institutions with the idea that schools are resource centres for the community in which they are located. This is meant to replace a textbook oriented, teacher-centred and mono-grade approach with one that meets the multiple learning needs of learners viewed as members of a community and families with diverse cultural traditions and varied livelihoods.

(iii) The role of the government

According to Rao (2004:1), about twenty-five thousand schools across India use the multi-grade methodology pioneered by Rishi Valley Institute for Educational Resources (RIVER). It includes formal state schools and informal schools run by NGO groups. RIVER has embarked on a prestigious project involving large-scale implementation of the RIVER methodology in 12,000 schools across 10 states in the country. The Government of India and UNICEF support the project. RIVER has also begun extending support to other countries for implementing the Multi-grade Multi-level methodology. The successful adaptation of the RIVER methodology, in very diverse cultural and socio-economic contexts in India, is a major achievement for an educational programme in the difficult conditions of a developing economy.

(iv) Implementation of the RIVER programme

Rao (2004:3) reports the development, over a period of fifteen years of intense work, of a unique structure for village education, which consists of a network of satellite schools where village youth, trained in especially designed multi-grade methodologies, teach a community-based curriculum. The curriculum provides space for a wide range of activities and is graded for individual levels of learning, grounded in up-to-date information and framed in the local idiom. The curriculum integrates activities that aim to promote conservation and health care and sustain local culture by drawing some of its folklore and art into the classroom.

▪ The ladder of learning

The RIVER multi-grade multi-level programme, according to Rao (2004:4), scales down the learning outputs of each class into a meaningful sequence of concrete and manageable units. A set of work material emerged in the form of a series of cards in the three disciplines of Language, Mathematics and Environmental studies. The cards represent a breaking down of the learning process into smaller units. Groups of cards are then assembled into a set of 'milestones', which according to Rao, Herzberger and Chandy (2004:1) lead the learners from level I to level V. Each of the milestones consists of the following five units:

- Introduction of a new skill or concept;
- Learning to apply the skill or concept;
- Evaluating what is learnt;
- Remedial and
- Enrichment components.

Every learner, according to Rao (2004:4), has to participate in each of the five types of activities. The Milestones are organised in an ascending order, beginning with the first rung of the learning ladder and ending with the topmost rung, which denotes the end of a class. According to Rao, Herzberger and Chandy (2004:1) this complete learning continuum is an ascending series of milestones with activities leading up to each milestone. It is visually represented in a "Ladder of Learning" or 'Achievement Ladder' which is a classroom tool used by teachers and learners to track their progress on the learning continuum. Rao (2004:4) mentions that four such ladders cover the entire curriculum from Class 1 to Class 4 in the areas of Language, Mathematics and Environmental Studies. The design of the work cards supported by learning aids, require the learner's serious involvement. The prominent display of a pictorial representation of the Ladder on the classroom wall, with each step and milestone marked out in sequential order leaves the teacher with a clear understanding of every learner's progress through the curriculum, at his or her own pace.

▪ **Classification of cards and activities**

Given that there are over 1000 activity cards in the learning continuum, a special process of categorization allows learners to understand the nature of the activity and establish their place within it (Rao, 2004:5). Each learning activity carries an identifying picture or logo of say a bull, elephant, monkey and so on. Each logo symbolizes a type of activity. For example the rabbit logo cards are flash cards for introducing words. The tortoise logo stands for dictation and miscellaneous exercises in language and symbols of birds stand for mathematics. In addition to logos each card has a number to represent the milestone to which it belongs. A card marked "Elephant 3" represents the third level of reading and writing activities in language. Each learner knows his or her current place on the ladder and with the help of the wall chart can identify the appropriate card for the next learning activity.

▪ **Classroom management**

Classroom management is, according to Rao (2004:5), an essential part of the RIVER approach and considered to have, both administrative and pedagogic significance. Unlike many multi-grade classrooms, where learners sit according to grade, gender or learning ability, the RIVER programme helps learners to work in divided groups according to the level of the teacher's role and the learner's autonomy in a particular cognitive task. Rao (2004:6) indicates that normally, there are the following five groups in each classroom:

- Partially teacher supported,
- Completely teacher supported,
- Partially peer supported,
- Completely peer supported,
- Self-learning where learners work either alone or in groups, with older learners helping the younger ones

Rao (2004:6) states that this system is based on the strong belief that real and meaningful learning takes place through the dynamic interaction between teacher and learners and among learners themselves. The sequence of understanding, applying, testing, remedying and enriching has to be built into the classroom to meet the standard requirements of basic education which expects schools to take the responsibility for teaching learners to read and write and to do basic arithmetic. The construction of the Box meets this basic demand.

▪ **Role of the teacher**

The teacher's role shifts from being a purveyor of knowledge to a facilitator of learning for a group of learners who at any given time are at different levels in their learning process and thus are often involved in diverse tasks and activities.

Rao (2004:6) reports that on a day-to-day basis the teacher would need to be involved in a variety of activities like:

- Initiate learners into their learning tasks;
- Create groups for peer supported and participatory learning;
- Evaluate learners who have completed a certain stage in their learning and
- Help the slower ones to understand and complete their tasks.

The profitable engagement with the learning process is essential for every learner. The teacher has to be rooted in the community to draw upon local resources and create local-specific materials to supplement the common educational materials. The arrangement of the classroom has to ensure appropriate storage of materials and display of teaching aids and data from field trips. The teacher has to draw up a timetable and a weekly plan where the teacher plans time for group activities, and the orientation of learners in the use of learning materials. In a well-managed multilevel classroom, disciplined learning for all arises from the very sense of joyful engagement and enthusiastic participation.

The teacher has to maintain a record of each learner's progress on the learning ladder and updates it weekly as well as keeping a record along the learning ladder of the distribution of the class as a whole. The teacher in a well-managed classroom can empirically establish the common average time required for learners to complete a milestone. This enables the identification of learners who are not progressing, as they should. It also enables school supervisors to identify schools that are not progressing satisfactorily. According to Rao, Herzberger and Chandy (2004:2) the diagnostic test forms the penultimate space of each of the learning units or milestones, clearing the pathway to remedial and enrichment cards. The process ensures the completion of each milestone on the Ladder of Learning and that the cycle of learning, which includes applying and enriching a skill or concept, is completed.

The multi-grade teacher moves around the classroom explaining new concepts, correcting exercises, recording learner progress and supporting learners to manoeuvre up the Ladder on their own. Application of this method has shown that teachers with little or no prior teacher training or experience can quickly start teaching and managing a class effectively. Each set of teaching/learning material contains a user-friendly teacher's manual, which includes detailed explanation of the use of teaching/learning material and frequently encountered problems.

▪ **Community involvement**

According to Rao (2004:7), the RIVER programme runs on the principle of community involvement. Consequently it produces a sense of ownership and pride in the village community and nurtures a sense of contentment with their school.

Parents become active partners in the schooling of their children such as participating in group-learning activities that draw upon the resources of the community and in some cases even substitute for an absent teacher. The parents are conversant with the ladder and are able to track the learner's progress even if they are illiterate. The ladder has proved a useful tool for ensuring close relations between the school and the community, as well as parental support for the learner's education. The teacher, if needed, can transform the ladder into a pictorial report card for each learner.

Rao (2004:4) explains that teachers help to preserve the rich local traditions of the culture in drawing examples for curriculum activities from the local environment and learners' daily life experiences. The teacher and learners draw upon the rich knowledge of folk and oral traditions of the community by harvesting and producing a number of stories with illustrations by learners and a photograph of the author in the form of booklets. The learners show a great interest in reading these stories "written" by people whom they know and to whom they can relate. This input helps in rooting the learner further in his/her tradition rather than alienating him/her from it. A clear impact has been the increased interest among mothers in learning to read. That, with the help of their children, gives a definite boost to adult literacy programmes that might otherwise have failed. The "metric melas", daylong community festivals, form an integral part of the mathematics curriculum. The festival aims to bring the concepts of mass, length and time and their units to learners and uneducated adults.

Rao (2004:7) reports that the forming of "Mothers' Committees" in villages make mothers, who are the primary care-givers for learners, more responsible and accountable to the school. It results in more learners joining the school and fewer dropping out. These committees are involved in many things such as discussions on health and hygiene, organizing sightseeing tours to widen exposure, story writing workshops, identifying potential teacher trainees, replacing a teacher who is absent, taking responsibility for the learners' morning breakfast, recommending names of learners for admittance to the residential school, keeping accounts and collecting the small educational fee. They can also decide which families to exempt from fee payment and in consultation with the regular teacher ascertain which learners are at risk and devise strategies for preventing them from dropping out. Schools are not limited to their boundary walls, but see the whole community, including neighbouring villages and local landscape as its learning environment. Each satellite school has the potential to serve as a resource centre for the surrounding villages and as a catalyst for constructive change.

- **Scaling up and Standardization of the learning continuum**

In order to standardise the learning ladder, Rao (2004:13) reports that teachers are encouraged to track the progress of learners. Analysis of data at the end of an academic year yields valuable insights, such as typical time spent on teacher-directed activities, the average time taken for learners to complete the MLL continuum and average time taken to complete each card/activity. Comparisons of this analysis provide feedback on the efficacy of the arrangement of the work cards, which helps teachers to analyse whether some cards are too easy or too difficult, where changes are needed, which in turn helps teachers to plan their time.

- **Institutionalizing the review and revision process**

Rao (2004:13) reports, that the facilitation of teachers' workshops every month enables the regular review of materials and methodology. Practicing teachers then keep notes on the materials and offer their feedback.

- **Inset strategy**

Basic infrastructural facilities for training and research has, according to Rao (2004:13), been established as a result of RIVER's evolution through several collaborations and large-scale projects and facilities like seminar space, a well-equipped library, a resource centre and housing facilities. The most important resource is a core team of experienced, competent, dedicated and trained resource personnel. Training manuals and a set of monitoring tools had to be prepared. The training of teachers in the multi-grade methodology was according to Rao, Herzberger and Chandy (2004:4) a formidable task. The training had to take place in group relays. Previously trained Mandal Resource Personnel (MRP) was in charge of training each group and two resource persons from Rishi Valley (RRP) assisted them. Each group had its own Box to work with in hands-on sessions. MRPs and RRP's changed with every incoming batch to ensure that the training remained a relay and did not become a marathon.

Rao, Herzberger and Chandy (2004:4) report that a model school with two classes, one for mathematics and the other for language, was set up a month prior to the commencement of the teacher training programme. Two local persons and two RRP's were in charge of these facilities. Each trainee group of about 25 teachers spent two hours observing the activities in the two classrooms. The observer teachers were given a format to help focus on salient features of the methodology.

Rao, Herzberger and Chandy (2004:4) highlight the unique system of monitoring support. The purpose of the support is in order to sustain, on a much larger scale, the new approaches, processes and materials in schools across a geographically wider area. The following words of Ranjan (2003:55), who presided over the educational programme, describes it the best: *'The school complex resource person is expected to visit every single teacher and school on a fixed day of the month. He/she spends the whole day in the school and observes the implementation of the kit, what the problem areas are and then offers on the spot solutions. The monitor bases his interaction with the teacher on a well thought-out proforma. He/she verifies attendance patterns, takes note of long-term absentees and conducts a simple test with the learners to ascertain their progress since the previous visit. He/she has to interact with the villagers, initiate and organise school beautification, mid-day meals, etc. This kind of monthly interaction at the level of the single teacher school, in the presence of the learners and the villagers, has leant a lot of weight to the programme. It is also contributing to instil further confidence in the teacher, as well as the resource person, in using the kit in a proficient manner.'*

▪ **Resources that support teachers to apply the RIVER methodology**

The RIVER methodology resources are:

- **The Multi-grade Trainers Resource Pack (MTRP)** which consists of 2 background documents, 2 Modules for classroom transactions, 1 Language Arts Reader, 1 Planning and Achievement Diary, a set of demo charts, handouts and worksheets for the trainers and a Cut-and-Paste book for facilitating creativity;
- **A training film** which consists of the basic principles behind the MGML approach, a demonstration of MGML in a classroom, a record of growth in learning levels of learners under MGML and an explanation of frequently asked questions and
- **Documentation of project activities** that includes both technical documentation of the initiatives that will help future resource persons and the documentation of the project activities and successes for increasing awareness and advocacy

2.2.3.4 The impact of government policy on education provision for rural learners in other Asian and Pacific regions

Although the traditional approach in the Asian and Pacific region has been not to differentiate between multi-grade and single grade teaching, initiatives by legislatures and governments have shown a trend to identify multi-grade teaching as a different and legitimate form requiring legislative, regulative and policy support.

Birch and Lally (1995:46) indicate that the examples of laws and policies, at the general administrative level of government, focus specifically at the provision of multi-grade teaching in these regions and that the policy on funding, in some countries, provides for incentive payments.

(a) Education provision

Birch and Lally (1995:45) report that the appointment of teachers, the payment of salaries, promotions, transfers and placements was taken over by the **Indonesian** Ministry of Education in order to better education provision, whilst the Department of Interior became responsible only for the construction of facilities for schooling. The government adopted a policy, which gave the same status to multi-grade teaching schools as to single grade schools.

The national government of **Pakistan** sets, according to Birch and Lally (1995:44), general educational targets for the provincial governments. The national government determines education policy, general guidelines, funding and the remainder is resolved at provincial level. **Pakistan** has a nomadic teacher's programme for which the national government provides bulk monetary resources, while provincial governments determine how the money is spent.

A 1993 law in **Viet Nam** legitimized, according to Birch and Lally (1995:44), the existence of multi-grade teaching schools. They are required to accept all learners who seek to enter school and do not permit the repeating and dropping-out of learners. According to Birch and Lally (1995:44), the **Philippines** government has spelt out a policy for organizing more multi-grade schools which are replacing incomplete (not all grades) schools. In **China**, ten per cent of primary classes are, according to Birch and Lally (1995:44), multi-grade classes in 11 of 30 provinces. In Shanxi province in North **China**, the percentage of multi-grade teaching classes has reached 36.2 per cent and in eleven provinces, the multi-grade teaching classes comprise 12.2 per cent of all classes.

Like most countries in the world, mono-grade teaching is, according to Vithanapathirana (2006:1), the accepted practice for formal school education in **Sri Lanka**. Although most rural schools in the country feel that multi-grade teaching is necessary, it has not gained recognition as an option for instruction in Sri Lanka. Vithanapathirana (2006:1) reports that action based research on multi-grade teaching conducted during 2000-2002 in Sri Lanka recommends policy adjustments for the reorganisation of the national primary curricula.

It focussed on the incorporation of multi-grade teaching in the education curricula, multi-grade lesson planning, capacity building on multi-grade teaching and the use of collaborative frameworks in teacher capacity building. The research included follow-up studies on the intervention, the prevalence of multi-grade teaching and small-scale action based research to develop successful multi-grade classroom practices.

The study, according to Vithanapathirana (2006:2), contributes to the improvement of multi-grade teaching and the status of primary education in Sri Lanka as there is a need for finding suitable alternatives to get the greatest benefit from the extension of educational opportunities and achieve the targets of 'Education for All'.

(b) Community involvement

Birch and Lally (1995:45) state that community involvement is highly valued in **Indonesia**. It is therefore not surprising that community contribution is the subject of policy in Indonesia. It makes provision whereby the village headman and council are required to motivate learners and their parents to ensure enrolment and attendance at school. Local governments encourage community participation in multi-grade schools and allocate additional money for it.

(c) Teaching and learning resources

According to Birch and Lally (1995:45) the provision of free textbooks and materials to multi-grade teaching schools is a policy in several countries such as **Indonesia and Viet Nam**. Indonesia and Viet Nam are also making provision for the faster promotion of multi-grade teaching teachers, although only in combination with other factors. In some instances, the government provide free-of-cost textbooks to enhance the participation rate of learners at primary level in **Pakistan**.

(d) Teacher support

Birch and Lally (1995:45) mention that multi-grade teachers in **Nepal** receive special training for multi-grade teaching. There is no discrimination between multi-grade teachers and regular teachers in terms of the content of the courses, except when dealing with teaching techniques. Legally mandated teacher training for minority people in **Viet Nam** and multi-grade teacher's salaries are determined as double those of single grade teachers. A payment that serves as an incentive to multi-grade teachers in **Viet Nam** is, according to Birch and Lally (1995:45), also already part of government policy. A proposal to give an incentive to multi-grade teachers by way of a hardship allowance is, according to Birch and Lally (1995:44), being discussed in the **Philippines**. The establishment of an association concerned with research in multi-grade teaching in **China** lead to the organization of some workshops on multi-grade teaching. The evaluation of multi-grade teaching classes and teacher planning are seen as such a priority that it has, according to Birch and Lally (1995:45), been published in some provinces.

Birch and Lally (1995:45) further mention that in **China** special policies relating to minority groups exist. There are examples of provinces where 33 per cent of the population belongs to minority groups and 50 per cent of these have their own language. One such province wants to train minority people as teachers to overcome language barriers in schools.

2.2.3.5 The impact of government policy on education provision for rural learners in Norway

A feature of the Norwegian small school is the strict regulation of the number of learners in a class, which determines that the number of learners in a one-class school must not exceed twelve learners and thirty in a two-class school. The reason for this is to compensate for the supposed extra teaching difficulties, which result from a teacher having to deal with learners of very different levels of maturity and subject mastery (Sigsworth and Solstad, 2001:27).

Vinjevold, Schindler and May (1997:149) observe that it is interesting that even in a country like Norway, where small rural schools have always been an important part of primary education, teacher training and the production of teaching materials seem to be solely directed to meeting the demands of the normal mainstream situation. Even in colleges serving predominantly rural areas, most, if not all, the learners' school-based teaching practice is in large schools consisting generally of only single-grade classes and situated close to the college. Furthermore, the general design of textbooks, teacher guides and associated learners' worksheets are only suitable for the single grade classroom situation. Accompanying advice commonly exhorts teachers to adapt such materials to multi-class teaching as best they can.

2.2.3.6 The impact of government policy on education provision for rural learners in Northern Ireland

Northern Ireland has always had a large number of small schools, because of the rural character of the area, and the fact that separate schools for Protestants and Catholics has often meant that there are two schools in areas where otherwise there might only be one. Gallagher (1998:5) reports that in Northern Ireland, there were over 450 schools with between 26 and 50 learners in 1964, but by the early 1990s, this had declined to less than 150 schools. The closure of small schools in Northern Ireland has continued, because of the Department of Education initiated review. If this tendency continues, there is a very real danger of weakening rural community life irretrievably.

There is, according to Gallagher (1998:5) not a set definition of a small school, but many policy-makers and administrators seem to work on the assumption that the 'typical' primary school is urban and has a relatively large enrolment. This 'tunnel-vision' has encouraged the view that small primary schools are somehow or other deficient and should be rationalised into larger units. Gallagher (1998) suggests that any decisions on the future of small schools will objectively consider the positive learning environments created in these schools.

Gallagher (1998:5), who focused on small rural schools in England and Wales, points to three defining moments at which such schools were deemed deficient. **The first defining moment** came in the pre-war period when the Hadow Committee was laying down the basis for primary education. An adequate 'streaming by ability' system, linked to an assumed need for 'age banding' among learners, led the committee to recommend that primary schools should have a learner enrolment of no less than 300-400 learners, a recommendation that necessarily labelled many rural schools as too small. The Plowden and Gittens Reports, published in 1967, which represent the **second defining moment**, highlighted the interest in how learners learn and offered a clear commitment to 'progressive education'. They identified a model of best practice that, once again, was more suited to urban than rural contexts. It was not the difficulty of streaming that was a problem, but rather the extra cost, teacher and learner isolation and the limited curriculum of small schools, which Gallagher (1998:6) assumed to be inadequate. According to Gallagher (1998:6) they saw a similar set of concerns in a Northern Ireland Advisory Council on Education report, published in 1968. A particular point highlighted in the report was the poor condition of rural primary schools, some of which did not have an electricity supply. It was as if small rural schools were in danger of falling into a circular argument. They took the poor facilities as additional evidence for closing the schools down.

According to Gallagher (1998:6) the requirements of the 1988 Education Reform Act (1989 Education Report Order, Northern Ireland) provided the **third defining moment**. Over this period, politicians in Britain voiced increasing concern with respect to educational standards. As a result, they introduced a common curriculum, assessment testing and enhanced parental choice and information on school performance. A model of best practice in primary schools recommends specialist teachers with expertise in particular curricular areas. Inter alia, this requires that primary schools have a sufficient learner enrolment to allow for the number of specialist teachers that would be required to cover the range of the common curriculum. Thus, although the definition of best practice has changed once again, rural schools continue to be branded as deficient, because their small size does not permit them to employ enough teachers to cover the required range of specialist teaching.

Gallagher (1998:7) highlights the paradox that at each of the defining moments the criteria for best models of primary schooling have shifted towards the definition that small rural schools are abnormal or inappropriate. Gallagher (1998:7) adds that despite the apparent clarity on the disadvantages of small rural schools, few policy-makers have tested these assumptions in order to determine whether the supposed disadvantages actually hold true. Gallagher (1998:7) tables supposed disadvantages of small rural primary schools as follows. These supposed disadvantages include the isolation of teachers, the lack of opportunities for professional development, the expense of running such schools and the inability to deliver an appropriate curriculum to their learners. The learners lack adequate peer group interactions and therefore have lower educational performance in comparison with their peers in larger schools.

Gallagher (1998:11) reports that a Department of Education paper published in June 1994 explained the current policy on small schools in Northern Ireland. It called on a review of the future of all small primary schools with an enrolment of less than 60 learners. It indicated that proposals for capital developments would receive higher priority where they included rationalisation schemes. It listed the new demands placed on small primary schools, which include the need to teach the common curriculum, produce new schemes of work, adopt new teaching strategies, ensure adequate differentiation in teaching and learning and to monitor the progress of learners and report this to the parents. It suggests that it would be difficult for all schools to come to terms with all of these requirements if the enrolment in the school decreases. According to Gallagher (1998:12) the difficulties in the classroom are likely to increase when the principal, who is responsible for the administration of the school, curriculum and staff development, the monitoring of the curriculum and liaison with the Board of Governors, also teaches a class. Gallagher (1998:12) states that the balance of evidence shows that teaching principals adapt better to the demands of the common curriculum, than non-teaching principals. Gallagher (1998:12) recommends that there is a need to work on the assumption that the typical rural school provides a wholly unsatisfactory educational environment and therefore no one wishes to retain schools, of whatever size, that are falling apart. In general, however, people must not assume that they ought to close, unless circumstances suggest otherwise, but rather assume they ought to stay open, unless circumstances suggest otherwise. Gallagher (1998:13) reports that the formal position in England and Wales is that the Minister for Education makes the final decisions on the closure of small rural schools. The local authority has to take the case into account before considering closure and the presumption will be against closure.

2.2.3.7 The impact of government policy on education provision for rural learners in Colombia

McEwan and Benveniste (2001:547) argue that Colombia's unique political context was, in large part, responsible for its novel approach to school reform. As the political context shifted, however, so did the State's position on rural schooling.

(a) Political context which influenced multi-grade school reform in Colombia

According to McEwan and Benveniste (2001:557) the State of Colombia largely ignored rural areas prior to the 1960s and the quantity and quality of schooling was limited. The State began to shift its policies in the 1960s for two reasons. Firstly, it wished to 'pacify' rural residents after many years of political violence. Secondly, the State wished to incorporate more of the rural population into the political process. Throughout this period, the State was quite serious about effecting change at classroom level, by adapting core-teaching practices that would influence the attitudes and behaviour of farmers. A crisis of legitimizing rural areas, where its presence and authority were minimal, faced the State. According to Jansen (1990:30) the answer for Government to undertake programmes of decentralization and curricular reform lay in the State's attempts to 'retrieve its eroding legitimacy'. Its primary concern was, according to McEwan and Benveniste (2001:557) to construct schools and make a public demonstration of its commitment to reform, rather than focusing on actual changes in classroom practices. McEwan and Benveniste (2001:558) indicate that education reform is a contested process and that political actors and institutions compete for influence and scarce resources in a variable continuously shaped and reshaped social arena. McEwan and Benveniste (2001:558) state that the Escuela Nueva case study warns against treating education change initiatives as a unified or enduring policy package.

(b) Education policies, which influenced multi-grade school, reform in Colombia

Colombia has traditionally been a country of great inequality, particularly with respect to urban and rural areas, which are economically and geographically isolated from urban areas. Education, too, has been relatively disadvantaged in rural areas. Though not compulsory until 1927, the government declared education free and given over to the control of state governments. The law legislated that rural schools were to provide only three years of education compared to six years in urban schools. In reality, the law reveals disinterest in rural education based on an ideology intended to justify and legitimate a social structure, especially an agrarian structure, inherited from the colonial period.

Lebot (1972) cited in Hanson (1986:30) sees the perpetuation of rural illiteracy as one of the elements that permit the conservation of a traditional rural society. It slows horizontal movement (rural to urban) and vertical movement (aspirations for land redistribution). Although enrolments in primary education began to grow sharply after 1945, the growth was slower in rural areas. Hanson (1986:34) observes that a 1950 decree resulted in learners in rural areas attending less schooling where they had specialized in curricula that provided a 'practical rather than an intellectual preparation'.

(c) Preparing for multi-grade schooling in Colombia

Multi-grade schools in Colombia have their roots, according to McEwan and Benveniste (2001:551), in the 'unitary complete schools methodology' promoted by UNESCO in the 1960s. The methodology consists of individualized instruction, active learning, the use of special self-instructional texts and 'learning cards,' and automatic promotion. Schiefelbein (1992:56) reports that the Instituto Superior de EducacioÂn Rural in the Colombian state of Norte de Santander established the first officially designated multi-grade school with the support of UNESCO. In 1967, the administration of Lleras Restrepo, according to McEwan and Benveniste (2001:550), notable for its sponsorship of the rural organization AsociacioÂn Nacional de Usuarios Campesinos (ANUC), issued a decree that promoted the use of the unitary schools methodology in all one-teacher schools. There was no nationwide programme of multi-grade schools, even though 4 500 teachers were trained in the basic unitary schools methodology.

Schiefelbein (1992:57) reports that the unitary schools movement began to lose some momentum due to the amount of additional work required to prepare the learning cards and the lack of support. A steering group was created by a composition of teachers, supervisors and professors of Norte de Santander, as well as a group from the National Ministry of Education. They worked towards the improvement of learning materials by selecting the best teacher-designed learning cards and putting them together in a self-instructional textbook. In addition to these efforts, to reduce the burden on unitary schoolteachers, the steering committee worked to galvanize support for their approach by evangelising the unitary methodology within the Ministry. Yet, they were, according to McEwan and Benveniste (2001:552), constrained by the lack of an official administrative structure to assist and supervise teachers and the threat of the sustainability of the programme.

(d) The Escuela Nueva Programme

In 1975, the Escuela Nueva programme was officially launched. According to McGinn (1996) cited in McEwan and Benveniste (2001:552) USAID searched for new approaches to fund Colombian education and found it in the unitary schools movement. Schiefelbein (1992:60) reports that between 1979 and 1986, the movement systematized programme materials, customized manuals, distributed them to teachers and used them in training. Overall, the programme was expanded to over 8 000 rural schools. Aristizabal (1991) cited in McEwan and Benveniste (2001:552) reports that an evaluation of Escuela Nueva in the 1990s, showed that the programme was incorporated into the educational administrative structures of departments in numerous but not always coherent ways. The programme, according to McGinn (1996) cited in McEwan and Benveniste (2001:542), obtained its largest boost in 1996 in the form of financial assistance from the World Bank with the intention of 'scaling up' the Escuela Nueva methodology to 10 000 more rural schools. According to Schiefelbein (1992:16), they froze the key elements in an official 'kit'. Its transformation from an amorphous, evolving policy to a concrete, well-defined one was complete.

In contrast to other countries the Colombian State had energetically pursued rural school reform in the guise of the Escuela Nueva programme (McEwan and Benveniste, 2001:548). The reform endowed rural, multi-grade schools with special training and instructional materials. Its stated objectives were to encourage links between the school and community, to promote new instructional strategies among rural teachers, including classroom discussions, work in small groups and independent learner research. The Escuela Nueva comprised multi-grade learner's advance through flexible, but not automatic, promotion. They combined individual learner work with work in small groups. They also oriented learner work with self-instructional learning guides in mathematics, Spanish, science and social studies. Units in the book include learning objectives, guided activities to be completed and free activities, which require application of the knowledge gained. Some involve creative exploration and application of regional-specific knowledge. In general, the pedagogy of the Escuela Nueva is 'active', relying upon learners to acquire and assemble knowledge for themselves, guided by the teacher. McEwan (1998) and Psacharopoulos et al. (1993) cited in McEwan and Benveniste (2001:548), indicate that independent evaluations find that Escuela Nueva has improved the academic achievement of participating learners, compared with learners in traditional rural schools. According to Benveniste and McEwan (2000:36) this occurred not withstanding the full implementation of the programme or not at all. People frequently see the Escuela Nueva pedagogical model, as an example of 'best practice for other developing countries and it has been replicated in several countries of Latin America and around the world (Lockheed and Verspoor 1991:158-161) and (World Bank 1995:61-62).

(e) Teacher in-service support

Teacher in-service training was according to McEwan and Benveniste (2001:553) divided into three one-week courses conducted throughout the first school year, designed to provide teachers with the pedagogical skills to implement multi-grade classroom teaching. Courses use a detailed manual organized similarly to learner guides. Although they suggest or require several interventions, they also leave substantial latitude to the teacher to design interventions. For example, learners and their family members collaborate in making a map of the surrounding community. Sometimes parents collaborate in the actual construction and maintenance of the school and furniture that has facilitated the implementation of the reforms. Aristizabal (1991) cited in McEwan and Benveniste (2001:554) cites a number of qualitative studies of rural schooling in Colombia, which suggest a great heterogeneity in the application of recommended pedagogies. The three clearly defined phases identified by McEwan and Benveniste (2001:554) in the development and implementation of the multi-grade rural education reform in Colombia are grassroots, formalized and decoupled. In the initial phase, the idea of unitary schools promoted by UNESCO, sparked interest in some areas and institutions of Colombia. In others, it quickly died out. It is, according to McEwan and Benveniste (2001:554), fair to say that the unitary schools would have been completely unsustainable during this period without the grassroots support of many teachers. Both in their willingness to prepare learning cards and in their desire to implement key aspects of the unitary schools methodology in the classroom, they sustained the momentum of the programme. According to McEwan and Benveniste (2001:554) a rural-based steering group also succeeded in providing an informal organizational structure to support and continue developing the ideas of the unitary school. Nonetheless, little formal administrative support existed in the way of financing or supervision of teachers, except perhaps for the fact that it enjoyed high-level political support in the form of a presidential decree.

2.2.3.8 The impact of government policy on education provision for rural learners in Sub-Saharan Africa

Posti-Ahokas (2007:1) sees distance from school as one of the main reasons for low primary school enrolment for Sub-Saharan Africa. Labour needs, fear of sexual harassment and even abduction make it almost impossible for parents to send girls to school. Everybody knows that few can attain a high level of enrolment and achievement without strong parental support. Therefore, the home and community must be supportive of the aims and processes of the school. Posti-Ahokas (2007:1) states that small multi-grade schools, situated close to parents' homes, can play an important role in ensuring that all learners have the opportunity to receive full primary education.

The quality of education in remote rural schools tends to be substantively lower than in their larger urban counterparts, therefore it becomes an important issue to ensure that such schools can deliver high quality and relevant education.

According to Juvane (2005:9) many teachers who teach in a multi-grade environment in Sub-Saharan Africa are frequently under resourced, undereducated and under-trained. Posti-Ahokas (2007:2) identifies a need to develop teacher-training programmes, both pre-service and in-service to improve the performance of multi-grade classroom teachers. Whilst the methodologies are well known, they do not specifically apply to the African context. According to Posti-Ahokas (2007:1) most Ministries of Education in Sub-Saharan Africa do not accept multi-grade teaching as an official strategy towards the achievement of Education for All. For instance, Moshapane (2005:109) reports that an interview with the Minister of Education and Training in Lesotho revealed that the country does not have a policy on multi-grade teaching at present. On the contrary, Juvane (2005:9) observes a growing culture of putting multi-grade teaching into the hands of Ministries of Education's annual plans in some Sub-Saharan countries like Uganda, Namibia, Zambia and Ethiopia. Furthermore, countries, which attended the Tanzanian multi-grade teaching workshop in July 2005, drew work plans and made commitments to inform ministries on the need of multi-grade teaching.

Posti-Ahokas (2007:2) reports major inputs co-ordinated by the UNESCO-International Institute for Capacity Building in Africa (IICBA). These included encouragement of community participation in school management and decision-making, school construction with the help of the local community, utilization of local materials, development of textbooks suitable for learner-centred methodologies and the conducting of teacher training and orientation programmes for education officials. Furthermore, IICBA conducted, according to Posti-Ahokas (2007:2), a Multi-grade Project in Ethiopia, which sought to provide a replicable model for small one-teacher schools. The aims of the project, conducted from 1999 until 2005, were to establish a policy dialogue with the Ministries of Education in Sub-Saharan African countries in favour of multi-grade primary schools. The IICBA Multi-grade Programme also provides the opportunity to involve Ministries of Education in the provision of education to small multi-grade schools in rural areas in African countries (Posti-Ahokas, 2007:1).

In Lesotho, according to Moshapane (2005: xi-xii), like in many other African countries, the demand, challenges and extent of multi-grade teaching shows that the practice of multi-grade teaching will continue indefinitely. Factors such as the terrain, lack of qualified teachers, poor conditions of the majority of multi-grade schools in terms of facilities and infrastructure will make it difficult for the ministry of education to realise its objective of improving the quality of education of all learners.

Juvane (2005:12) stresses that the circumstances facing rural schools in many African countries requires consideration of quality improvement interventions that take into account the special needs that are particular to schools in rural communities. African governments are committed to not only providing education for all, but also to ensuring that it is of best quality that the country can afford. Juvane (2005:12) adds that investment in the skills of multi-grade teaching should contribute to the goal of quality basic education for all. According to Joubert (2004:8) multi-grade teaching is not a new idea, but it now calls for a much broader operational and technical definition to address problems and issues facing most educational systems, especially in Africa.

2.2.3.9 The impact of government policy on education provision for rural learners in South Africa

(a) The South African education environment

In South Africa there is a sizeable and growing private school and college sector. The categories of formal education are sectors and levels. The sectors, linked closely to particular levels, consist of public school education, independent school education, special school education, technical college education, teacher training, technical and university training. A public school may be an ordinary public school or a public school for learners with special education needs. The levels are pre-primary, primary, secondary and higher education.

(b) Policy, which addresses the “education for all” challenge in South Africa

In South Africa, chapter three of the White Paper on Education and Training (1995:4) sets the scene for the education transformation process, which became necessary after 1994 when the new post apartheid dispensation came into being. This policy intends to address the challenge of “education for all” in South Africa. It describes the purpose of transformation.

According to the Bill of Rights (1996:29) contained in the Constitution of the Republic of South Africa, 1996, (Act 108 of 1996), everyone has the right to a basic education, including basic adult education and further education, which the State, through reasonable measures, must make progressively available and accessible.

The following legislation informs education policy, which should form the backbone of decisions made on rural and multi-grade teaching in South Africa:

- The design of **The National Education Policy Act, 1996** identifies the policy, legislative and monitoring responsibilities of the Minister of Education and embodies the principle of co-operative governance.
- **The South African Schools Act, 1996** promotes access, quality and democratic governance in the schooling system.

(c) The rural school challenge in South Africa

The policy and planning documents of several provincial education departments and the NDE commissioning of the Joint Education Trust Report of May 1997 on multi-grade teaching show concern for providing support to the rural school challenge in South Africa. This report has shown that multi-grade classes are a reality in South Africa and will remain part of the education system. In 2004 the Human Rights Watch (2004), published a document called *Forgotten Schools: Right to Basic Education for Learners on Farms*, in South Africa. A publication by the Nelson Mandela Foundation called *Emerging Voices: A Report on Education in South African Rural Communities* followed in 2005. These publications indicate that the South African government faces enormous education challenges in attempting to protect the rights of those living in remote rural areas, particularly the right of learners living on commercial farms. According to *Forgotten Schools* (2004:54), the South African government inherited an education system based on racial, social and economic inequalities. Through the 1996 constitution and the ratification of international human rights law pertaining to learners's rights to education, the government is obliged to protect the right to education. Although the policy expects that learners living on farms have the right to receive an education freely and in an environment conducive to learning it is still in many cases not a reality. National and provincial systemic literacy and numeracy tests done from 2002 to 2006 reveal that for many learners in rural multi-grade schools it is still a dream to receive education that is stimulating, resourceful and qualitative.

Chapter 7 of the White Paper on Education and Training (1995:26) describes the importance of addressing the marginalisation of farm schools as follows: *"The situation of farm workers' children may be a special case. Since a farmer may be at one and the same time the owner and the governing body of a farm school, the employer of workers, whose children attend the school and the source of instructions for learner labour"*. The Review Committee on School Organisation, Governance and Funding is in a position to consider any relevant submissions on this issue, in particular from organisations representing farmers, farm workers and farm schoolteachers and learners. *Emerging Voices* (2005:64) highlights barriers, which deprive learners in rural areas from receiving quality education. It follows that learners do not have their constitutional right to education realised and that learners' rights within education or through education are limited. The opportunity costs to families who require the labour of their children influences access to primary schooling.

Poorly trained teachers have few incentives to live in the areas where they teach. Facilities and resources, which have to assist teachers in their task, are limited. Early learnerhood development programmes are virtually non-existent. The social relationships in classrooms between teachers and learners, as well as those between teachers and parents, do not enhance the learning process and the participation of wider communities within the school environment. Furthermore a lack of educational opportunities outside schools is experienced.

(d) Possible solutions offered to address the inequality in access to education

Emerging Voices (2005:140) offers a few arguments for rural education. It states as follows:

- **The constitution requires** that the foundation of the nation rests upon the principles of “human dignity, the achievement of equality and the advancement of human rights and freedoms”. It holds that “everyone has the right to basic education”.
- **A large proportion of the population** still live in rural areas and, of these, a particularly large number of the poorest live in ex-homelands, which are struggling to emerge from a history of marginalisation and social and political oppression.
- **The popular demand** of South Africans, living in rural areas, is for qualitative and quantitative education.
- **Human development** is at its worst in South Africa’s rural areas as shown by measurements of levels of literacy, health and general well-being.
- **Joy of learning and individual well-being** is, according to the research done by Emerging Voices (2005), expectations which influence the rural population’s commitment to education. The challenge in this instance is to create and support education of such quality that it will measure up to this commitment and advance from rote learning to a more stimulating discovery-based model.
- **Social progress and political participation** are the means through which rural communities can articulate their problems and act on the many issues that confront them.
- **Social justice** requires that people be enabled to confront the injustices visited by inequality and poverty experienced by the vast majority of people living in South Africa’s rural areas.
- **Democracy and development** in rural South Africa are integral to one another. It is not simply a question of providing more schools or more teachers, or even guaranteeing peoples’ rights. It is also about providing the enabling conditions for the exercise of the freedoms that come with enhanced capabilities

The present government has inherited a situation where a learner may endure long journeys on foot and be unable to meet school fees or pay for a school uniform. All these needs create a burden on the learner and parent(s). In its concluding remarks, the U. N. Committee on the Rights of the Learner, expressed concern that “certain vulnerable groups of learners including Black [African] learners...live in rural areas” (Forgotten Schools, 2004:53). They add that the “inequality in access to education remains in some areas, particularly among Black [African] learners...from economically disadvantaged families, many of whom still do not attend school.” In its recommendations, the U. N. Committee on the Rights of the Learner cited in Forgotten Schools (2004:53), called on the South African Government to improve the quality of education and to make education accessible to all learners.

In the event of amalgamating schools, according to *Forgotten Schools* (2004:53), it will involve the shutting down of schools and the consequent provision of transport for learners who will be required to travel long distances because of the move. *Forgotten Schools* (2004:53) states that local government should play a role in coordinating the provision of transport. It should also waive the cost of services such as water and electricity consumption for schools to make these services affordable.

The provision of education in rural areas and for the farming community in particular has its difficulties. This largely rests on the fact that the learners attending farm schools are of farm worker parents. Their right to enrol at the school stems from their parents working on the farm where the school is located or on a neighbouring farm. This means that in a case of the eviction of a parent who is a farm worker, the learner also has to leave the property and in turn the school unless the learner can find appropriate accommodation near the school to continue attending classes. The dual responsibility, according to *Forgotten Schools* (2004:53), namely private and public, in the provision of education through the conclusion of contractual agreements, is not ideal. The obligation to guarantee the right to education falls within the purview of the state and thus the primary obligation to protect this right lies with the state. Where the management of these schools is clearly not operating in the interests of learners receiving an education, the state should consider, according to *Forgotten Schools* (2004:53), as a last resort, the option of expropriating the land on which the school stands. This course of action is provided for in the South African Constitution and the Schools Act.

(e) Government's contribution towards ensuring quality education

Emerging Voices (2005:137) alludes to two converging state initiatives, which have a bearing on rural schools. They are:

(i) Integrated rural development policies

Although these policies are in place, they do not refer to education and seem not to have touched all the rural areas in any substantial way. The government has made poverty reduction in rural areas a major priority and education has to be at the heart of this programme.

(ii) The right to education

The state assumes responsibility for and control of education and training in rural communities. It mentions two initiatives.

Firstly, The South African Schools Act of 1996 brought into being School Governing Bodies, which are democratically elected and intended to ensure local democratic control over schools and secondly 'outcomes based education' introduced a new curriculum, resources and values into schools from 1997.

In 2004 a Ministerial Committee on Rural Education consisting of academics and researchers and chaired by Professor Ben Parker, submitted, according to Minister of Education, (2005:5) its preliminary report to the Minister. The terms of reference for the Ministerial Task Team according to the Government Gazette (2004:3) was to explore conditions of rural education and training including institutions dealing with Early Childhood Development (ECD), General Education and Training (GET), Further Education and Training (FET), Education of Learners with Special Education Needs (ELSEN) and Adult Basic Education and Training (ABET). It also had to address the phenomena of platooning, double shifts and farm schooling amongst others. It had to focus on issues relating to the quality of learning and teaching and education outcomes in rural and peri-urban areas. It had to clarify issues affecting education outcomes in different types of institutions including those issues peculiar to farm schools, schools in former homelands and in peri-urban locations. It had to construct a medium to long-term strategy for systemic rural education and training interventions in South Africa, and had to start in March 2004 and finalise the deliverables in November 2004.

The Report of the Ministerial Committee on Rural Education (2005:79) suggests recommended approaches, which include integrated, cross-sectoral approaches to rural education. It expects local provision and practices rooted in the community and supported departmentally and politically. Project-type support should be locally relevant, appropriate and with different permutations of constituent partners and role players. It also supports cluster arrangements amongst schools. The Report further reveals that research-based judgement indicates that rural education is the single most neglected educational project in South Africa. It therefore suggests an appropriate regulatory policy framework, which will focus on rural education and farm schools in particular, which are regarded as special cases warranting special attention.

Some of the findings of the Ministerial Task team, which relate to rural, farm and multi-grade education, are as follows (Report of the Ministerial Committee on Rural Education, 2005:72):

"Multi-grade teaching is a fact of life in small schools. Some provinces reported this in a way that suggested that the practice is a problem.... however seeming disadvantage has the potential to be turned into a positive feature.

Whereas the broader literature on materials distribution in Africa reports depressingly consistent failure in the distribution of materials to schools, the Resources and Information Network has achieved striking success in distributing materials to 6 000 schools in KwaZulu-Natal. In conjunction with the operation of school clusters a valuable infrastructure and pool of experience was provided. Lack of resources was the single most powerful theme in comments on conditions in schools and it underpins notions of rural settings as deficit. Rural and farm schools were typically described as being underdeveloped, lacking in resources and unable to provide constitutional entitlements."

Several expressions of this judgement are cited at various points in the report, but perhaps are best summed up in the following statement based on extensive university research: *"Core to this proposal.... is the belief that rural education is the single most neglected educational project in South Africa. The issue of public schools on private property is acknowledged as a complex issue, with some suspicion on both sides. The changing nature of farming operations in some regions affects prospects for amelioration and in some cases landowners argue that pending land claims where farm schools are located the upgrading of school premises are prevented. Curriculum and issues of education quality were seemingly overshadowed by the more immediate and pressing problems of needs and resources....There were suggestions that C2005 was not implemented consistent with policy script....and teachers suffered from work overload because of multi-grade classes and were in need of training."*

The Minister of Education (2005:6) followed up this initiative when reporting that the Education Department, in collaboration with representatives of farmers and provincial departments took steps to set up a task team to investigate the status of farm schools. The relevant Minister also considered whether the system of farm schools is the most appropriate means of providing equitable education to rural learners. The hostel-based schools in the Free State provide a useful example of a future direction.

The Minister of Education (2005:5) mentions three major reports on rural education, which will be studied, namely a Ministerial Committee Report, the Nelson Mandela Foundation Report on Rural Schooling and aspects of the Education Labour Relations Council (ELRC) study into the determinants of teacher supply and demand. As part of a range of interventions, the relevant Minister considered setting up a forum in conjunction with the Nelson Mandela Foundation to support a continuing focus on rural education issues and to act on the key recommendations of the Rural Education Ministerial Committee.

According to Emerging Voices (2005:140), the constitution guarantees the right to a basic education. Although government spending on education has improved, this is according to Emerging Voices (2005:141) not reflected in learning and educational performance. There is much discomfort about believing that there is something distinctive about rural areas and the special solutions needed for special contexts. In part, it is felt that it sounds so similar to the arguments of the apartheid planners that education in rural areas should fit rural people to a rural future through orienting curricula more closely to community needs (Emerging Voices, 2005:141). Although the fear exists that any special attention will simply reinvent the policy prescriptions of a hated past, the research done by Emerging Voices (2005:142) also reveals that education in rural areas is far from realising the high expectations, which the relevant roleplayers place on education and the perceived benefits.

Emerging Voices (2005:142) believes that education can and must offer hope and possibility, but is only possible when conditions of poverty are addressed alongside those of education. It is suggested that a broader educational approach should be followed that will serve the needs of diversified groups of people. It has to prioritise the learning needs of rural learners, especially girls and develop non-formal educational opportunities for out-of-school youth and adults and centres on quality basic education for all. It should include integrated regional and rural development strategies that address the food-insecurity and health of families. The education system should address access to good quality, equitable, well managed and democratically organised education, including early learning education and special needs for educating girls. It should consider rural development policies, which give priority to basic education. It should develop strategies that recognise the special needs of the rural environment. It should follow an approach that involves the democratic mobilisation of communities to assess and act upon their needs.

Although the focus in South Africa is on the democratic commitment to equality, treating everyone in the same way no matter what their differences, the management and funding of rural schools is still according to the same principles and formulas as urban schools. So too, curricula and pedagogies of rural schooling are planned to be the same as those found in urban settings. The Report of the Ministerial Committee on Rural Education (2005:82) suggests that in order to make a difference to rural education in South Africa a genuine commitment from Government to invest in education in order to combat inequities and challenges is called for. This would translate into a more collaborative strategy among the different ministries. According to the Report of the Ministerial Committee on Rural Education (2005:82), there is a need for different policy options to advance and fast track the implementation of changes in education in rural areas.

Nelson Mandela (1999) cited in *Emerging Voices* (2005: viii) in response to the question "How are we going to overcome poverty?" as follows: "... Perhaps the answer lies in our ability to replicate the best elements of our society, at all levels and among all communities".

2.2.4 Concluding remarks on worldwide governments' policies on education provision for rural learners

From the literature reviewed there cannot be any doubt that the need for education provision for rural schools is a worldwide phenomenon. Government rural school policies identified the following aspects for consideration:

2.2.4.1 Access to quality schooling for rural learners

Sher and Tomkins (1977) cited in Gallagher (1998:5) argue that the closure of small schools in the United States was justified by an assumed norm of best practice which was centred in the large urban school whilst the small rural schools, almost by definition, represented an abnormality that required correction. Boylan, Nor and Rahman (1996:1) point out that the challenge of the state is to focus on the provision of educational access for learners wherever they live, particularly in rural areas where they encounter vast distances and very low population density. Distance from school is, according to Posti-Ahokas (2007:1), one of the main reasons for low primary school enrolment.

2.2.4.2 Learner transience

Schaft (2005:16) indicates that no one speaks on behalf of transient learners. There is a need to document and research this occurrence, so that the Department of Education can devise appropriate programming and garner the resources needed by rural schools and communities. *Emerging Voices* (2005:138) identifies that a reason for learner transience is the food-insecurity of families, which induces parents to use child labour. School meals can immensely relieve this situation. Posti-Ahokas (2007:1) mentions that small multi-grade schools situated close to parents' homes can play an important role in ensuring that all learners have the opportunity to receive full primary education. *Forgotten Schools* (2004:53) is of the opinion that local government should play a role in the provision of transport.

2.2.4.3 Fiscal Equity

Boylan, Nor and Rahman (1996:3), point out that the policy makers acknowledge that there are inherent, implicit and significant differences between urban and rural schools.

Lutz (1990:4), expresses the opinion that the consequent challenge is to balance the higher costs of maintaining small schools with the advantages that these appear to offer with regard to improving instruction especially amongst 'at risk' learners.

2.2.4.4 The 'brain drain' Phenomenon

Beaulieu and Gibbs (2005:4) believe that strong links exist between education and a healthy local economy. Rural leaders in the US increasingly agree that high achieving schools and related human capital investment strategies are key ingredients in the promotion of sustainable development at local level.

2.2.4.5 A different approach for rural schools

Rao (2004:4) sees the overall solution to the problem of rural schooling in the substitution of the idea that schools are isolated institutions with the idea that schools are resource centres for the community in which they are located. Working through this conviction means replacing a teacher-centred, textbook oriented, mono-grade approach with one that meets the multiple learning needs of learners viewed as members of a community and families with diverse cultural traditions and varied livelihoods. Examples of schools, which address the rural challenge, are the RIVER model in India and the Escuela Nova Model in Colombia.

2.2.4.6 Parental participation

Boylan, Nor and Rahman (1996:8) describe the lack of parental participation as another problem of rural education. Tengku and Aziz (1989) cited in Boylan, Nor and Rahman (1996:7) found that parent's involvement in schooling was minimal and that they regarded schools as a separate institution and not as part of their world. Rao (2004:7) notes the significance of parents who become active partners in the schooling of their learners. It happens in a variety of ways such as participating in the group learning activities that draw upon the resources of the community and substituting for an absent teacher when needed. This ensures close relations between the school and the community as well as parental support for learners' learning. It produces a sense of ownership and pride in the village community and nurtures a sense of contentment with their school.

2.2.4.7 Community involvement

According to the Department of Employment Education and Training, (DEET, 1996:56) the Country Areas Programme in Australia aims to assist schools and their communities to work together to improve the educational participation, achievement and personal development of learners who live in geographic isolation. In India, the state government provides, according to Yasmeeen (2003:2), the infrastructural support while the local community sustains the learning centre by paying for the maintenance of equipment. Satellite schools in India, are according to Rao (2004:7), conceived and run on the principle of community involvement in the process of education. According to Birch and Lally (1995:44) local governments in Indonesia allocate additional funds to encourage community participation in multi-grade schools.

2.2.4.8 The role that schools can play in rural communities

Lyson (2005:1) indicates that schools in rural communities can serve as social and cultural centres and as places for sports, theatre, music and other civic activities. Peshkin (1978) in Lyson (2005:23) describes schools as symbols of community autonomy, community vitality, community integration, personal control, personal and community tradition and personal and community identity.

2.2.4.9 Background factors

Tengku and Aziz (1989) cited in Boylan, Nor and Rahman (1996:6-7) identify family advantage, learner's locus of control, learner aspirations, home environment and parent's academic support, in that order of importance, as a few background factors which predict the academic achievement of rural learners. According to Pellino (2007:3) children of poverty generally achieve at lower levels than children from richer income groups. The causes are numerous and related to both the social environment in which poor children live and the education they receive in school. Factors such as the quality of student learning behaviors, home environment, past experiences with education and teacher attitudes are among the many influences on student achievement.

2.2.4.10 Availability and development of resources

Boylan, Nor and Rahman (1996:7) indicate that rural schools experience a lack of basic resources such as books, workbooks, computers and trained teachers.

They further report that Malaysian teachers, in rural primary schools, experience the production and dissemination of teaching-learning materials as successful when they believe that it will improve the quality of teaching and thereby raise the level of learner achievement.

Birch and Lally (1995:45) report that the provision of free textbooks and materials to multi-grade schools is a policy in several countries such as Indonesia, Viet Nam and Pakistan where otherwise fees might be charged. This illustrates the importance with which these governments approach the need for resource provision for multi-grade rural environments.

2.2.4.11 Academic achievement and the small school environment

Boylan, Nor and Rahman (1996:7) indicate that one of the most persistent problems facing rural education is underachievement. Purcell and Shackleford (2005:8) refer to research findings, which indicate a strong correlation between academic achievement and the small school environment. It recognizes the importance of the small school environment in increasing academic success, learner satisfaction, increasing graduation rates and at the same time decreasing discipline problems. Posti-Ahokas (2007:1) finds, to the contrary, that the quality of education in remote rural schools tends to be substantively lower than in their larger urban counterparts.

2.2.4.12 Preparation of teachers to teach learners in rural schools

Boylan, Nor and Rahman (1996:10) report on a study done by Azizah and Sharifah in 1992, relating to teachers preparedness for teaching learners in rural schools, that almost half of the respondents had never attended in-service courses. Lazarus (2005:56) sees teacher quality more closely related to learner achievement than other factors including class size and per learner expenditures.

The success of the RIVER project, according to Rao, Herzberger and Chandy (2004:12), which took shape within India's very diverse cultural and socio-economic context and difficult conditions of a developing economy, can be linked to the setting up of a model school, and the thorough preparation of training groups prior to the commencement of the teacher training programme. The follow-up monitoring and support strategy to sustain new approaches, processes and materials in schools across a geographically wide area and the utilization of a Multi-grade Teachers' Resource Pack, also aims at sustainable support. These are important variables for sustainable teacher performance in the multi-grade context.

In the Colombian State, the Escuela Nueva reform programme provides, according to McEwan and Benveniste (2001:548), rural multi-grade schools with special training and instructional materials. Teacher in-service training provides teachers with the pedagogical skills to implement in the multi-grade classroom. The course uses a detailed manual organized similar to learner learning guides. According to Boylan, Nor and Rahman (1996:12) the Malaysian DoE also involves the teachers, the learners, the curriculum, the resources, the society and the environment in an 'intervention model'.

2.2.4.13 Documentation of project activities

One of the key components of scaling up programmes is, according to Rao (2004:14), to document the efficacy of the project, key strategies, success stories, as well as the preparation of spearhead teams of resource persons.

This will include both technical documentation of the initiatives that will help future resource persons and the documentation of the project activities and successes for increasing awareness and advocacy.

2.2.4.14 The recognition of rural schools

A policy recognition in NSW in Australia acknowledges, according to Boylan, Nor and Rahman (1996:10), that schools differ along many dimensions of which rurality is one. This enables a differential operating and management basis for a rural school compared to an urban school. Birch and Lally (1995:45) state that Viet Nam legitimized the existence of multi-grade teaching schools in 1993. Boylan, Nor and Rahman (1996:6) report that the Ministry of Education in Malaysia also addressed this challenge in 1996 and identified categories of rural schools based on basic facilities, communication and parental socio-economic status.

2.2.4.15 Residential schools

Boylan, Nor and Rahman (1996:10) report that in an effort to promote the education of rural learners in Malaysia, the provision of accommodation through the establishment of residential schools has been instituted by MOE and other agencies. Deliberate attempts are made to enable bright learners from rural areas to attend these schools taking into consideration their socio economic status as well as their grades in national examinations as criteria.

2.2.4.16 Termination of rural schools

Purcell and Shackelford (2005:2) stress that the termination of rural schools in the USA threatens the educational and social environment of rural communities in ways that would not impact on the urban environment in the same way, particularly if the rural school is one of the community's primary institutions.

2.2.4.17 Policy on Termination of rural schools

According to Gallagher (1998:13), the Minister for Education in England and Wales makes the final decision on the closure of small rural schools. The local authority has to take into account the impact of closure on the local community, and has to present a very strong case before considering closure, whilst the presumption will be against closure.

When Northern Ireland considers a rationalisation or closure option, it is according to Gallagher (1998:13), largely financial and administrative. Where the shutting down of schools is an option, the provision of transport must be considered, according to *Forgotten Schools* (2004:53), as learners may have to travel long distances because of the move.

2.2.4.18 Improvement of conditions for teachers

Birch and Lally (1995:45) mention Indonesia and Nepal as examples of 'special policy treatment' made by authorities with regard to the employment of teachers. Indonesia and Viet Nam are also making provision for the faster promotion of multi-grade teachers, although only in combination with other factors. Birch and Lally (1995:44) report that the law mandates teacher training of minority people in Viet Nam and China and teachers' salaries for multi-grade teaching are determined as double those of single-grade teachers. Adding to this benefit Birch and Lally (1995:44) indicate that a further payment as an incentive to multi-grade teaching teachers in Viet Nam is also already part of government policy and has already been discussed in the Philippines.

2.2.4.19 Scholarships

The government of Malaysia, according to Boylan, Nor and Rahman (1996:11), assists rural learners financially by giving deserving learners small scholarships to cover expenses other than textbooks and accommodation. They select bright rural learners to attend residential schools in areas away from their villages.

2.2.4.20 Dropout learners

Yasmeen (2003:2) reports that the Indian government, through its Chinnara Angala Programme enrolled 350 000 new learners and dropout learners in school. Furthermore, the Akshara Dasoha free midday meal scheme improved retention and reduced the number of dropouts in Indian government primary schools. Birch and Lally (1995:44) report that multi-grade teaching schools in Indonesia and Viet Nam are required to accept all learners who wish to enter school and the repeating and dropping-out of learners is not permitted. The Malaysian MoE extends, according to Boylan, Nor and Rahman (1996:8), a pilot project, known as Supplementary Food Programme, to the whole nation. Since the introduction of this programme, the percentage of attendance in schools has improved.

2.2.5 Conclusion

The following summary points, made from this international overview of rural education policy, practice and provision, are noted:

- Policy makers need to acknowledge that providing education to rural environments requires recognition of multi-grade teaching as a recognised field of specialisation and the way it relates to different local needs including geographic, social and cultural considerations.
- Policy makers need to structure the content of the national curriculum and all associated curriculum materials in a way that supports multi-grade teaching.
- There has to be an understanding amongst national level professionals and administrators of the cognitive and non-cognitive benefits of multi-grade teaching.
- Provision for bringing rural teachers and community members together, to discuss their shared commitment in providing quality education for their learners, needs to be sustainable.
- Programmes that reduce teacher professional isolation are essential as a means of attracting and retaining rural teachers for extended periods.
- Educational institutions and government support services have to prepare their prospective teachers thoroughly in the practice and theory of teaching in multi-grade schools.
- The preparation should include ways in which technology can be utilised in support of the multi-grade teacher, both in the classroom and in the community.
- Self-study materials developed for extensive parts of the curriculum have to be available to learners. These need to incorporate self-correction and feedback. The allocation of adequate resources to libraries should support self-learning.
- Policy makers have to demonstrate an adequate budgetary commitment to support multi-grade schools and face the challenge of balancing the higher costs of maintaining small schools with the advantages the small schools appear to offer.
- If one of the primary aims of a modern educational system is to equip learners with skills required by the job market, it has the potential to lift communities out of the cycle of poverty, environmental degradation and the inability to coexist.
- There has to be an effective mechanism for the regular supervision, monitoring and evaluation of multi-grade schools. Supervisors need adequate preparation and support in their work through training and through materials developed by/with them. Supervisors are expected to "police" as well as to "professionally guide" principals and teachers and must have a clear understanding of how to handle the conflicts inherent in the duality of the role.

- National-level learning assessment schemes (e.g. minimum levels of learning (MLL), minimum levels of competency (MLC) can be used to support the development and structure of curricula suitable for multi-grade schooling.

Despite the general neglect of multi-grade teaching and learning, the literature suggests that in recent years there has been a change in attitude to multi-grade classes. Previously multi-grade teaching was viewed almost universally as a deficient form of provision, but now there is a growing view that multi-grade classes are a legitimate method of providing access to education in circumstances of low population concentration. This change of attitude is most noticeable in the work of UNESCO, the World Bank and other agencies. In recent years, legislators in a few countries, notably in Asia and Latin America, have moved towards identifying multi-grade schooling as a form of primary education requiring legislative, regulative and policy support.

The World Conference on Education for All in Jomtien, Thailand in 1990 emphasised the urgent need to ensure access to and improve the quality of education for all. UNESCO is working with national and regional agencies to exchange experiences and to promote the need for effective small schools. The inter-regional workshop held in Lillehammer, Norway in 1996 "emphasised and strengthened the role of single-teacher schools and multi-grade classes as a means of achieving education for all. "

Stites (2004:16) indicates that education resources will be allocated under the guiding principles of the USAID according to a country's need and commitment. This commitment will be crucial in achieving the EFA, which according to Basic Education Coalition (2002:8), includes policy and budget decisions in order to succeed in providing accessible, quality education for every learner. Successful countries demonstrate that they:

- Prioritise education especially in primary and early secondary grades;
- Concentrate on making decent, even if very basic, schools accessible to all learners;
- Put special effort into enrolling girls and other underserved populations;
- Work to increase the benefits and cut the costs of education, which often entails changing parents' perceptions and
- Generate community expectations that learners will attend school.

Emerging Voices (2005:24) states that schools are inseparable from the communities they serve. Policy makers need to take into account the need to foster meaningful school/community relationships. Thoughtful planning, resourcing and ongoing research are necessary and unavoidable if governments want to be successful in drawing schools and communities closer together. The government has to ensure that the various government departments are engaged to act in a coherent way when dealing with a multiplicity of issues arising from such contexts.

2.3 MULTI-GRADE TEACHING AS AN OPTION FOR EDUCATION PROVISION IN THE RURAL AREAS

Lakin and Gasperinini (2003:78) refer to the 1990 World Declaration on Education for All, which states that every person shall be able to benefit from educational opportunities which are designed to meet their basic learning needs. These needs comprise essential learning tools, such as literacy and numeracy as well as knowledge, skills, values and attitudes that are required to function effectively in society and to continue learning in their particular environment. In examining the provision of basic education in rural areas, one should bear in mind that social conditions are changing and that the rural economy is becoming more diverse with expanding opportunities for 'off-farm' employment.

Little (2005:2) explains that while systems are predicated on 'gradedness', and the majority of schools and classes in most countries are mono-graded, very large numbers of learners and teachers work together in settings where two or more "official" grades are combined. McClellan and Kinsey (2007:2) indicate that extensive research strongly supports the potential academic and social implication of the multi-grade concept of education. It demonstrates the importance of peers in learners' academic and social development. Studies of reciprocity theory furthermore demonstrate the close relationships between learners and caregivers. Therefore, multi-grade teaching is extremely important in relation to the EFA goal of access and the Millennium Development Goals designed to combat poverty.

Veenman (1995:322) and Veenman (1996:324) referring to the Veenman 1995 Paper which reviewed 56 studies from 12 countries, argue that "there is no empirical evidence for the assumption that learner learning may suffer in multi-grade and multi-age classrooms." Little (2005:6) states that the success of implementing successful multi-grade teaching depends on whether they have arisen as a necessity or by choice. If for example, the numbers of learners per class is very large and teacher numbers few, then parents' and teacher demands will understandably increase for teachers. In such conditions, it is unlikely that a multi-grade pedagogy will be effective since it is not the pedagogy of choice. If, however, the teachers in a school, in consultation with parents, choose a multi-grade pedagogy for the school and if the class size is 'reasonable' then the quality of the undertakings within the classroom are likely to be more effective.

The multi-grade classroom debate forms an integral part of rural education and focuses on two areas, namely benefits or harm to learner's academic and social development and teachers' capacity to teach effectively while managing more than one grade level.

2.3.1 Factors identified which will benefit or harm academic and social development of learners in the multi-grade teaching environment

2.3.1.1 Factors which will harm the academic and social development of learners in the multi-grade context

Lakin and Gaspirini (2003:77) explain that the lack of basic learning opportunities is both a contributing cause and effect of rural poverty in the low-income countries. Even where schools exist, various economic and social obstacles prevent some learners from enrolling. For them “school learning” may appear quite irrelevant with respect to their more immediate survival needs. Little (1995:14) expresses the opinion that the educational system as a whole pays inadequate attention to the proper functioning of multi-grade schools. Atchoarena and Gaspirini (2005:5) state that the effects of schooling on food security, sustainable rural development and poverty reduction depend only on the number of years of exposure to the school system and on the quality and relevance of the education received.

(a) The social background factor

Atchoarena and Gaspirini (2005:81) state that rural learners in low-income countries generally have less opportunity to attend and complete primary school than learners in better-served urban areas. A joint study conducted by FAO and UNESCO, 2003 cited in Lakin and Gaspirini (2003:23) indicates that poverty and illiteracy remain overwhelmingly rural phenomena. There is a direct influence on illiteracy as well as other forms of deprivation such as malnutrition, infant mortality and poor access to water.

Referring to the influence of the social background of learners on learning and teaching, Heyneman and Loxley (1983:1162-1194), supported by a similar study by Fuller (1987:225-256), found that learners, who attended primary school in countries with low per capita incomes, learnt substantially less after similar periods of time in school than those learners in high income countries. It is also found that the lower the income of the country, the weaker the influence of learners’ social status on achievement. Conversely, in low-income countries, the effect of school and teacher quality on academic achievement is comparatively greater. From these data, it is possible to conclude that the predominant influence on learner learning is the quality of the schools and teachers to which learners are exposed.

According to Beaulieu and Israel (2005:8) the following social background factors, working in tandem, have major impacts on learners’ achievements. They include:

- The natural abilities with which a person is born;

- The race and ethnic background of the learner and his/her gender;
- The level of financial resources invested by the parents, schools and communities in advancing the educational activities of their learners;
- The strength of social capital available to young people, especially, the nurturing and monitoring activities provided by parents, school teachers and community members;
- High parental aspirations for their childrens' attendance;
- Parents taking time to discuss school-related matters with their children and
- Learners enrolled in schools with positive features (high rates of daily learner attendance, high priority placed on academics).

(b) The diversity factor

According to Miller (1999:43), research shows that when learner diversity increases, whether it is in a multi-grade or single-grade classroom, the cognitive and emotional demand, placed on teachers, is greater. The result is that instruction, classroom organisation and management in the multi-grade classroom become complex and demanding.

Miller (1999: x) finds that learner's inconsistent developmental patterns and differing rates of progress are ill matched to the rigid grade-level system. Millier (1999:11) states that the growing interest in and study of the potential benefits of multi-grade education is due to a greater focus on the importance of the early years in efforts to restructure the educational system as well as an awareness of the limitation of graded education. Joubert (2006:5) warns against a one-size-fits-all delivery system demanding that everyone learn the same thing at the same time in the same way, no matter what his or her individual needs may be.

Where there are multiple ethnic or linguistic groups within a country, the government has to consider the challenge of diversity related to this phenomenon, especially in the multi-grade rural setting, where the needs of learners are already diverse. It is difficult for teachers to be located in an area where the first language is different from their own. The challenge is even bigger for a learner who has to attend a school in a multi-grade context where the language of instruction differs from the learner's mother tongue. Lakin and Gasperinini (2003:150) state that instruction in the mother tongue certainly facilitates learning in the early stages and that it may be necessary and expected that another language is introduced into the curriculum at a later stage. Young learners, obliged to learn in an unfamiliar language, have an additional obstacle to overcome and are at a great disadvantage with respect to other learners who learn in their mother tongue.

Joubert (2006:5) further refers to differences between schools in terms of capacities, leadership, culture and relationship with the environment. Finding a balance between change and stability is the most crucial challenge facing schools.

Mulkeen (2006:29) adds that learning should emerge when the classification of schools are appropriate in terms of their geographical isolation, differences in gender, attrition and repetition. This will help to keep the rural/urban divide on the policy agenda and alleviate the divide.

(c) The lack of resources factor

Atchoarena and Gaspirini (2005:3) report that the 'school under a tree' is still a very common situation in many developing countries and symbolises the unequal distribution of school buildings between urban and rural citizens. Governments need to make additional and special efforts to meet the basic learning needs of rural people and marginalised and neglected groups and categories of learners. The Minister of Education in South Africa notes, according to Nelson Mandela Foundation (2005:5), that for purposes of targeted intervention such as providing conditional grants for rural schools and increasing resources, 'the demography of the rural schools should be established to address the perception that poverty and rurality are seen in relation to the urban context.

Atchoarena and Gaspirini (2005:4) see food security as essential if schools are to be effective. Referring to the effects which malnutrition can have on learners learning Atchoarena and Gaspirini (2005:4) report that where a sufficient supply of food enables families to send their learners to school and keep them going, there is a decline in school absenteeism and dropouts. Basic Education Coalition (2002:8) stresses that the curriculum and materials should provide basic life skills in health, nutrition and economic well-being and should be delivered in a way that promotes problem solving, learning to learn, acting autonomously and working co-operatively.

A high level of 'time on task' and offering learners a range of imaginative and stimulating academic challenges should be promoted. Juvane (2005:11) adds the need for the design, reproduction and distribution of large quantities of self-study materials to support individual, peer and small group learning. According to Joubert (2006:3) teachers need to have a sense of enthusiasm for their work and enjoyment in it, so that they can create a friendly learning environment in which both learners and teachers are happy. The effective implementation of multi-grade teaching lies, according to Juvane (2005:11), in the minimum standards and benchmarks against which the teacher assesses the learners' learning achievement. This requires the establishment of mechanisms for regular supervision, monitoring and support at regional/district and teacher/classroom level.

Some may question the idea that rural schools should have a curriculum that differs, even in small ways, from urban schools. There are however strong grounds for elaborating on a common "core" curriculum in ways that speak directly to different rural milieus. Most countries have, according to Juvane (2005:10), national curricula that are almost the same for both urban and rural schools. The minimum competencies listed in these curricula, which are designed for regular school situations, are difficult for multi-grade teachers in making the content meaningful to the learners. Basic Education Coalition (2002:8) expects that the curriculum must be relevant to the society's environment and culture and to the daily lives and needs of learners and communities. Joubert (2006:9) suggests that the national curricula need to be prepared specifically for the multi-grade teaching context or be adapted to it.

According to Basic Education Coalition (2002:8) in poor countries, many schools lack even the most rudimentary supplies. Teaching materials, if available, are unlikely to be current or even appropriate. Hallak (1990:220) describes textbooks as the instructional device par excellence and central to teaching. Hallak (1990:220) mentions that classrooms deprived of textbooks promote little in the way of reading skills and are obliged to content themselves with rote learning, recitation, copying from blackboards and taking lecture notes.

Support structures should take care that teachers do not utilise only one textbook as the only resource for teaching and learning, and should ensure the consideration of multiple resources in obtaining the learning outcomes. Fairhurst, Gibbs, Jain, Khatete, Knamillar, Welford, Weigard (1999:260) suggest that textbooks should be produced that focus on the active engagement of learners even if the teacher is absent. In-service training would then be straightforward and principally orientate teachers to new texts. According to Fairhurst, Gibbs, Jain, Khatete, Knamillar, Welford, Weigard (1999:260), book and resource developers should develop textbooks-cum-workbooks with which learners can engage with a degree of independence. The role of the teacher should not be to teach the content, but to support the learner in their use of texts and other learning material. Little et al (2006:19) report that in Sri Lanka primary curriculum experts, especially those based at the National Institute of Education adapt teacher's guides to suit the needs of the multi-grade teacher.

(d) The lack of sufficient teacher training as a factor

As most national policies on education do not acknowledge multi-grade settings, it expects teachers to cover curricula and fulfil assessment expectations as if the class was mono-graded. In settings where the basic systemic premise of one teacher per class of single grade learners is not met, general issues of quality that arise in teacher preparation, curricula, materials and assessment are exacerbated.

Little (1995:58) indicates that many teachers who teach in a multi-grade environment are frequently under-resourced and are often the most undereducated and under-trained members of the national teaching force. Juvane (2005:8) reports that although many teachers work in multi-grade teaching situations, few countries have developed special teacher training curricula for pre- or in-service training. An average primary school teacher will most probably be ill equipped to handle the challenge of multi-grade teaching. Teachers of multi-grade classes, who received no specialised training in managing a multi-grade class, inevitably teach as though they are teaching several independent classes which means they teach one group while the others remain idle. It is evident that a strong need exists for inset training of teachers on how to work effectively in rural multi-grade schools in order to improve teaching and learning in those schools.

Taylor (2003:201) stress that teachers are expected to aid their learners in utilising, acknowledging and relating to their own experience and to introduce new experiences, which link and build upon those, which already exist. Therefore, teachers have to learn from and about the different environments in which their learners live, interpret, and understand them in a way, which leads to the development of appropriate teaching and learning methods and materials.

2.3.1.2 Factors which will benefit the academic and social development of learners in the multi-grade context

Joubert (2006:7) reports that where the education system trains and supports multi-grade teachers well in the use of a variety of instructional practices they will succeed in providing good quality education leading to high learner achievement. Little (1995:46) derives evidence from research that multi-grade teaching is a powerful pedagogical tool for promoting independent and individualised learning and that multi-grade classrooms offer exciting and challenging arenas for learning and viable sites for high quality education.

Vinjevold, Schindler and May (1997:138) see multi-grade teaching as a legitimate and viable model for education provision. Little (1995:47) expresses the opinion that multi-grade teaching is viewed by the teaching profession as a second-class solution to educational problems, which beset disadvantaged communities. Little (1995:47) reports that the terms multi-grade vs. monograde appear regularly in the literature on multi-grade teaching in industrialised countries whilst in developing countries the debate rarely arises as part of an educational discussion amongst teaching professions. It focuses more on the ideal way to organise schools in general, rather than in difficult rural areas.

The Nelson Mandela Foundation (2005:5) Report shows that despite the “dust and deprivation” which rural communities experience, there is evidence of people helping one another and sharing resources. Central to this view is to recognise rural areas for their liveliness and strengths and not only define them in terms of their economic or material resources.

(a) The multi-grade class as an opportunity to access education

Atchoarena and Gaspirini (2005:3) state that the opportunities that rural people have to access and complete basic education in low-income countries is still much lower than in better-served countries. Little (1995:47) adds that communities, which have not yet achieved universal access to primary education, result in schools which tend to be located in areas where access to the next school is difficult, where facilities are already extremely limited and to which teachers generally do not wish to go. Therefore, for millions of learners worldwide the only type of school to which they will gain access, if they gain access at all, will be multi-graded. In many disadvantaged and marginalised communities, the fundamental educational issue is not whether a school is multi-graded or mono-graded but whether there is a school at all. Oxfam (2005:1) referring to the estimated 15-25 million nomadic and pastoralist learners which are “out of school” worldwide, states that the only way these learners will have a chance of any schooling, will be by means of mobile and multi-graded schools.

Thomas and Shaw (1992) cited in Vinjevoold, Schindler and May (1997:138), indicate that The World Bank Report argues that multi-grade schools fulfil an important role in improving access to primary education. Studies done in Zambia (Lungwanga, 1990:13-14) and in Colombia (Benveniste and McEwan, 2000:31) support this view. Results of the Lungwanga (1990:139) study, conducted at four pilot schools in Zambia, indicate that access to education led to increased learner enrolment and reduced migration from the village. It also provided an opportunity for rural learners to complete a full primary education. A report by UNESCO, (2004:12), related to the Colombian Escuela Nueva programme, further reveals that repetition and dropout rates of learners in the Escuela Nueva programme were significantly reduced. It is important to note that both the Zambian and Colombian projects were characterised by teacher training, resource provision and government support.

Purcell and Shackelford (2005:8) refer to many of the latest studies, which have shown a strong correlation between academic achievement and small school environment. Bryk (1994:67) confirms that smaller schools are work places that are more productive for both adults and learners.

Teachers in these more intimate environments are more likely to experience greater satisfaction with their work, higher levels of morale and greater commitment. Problems of learner misconduct, class cutting, absenteeism and dropping out are all less prevalent. Wasley, Fine, King, Powell, Holland, Gladden and Mosak (2000:10) also found that one of the strengths of small schools is that learner performance and test scores improved, there was less pupil violence, and conditions were more conducive to learning. There was an opportunity for teachers to develop professionally, and parents and community members were more satisfied with the school.

According to Purcell and Shackelford (2005:10), there are only a few, who question today that a small school environment leads to greater learner satisfaction and individual learner performance. Nathan and Thao (2007:13) add that the more contented learners are with their environment in small schools, the more academically productive and better behaved they will be. The likelihood that they will participate in after-school activities will increase and they will be less likely to drop out of school. Linked to this Purcell and Shackelford (2005:10) mention the importance of retaining good teachers because of the key role they play in the small school's environment, and they refer to several research studies, which have concluded that teachers in small schools are more satisfied than teachers in larger schools. Following on this is the issue of satisfaction with the school's environment relating to the question of attracting and retaining highly qualified and motivated teachers to multi-grade settings.

(b) The multi-grade class as an opportunity for strengthening social relationships

Pratt (1986:113) and Miller (1999: ix) state that multi-grade classes benefit the social development of learners. The two most commonly quoted benefits for communities are, according to Vinjevoold, Schindler and May (1997:139), that schools help to preserve the identity of local communities because learners remain in their communities, family life and cultural traditions and the schools serve as centres of social development.

According to Little (1995:53) Millar's (1991) review of 21 quantitative studies of learners in the first six grades, it was found that multi-grade learners strongly outperformed single-grade learners with respect to attitudes and social relationships. Vinjevoold, Schindler and May (1997:139) indicate that providers agreed that both older and younger learners more readily learn to share, learn new skills and new roles. Older learners learn nurturing, patience, family roles and leadership. Miller's above mentioned review of 21 studies further concludes that overall, the socio-emotional development of learners in multi-grade groups is either accelerated or showed no difference, when compared with learners in monograde groups.

Pratt (1986:113) identifies 30 studies that addressed learners's friendships, self-image, altruism and attitude to school. The findings suggest that multi-age grouping has no consistent effect on academic achievement. Multi-age grouping does however tend to be associated with better self-image and attitude toward schooling. In the review of studies from the US and UK, Ford (1977:150) reports positive and negative findings on the reduction of anxiety levels, the maturity of friendship patterns and personal and social adjustment and positive findings on self-image, self esteem and attitudes to school. In the Escuela Nueva programme in Colombia, an early evaluation credited the programme with positive effects on self esteem and civic behaviour (Kline, 2002:173). A subsequent study confirmed the positive effect for civic behaviour but not for self esteem (Psacharopoulos, Rojas and Velez, 1993 in Little 1995:54).

According to Levine (1976) in Vinjevoold, Schindler and May (1997:139) and the National Education Association, Washington, D. C. (1968:22) one explanation that can be offered for the enhanced social development of learners in multi-grade classes is that a range of levels of maturity, perspective and experience, contributes to the learning process. Therefore, heterogeneous interaction of age groups contributes to social growth and understanding as well as to academic growth. Effective multi-grade teaching involves the use of a range of organisational strategies in the classroom. These will, according to Little (2005:15), include the use of whole class teaching, small group sessions, paired and self learning. They also include the involvement of learners in the general management of the classroom, the school itself and its learning resources.

(c) The multi-grade class as an opportunity to raise academic achievement levels

(i) Studies done to determine the impact of multi-grade teaching on academic achievement

All studies related to the impact of multi-grade teaching on academic achievement have, according to Vinjevoold, Schindler and May (1997:141), been conducted in the USA or Europe and they found that studies in developing countries have not generally included comparative studies to measure academic achievement.

Rojas and Castillo (1988) in Vinjevoold, Schindler and May (1997:141) found that learners enrolled in Escuela Nueva schools attained higher achievement levels in maths and Spanish than learners in comparable single-grade schools.

A study done by Nye and others (1995:5), which attempts to determine the academic and social effects of non-graded classes in Tennessee elementary schools, reveals that learners from the non-graded classes, in the first year of study, significantly outscored those from traditional classes with respect to vocabulary, reading, language and maths. Huang and Howley (1993:137) add that an overview of the demographics of rural Atoka County's in the state of Oklahoma, points to a negative relationship between size and academic achievement and stated that equal, small schools have evident advantages for achievement. The documented relationship between school size and achievement, as evident in scores of empirical studies, show solid overwhelming evidence that the outcomes which smaller schools produce are more favourable than the educational outcomes produced by larger schools.

A study done in rural elementary schools in Honduras by McGinn and others (1993:1) examined factors contributing to grade repetition. The identified factors include:

- Low academic achievement;
- Learners who repeated grades were more likely to repeat again;
- Amount of time available for learning;
- Low teacher expectations of learners;
- Teachers' expectations were influenced by the socio-economic status of the learner's family;
- Pre-school participation was associated with better marks;
- Teachers were inconsistent in the application of rules governing marks and promotion;
- Being in a multi-grade classroom and
- Parents usually accepted the schools' marks without question.

Little (2005:9) refers to a study of 47 multi-grade teachers and head teachers in an inner city area of London, England and reported a number of positive 'opportunities' presented by the multi-grade classroom. The most commonly mentioned was the opportunity for "cognitive stretching" of the younger, less able and lower achieving learners, expressed variously by teachers as "stretching", "modelling", "moving on and developing", "extending", "looking up and emulating". The second most commonly mentioned was the opportunity for the use of peer tutoring learning strategies. While such strategies are not unique to multi-grade classes, the peer tutoring learning strategy appears to work particularly well in the multi-grade class and is perceived to benefit all learners cognitively, socially and personally. A third commonly mentioned opportunity was "behaviour stretching", or the opportunity for younger learners to learn appropriate social behaviours from the role models offered by older learners.

Lowe (1996:16) refers to fourteen case studies and interviews done with teachers in the Trinity Catholic School in Sydney Australia, which revealed that a sense of optimism for learning was often non-existent in mono-grade schools. This study found that the learners are valued contributors in the education process and share with their teachers a genuine enthusiasm for learning. Collaboration rests on a strong base of trust and respect. Teachers felt that their contributions counted and that the stakeholders gave them recognition for their professionalism. A strong match existed between the philosophy held by the teachers and how this philosophy was enacted in the classroom. Learners and teachers regarded learning as a celebration and all learning as significant. The learners stopped defining their own learning according to predetermined boundaries and bought into the model a sense of what it means to celebrate learning.

(ii) The transformation of the philosophy of learning

According to Marshak (1994:4) the multi-age movement is the beginning of the reinvention of schooling in the elementary grades. Vinjevo, Schindler and May (1997:135) add that the multi-age movement is also implemented with 9, 10 and 11 year olds. Marshak (1994:4-5) proposes the following six elements that define the philosophy of multi-grade classrooms:

- Multi-grade classrooms include learners with at least a two year span in chronological age and that each learner remains in the same classroom with the same teacher for at least two school years and often longer;
- The teacher learns to perceive each learner not as a member of a grade grouping, but as an individual, with a multiplicity of qualities and capabilities, not all of which are at the same level of development;
- The learners learn to perceive each other less in terms of grade membership and more in terms of specific personal qualities and capabilities;
- Chronological age becomes less important as a determinate of learner's relationships, while developmental age becomes more important,
- A multi-grade classroom generates more profound relationships between teacher and learners, amongst learners themselves and between teacher and parents and
- The qualities of the multi-age classroom encourage the teacher to begin a transformation of his/her pedagogy.

In this work a teacher moves from "teaching to an imaginary middle of the class" to conceiving and structuring learning activities that meet the needs of diverse individuals (Marshak, 1994:5).

According to Bingham, Dorta, McClasky and O'Keefe (1995:8) multi-age classrooms are not created for convenience to accommodate a population budget nor are they places where separate, grade level curricula continue. Bingham, Dorta, McClasky and O'Keefe (1995:6) state that multi-grade classrooms are permanent groupings for planned diversity. Kaul (1977:10) defines multi-grade classrooms as places where learners are not expected to learn a quantum of knowledge equally well within the same time limit.

Learners are accepted as unique, with differing abilities. More advanced learners are appointed to tutor the less advanced. Kaul (1977:10) writes that this system "provided for intimate relationship between learners and their teachers as members of a family." The basic philosophy is "to offer every learner opportunities to proceed at his or her own speed and according to his or her own capacities" (Kaul, 1977:11). Pavan (1992:22) states that multi-grade classrooms do not use grade-level designations for learners or classes. There is an emphasis on continuous progress as reflected through learners' growth, not movement through a predetermined sequence of curriculum levels (Pavan, 1992:22). Often multi-grade classes are team taught in order to regroup learners frequently according to tasks or learner interests.

Lakin and Gasperinini (2003:145) believe that the curriculum has to be relevant to the basic learning needs of learners and suggests four guidelines for designing basic education content for learners in rural areas. The curriculum should relate to the local context, customs, livelihoods and rural development activities. It should take due account of the teachers' qualifications and training. It should make use of locally available skills, knowledge and other resources. Multilingual approaches, which utilise local languages and mother tongues as the language of instruction, should be taken into consideration, since education in an unfamiliar language is a major obstacle to learning, particularly for ethnic minorities and remote populations. The curriculum should also respond to the expressed wishes of the community.

Little (2005:13) believes that a more radical approach to curriculum rests on a shift in philosophies of learning and teaching, from one that emphasises learner homogeneity and standardisation of teacher inputs, to one that acknowledges the diversity of learners and the need for a differentiation of inputs. Little (2005:14) is of the opinion that this approach recognises that multi-grade teaching is, in principle, if not always in practice, a desirable teaching strategy in all classes, all schools and all countries. Mono-grade classes also comprise a diversity of learner abilities, interests, backgrounds, ages and school attendance. Differentiation is a way in which the teacher organises learning for different individuals and/or groups of learners. It can refer variously to the different subjects taught, the difference in input/stimulus, the different activities undertaken by learners and the different outcomes expected. Little (2005:14) reports that while each type of differentiation in multi-grade and mono-grade classes is observable they are not part of the fabric of national curricula. This approach to the curriculum does not undermine the value of whole class teaching. Rather it develops a repertoire of teaching approaches, from the standardised to the differentiated and a range of support for learners, from materials, to peer learning, group learning and self-study.

According to Little (2005:14), the notions of diversity and differentiation challenge deep-seated cultures of teaching and learning in which the teacher is the main arbiter of knowledge. Deep-seated cultures of teaching and learning pose the greatest obstacle to enduring reforms designed to meet the needs of the multi-grade classroom, though, as Croft cited by Little (2005:14) points out, differentiation based on groups may be more acceptable in collectivist cultures than differentiation based on individuals.

Joubert (2006:7) mentions a few advantages of multi-grade schools, which relate to the rich learning environment provided by learners of different ages and abilities. It encourages them to learn together to increase social learning across age and gender boundaries making more use of peer learning and collaborative learning and managing learning progression more effectively. Learners' readiness to learn and their success in mastering what they learn serve as criteria for progression and thereby reduce repetition rates.

(iii) The role of the Curriculum

Juvane (2005:10) states that the curricula in most cases consist of a list of minimum learning competencies stated in terms of behavioural objectives. The design of these minimum competencies is specifically for regular school situations and the multi-grade teacher finds it difficult to make this content meaningful to the learners. Multi-grade teaching analyses the core of learning and radically calls into question the age-grade system of formal education delivery. Teachers should be skilled to handle combined grades. The reality, however, is that the training of teachers focuses on the handling of separate grades. Juvane (2005:10) suggests that teachers need to learn new skills from experienced colleagues to be able to face the challenge of multi-grade teaching. At national level, according to Juvane (2005:11), policy decisions will not only be required to incorporate multi-grade teaching in pre- and in-service teacher education programmes, but also to consider the use of multi-grade techniques in mono-grade settings.

Gasperini and Atchoarena (2005:6) reflect that the margin for adaptation of the curriculum to fit local learning needs is often limited. School heads and other supervisors can be encouraged to seek and allow more flexibility in achieving a balance in the basic education curriculum that respects national criteria and responds to local rural conditions. Supplementary contents based on the local culture and economy, often make use of local artisans, storytellers and other human resources in the community and require integrated learning. This integrated learning concept based its focus on the notion, that effective learning is not limited to the classroom, but that, through use of community resources, the curricula can "come alive."

As learners move out of the classroom to study real community problems or activities, the process of involving villagers contributes to the education process, as well as to the process of community development. Learning through integrated techniques in the rural environment occurs in a variety of settings, involving both learners and community members and necessitates strong linkages between educational organizations and agricultural services. As learners become involved in observing community problems and activities, they will be able to observe a wide range of topics like food chains, life cycles and water pollution. Rather than being textbook concepts, the subjects become tangible, not only teaching them about the environment but also carrying the learning over to other academic subjects. The schools organize exhibitions to share this work with the community. There is a need to shape national strategies that intelligently combine and integrate rural development and basic education.

Lakin and Gasperinini (2003:89) mention that the content of the primary school curriculum and the perception families have of it, is a factor, which sometimes contributes to low enrolment and poor attendance in rural primary schools. Most developing countries have unitary, centrally determined curricula designed for learners familiar with an urban environment that may contain elements that conflict with local customs and beliefs. According to Little (2005:12), the curriculum based on a single graded structure needs to be adapted to meet the needs of the multi-grade classroom. It should be a joint undertaking between teachers and curriculum experts working at National level. The highest authority must sanction and validate the curriculum.

Joubert (2006:10) suggests guidelines for designing basic education content for learners in rural areas. These guidelines suggest that the curriculum should relate to the local context, customs, livelihoods and rural development activities (Lebeau, 2006:10). A crucial issue is that the curriculum must be relevant to rural people's needs. One approach is to develop curricula that combine core content with local content (Hargreaves, Montero, Chau, Sibli and Thanh, 2001:500). It should make use of locally available skills, knowledge and other resources (Lebeau, 2006:10). Teachers should teach the curriculum in real situations to help learners to get an elementary understanding of themselves, their families, schools and natural surroundings and of the activities of people living in their community. According Juvane (2005:12) it should respond to the expressed wishes of the community, determined through consultation and negotiation with the community, or the adult learners. It is especially important that the content of the curriculum relates closely to local conditions, in order to enable learners to apply the knowledge and skills learned (Joubert, 2004:10). Linking the school with the community will enable teachers to improve the quality and relevance of the education they are providing (Little, 1995:72).

Joubert (2006:11) refers to important criteria for curriculum improvement and re-organisation of multi-grade schools. One of the greatest difficulties in promoting multi-grade teaching is the inflexibility of grade-based curricula. Joubert (2006:11) refers to Miller (1991) who found that in some small multi-grade schools and classes, the teachers are required to cover all the material for any one year for all the learners enrolled for that year. Birch and Lally (1995:17) mention integration as an essential component of multi-grade teaching. It will involve integration of learners from different levels and competencies as well as the integration of the curriculum either with subjects such as science and mathematics. Juvane (2005:66) stresses that most countries have national curricula and these prescribed curricula are almost the same for both urban and rural schools. The curriculum consists of a list of minimum learning competencies stated in terms of behavioural objectives. These countries normally design the minimum competencies specifically for regular school situations and the multi-grade teacher finds it difficult to make the content meaningful to the pupils. Most often according to Joubert (2006:12) the designed curriculum lacks relevance and is dysfunctional when applied to the socio economic needs and cultural lifestyles of multi-grade learners and their communities. According to Berry (2001:7) the conceptual and skill requirements of the prescribed curriculum are too great for the teacher to cope with, given the pressing problems and concerns, which multi-grade teaching should address. Ames (2004:246) suggests that the developing subject matter has to improve curriculum content in a way, which makes it relevant to the social conditions of the communities and the needs of the learners.

Nepal and Sri Lanka undertook experimental work on the reorganisation of national curriculum subjects, built around the grading of activities in relation to core concepts/skills and differentiated activities and outcomes across the entire primary school curriculum (LATIMS (*Learning and teaching in Multi-grade Settings*), 2003 cited in Little 2005:15). The general idea was the creation of curricula, which met the needs of learners and teachers in multi-graded settings and reduced the daily curriculum planning burden on the teacher. Forgotten Schools (2004:41), states that the development of alternative teaching methods, for the enhancement of learning in multi-grade classes, is important. This implies, according to Gasperini and Atchoarena (2005:7), that whatever the configuration of content may be, basic education should equip learners to continue learning, apply critical thinking and cope with the changes they will encounter in life.

(iv) Education assessment

Hargreaves (2001:553) argues that multi-grade settings lend themselves to assessment systems as it encourages teachers to recognise individual differences in learning, rather than treating all learners as if they were at the same level.

According to Little (2005:17) regular and frequent formative assessment is a vital tool for both teacher and learner in the multi-grade setting. Although they lend themselves to the recognition of diversity, multi-grade settings do not guarantee it and strenuous efforts need to be made to build assessment into learning materials. From its inception, the Escuela Nueva programme built assessment tasks into the self-study guides, mastery of which, is necessary before learners can progress to the next unit or stage. Such assessment schemes retain the notion of gradedness but rest on the graded assessment on individual learners who work through learning materials at their own pace.

Lakin and Gasperinini (2003:153) believe that assessing learning achievement at given intervals can help both the teacher and the learner to measure progress in the learning process. Test results help the supervisor and administrators to detect weaknesses in the curriculum or in teaching or in other inputs and to take corrective measures as needed. There is a need for more complex standardised testing which requires a technical and administrative capacity that is deficient in many developing countries. Both standardised testing and continuous assessment of learning are, especially according to Lakin and Gasperinini (2003:153), problematic in rural areas due to logistical difficulties and the prevalent deficient training of rural teachers.

The analysis of quantitative and qualitative data of systems and schools can reveal urban/rural disparities, but also the differences and diversity among rural areas (Atchoarena and Gasperini, 2005:6). The results of such analyses, if properly utilised, can inform policy decisions that effect the allocation and use of resources for basic education in rural areas.

2.3.2 Prerequisites for successful multi-grade teaching

2.3.2.1 Challenges which face effective teacher preparation for teaching in the multi-grade school

(a) Basic conditions which underlie successful multi-grade teaching

Little (2003:14) states that developers structure most National Curricula and associated materials by age/grade. Therefore, it is difficult for multi-grade teachers to organise the simultaneous delivery of graded curricula to two or more grades. Previous analysis of teacher practices and reviews of research have led to the following broad typology of approaches to curricula, called curriculum adaptation strategies in multi-grade classes, as described by Little et al (2006:1):

- **Multi-year curriculum spans** are units of curriculum content, which are spread across 2-3 grades rather than one. All learners work through common topics and activities;
- **Differentiated curricula** enable learners in each grade group to engage in learning tasks appropriate to his/her level of learning. The same general topic/theme in the same subject is covered with all learners;
- **Quasi mono-grade** enables learners to follow the same or a different subject at the same time. The teacher teaches grade groups, in turn, as if they were mono-graded. Teachers may divide their time equally between grade groups, or they may deliberately divide their time unequally, choosing subjects or tasks within subjects that require different levels of teacher contact and
- **A learner and materials-centred approach**, which depends more on the learner and learning materials than on teacher input. The developers translate the curriculum into self-study graded learning guides. Learners work through these at their own speed with support from the teacher and structured assessment tasks. Learning is involving a relationship between learner, learning materials and teacher.

Lungwangwa (1989:13-14), drawing from experience in Zambia and elsewhere, identifies three curriculum strategies adopted by multi-grade teachers that can be helpful to address these difficulties. **The common timetable strategy** expects the learners to learn the same subject in the same timetabled period, but study at their own grade level. **The subject stagger strategy** allows learners in different grades to study different subjects in the same timetabled period and combine high teacher input subjects with low teacher input subjects. **The subject grouping strategy** means that the teacher teaches the learners the same subject at the same time and in the same way.

Little (2005:12) alerts to the fact that since curricula, educational materials, teacher preparation and assessment systems focus on mono-graded schools and classes, it is hardly surprising that many teachers hold negative attitudes towards their role in the multi-grade class. Policymakers need to be aware of the multi-grade reality and then develop, in collaboration with teachers, multi-grade related strategies. There has to be national level support for pilot programmes, which include financial support and active involvement of a few key multi-grade advocates. The education system should not expect multi-grade teachers to adapt the general system to their specific multi-grade circumstance, alone. Most education systems do not expect mono-grade teachers to exercise such levels of adaptive professional autonomy. Why should the system then expect so much more from the multi-grade teacher?

Raudenbush (1991:255) stresses that there is considerable evidence from research in developing nations that well conceived and well-implemented pre-primary educational programmes can significantly increase the cognitive outcomes learners obtain during their primary school years.

Nielsen, Gillett, Thompson (1993), cited in Berry (2001:9), further found that in Belize the more effective multi-grade schools tended to be nearer to main towns, have two classrooms or more, fewer than three classes per teacher and have above national average access to textbooks. The teachers were more mature, more educated, more likely to be trained, live close to the school, making more use of peer tutoring and cross age tutoring and involve the community in the life of the school. They also had frequent supervisory visits, had a principal who was supportive of her/his teachers and stayed at the school.

(b) Indicators of teacher effectiveness

Instruction, classroom organisation and management in the multi-grade classroom are complex and demanding. Thomas and Shaw (1992) cited in Vinjevold, Schindler and May (1997:144), claim that the international literature suggests that teachers must be well trained and conscientious as the demands on teachers' time are great. Furthermore, excellent organisational and co-ordinating capabilities are required from teachers. Teachers, who experienced multi-grade teaching negatively, report that it is time consuming, that double preparation is required for basic skills subjects, that teachers experience burnout and have low work and personal satisfaction. Millar (1999:44) concludes that multi-grade teaching is not for the timid, inexperienced or untrained teacher.

It is evident that the most obvious feature of the multi-grade classroom is that a different organisation of learning is required to accommodate the different grades in the classroom. For many writers this means a completely different approach to teaching. Marshak (1994:4), Gibson (1994:18) and Lowe (1996:3) state that education systems need to prepare teachers with regard to the cultural, social and economic challenges of the school environment. Vinjevold, Schindler and May (1997:144) suggest that teachers should be prepared for the breadth of responsibilities expected in rural schools. Future teachers should be prepared to work with broader age ranges and to provide a strong background in teaching reading. It will also be necessary to offer method courses and practicums in teaching art, music, health, physical education and dramatics. Training institutions should train teachers in utilising rural community resources for classroom enrichment. They also have to be equipped to develop diagnostic and planning skills to identify and meet the needs of learners and prepare them for school record maintenance.

A multi-grade class according to Vinjevold, Schindler and May (1997:144) requires teachers to consider the learning cohort as individuals, each with his or her own continuum of learning.

Teachers should construct learning activities to meet the needs of individuals rather than the class average. International literature repeatedly identifies self-directed learning and to a lesser extent peer tutoring, as the most effective of the multi-grade teacher's practices. Berry (2001:9) found that multi-grade teachers were more likely to engage in groupwork than mono-grade teachers were. Because of this, multi-grade learners are more likely to have opportunities to interact together in mixed ability groups. This leads to a more cooperative classroom and advantages for low achievers in particular. In mono-grade classes, on the other hand, teacher directed lessons with high levels of competition are much less advantageous to under-performing learners.

Studies of instruction in multi-grade classrooms across rural America, done by Miller (1991:6), reveal that teachers use various methods to juggle the wide levels of learner needs. These studies revealed a few variables that are concerned with various aspects of independent or self-directed learning or peer tuition. Classroom organisation that facilitates learner learning and encourages independence and interdependence skills is the key to this approach. Classroom management and discipline should emphasise learner responsibility for their own learning. Good instructional organisation and the curriculum should allow for a maximum of co-operative and self-directed learner learning and instructional delivery that improves the quality of instruction, self-directed learning strategies and peer tutoring.

Little (2005:10) reports from a study done on multi-grade teachers in London that they experienced a couple of perceived challenges. One of them was the age-graded structure of the National Curriculum and the associated expectations of curriculum coverage and assessment/achievement targets. Another challenge was the range of ability of learners in those multi-grade classes where the assignment of learners was on criteria other than ability homogeneity. Another perceived challenge was the pressure to prepare one group of learners within the multi-grade class for critical public assessments.

It is evident that for learners to learn effectively in multi-grade environments, teachers need to be well trained, well resourced and hold positive attitudes to multi-grade teaching in the rural context (Joubert, 2006:3). The government should support teachers to effectively manage and organise the multi-grade classrooms, develop relevant learning programmes and resources and use, develop and apply learning programmes optimally.

2.3.2.2 Challenges which face access to resources contributing to quality teaching and learning in multi-grade rural schools

According to the report of the Ministerial Committee on Rural Education (2005:5), it is obvious that without access and adequate resources one cannot address quality of learning. An alternative approach is suggested which will focus on the capacities, skills and ways in which existing potential can be directed towards available opportunities. Many rural schools are small schools and the absence of higher levels of schooling prevents many learners' progression opportunities. To do so, they require adequate material and physical inputs of which programmed learning materials and textbooks are of overwhelming importance. Thomas and Shaw (1992) cited in Little (1994:84) add that support structures need to develop local and regional support networks among teachers. Pilot programmes and teachers need support at national level, including financial support and active involvement of a few key multi-grade advocates. Thomas and Shaw (1992) cited in Vinjevd, Schindler and May (1997:142) conclude that multi-grade teaching can only be successful if the teacher implements it properly. Therefore, it is difficult to implement an effective multi-grade programme without trained teachers and sufficient material inputs.

Little (2005:15) confirms the above findings and states that most researchers and practitioners agree that successful strategies for multi-grade teaching depend on adequate supplies of learning materials to support individual and group-based learning. This enables teachers to spend time with some groups of learners while other learners work alone, in pairs or in small groups. The Escuela Nueva programme which developed study guides for individual learners for each of the core curriculum subjects, is the best known example of this principle. The mere existence of materials does not guarantee quality of learning. Teachers have to use self-study materials, which are of the highest quality and relevance as part of an integrated teaching strategy in which teachers continue to play a vital part. The availability of self-study materials is not a substitute for teaching.

Vinjevd, Schindler and May (1997:152) stress the importance of self-directed learning as a central feature of effective multi-grade teaching. Limited access to teaching materials and equipment may affect the motivation and activity levels of the learners negatively and consequently their learning progress. Careful scheduling and preparation of lessons and materials is required to keep learners meaningfully occupied. To be productive on their own, learners must have access to self-teaching materials. The materials should be user friendly and allow learners to conduct research or proceed through self-correcting exercises with minimal guidance from a teacher. The library plays a pivotal role in enrichment and should contain remedial material.

Powerful tools like teacher aides or paraprofessionals along with peer tutoring can extend the influence of the teacher in the classroom. The layout of the classroom should be conducive to teaching several groups. The teacher must provide sufficient space to allow separation of groups. Mobile furniture and blackboards on opposite walls permit flexibility. Learning corners facilitate multi-grade teaching by providing semi-private working spaces for groups of learners. Lakin and Gasperinini (2003:89) are of the opinion that if some influential factors are addressed, quality learning and teaching can occur in multi-grade settings. Support structures should supervise and support multi-grade teachers in a meaningful way, which will make a difference to their difficult working conditions in often overcrowded and ill-equipped classrooms for which they are responsible. Education departments should support teachers in the availability of adequate and culturally relevant textbooks as well as suitable writing materials and teaching aids. The curriculum programme should consider factors like the physical environment of the school and the climatic suitability of the buildings. The frequent tardiness or absence of teachers and disappearing teachers, who are often victims of HIV/AIDS are factors that should be monitored and followed up regularly.

Studies done by UNESCO/APEID (*The Asia Pacific Program of Educational Innovation for Development*) (1989) cited in Little (2004:12) and Birch and Lally (1995:34) refer to several challenges faced by teachers, most of which are related to the remoteness of the contexts in which multi-grade schools are located. The filling of vacancies in multi-grade schools in rural areas should be a priority. In order to retain the multi-grade teacher in the rural school the government has to consider providing promotion incentives and opportunities for in-service training. Financial incentives for teachers to teach in remote multi-grade schools, provision of housing, employment for spouses and education for his/her own children should encourage the multi-grade teacher. Mulkeen (2006:23) stresses the fact that rural teachers are less likely to receive in-service training, or have the support of inspectors, or an education support service. Therefore, attentive education officers who are taking the needs of multi-grade teachers and schools seriously should address, as a matter of urgent importance, the low confidence of teachers because of lack of training and unfamiliarity with desired methods and the absence of teacher accountability in these schools. The lower expectations of parents and teachers of what rural learners can achieve should also receive urgent attention by departmental officials as well as the community members.

Although the curriculum is at the heart of the schooling enterprise it tends, according to the report of the Ministerial Committee on Rural Education (2005:6), to be overshadowed by issues around the more visible and immediate lack of essential facilities and material provision. The issues that count are the ability of teachers to stimulate learning and the achievements of learners in cognitive and developmental terms.

It is therefore of significant importance that not only the rural context, the provision of quality material, the facilities and suitable training of teachers are addressed, but that the enormous weight the expectation of the outcomes based curriculum places on teachers in multi-grade settings, is also covered. The number of learning areas and the number of age groups or grades, which have to be considered is one of the causes of this burden. An adapted curriculum, which focuses on the improvement of literacy and numeracy and provision of textbooks and pre-prepared workbooks, should address the burden of planning in this diverse and complex rural environment.

A project done in Sri Lanka and Nepal by Little et al (2006:17) called the LATIMS (learning and teaching in multi-grade settings) project, has succeeded in developing curriculum materials and teacher education materials relevant to the multi-graded setting. It has succeeded in undertaking an adaptation of the complete curriculum in two subject areas for Grades 2-5 in Nepal and for one for Grades 3-5 in Sri Lanka. Both these exercises were conducted in collaboration between curriculum development experts and teachers working together over a period of time. Initially officials experienced a degree of resistance to the idea of curriculum adaptation from curriculum developers. For them the norm was a curriculum process, which oriented towards the mono-graded class. It is reported that "thinking outside of the box" and reconceptualising a new approach to suit the reality of the multi-graded class and the needs of the multi-grade teacher required creative thought and courage. The development of teacher education materials alongside the curriculum development exercise has had the advantage of bringing the most recent and innovative curriculum developments to the attention of all teachers and not only those who participated directly in the curriculum adaptation workshops, trials and follow-up exercises.

The Report of the Ministerial Committee on Rural Education (2005:12) found wide support for the view that allows for state provision to resource and organise rural schooling differently from urban schools as a necessary measure to meet the needs of rural learners. It has come to one conclusion, and that is that rural education and farm schools in particular are special cases warranting special policy attention. One teacher union recommended that the government treats rural schools as a separate category of special schools and that they (and other schools in poor areas) receive more funding (over and above their "quintile" based allocation).

The Report of the Ministerial Committee on Rural Education (2005:13) came to the conclusion that equal input in the form of material provision does not on its own meet the need for redress. Outputs and learning outcomes are essential elements of quality assurance.

Even though rural schooling is seriously under-resourced, strategies should avoid depicting rurality in purely deficit terms. Rural communities have their own unique assets on which they can build quality schooling and development, but they are often characterised by a feeling of powerlessness. It is therefore important that support structures aim their strategic initiatives at developing a community sense of agency and entrust responsibility and resources, supported by suitable forms of training to rural communities.

2.3.3 The role of external support in capacitating the role players in the multi-grade context

Vinjevold, Schindler and May (1997:145) report that a study by Veenman and Raemaekers was the only detailed study found in the international literature relating to the long-term effects of a staff development programme for teachers in multi-grade classes. Although, according to Taylor (1995:195-196), trainers invest a considerable amount of time, energy and money in staff development or in-service training, little is known of the effects of the training. Taylor (1995:206) concludes that most educational changes take much longer than many other development interventions and consequently it takes longer to see the impact.

2.3.3.1 Readiness

When support structures render external support to multi-grade schools in rural areas they have to take in account the readiness of the target school or teacher to implement the suggested changes. Benveniste and McEwan (2000:34) state that the central problem of implementing an educational innovation on a large scale, as multi-grade school programmes attempt to do, is changing the "core of the practice". Elmore (1996:30) defines the "core" as how teachers understand the nature of knowledge and the learner's role in learning. It is about how teachers manifest these ideas about knowledge and learning in their teaching and class work. It includes structural arrangements of schools, such as the physical layout of classrooms, learner-grouping practices, teacher responsibilities for groups of learners, relations amongst teachers in their work with learners, as well as processes for assessing learner learning and communicating it to learners, parents, administrators and other interested parties.

Lockheed (1993:31) states that teachers often centre the core of their educational practice, in the rural areas of developing countries, on a rigid format. In this format teacher's lecture, learners passively copy from the blackboard, participation is not encouraged and rote memorization is the norm. Fuller and Clarke (1994:144) add that teacher/learner relations are often hierarchical and there is minimal discussion amongst learners. Benveniste and

McEwan (2000:35) explain that this is most likely due to local cultural norms guiding teacher behaviour, as well as the fact that teachers receive limited training and practical experience in the implementation of active pedagogy.

Taking into consideration the challenges, which confront multi-grade rural teaching, ways have to be found to expand and improve the provision of quality education in rural areas. According to Benveniste and McEwan (2000:39) teachers should not neglect the importance of capacitating through policy measures and educational innovations, as well as the will to implement. Multi-grade strategies have to identify important internationally learned lessons and guidelines to help policy-makers, planners, administrators and their various domestic and international partners. These lessons will be instrumental in making basic education more effective, promoting rural development and reducing poverty.

2.3.3.2 Key focus areas for training programmes for rural multi-grade teaching

Berry (2001:4) mentions five key areas, which are generally the focus of training packages for multi-grade teachers. These encompass the following features:

(a) Classroom management techniques

The teacher in the multi-grade classroom must be skilled in managing instruction to reduce the amount of 'dead time' during which learners are not productively engaged in tasks. This means that teachers must be aware of different ways of grouping learners, the importance of independent study areas where learners can go when they have finished their work and approaches to record keeping which are more flexible than those prevalent in the monograde classroom. Teachers may need to teach learners the value of independence and cooperation by involving them in classroom decision making.

(b) Instructional strategies

Instructional strategies are a key in improving the quality of teaching and learning in the multi-grade classroom and suggest the promotion of approaches that increase the level of learner independence and cooperative group work. These involve a change in the role of the teacher from 'giver of information' to 'facilitator', which ensures that time spent away from the teacher is time spent productively.

Three important strategies mentioned are: peer instruction, where learners act as teachers for each other, cooperative group work that involves small groups engaging in collaborative tasks and individualized learning programmes, which involve the learner in self-study.

(c) Planning from curriculum

The production of the National curriculum is typically for the monograde classroom, which is difficult for the multi-grade teacher to use because it tends to require individual planning for each grade level. This is not only time consuming, but may also result in ineffective instruction. The National Department of Education typically places each set of grade level material in a separate booklet, which may include specific content as well as guidelines on how to teach it. Support structures need to teach the teachers how to plan across grade level objectives, or how to amend the curriculum to make it more suitable for their setting. Similar observations may also apply to the school timetable.

(d) Instructional materials

The National Department of Education tends to write instructional material for the monograde classroom and consequently, they produce it as grade level textbooks and design them for the teacher to deliver them to the learners. Materials that are more suitable include a self-study element. This might be in the form of workbooks with a self correction key, or a small classroom library accessed independently by the learners. Support structures need to show teachers how to produce such self-study materials in a cost effective way. Materials relevant for one country situation may not be appropriate in another.

(e) School and community

Multi-grade schools are often located in remote and difficult to reach areas. They may be far from the educational centre and receive little pedagogical support. The communities in which they are located may not see the value of education and may speak a different language to the 'official' one of the school. For these reasons, it is essential that the community is involved in the life of the school. Parents for instance can act as a resource, the curriculum of the school might extend out into the community or the community can support the school in other ways. Support structures should train multi-grade teachers in approaches that help to develop relations between the school and the community.

2.3.3.3 Approaches in considering in in-service support for rural multi-grade teachers

The lack of faith in multi-grade pedagogy, professional and social isolation and difficulties of teaching in a multi-grade classroom and 'ownership' of multi-grade teaching are some of the factors which Benveniste and McEwan (2000:41) refer to as the "will" of teachers to implement what they have learned. Each of these factors has implications for the development of multi-grade teaching programmes in developing countries. A survey conducted by Surwill (1980:8) as part of the continuous review of Eastern Montana College's teacher programme, supports the argument that teachers teaching multi-grade classes need specialised training. Vinjevold, Schindler and May (1997:143) agree with this finding. Miller (1992), in "A Review of the Qualitative Research on Multigrade Instruction" refers to related research studies done in selected multi-grade classrooms in Canada, Finland, India, Korea, Maldives, Nepal, Thailand, Philippines, Sri Lanka, Indonesia and the United States. These studies concluded that one of the main issues emphasised is that governments should train teachers to teach multi-grade classes. Dove (1985:23) also supports specialized teacher training but in conjunction with recruitment from local villages and greater community involvement, and sees it as one of the most effective solutions for preparing teachers sufficiently for the multi-grade rural environment.

Throsby and Gannicott (1990), cited in Pennycuick (1998:18), mention variables, which encapsulate the thinking on quality education. They conclude that trained teachers make a difference, that provision of instructional materials is one of the most cost-effective ways of raising the quality of education, that education is most effective if initial instruction uses the mother tongue, that examinations are a useful way of monitoring the calibre of the teaching and that healthy well-fed learners learn better. It concludes further that the amount of learning time affects educational outcomes, that class size is not relevant, that lavish buildings and equipment will not raise quality, that curriculum reform will not raise educational quality and quality depends on good decentralised education management.

Monk (1997:14) mentions that the material and social features of a teacher's environment exert selection pressures as to which varieties of action will continue to be sustainable in the classroom. They have different biographies and therefore have different in-service needs, which support structures should consider for In-Service Education and Training (INSET) purposes. Little et al (2006:1) conclude that national level curriculum adaptation and teacher education are required if teachers in multi-grade classes are to be empowered in their work in classrooms. Lazarus (2005:61) states that less experienced teachers have more energy and enthusiasm so they are better able to provide instruction that improves learner performance. The possibility that, more experienced teachers have not kept their skills up to date, so that they do not know the most current techniques for increasing learners' achievement, must also be kept in mind.

Rural school districts may need to provide experienced and less experienced teachers with additional professional development opportunities that will help them keep up with emerging knowledge about teaching and learner learning. Some of these professional development opportunities may take the form of distance education programmes that offer professional development and/or teacher credentialing while enhancing programme accessibility for both prospective and practicing teachers in isolated rural areas. Support structures could provide innovative distance education in a variety of ways, including the use of Internet and web-based materials, interactive television, computer conferencing and multi-media modules.

The inputs from advisory staff can be utilised as a supportive vehicle for reflecting practices amongst colleagues at school level. They can utilise local support groups as a necessary complementary strategy. Support structures can achieve changes to pedagogic content knowledge with deliberate interventions as well as through teachers' own variations in practice, and create school cultures that support teacher development in an environment where it is safe to risk making mistakes. Without support, teachers will retreat to safe, familiar mono-grade teaching methods.

Teacher development is an open process, which has many loose ends. Monk (1997:29) believes this is evident in the post-modern position where we cannot plan the future (modernism), the future evolves out of the present.

Table 2.4 shows selected findings, from teaching effectiveness research done by Veenman and Raemaekers (1995:2) in the late 1980s in schools in Holland with multi-grade or mixed-age classes.

Table 2.4: Short and long term effects of staff development programmes with the intention of improving teaching effectiveness demonstrated in Veenman and Raemaekers study done in Holland in the late 1980's (Veenman and Remaekers, 1995:20-24)

Short term effects	Long term effects – After two and five years
Trained teachers	
<ul style="list-style-type: none"> • Gains in instructional skills were found • The way in which teachers organise instruction improved • The way teachers adapted instruction to the learners needs improved • Classroom management skills (use of material/space and dealing with disturbances) improved • Time-on-task levels for the learners improved 	<ul style="list-style-type: none"> • Target teaching behaviours were demonstrated • Target skills appear to have been transferred and sustained over time • No difference found in implementation rates between teachers trained two years ago and those trained five years ago • Learners with trained teachers spent significantly less time waiting for the teacher and were more engaged in their work than learners in the control group • The higher task levels did not result in higher learner achievement • No significant achievement differences were found for the classes with trained versus untrained teachers

It describes the short- and long-term effects of a staff development programme. Cohn and Rossmiller (1987:23) stress the importance of a programme for staff development, which is characteristic of effective schools. The process used in planning and implementing such programmes is also important. Evidence from both developed countries and less developed countries suggests that how and the amount of time used for both in school and out-of-school learning may be extremely important. Monk (1997:23) mentions that activities that will change a teacher's pedagogical content knowledge are best carried out with demonstration and coaching. To help teachers to cope with multi-grade teaching, officials should provide psychological support, as well as technical assistance by means of ongoing reflection, mentoring and coaching. A teacher's content knowledge, skills, Meta knowledge about the nature of their subject and general affect has to be distinguished from their pedagogical content knowledge. In-service training aims at changing teachers' actions, rather than their knowledge, values or effectiveness and do require teachers to practice those actions. Research done by Lubben, Campbell and Dlamini (1995:8) proves that, in the event of implementing a new approach, it is more successful when the focus is on the improvement of the learner's learning rather than on the teacher's teaching. It is also felt that the effectiveness of a school depends not just on the results of learners, but according to Wilcox (1990:39), on what improvements in performance those learners achieve while at school. Veenman and Raemaekers (1995:23-24) further suggest that to improve learner learning, teachers may need to be stimulated to identify the desired learner behaviours and then the teacher's behaviour needs to evoke such learner behaviours. In such a way, the time-on-task levels of the learners relate more directly to their achievements.

Benveniste and McEwan (2000:43) mention two potentially important approaches, which support structures should follow as a means for in-service support of rural multi-grade teachers. **The first one** is school clustering through which schools are encouraged to collaborate on a range of educational issues. This might be as simple as sharing resources, but can also extend to sharing good teaching practice and management techniques. School clustering is an effective way of building capacity in remote schools and reducing the feeling of teachers that they are isolated from innovation. Hopkins and Ellis (1991:120) comment that, "There are...many means by which small schools can enhance their curricula and alleviate the difficulties of only having a few teachers. For example, such innovations as cooperative ventures between schools, staff exchanges, advisory and resource assistance and the formation of school federations and clusters have not only helped many small schools to maintain a broad curriculum, but they have also greatly extended their teachers' and learners' experiences. "

According to Benveniste and McEwan (2000:43) clusters require support from central or regional government if they are to operate effectively, since there is a need for someone to take a leadership role in the cluster, at least in the early stages. Later on, it may be possible to leave the clusters to manage themselves. There may however be difficulties associated with the development of school clusters. The financial commitment can be quite high initially and ministries may lack the regional capacity to give school clusters the kind of support they need in their early stages. One way in which support structures can meet regional needs is through the decentralization of the education system. The forming of clusters can be the answer for distances and isolation. Support structures can link teachers in person, as well as through electronic means with other teachers and groups.

The second approach for in-service support of rural multi-grade teachers is through the means of decentralization. Thomas and Shaw (1992), cited in Berry (2001:10), make the following comments as regards decentralization of the educational administration: "A decentralized education system lends itself to building effective multi-grade schools. Such a system encourages teachers and local education officials to participate in managing schools, developing learning materials and in making decisions regarding curriculum and pedagogical methods. In short, it fosters independent learning and development of decision-making skills in teachers and local administrators." Highly centralized systems tend to marginalise schools on the periphery and this second approach may be beneficial to strengthen the regional and district presence of the education administration. The education department should give districts more control over decision making. This gives them more freedom to tailor programmes to meet the needs of their communities.

2.3.3.4 Co-operation and partnerships at national levels

(a) Pre-service and in-service training

Fairhurst, Gibbs, Jain, Khatete, Knamillar, Welford, Weigard (1999:260) state that support structures based teacher in-service training on the view that a teacher should become autonomous, reflective, flexible, professional and capable of identifying and solving problems. They should be able to create teaching and learning materials and contextualise instruction and learning within the locality of the learners and community, they serve. This is, according to Fairhurst, Gibbs, Jain, Khatete, Knamillar, Welford, Weigard (1999:260), a wonderful but unrealistic goal given the huge number of learners, the poor facilities and resources, together with the numbers of undereducated and under trained teachers and the sheer size of the education business which is run by personnel with little corporate experience and training.

In most countries teacher education for multi-grade teaching, according to Little et al (2006:1), either does not exist at all or the countries offer it as part of in-service training. Pre-service and in-service training for teachers on the needs of the multi-grade class is, according to Little (2005:16), vital. Little (2003:13) reports that only a few examples of pre-service teacher training courses, which address multi-grade teaching, exist. Countries in which there has been a strong pedagogical emphasis on individual learner differences address the needs of multi-grade classrooms indirectly. The principle of differentiated teaching and learning features in many pre-service training curricula in English, Northern Irish, Scottish and Welsh teacher education courses. This pedagogic principle helps teachers to meet the challenges of multi-grade teaching.

(i) Examples pre-service support

Lungwangwa (1989:13-14) reports that the attempt made at the Malcolm Moffat Teacher Training College in Zambia to introduce multi-grade teaching within the pre-service and in-service teacher education course, focussed on three curriculum strategies that should be addressed, namely a common timetable, a subject stagger and a subject grouping strategy. In Sri Lanka, from 2003, the University of Colombo trained Bed students in the theory and practice of multi-grade teaching and undertook surveys of the needs of multi-grade schools and classes and carried out action research in multi-grade classes.

Little (2003:13) recalls several examples of in-service training courses across the world that address the needs of multi-grade teachers and mentions that the Commonwealth Secretariat has developed a set of training modules for both self-study and face-to-face training. The District Primary Education Programmes in various states of India have, in recent years, organised in-service training for multigrade teachers. So, too, many NGOs working in rural areas in India train primary school teachers to work with combinations of grades e.g. CARE (*Cooperative for American Remittance to Europe*). In Sri Lanka, various booklets have been produced by teacher educators for in-service training, most being produced by the National Institute of Education (NIE). Handbooks have also been written for trainers in Bihar, India.

(ii) Examples of in-service support

According to McKinnen (2008:7), the Commonwealth Secretariat developed a set of training modules for the use of both self-study and face-to-face training for Africa and the Pacific. Daniel (1988:146 -154), when reporting on the Canadian experience of teaching the French language in multi-grade elementary schools, recommends a strategy that links to one of Lungwangwa's strategies, which he describes as 'common activities and reduction of grade-related sequential work'.

In this strategy, the teacher selects activities in which learners from both grades can engage together. However, such an approach requires curriculum re-organisation, with an emphasis on the learning outcomes expected of each grade level. Little (2003:14) reports that the Department for Education and Skills in England presented topics and year grade learning objectives, which facilitates the work of multi-grade teachers and reduces the amount of independent curriculum planning they will need to undertake. This enables them to cope with the expectations of the National Numeracy Strategy for primary schools prescribing the curriculum in terms of topics and learning objectives by year grade. According to Little et al (2006:2) there has been less of a tradition of generic training for teachers in multi-grade teaching in Sri Lanka. Special projects have mounted in-service training during the life of these projects and distance education programmes have included modules on multi-grade teaching. In India, the District Primary Education Programmes organised in-service training for multi-grade teachers. NGOs working in rural areas in India trained teachers to work with combinations of grades in primary schools (e.g. CARE, India). Shabnam and Sinha also wrote handbooks for trainers in Bihar, India in 1989 (Blum and Diwan 2007:18).

In Greece, Finland and Spain who, according to Little (2003:14), have many multi-grade schools, teachers and academics are working together to generate teacher support materials that can be accessed, used and shared through information and communications technology ([www. ellinogermaniki. gr/ muse](http://www.ellinogermaniki.gr/muse)). Colby and Witt (2002:12) refer to Colombia where the Escuela Nueva Programme has used an integrated approach to improve teaching and learning in multi-grade schools. Central to this approach was the development of learning guides enabling learners to progress at their own speed. It also provided in-service training and demonstration schools which supported teachers in their professional development.

Lastly, Little (2003:14) refers to a curriculum development exercise in Vietnam, undertaken by the National Institute of Education Sciences in collaboration with teachers which generated a re-sequenced primary curriculum for health, for use in either multi- or mono-graded schools ([www. ioe. ac. uk/multi-grade](http://www.ioe.ac.uk/multi-grade)).

(b) Community ownership of basic education

The Nelson Mandela Foundation (2005:8) states that the full participation of communities cannot be over emphasised. Mr Nelson Mandela, as quoted by the Nelson Mandela Foundation (2005:8), observed that the efforts to improve the quality of rural education often overlook the "... immense untapped potential of rural communities to take the lead in shaping a better future for themselves."

Taylor and Mulhall (1997:39) stress the importance of taking into consideration the influence which three distinct environments namely, the home, the school and the community have on the learning of a learner. They describe contextualization of learning as, "...when the content of the curriculum and the methods and materials associated with it are related directly to the experience and environment of the learner" (Taylor and Mulhall, 1997:52). The Nelson Mandela Foundation (2005:9) adds that for rural schools to become responsive to the realities of community life, schools and communities must know each other better. This will mean that sustainable change in rural schools may depend upon a methodology that builds on and trusts rural communities to come to a better understanding of the challenges they face and mobilise them into action for change. Acchoarena and Sedel (2003:159) add that this will mean that local communities already need to be involved in the planning process as a first step in ensuring community ownership of the basic education programmes. This will help to ensure that these programmes are relevant, sustainable and effective in terms of learning achievement and of contributing to other rural development objectives. This collaboration should be open and inclusive so that all interest groups can express their views. The approach should remove or at least identify any potential concern.

Taylor (2003:186) states that agriculture can play a powerful role in the wider learning process in rural schools. Lieberman and Hoody (1998:2) see the practice of garden-based learning as a unique and effective strategy in basic education to introduce an experiential component in support of the traditional curriculum. Desmond, Grieshop and Subramaniam (2003:213) also referred to the philosophies of Comenius (1592 -1670), Rousseau (1712 – 1771), Pestalozzi (1746 -1827), Froebel (1782 -1852), Dewey (1859 – 1952), Montessori (1870 -1952) and Gardner (1943 – present) who all relate in some way to garden-based learning.

A reasonable balance between government support and supervision on one hand, and community ownership on the other, is necessary. Moulton (2001:18) indicates that local ownership can enhance school clustering with the focus on encouraging peer exchange of experience and information and some sharing of resources.

(c) The role of Government at the national level

Easton et al, (1998:12) found, after a study done in five West Africa countries, that rural development services rarely grasped the pedagogical dimension of their mission, which is to support the teachers who do not understand or have a poor understanding of the socio-economic issues at stake, in the regions in which they work. Further they did not seek ways to adapt their programmes to equip learners to take charge of new responsibilities.

Vinjevold, Schindler and May (1997:148) refer to the importance of national policy in delivering effective multi-grade teaching. According to Lakin and Gaspirini (2003:163) the government should take the lead at national level and co-ordinate the efforts of its departments and other stakeholders. The government has to initiate action and ensure that important principles like equity and policy goals for poverty alleviation receive the attention needed. Gallagher (1998:14) states that the positive case for small schools does not simply rely on the strong learning environments they often provide, but also on the potential for joined-up government which seeks to address issues related to the preservation of rural life where schools can play such a vital part.

According to Gallagher (1998:14), in many instances local services take each decision in the absence of any consideration of their overall effect. This is nowhere more noticeable than in the case of schools. School buildings represent a potential community resource and are something of an absurdity closed for most of the time. Nowhere is this truer than in rural areas where schools should provide a central anchor around which the community revolves. The relevant roleplayers will have to alter the regulations, which restrict such wider community usage. This will require cooperative work between educational, community and other interests.

Undoubtedly, some small schools will close in the future, but the criteria on which governments make such decisions should be explicit and the role of the community in the process should be clear. Most important of all, according to Gallagher (1998:15), there should be recognition at the centre of government that small schools have served the rural communities well and very many continue to do so. For this reason, the policy imperative should assume their retention rather than their abolition. For once gone their restoration will be unlikely.

Moulton (2001:30) mentions some recommendations with regard to how rural development specialists can help teachers improve rural schools:

- They can help teachers to analyse the rural space so that rural education projects consider the particular rural environment in project design and implementation.
- They can collaborate in the preparation of planning documents by using the community driven development process to consider improvements in primary schooling.
- They can make people and resources available for teaching learners about their rural environment, practical skills and knowledge, which complement the academic curriculum.
- They can collaborate on straightforward, well-defined interventions, such as mounting solarpower panels on schools or providing well water to schools.
- They can encourage communities to use the school as centre for education and social activities beyond primary school.
- They can collaborate to train extension agents and primary school teachers to listen and respond to expressions of needs and problems outside of their own professional setting.

- Rural development and education specialists might pilot activities that foster local political support for a wide array of development activities, including school improvements.

The Department of Education in England sees Information Communication Technology (ICT), according to Gallagher (1998:15), as a key curriculum resource for small rural schools. ICT also has a potential community role as it negates many of the consequences of isolation and distance. It should further enhance employment possibilities in rural areas in addition to its undoubted educational benefits. Thomas and Shaw (1992), cited in Vinjevold, Schindler and May (1997:148), argue that there should be two stages in implementing multi-grade programmes, namely a pilot phase and an expansion phase. In the expansion phase, national policy decisions are necessary. These decisions should address the creation of a decentralised administrative system, provision of teacher training in multi-grade techniques, recruitment and support of multi-grade teachers, curriculum adaptation and development and allocation of resources to multi-grade schools.

(d) The role of Non-Governmental organisations

The training of NGO personnel, the monitoring and evaluation of NGO programmes and the planning for replication and scaling up or the sustainability of NGO programmes require, according to Lakin and Gaspirini (2003:164), special attention and support. In order to utilise this potential facility the government can outsource informal basic education activities under some contractual arrangement or associate NGO representatives in the planning and management of a countries non formal education programmes.

(e) Private sector involvement

Lakin and Gaspirini (2003:165) state that private enterprises can collaborate with government in supporting rural schools. UNESCO (2000), cited in Lakin and Gaspirini (2003:165), reports that Colombia's Escuela Nueva is an example of a rural partnership between education authorities at national, regional and local levels, the Federation of Coffee Producers, local development and social organisations.

In some cases, according to Lakin and Gaspirini (2003:166), some small rural enterprises do provide facilities or material support for literacy and informal vocational training programmes. They also report that a few enlightened employers realise that literacy and numeracy skills can improve the performance, health and safety of their workers and are willing to support or even organise literacy programmes for them.

(f) The role of higher education institutions

As higher education, according to Lakin and Gaspirini (2003:166), receives much greater per capita funding from the public purse than primary or secondary education, and generally does not serve the poorer population groups, it should be in a position to focus intellectual resources on improving the education system, including basic education in rural areas.

A few examples of higher education involvement in addressing the challenges of multi-grade teaching identified in the literature are:

- (i) School of Lifelong Education and International Development (LEID), Institute of Education, University of London (IOE);**
<http://ioewebserver.ioe.ac.uk/ioe/cms/get.asp?cid=4458>
- (ii) The Multi-grade School Education (MUSE) Project;**
<http://www.ea.gr/ep/muse/>
- (iii) Tentative plan for a partnership programme for Teacher Training in the South Sahara and in Norway;**
[http://www2.siu.no/vev.nsf/029fd74955b3675ec1256db30029ddd6/246b40de5b2318ffc1256f03003e6470/\\$FILE/tentative_plan_partnership_program.pdf](http://www2.siu.no/vev.nsf/029fd74955b3675ec1256db30029ddd6/246b40de5b2318ffc1256f03003e6470/$FILE/tentative_plan_partnership_program.pdf)
- (iv) Commonwealth Secretariat 15th Conference of Commonwealth Education Ministers in Edinburgh, Scotland on 27-30 October 2003;**
http://www.thecommonwealth.org/document/34293/35144/153733/153735/report_of_the_15th_conference_of_commonwealth_educ.htm
- (v) International Institute for Capacity-Building in Africa (IICBA), Addis Ababa, Ethiopia;**
<http://portal.unesco.org/education/en/ev.php>
URL_ID=30251&URL_DO=DO_TOPIC&URL_SECTION=201.html
- (vi) Capacity building for lead-teacher training institutions in Tanzania: A report submitted to UNESCO headquarters by Buyela Wepukhulu consultant December 2002;**
<http://unesdoc.unesco.org/images/0014/001406/140665M.pdf>

- (vii) **The National Policy Framework For Teacher Education and Development In South Africa” More teachers; Better teachers” Pretoria 2006;**
<http://www.info.gov.za/view/downloadFileAction?id=70084>

- (viii) **Advanced Certificate in Education of the Cape Peninsula University of Technology (ACE);**
<http://info.cput.ac.za/prospectus/qual.php?f=3&q=163>

- (ix) **Schools Development Unit linked to the university of Cape Town and**
<http://www.sdu.uct.ac.za/research.htm>

- (x) **NRF education project of the University of Kwazulu Natal.**
<http://cvm.za.org/?q=node/30>

2.3.4 Implications of the literature for the implementation of a multi-grade rural school model

It should be clear that curricula, learning materials, teacher education and assessment are necessary components of an integrated strategy for learning and teaching in multi-grade settings. Implementation of a single strategy is unlikely to lead to significant improvements in the need for national policies for curricula, materials, teacher education and assessment that recognise, legitimize and support learners and teachers in multi-grade settings.

Multi-grade teaching according to Juvane (2005:11) is not just a mere pedagogy but goes beyond that to be a methodology for reflective, critical and good teaching. Kaluba (1997) cited in Juvane (2005:11) states that to develop quality education calls not only for increasing levels of budgetary allocation to the sector, but also ensuring that such measures are accompanied by policies and strategies that will create a sustainable and enabling teaching and learning environment. Juvane (2005:12) sees investments in multi-grade teaching as a contribution to the goal of quality basic education for all.

Benveniste and McEwan (2000:35) describe “a revolution at the core” when teachers shift from their traditional role as direct lecturers to that of facilitators who guide learners’ independent efforts to acquire and construct knowledge. Elmore (1996:30) sees the central problem of implementing educational innovation on a large scale, as multigrade school programmes attempt to do, changing the ‘core of educational practice’. Elmore (1996:30) defines the ‘core’ as, *‘how teachers understand the nature of knowledge and the student’s role in learning and how these ideas about knowledge and learning are manifested in teaching and classwork.*

The “core” also includes structural arrangements of schools, such as the physical layout of classrooms, student grouping practices, teachers’ responsibilities for groups of students and relations among teachers in their work with students as well as processes for assessing student learning and communicating it to students, parents, administrators and other interested parties’.

Teachers would then shift from their traditional role as direct lecturers to that of facilitators who guide learners’ independent efforts to acquire and construct knowledge. Learners would assume new responsibilities for their education and that of their classmates as cooperative learning, self-instructional textbooks and peer tutoring become extensively used. The multi-grade classroom layout would appear radically different, moving away from the common frontal teaching model to a design that facilitated collaborative inquiry. Vincent and Ley (1999: ix), expect that learners in multi-grade classrooms perform academically as well as learners from single classes and that they generally have more favourable attitudes toward their peers and school than learners do from single-grade classrooms. The teacher should mediate the multi-grade learners’ performance by the level of his or her expertise, which requires a high level of skill in classroom management and instructional strategies. Furthermore, the teacher should extend and relate the classroom and the curriculum programme to community activities, involving the community, in the planning and resource development processes.

The successful multi-grade teacher should be well-organised, creative and flexible, willing to work hard, resourceful and self-directed, willing to work closely with the community, believing in the importance of cooperation and personal responsibility in the classroom with the ability to develop these characteristics in learners. The successful multi-grade teacher should further expect to have prior successful experience at the grade levels, which he or she intends teaching.

Trainers should ground the training in how to teach in a multi-grade class in a field-based experience where the novice has the opportunity to observe and teach with an effective model and coupled with ongoing staff development. Prospective multi-grade teachers are more likely to take a course entitled “teaching multiple ability levels in the classroom” than “teaching in the multi-grade classroom.” One would expect that the skills of the effective multi-grade teacher would be worth emulating in the single-grade classroom.

Book and resource developers should develop textbooks cum workbooks with which learners can engage with a degree of independence.

The role of the teacher should not be to teach the content, but to support the learner in their use of texts and other learning material (Fairhurst, Gibbs, Jain, Khatete, Knamillar, Welford, Weigard, 1999:260).

The department of education should apprise administrators of how roles will change and what the expectation would be if a district deems it necessary to combine grades. They should be prepared to render continual support and guidance regarding curriculum alignment. Administrators should be able to support the level of stress which teachers will experience because of the limited time to reflect on their teaching as well as the potential threat of increased pressure from parents. Administrators should understand the importance of communicating with the teacher with regard to what to expect in terms of planning, grade differentiation and materials preparation. The value of recognising teacher efforts and the importance of ongoing support for success must not be underestimated.

Policy makers need to note that there is widespread consensus in the literature from developed and developing countries that multi-grade teaching is complex and demanding, requires high levels of organisation and planning and requires large amounts of learning resources especially self-directed learning material. Therefore, governments have to take multi-grade teaching, especially in rural areas, seriously and increase the levels of budgetary allocation to this sector. They must ensure that policy and strategies are in place that will create and support a sustainable and enabling teaching and learning environment in the poor remote areas of the world as a contribution to the goal of quality basic education for all.

2.4 FINAL CONCLUSION

The aspects of the initial proposal for a multi-grade rural school intervention in the West Coast Winelands EMDC, which saw the light in 2001, forms the backbone of the ultimate multi-grade intervention implemented in the three rural districts of the Western Cape Province. The researcher covers in chapters one, three, four and five extensively comprehensive information with regard to the further development and role of the provincial initiative.

CHAPTER 3

THEORETICAL FRAMEWORK

3.1 INTRODUCTION

It is imperative that this study follows clear and well-structured methods to analyse and to interpret the observations and understandings of participants' behaviour, actions, and experience within the context of the Multi-grade Rural School Intervention. Therefore it is important that careful recording and evaluation of the process of implementation and the experience of all concerned is done. To be able to do this the researcher needs to explore the case study as a research method and identify examples of case studies done on multi-grade interventions across the world. The researcher will then compile a framework for the case study on the Multi-grade Rural School Intervention in the West Coast Winelands EMDC in considering the expected outcomes of the research and the explored case study methods..

3.2 THE CASE STUDY AS A RESEARCH METHOD

3.2.1 Conceptualisation of the Case Study as a Research Method

Urdang (1991:50) describes the concept "Case" as an instance, example, event, occurrence, happening, occasion, circumstance, state or situation. The concept "Study" is described by Urdang (1991:477-478) as look, go into or over, look at, scan, examine, analyse, inspect, investigate, scrutinise, survey, observe, review, inquiry or enquiry, research, reflect on, think over or about, ruminate on, chew over, weigh, deliberate over or about, ponder and mediate on or about or over. Considering the meaning derived from the above interpretations it becomes evident that the concept "Case" as in Case Study refers to what can be studied or researched and the concept "Study" refers to how it can be done.

Tellis (1997b:5) defines the case study research method as an empirical inquiry that investigates a contemporary phenomenon within its real-life context when boundaries between phenomenon and context are not evident and in which multiple **sources of evidence** are used.

Feagin, Orum and Sjoberg (1991) cited in Tellis (1997b:1) describe a case study as a holistic, in-depth investigation.

Tellis (1997b:1) believes that the purpose of case studies is to bring out the details from the viewpoint of the participants by using **multiple sources of data**.

According to Tellis (1997b:1) researchers in the field asserted that case study research is not a sampling research. This implies that selected cases will maximize the learning in the period available for the study. Tellis (1997b:1) describes the unit of analysis as a critical factor in the case study. According to this viewpoint, it is typically a system of action rather than an individual or group of individuals. Tellis (1997b:4) sees each case study as unique.

Tellis (1997b:1) sees a case study as multi-perspective analysis. This, according to Tellis (1997b:1), means that the researcher considers not just the voice and perspective of the role players, but also of the relevant groups of role players and the interaction between them. In this event, the homeless and powerless will also have a voice.

From the above it becomes evident that a case study as a research method is a unique, multi-perspective, empirical, holistic, in-depth inquiry, investigation and analysis (the study). It considers the following strategies: Look, go into or over, look at, scan, examine, analyse, inspect, investigate, scrutinise, survey, observe, review, inquire or enquire, research, reflect on, think over or about, ruminate on, chew over, weigh, deliberate over or about, ponder and mediate on or about or over.

The case study will focus on a contemporary phenomenon, which implies selected cases and the voice and perspective of the role players within a real-life context, and will take into consideration the utilisation of multiple sources of evidence, multiple sources of data and multi-perspective analysis (the case) that considers foci like instance, example, event, occurrence, happening, occasion, circumstance, state and situation.

3.2.2 The rationale for the Case Study as a Research Method

Case study research excels at bringing us to an understanding of a complex issue or object and can extend experience or add strength to existing knowledge through previous research. It also emphasizes detailed contextual analysis of a limited number of events or conditions and their relationships (Palmquist 1997:1).

From the literature, it becomes evident that frequent criticism of case study methodology is that its dependence on a single case renders it incapable of providing methodology. It is, because of the lack of a sufficient number of cases, also described as microscopic.

It is believed that a small number of cases offer no grounds for establishing reliability or generality of findings. Tellis (1997a:3) argues that the goal of the study should be to establish the parameters, and then apply them to all the research. In this way, even a single case can be acceptable, provided it meets the established objective.

The acceptance of an experimental prototype to perceive the singularity of the object of study ensures, according to Tellis (1997a:3), the transformation from the local to the global for explanation. Hamel, Dufour and Fortin (1993) cited in Tellis (1997a:3) characterize such singularity as a concentration of the global in the local. Yin (1989) cited in Tellis (1997a:3) states that general applicability results from the set of methodological qualities of the case, and the rigour with which the case is constructed.

Frequent criticism of case study research, indicates that the results are not, widely applicable in real life. According to Tellis (1997b:2) Yin refutes this criticism presenting a well-constructed explanation as to the difference between analytic generalisation and statistical generalisation. Yin (1994) cited in Tellis (1997b:2) states, "In analytic generalisation, previously developed theory is used as a template against which to compare the empirical results of the case study". According to Tellis (1997b:2), the inappropriate manner of generalising assumes that some samples of cases drawn from a larger universe of cases can be beneficial to the defining of terminology such as "small sample", as though a single-case study was a single respondent.

According to Tellis (1997b:2), Stake (1995) uses the term naturalistic generalisation, which refers to an approach, which focuses on a more intuitive, empirically grounded generalisation. It refers to the harmonious relationship between the reader's experiences and the case study itself and that it will consequently result in the facilitation of a greater understanding of the phenomenon.

Furthermore, literature also reveals that intense exposure to study of the case biases the findings and in some incidents, dismisses case study research as useful only as an exploratory tool.

Literature in Tellis (1997a:2) revealed that in 1935 quantitative methods were valued as more scientific. This resulted in the fact that case study as a research method declined. Later on in the 1960s, researchers were becoming concerned about the limitations of quantitative methods. According to Tellis (1997a:2), Strauss and Glaser (1967) developed the concept of "grounded theory". This, along with some well-regarded studies, accelerated the renewed use of the case study methodology.

According to Tellis (1997a:5), the problem in case studies lies in the establishment of meaning rather than location. From the literature, it is evident that there is an ethical need to confirm the validity of the processes. Stake (1995), in Tellis (1997a:5), states that the protocols used to ensure accuracy and alternative explanations are called triangulation. The need for triangulation arises because of the ethical need to confirm the validity of the processes. Tellis (1997a:5) asserts that triangulation can occur with data, investigators, theories, and even methodologies.

Denzin (1984) in Tellis (1997b:2) identifies the following four types of triangulation:

- **Data source triangulation:**

The researcher looks for data consistent in different contexts.

- **Investigator triangulation:**

Several investigators examine the same phenomenon.

- **Theory triangulation:**

Investigators with different viewpoints interpret the same results.

- **Methodological triangulation:**

One approach follows another to increase confidence in the interpretation.

Although Yin (1994), cited in Tellis (1997a:3), is of the opinion that the body of literature in case study research is "primitive and limited" it is evident from the literature that researchers continue to use the case study research method with success in carefully planned and crafted studies of real life situations, issues and problems. Therefore, Tellis (1997a:3) states that, in some instances, the requirements and inflexibility of experimental and quasi-experimental research make case study the only viable alternative. It is a fact that case studies do not need to have a minimum number of cases, or randomly "selected" cases. The researcher has to work with the situation that presents itself in each case (Tellis, 1997b:3). Alvarez et al. (1990), cited in Tellis (1997a:4), state that case studies should develop critical thinking. According to Tellis (1997a:4) case studies have also been increasingly used in education.

3.2.3 Different designs for the Case Study as a research method

Tellis (1997a:6) refers to two case study designs, namely the single case design and the multiple case design.

According to Yin (1994), cited in Tellis (1997a:6), the single case design may confirm or challenge a theory, or represent a unique or extreme case. Furthermore, it is also ideal for revelatory cases where an observer may have access to a phenomenon that was previously inaccessible. These studies can be holistic or embedded. The latter occurring when the same case study involves more than one unit of analysis.

According to Tellis (1997a:6), a multiple-case design must follow a replication rather than a sampling logic, which comprises a selection out of a population for inclusion in the study. This type of sample collection is improper in a case study. When no other cases are available for replication, the researcher is limited to single case designs. Tellis (1997a:3) states that multiple cases strengthen the results by replicating the pattern matching and as a result increase confidence in the robustness of the theory.

Yin (1994) cited in Tellis (1997a:3) points out that the generalisation of results, from either single or multiple designs, is applicable to theory and not to populations. Yin (1993) and Stake (1995), cited in Tellis (1997b:1), identify specific types of case studies, which can have single case or multiple case applications.

Yin (1993) cited in Tellis (1997b:1) identifies three specific types of case studies:

- **Exploratory case studies:**

Exploratory case studies considered as a prelude to social research, imply that the fieldwork and data collection may be undertaken prior to the definition of the research questions and hypotheses. Stake (1995), cited in Tellis (1997a:4), recommends that the selection of cases offers the opportunity to maximise what can be learned, knowing that time is limited. The selected cases should be easy and willing subjects.

- **Explanatory case studies:**

Explanatory case studies may do causal investigations and are suitable for doing casual studies.

Yin and Moore (1987), cited in Tellis(1997a:4), did a study to examine the reason why some research findings get into practical use. The utilisation outcomes explained by three rival theories are:

- **A knowledge-driven theory:**

A knowledge-driven theory means that ideas and discoveries from basic research eventually become commercial products,

- **A problem-solving theory:**

A problem solving theory means that it follows the same path, but originates not with a researcher, but with an external source identifying a problem.

- **A social-interaction theory:**

A social interaction theory means that researchers and users belong to overlapping professional networks and are in frequent communication.

• **Descriptive case studies:**

Descriptive case studies require the development of a descriptive theory before starting the project or face the possibility that problems will occur during the project. A study done by Pyecha (1988), cited in Tellis (1997a:4), reveals that the formation of the hypotheses of cause and effect relationships was implied. In this study, the researchers compared the data of activities with each other and with idealized theoretic patterns. From this study, it became evident that the descriptive theory must cover the depth and scope of the case under study. The researcher developed the selection of cases and the unit of analysis in the same manner as the other types of case studies.

Stake (1995) cited in Tellis (1997b:1) includes three others:

• **Intrinsic case studies:**

Intrinsic case studies refer to the interest, which the researcher has in the case.

- **Instrumental case studies:**

Instrumental case studies help to understand more than what is obvious to the observer.

- **Collective case studies:**

Collective case studies occur when a group of cases is studied.

According to Yin (1989), cited in Tellis (1997b:3), all research has to consider construct validity, internal validity, external validity, and reliability. Tellis (1997a:5) warns that construct validity is especially problematic in case study research. It has been a source of criticism because of potential investigator subjectivity. Yin (1994), cited in Tellis (1997a:5), proposes three remedies to counteract this, namely using multiple sources of evidence, establishing a chain of evidence, and having a draft case study report reviewed by key informants. Yin (1989), cited in Tellis (1997b:3), mentions four kinds of validity namely:

- **Construct validity:**

From the study of Levy (1988), cited in Tellis (1997b:3), construct validity uses the single case exploratory design. While Yin (1989), cited in Tellis (1997b:3), suggests the using of multiple sources of evidence as the way to ensure construct validity.

- **Internal validity:**

Levy (1988), cited in Tellis (1997b:3), also establishes internal validity using the single-case explanatory design. Tellis (1997b:3) states that the specification of the unit of analysis also provides the internal validity as the theories are developed, and data collection and analysis test those theories.

- **External validity:**

According to Tellis (1997b:3), external validity is more difficult to attain in a single-case study. Yin (1994), cited in Tellis (1997b:3), provided the assertion that theoretical relationships can provide external validity.

- **Reliability:**

Tellis (1997b:3) believes that the development of a formal case study protocol provides the reliability that is required of all research.

3.2.4 Methodology for the Case Study as a Research Method

Zonabend (1992), cited in Tellis (1997a:2), states that case studies give special attention to completeness in observation, reconstruction and analysis of the cases under study. Tellis (1997a:2) adds that a case study incorporates the views of the “actors” in the case under study.

According to Tellis (1997a:3), case studies do not need to have a minimum number of cases, or randomly “selected” cases. The researcher has to work with the situation that presents itself in each case.

Palmquist (1997:1) suggests six steps for a case study methodology, which are the following:

- Determine and define the research questions;
- Select the cases and determine data gathering and analysis techniques;
- Prepare to collect the data;
- Collect data in the field;
- Evaluate and analyze the data;
- Prepare the report.

The six steps for a cases study methodology as described by Palmquist (1997:1) corresponds mostly with the four stages of case study methodology as described by Yin (1994) cited in Tellis 1997a:3).

(Yin (1994), cited in Tellis (1997b:3), recommends that the **first stage** in the case study methodology is the development of **the case study protocol**. Although this stage is not mentioned by Palmquist (1997) it should be considered important as it provides an opportunity according to Yin (1994), cited in Tellis (1997b:4) to plan the report from the start. This stage is composed of two subheadings:

- **Determine the required skills**

Yin (1994), cited in Tellis (1997b:3), suggests that the researcher must possess or require the following skills:

- The ability to ask good questions;
- To interpret the responses;
- To be a good listener;

- To be adaptive and flexible;
 - To have a firm grasp of issues being studied and
 - To be unbiased when considering preconceived notions
- **Develop and review the protocol**

According to Yin (1994), cited in Tellis (1997a:6), the protocol should include the following sections:

- An overview of the case study project is a useful way to communicate with the investigator and will include project objectives, case study issues and presentations about the topic under study;
- Field procedures which include reminders about procedures, credentials for access to data sources, location of those sources;
- Case study questions are those under study not those contained in the survey instrument and which refer to the questions that the investigator must keep in mind during data collection;
- A guide for the case study report which gives the outline and format for the report.

From the literature it became clear that each case study is unique and that according to Tellis (1997b:4) data collection, research questions and the unit of analysis cannot be placed in a fixed mould as in experimental research.

The **second stage** in the case study methodology recommended by Yin (1994), in Tellis (1997b:10), is **the conduct of the case study**. In this stage, data collection is the primary activity. According to Yin (1994), cited in Tellis (1997b:6), the collection of data is a design issue, which will enhance the construct and internal validity of the study, as well as the external validity and reliability. Tellis (1997b:6) identifies three interrelated tasks in the second stage for a successful project. They are:

- Preparation for data collection;
- Distribution of the questionnaire and
- Conducting of interviews.

The six primary sources of evidence for case studies identified by Yin (1994), cited in Tellis (1997b:6), are:

- **Documentation:**

Documentation could be letters, memorandum, agendas, study reports, or any items that could add to the database. The careful validation of documents should avoid incorrect data being included in the database.

- **Archival records:**

Archival records include service records, maps, and charts, lists of names, survey data and even personal records such as diaries. The researcher must be precise in determining the accuracy and the origin of records.

- **Interviews:**

The interview can be open-ended, focused or structured.

- **Direct observation:**

The direct observation could be a formal or a casual activity. The use of multiple observers will improve the reliability of the observation.

- **Participant observation:**

Participant observation takes place where the researcher actually participates in the events under study.

- **Physical evidence (artefacts):**

Physical evidence (artefacts) might include tools, art works, notebooks, computer output and other such physical evidence gathered during a site visit.

Yin (1994), cited in Tellis (1997b:8), furthermore suggests the following three principles of data collection for case studies:

- The use of multiple sources of data which lead to the triangulation of evidence and increased reliability;
- A case study database which should be created and organised and documented just as in experimental studies;
- Maintenance of a chain of evidence, having an external observer following the derivation of evidence from initial research questions to ultimate case study conclusions.

The **third stage** according to Tellis (1997b:10) is the **analytic strategy**. Yin (1994), cited in Tellis (1997b:10), suggests that every investigation should have a general analytic strategy to guide the decision regarding what to analyse and for what reason.

Yin (1994), cited in Tellis (1997b:10), describes data analysis as examining, categorising, tabulating or otherwise recombining the evidence to address the initial propositions of a study.

Yin (1994), cited in Tellis (1997b:10), mentions the following analytic techniques:

- **Pattern-matching:**

According to Trochim (1989), cited in Tellis (1997b:11), this technique compares an empirically based pattern with a predicted one. If the patterns match, it will enhance the internal reliability of the study. These techniques might not have any quantitative criteria. Therefore, the discretion of the researcher is required for interpretations.

- **Explanation-building:**

Tellis (1997b:11) considers explanation building as a form of pattern matching, in which the analyses of the case study builds an explanation of the case. It is therefore not only useful in explanatory case studies, but it is also possible to use for exploratory cases as well as part of a hypothesis-generating process. In addition, this iterative process begins with a theoretical statement, the refinement of it, the revision of the proposition and the repetition of the process from the start. This technique can be fraught with problems for the investigator and can result in a problem such as losing focus.

- **Time-series analysis:**

In using this analysis, according to Tellis (1997b:11), it is possible that a single dependent or independent variable could make this simpler than pattern matching. Sometimes there are multiple changes in a variable, making starting and ending points unclear.

Miles and Huberman (1984), cited in Tellis (1997b:10), suggest the following as alternative techniques that will not bias results:

- Using arrays to display the data;
- Creating displays;
- Tabulating the frequency of events and
- Ordering the information.

Tellis (1997b:11) suggests that the researcher must be careful to review the analysis in order to ensure that:

- The analysis will be of high quality;
- That it shows all relevant evidence used;

- That all rival explanations were used;
- That the analysis addressed the most significant aspect of the case study and
- That the researcher's knowledge and experience are used to maximum advantage in the study.

Palmquist (1997:8) mentions two analysis techniques, namely the within case analysis and the cross case analysis.

The within case analysis expects the investigator to study each organisation's written documentation and survey response data as a separate case to identify unique patterns within the data for that single organisation (Palmquist, 1997:8). Detailed case study write-ups for each organisation have to be prepared, interview questions and answers have to be categorised and data should be examined for within group similarities and differences.

The cross-case analysis (Palmquist, 1997:9) follows the within case analysis and expects the investigator to examine pairs of cases, categorising the similarities and differences in each pair. As patterns begin to emerge, certain evidence may stand out as being in conflict with the patterns. In those cases, the investigator conducts follow-up focused interviews to confirm or correct the initial data in order to tie evidence to the findings and to state relationships in answer to the research questions.

Tellis (1997b:12) sees **the reporting aspect** of a case study as **the fourth stage** and as most important, and seen as the contact point between the researcher and the user. In this section, the researcher must refrain from technical jargon and resort to clear explanations so that the user can understand the implications of the findings.

Case studies according to Palmquist 1997:9) may, despite their complexity and because they involve multiple sources of data, include multiple cases within a study. It may produce large amounts of data for analysis. According to Tellis (1997b:13) the case study is still a valuable method of research with distinctive characteristics, which makes it ideal for many types of investigations. Palmquist (1997:10) sees the advantages of the case study method in its application to real-life, contemporary, human situations and its public accessibility through written reports. According to Palmquist (1997:9) researchers from many disciplines use the case study method to build upon theory, to produce new theory, to dispute or challenge theory, to explain a situation, to provide a bias to apply solutions to situations, to explore or to describe an object or phenomenon.

3.3 EXAMPLES OF CASE STUDIES DONE ON MULTI-GRADE SCHOOL INTERVENTIONS ACROSS THE WORLD

Note has to be taken of recent case studies done in the multi-grade rural school context which will determine that the findings derived from the Multi-grade Rural School Intervention in the West Coast Winelands Education District can be related to findings elsewhere in the world and will consequently contribute to the validity of the study.

In recent years some significant studies have been published that systematize and evaluate the research on the effects of multi-grade classes on learner achievement, as well as ones that investigate the processes that contribute to these effects. Naylor (2002:1) states two reasons why multi-age classes exist. One reflects a philosophy; the second relates to administrative considerations. Veenman's (1995:320) best evidence synthesis of research, concerning the cognitive and non cognitive effects of multi-grade and multi-age classes, is for instance, a thorough and well-documented meta-analysis describing a large number of studies (45 of which were concerned with multi-grade classes), drawn from a wide range of developed and developing countries and nations throughout the world.

Miller (1999:3) finds that the quality of the research reviewed by Veenman (1995) is not consistently strong, and the justification for inclusion of some of the studies in his analysis is doubtful. Mason and Burns (1996) cited in Miller (1999:3-4), having themselves reviewed the research into the differential effectiveness of multi-grade and single-grade classes, did not dispute Veenman's finding of non-significant differences in achievement and is slightly more positive, though non-significant social-emotional effects of multi-grade classes. However, their conclusions are different. They both claim that multi-grade classes have at least a small negative effect. They argue that multi-grade classes generally have better learners and perhaps better teachers allocated to them (a possibility that Veenman acknowledged in his first paper [Veenman, 1995:327-328, 371], but subsequently claimed was not yet established. These factors should produce a larger number of positive outcomes for multi-grade classes, both because of the systematically advantaged character of the multi-grade classes and because single-grade classes would consequently be systematically deprived of better learners and teachers.

Why then are multi-grade classes found to have similar or slightly negative effects when compared to single-grade classes?

Mason and Burns (1996), cited in Miller (1999:4), asserted that the reason must lie in the more complex and difficult teaching situation that multi-grade classes present, for example in terms of the greater workload and the need for more preparation time and better management skills (factors acknowledged by Veenman (1995:332), together with a consequent increase in teacher stress.

Both Veenman (1995:324) and Mason and Burns (1996), cited in Millar (1999:1), distinguish between the multi-grade class and two other structures: the multi-age class and the non-graded school. The latter two structures have an individualized, developmental focus and manifest in a continuous progress rather than lock step, graded curriculum for class groups of learners varying in age. Learner groups remain with the same teacher for two or more years. Both researchers view the multi-grade class structure as arising from administrative and economic necessity (inconsistent grade-level enrolment numbers, together with fixed staff/learner ratios), in contrast to the multi-age grouping which is seen as a result of a deliberate decision based on a particular pedagogical and philosophical approach.

From above it is evident that world renowned researchers on multi-grade rural school education, like Veenman (1995) and Mason and Burns (1996), can arrive at different conclusions. This shows the significance of following a clear unbiased methodological case study design relevant to the purpose of the research. Any possible doubt in the findings at the conclusion of the study should rule out these doubts at the start of the study. It is therefore important for this study to observe how case studies on multi-grade rural school interventions elsewhere in the world were constructed and what their findings were. This study will observe selected case study designs in developing countries and developed countries as follows:

- Developing countries in the world
 - Africa
 - Asia
 - South America
- Developed countries in the world
 - America

3.3.1 Developing countries

3.3.1.1 Africa

In the African context, very few case studies referring to the multi-grade rural context were available. Those found were very limited. The following five need mentioning:

(a) Impact of HIV and Aids on education in nine Africa countries

A case study conducted by the Mobile Task Team on the impact of HIV and Aids on education (Badcock-Walters and others, 2005:1-4) involved nine African countries and observed that only in two cases, namely Lesotho and Namibia, relevance to multi-grade rural schools was mentioned.

The research was done in two stages:

During **the first stage** questionnaires were developed and sent out electronically, key informant interviews took place, an extensive literature search of electronic and academic resources were made and papers from conferences were reviewed. The data gathered through all these processes was analysed and presented as the Stage 1 report.

During **the second stage** criteria were set to select sixteen case studies from the nine countries from the stage one inventory. They used a mixture of research methods like desktop reviews, telephonic interviews, field visits and key informant interviews using the snowball and purposive sampling methods. The techniques selected were dependent on the particular case study itself. Individual reports for each case study were prepared. The reports focussed on answering preset research questions. The broader research team members circulated draft reports, which included study limitations, to the relevant stakeholders for review and verification before submission for final analysis.

(b) Leadership and management in multi-grade rural schools in Keetmanshoop

Titus (2004:1) did a case study, which focussed on leadership and management challenges in the implementation of multi-grade teaching in rural schools in the Keetmanshoop education region. This study followed a research approach, which made use of questionnaires, one-on-one interviews involving a broad spectrum of role players like parents, community leaders, regional staff, teachers and the principal of the identified school. These interviews were tape-recorded. Classroom observations also formed part of the data capturing process and were video-recorded. They captured the analysis of the findings as a summary of findings, implications of findings for different role players, recommendations and possible areas for further research and limitations of the study.

(c) A situation analysis of primary education in the Northern Cape Province

A situation analysis of primary education in the Northern Cape Province of South Africa, carried out by Brown and Strauss (1999:22), approached multi-grade rural schools as part of a holistic study which included all kinds of school types in the Northern Cape Province and did not necessarily take into account the unique character of the multi-grade rural school.

In the study done by Brown and Strauss (1999:7), the focus fell on research areas based on different rationales for each of the areas. They collected the data on each research phase using different instruments, which varied, between observations and questionnaires. The questionnaires, which they designed, contained both open-ended and close-ended questions, which provided a comprehensive source of both quantitative and qualitative data. They based the sample selection of the target schools on the presumption that the study constituted a normative survey and deemed it important to consider the total population. Identified and trained fieldworkers did the collection of data. The expectation was that the whole exercise would serve as a capacity building for those who were involved. The data was analysed according to a comparison made between set indicators, current reality and recommendations.

(d) Multi-grade farm schools in the Free State

An investigation done by Strauss (1999:2) focussed more directly on multi-grade farm schools in the Free State and focussed on one variable, namely the utilisation of teaching and learning material in those schools.

Strauss (1999:4) selected a sample of schools in accordance with set criteria and with the collaboration of officials at the head office of the Free State Department of Education who were involved with that section for farm schools. Strauss (1999:6-9) collated data by means of a series of five school visitations, which included broad observations made according to a questionnaire during class visitations, questionnaires posed to teachers, videotaping of lessons and completion of questionnaires and recorded conclusions after each visit.

(e) The Western Cape Education Department Multi-grade Rural Pilot Project

Meyer (2002:4), commissioned by the National Business Initiative, conducted a case study on a multi-grade rural pilot project which focussed on a holistic quality improvement intervention in rural schools with multi-grade classes.

Meyer (2002:5) describes this case study in a narrative form and highlights the elements of the pilot intervention project, which took place during 2001 and 2002. She did the case study in eleven farm schools, in the West Coast Winelands district, in the Western Cape Province in South Africa. The case study actually focussed on elements like the background, the theoretical framework, the intervention and INSET model, the application in schools, the lessons learned and the significance of the project. The focus was on three learning areas: reading, writing and number concept (mental maths). The pilot project evolved through two phases:

- A generic curriculum planning and management course, first introduced to link the school development planning, and INSET components within the expanded Equip framework.
- In response to the Western Cape Education Department needs survey, this generic training programme was then adapted further to address the specific requirements of teachers in multi-grade schools.

Meyer (2002:4) found that conventional pre-service training and in-service training (PRESET and INSET) models do not prepare teachers for multi-grade teaching. The intervention therefore followed a Theoretical Framework structure and focussed on the following aspects:

(i) Education change and policy implementation

Heneveld (1994:14) and Creemers & Scheerens (1991), in Meyer (2006:6), state that effective education quality improvement requires a holistic, multi-level or contextualised development model. Other researchers like, Elmore (1980:601) adds a "Backward Mapping" approach to policy development that allows problem analysis to inform programme design and implementation. McLaughlin (1987:171-178) suggests that the collective meaning made at local level, addresses cultural and psychological dimensions of change, and improves chances of policy implementation

(ii) School development

The service provider, Education Quality Improvement Partnership (Equip), employed according to Meyer (2002:7), the typology of schools proposed by Hopkins, Harris & Jackson (1997:141) and recommended different entry points and sequencing of quality improvement strategies for the different types of schools:

- Failing schools (type I) – stabilize school organisation, then address teacher competence and then augment learner opportunity.
- Moderately effective schools (type II) – build instructional capacity in the school, then reduce reliance on external support.
- Effective schools (type III) – shift reliance on external support to school-based support and raise expectations for learner achievement

(iii) In-service Education for Teachers (INSET)

According to Meyer (2002:8), successful education interventions rest on four pillars namely:

- Orientation and mentoring of teachers' personal work concepts;
- Small-scale projects within larger-scale "cadres";
- Materials development as a means to support the learning area and
- Team based training and follow-up support.

Hofmeyr, De Wee & McLennan (1994), cited in Meyer (2002:8), recommend school-focused INSET, in contrast to school and course based models as the most cost-effective option, particularly for developing countries. Joyce and Showers (1980), cited in Meyer (2002:9), recommend a five-phase strategy to overcome the limitations of traditional training methods:

- Promoting theoretical understanding;
- Demonstration;
- Practice in the classroom;
- Coaching and mentoring and
- Structured feedback, informal reflection and review.

(iv) Multi-grade education

Drawing on the publications from the International Multi-grade Education Conference held in Canada in 1992, a holistic intervention was proposed (Meyer, 2002:10). This entails innovation in relation to six components:

- Configuration of learning spaces and arrangement of classroom furniture;
- Classroom routines and discipline;
- Curriculum structuring and planning;
- Teaching strategies;
- Self-directed learning and
- Peer tutoring

The intervention took the form of a school-focused INSET model embedded in a whole school development initiative (the expanded Equip framework) which achieved the critical mass through alignment and/or sequencing of several development components including school development facilitation, teacher development, donations of new learning materials and access to ICT. Parallel to the non-formal multi-grade training several teachers were engaged from 2001 in part-time study in Mathematics and Science. They did it through University of Cape Town (UCT) towards the Advanced Certificate of Education (ACE) in the Engen Professional Development Program (PDP). The intervention conducted the non-formal training and ACE tuition, as well as follow-up support in the teachers' home language Afrikaans. A multi-functional WCED team led by a Circuit Manager, UCT lecturers (in the PDP) and a contracted curriculum specialist, drawn in from time to time, provided specific training and cluster-based support and monitoring. In these multi-grade schools, teaching and learning were organised in phases, not in grades. Common features were modular group work and self-paced learning.

All the teachers used a wide range of learning materials and media. Meyer (2002:13) reports that within this framework, schools and teachers emphasised different features of the “Monitor/tutor” system such as:

- Changes in school management and leadership practices to ensure the optimal use of available learning spaces and materials;
- Learning spaces, restructured into workstations in which the full range of available media is used, including audio-visual media and Information and Communication Technology (ICT) and
- Peer tutoring to effect differentially paced learning.

According to Meyer (2002:14), a holistic approach is likely to prove more cost-effective than isolated interventions. Teachers ascribed 90% of the multi-grade project’s success to relationships between key role-players at all levels. “The limited institutional management and governance support that some schools received had been the only notable weakness of the pilot project.” (Judith O’Connell, NBI (*National Business Initiative*) Western Cape Equip Project Manager cited in Meyer 2002:14). Ongoing support and monitoring ensures sustainability. Cluster-level collaboration requires and supports teachers to work as reflective practitioners. Deployment of key teachers proved to be a vital component of the cluster-based model as collegial ethos combats teachers’ professional and social isolation and provides moral support. It further exposed teachers to external norms through peer contact. Collective learning proved to be particularly beneficial to younger, less confident and/or less experienced teachers and principals. “Mixed mode” cluster-based training and support were cost-effective in rural areas where there are vast distances and low population concentrations.

Learners should not always work in the same groups. Teachers reported, according to Meyer (2002:16), that a flexible, purposive approach to grouping learners was most effective. Two preferred approaches emerged:

- Performance-level grouping, frequently decided by learners themselves and
- Random grouping

Teachers reported that the emphasis on discipline, self-reliance, peer learning and group work has had a positive influence on learners’ socialisation and the learning of democratic values at school. Most, but not all learners, benefited from the peer-tutor system. According to Meyer (2002:17) the intervention enabled even effective schools to break through a “glass ceiling” in terms of the standards attainable by learners at all performance levels, including learners with special education needs (LSEN). Individual learners received more feedback and remediation. According to teachers, this resulted in improved motivation and enthusiasm for learning. Continuous assessment showed that the accommodation of LSEN learners in the modular multi-grade system is much better than in conventional classrooms.

The project showed that standardised tests are not an appropriate form of assessment in development projects. The main need was for diagnostic tests. The project demonstrated that solutions to education development challenges might take unorthodox forms. The core principles of the 'tutor/monitor' system remained the same everywhere, but training and implementation strategies should be adapted to local settings and different learning and training styles" (Meyer, 2002:18).

Internationally, two aspects of this approach, applied with success in settings other than small rural multi-grade schools, were in the USA. In several states in the USA, the introduction of multi-grade teaching was a deliberate improvement strategy for school quality (in contrast to the negative approach typical in developing countries). In both developed and developing countries, the "monitor" system, including peer tutoring, proved to be effective in teaching large classes of 50+ learners (Sedibe, 1997:25). Both these applications may be worth trying out to ease teachers' workload and improve education standards. To be sustainable, quality improvement must be generalised beyond the work of one or two individual leaders in a school. Mark Potterton referred to this problem as "the fragility of quality" (Christie & Potterton, 1997 cited in Meyer, 2002:20). The cost-effectiveness of service provision in teachers' home language also needs careful consideration. The maintenance of middle-level support mechanisms such as cluster workshops as well as monitoring needs attention. These aspects warrant rigorous impact evaluation and cost-benefit analysis.

3.3.1.2 Asia

The value of the case studies found in the Asian multi-grade rural context lies in the possible application of it in the context of "Education for All". This has been a global issue since the 1990 World Conference on Education for All, in Jomtien (Grover and Singh, 2002:13). The following two examples need mentioning:

(a) Effective strategies for multi-grade teaching in Sri Lanka

Vithanapathirana (2006:2) reports on an action research done between 2000 and 2002 on multi-grade teaching in Sri Lanka. The study focussed on prevalence, problems and effective strategies for multi-grade teaching. Vithanapathirana (2006:2) expressed the need for finding suitable alternatives in order to yield the fullest benefit of extension of educational opportunities, and achieve the targets of "Education for All".

Vithanapathirana (2006:2) reports that the study focussed on an under researched area in Sri Lanka and was intended to contribute towards the improvement of multi-grade teaching and the status of primary education in this country. It happened through an intervention planned and implemented collaboratively with teachers. A need was evident to find suitable alternatives to yield the fullest benefit of extension of educational opportunities and to achieve the targets of 'Education for All'. It was a multi-phased field study confined to a rural education zone. The four research questions, which were according to Vithanapathirana (2006:2), addressed by the field study were:

- What are the contextual characteristics of multi-grade teaching in rural schools?
- What are the current practices of multi-grade teaching and the challenges faced by these multi-grade teachers?
- What is the nature of the intervention, which in collaboration with teachers could improve multi-grade teaching?
- What is the impact of the intervention?

The following three phases of the study are worth mentioning:

- **Phase 1** involved condensed fieldwork in 38 schools and a study of multi-grade practices through case studies in 3 schools.
- **Phase 2** involved developing an innovative strategy for multi-grade teaching and its adoption through an intervention with 17 multi-grade teachers from 10 schools.
- **Phase 3** studied the impact on learner achievement through a pre- and post-test-one-control-group quasi-experimental design and obtaining feedback from teachers on their satisfaction. Multi-grade teaching was a necessity in a range of school contexts and their quality of teaching was unsatisfactory. During the intervention, multi-grade teachers adopted the innovative lesson planning strategy accompanied by a reorganisation of the mathematics curriculum over a period of seven months. The intervention provided in-service support through workshops and school visits.

The perception of the impact of the intervention was positive. The study recommends policy adjustments for reorganisation of the national primary curricula to facilitate multi-grade lesson planning, capacity building of teachers on multi-grade teaching, incorporation of multi-grade teaching in teacher education curricula accompanied by the use of collaborative frameworks in teacher capacity building. The recommendations for research include follow-up studies on the intervention, studies on prevalence of multi-grade teaching and small-scale action research to evolve successful multi-grade classroom practices.

(b) Quality of primary education in India:

Grover and Singh (2002:6) have done a case study on the quality of primary education in the Madurai and Villupuram districts in Tamil Nadu, India. The case study also includes multi-grade teaching, as the majority of primary level teachers in Tamil Nadu are responsible for more than one grade in a classroom. The study based its focus on the need to make primary education accessible and attractive to a very large majority of families in India.

The objectives of this study were to assess the current state of primary education in two sample districts, and then analyse the data gathered with a view to identifying areas of weakness that may be contributing to the lack of acceptable quality of education in primary schools. As most studies have focused on analysing data such as completion, repetition, and dropout rates, this study aimed to go beyond an analysis of those indicators. The goal of this study was to identify and analyse the processes that affected attendance, completion, and repetition. Therefore, the focus of this study was on the learning environment, which encompasses the classroom, teacher-learning practices, teaching-learning materials, teachers and learners. It also examined issues related to school governance and management insofar as they affected the learning outcomes. Finally, this study made recommendations on a few salient issues for improving the outcomes of primary education as influenced by the indicators on which they focused.

The study used a micro-approach to study the problems of quality in the primary education in Tamil Nadu. As this was a pilot study, it selected two districts so that findings from this preliminary study would be able to design a more in-depth study on a larger scale. This study was thus restricted to the districts of Madurai in the South and Villupuram in the North. This study fell in the category of qualitative research, in that it aimed to generate theories and hypotheses from the data rather than test a pre-conceived hypothesis. This case study gathered data primarily from three types of sources: **Interviews** (semi-structured, specific questions), **Observations** (of the participants, school and classroom settings) and **Reports and MIS data** (available from the district education offices). Two researchers working under the guidance of a faculty member over a period of about 3 months conducted this study. The team also tapped into expertise of other faculties at the School of Education and John F Kennedy (JFK) School of Government at Harvard in specific areas such as educational assessment, accountability and effecting school reform in a politically feasible manner. They also consulted, in the formative stages of this study, with some doctoral learners, with experience in qualitative research, at the School of Education. The major steps involved were to gather detailed background information, to collect data from the field during a field visit and perform subsequent analysis and synthesis of the data. The fieldwork component had the researchers spending a 2-week period on site to conduct interviews, to observe the day-to-day functioning of some representative schools and classrooms, to observe the district education offices and to observe the district institutions for teacher training. The interviews and observations were part of the *fieldwork* conducted during the two-week site visit to Tamil Nadu. For this study, the researchers conducted interviews with several officials associated with Elementary Education at the State and district level (Madurai and Villupuram) in Tamil Nadu. In addition, the researchers held brief, informal interviews with some parents and learners.

The study according to Grover and Singh (2002:8) also used a slightly modified version of the model of education effectiveness proposed by Lockheed and Verspoor (1991). According to this model inputs, processes and outputs all function within a context, which exerts positive or negative influences. An example of a positive influence is supportive parent and community attitudes toward schooling, while negative factors include demand for learner labour, which is exogenous to the education system, and political and labour interference which undermines the accountability and hence efficiency of the education system. Like Lockheed and Verspoor's model, Grover and Singh (2002:8) sees the concept of effective schools accent the role of school management and system accountability that ensures the utilization of resources and efficiency in the system. This last aspect was especially relevant in this context as the Central and State governments were, according to Grover and Singh (2002:8), on the verge of putting into effect the most comprehensive of "education for all" schemes to date called the "Sarva Shiksha Abhiyan" (which literally translates to "Education for All Scheme"). The study also focused (to varying degrees) on a wide spectrum of indicators as factors affecting the quality of primary schooling in Madurai and Villupuram.

3.3.1.3 South America

The studies done on the Escuela Nueva in Colombia and the Nueva Escuela Unitaria in Guatemala projects which, according to Kraft (1998:1), aimed at improving the quality of education and equity for indigenous and other rural populations are valuable, in terms of the application in similar environments. The researcher would also like to highlight them in terms of this study. According to Kline (2002:170) the extreme inequity between rural and urban areas is a central problem throughout Latin America. Living in a rural area generally means lower wages, fewer job opportunities and inferior education. According to the Inter-American Development Bank (IDB) (1998:55), poverty relates to the kind of education available to learners. "Educational quality is much lower for learners from low-income families most of who attend public schools" (Development Bank, 1998:55). The Escuela Nueva (EN), or New School, an innovative rural school reform in Colombia, addressed these disparities in educational opportunities, and therefore, indirectly, economic inequalities.

The study done by Kline (2002:170) lifts out the occurrence of how the EN model unlike many governance structures, addresses technical problems of access, efficiency, effectiveness, relevance, and equity through specific changes in the classroom and directly with teachers as opposed to changes in the system or individual school management. The study, stated in a narrative format, focussed on five sections:

- The context in which the Escuela Nueva model was developed and the process of its development;
- Defining the components of the Escuela Nueva model;

- Analysing the characteristics of the model that were seen as central to its success in impacting on teachers' practices and learners' achievement;
- Reviewing some of the evaluations of Escuela Nueva, exploring various effects of the mass expansion to the national level and
- The applicability of how the Guatemalan reform based on the Escuela Nueva model could be transferred as a demonstration of the possibilities to different contexts

Mc Ewan and Benveniste (2001:547) did a further study, which focussed on the politics of rural school reform referring to the Escuela Nueva programme in Colombia. The Escuela Nueva programme was tracked through three phases namely grassroots, formalised and decoupled. The reason for this was to demonstrate how social role players, their interests at a specific point in time and the distribution of power among them were crucial elements for understanding the motivation and outcomes of social policy making. They divided the study in 5 parts, namely:

- Education reform as a dynamic process;
- The political context in which the Escuela Nueva programme was conceived;
- The evolution of multi-grade school reform and the stages of development during the past 40 years;
- The evolving motives of the Colombian State and the detailed promotion of rural education reform and
- The Colombian case in light of several theoretical frameworks of education reform

Colby and Witt (2000:23) report that, based on the Escuela Nueva model in Colombia, the Guatemalan Nueva Escuela (NEU) project began its first pilot projects in 1989. By 1998, NEU had spread to more than 1 300 educational institutions, both governmental and private. The programme focused on creating positive, participatory environments along with flexible, learner-centred, empowering processes. Because of Kline's (2002:176) inclusion of the study of the Guatemalan Nueva Escuela project, it was possible to make valuable conclusions on the observed evaluation and analysis done with regard to the implementation of it in terms of:

- Enrolment;
- Efficiency;
- Instructional material;
- Teacher training;
- Democratic practices;
- Academic achievement and
- The difference between the progression of boys and girls.

Kline (2002:177) also focussed on the reasons for success and identified the occurrence that the reformers adapted the ideas to their local context as the major reason for the success of the project. Another important factor identified in the successful transfer and adaptation of the EN reform was the strong leadership.

Kraft (1998:1) identified the following steps in the NEU process:

- Involvement of national and local educational authorities in all aspects of the project;
- An early observation visit by the Guatemalan Ministry of Education officials to the Colombian Escuela Nueva programme;
- A Start-up meeting a teacher's participatory governance group;
- Co-operative development by the pilot school teachers of an overall plan for administration, curriculum, training and community involvement;
- Design of a decentralised co-ordination and administration framework for the project;
- Formation of an oversight committee of supervisors, administrators, teachers and the NEU co-ordinator;
- Formation of Teachers' Circles with nearby schools to meet regularly to share classroom experiences, solve problems in collaboration with colleagues, training other teachers and adapt teacher and learner materials to local realities;
- Creation of resource centres where teachers produce independent learning guides for learners, follow-up on training and receive other professional assistance;
- Designation of 10 core pilot schools (expanded to 100 in the second year);
- During the first year, production of nine modular teacher training modules;
- Validation of the manuals in one-week teacher training sessions or in Teachers' Circles, followed by implementation by teachers in classrooms and communities;
- Design, testing and production of 18 learner self-instructional curricular workbooks for grades 2 through 6;
- NEU developed bilingual and mother tongue materials for the two principal north central highlands Mayan ethnicities, in keeping with Guatemalan National and Ministry policy;
- As the programme expanded, development of partnerships with NGO's and private groups to build schools, fund raising, and expansion of the number of participating schools from the original 100 to more than 1300 at the end of five year period;
- Information dissemination through various media, including instructional and informational videos;
- Ongoing formative evaluations and
- Planning and design for national programme implementation.

According to Berry (2001:6) the effects of the project have received two independent evaluations. Psacharopoulos et al (1993) in Little (1995:50) compared achievement in Spanish language and maths in the new schools with those of 'traditional schools'. They found significant achievement advantages in the new schools for learners in both grades 3 and 5, although the effect was reduced for grade 5. A subsequent study, McEwan (1998) in Benveniste and McEwan (2000:45), obtained similar results from a different set of data.

A study done by Baesa et al. (1996) cited in Kraft (1998:2) found that NEU schools:

- Retained significantly more learners;
- Learners achieved at a higher level in mathematics and reading;
- Bilingual learners did better than monolingual indigenous learners which highlighted the need to develop bilingual versions of NEU materials;
- Active pedagogy in NEU schools contributed to emotional growth, participatory behaviour and group work;
- NEU teachers had greater confidence and ability to work in multi-grade classrooms and used small group instruction and
- Parental satisfaction was higher in NEU schools citing their children's ability to read better and behave better at home

Kraft (1998:2) asked for the possible replication and sustainability of a pilot project like this at national level.

Nevertheless, the Escuela Nueva and Nueva Escuela Unitaria reforms can serve, according to Kline (2002:178), as an inspiration and model for how policy makers and teachers can better educate their marginalized communities through innovation, co-operation, and a deep understanding of the context.

The Escuela Nueva studies reflect several aspects, relating to a case study as a research method. It had a clear goal and focused strongly on the total context of the development of the Escuela Nueva projects taking into consideration both urban and rural contexts and the effects of poverty in both locations. The studies took into account multi sources of data and considered the characteristics of the model, the various effects of the mass expansion to the national level, applicability and the interaction amongst different role players. There is no doubt that the outcomes of this study will have consequences for real life situations and that the model observed will be applied with success in other multi-grade settings and settings other than small rural multi-grade schools internationally.

3.3.2 Developed countries

3.3.2.1 America

Vincent and Ley (1999:7) were instrumental in the development of a resource handbook in 1987 for the multi-grade classroom in small rural schools in response to several issues raised regarding multi-grade classroom instruction. As a result, members of the advisory committee for the Northwest Regional Educational Laboratory's Rural Education Programme agreed that multi-grade teacher training in their respective states was either lacking or wholly inadequate. The Rural Education Programme decided to develop a handbook based on concerns about the availability of research and training materials to assist the multi-grade teacher to improve their skills. It involved two stages.

The first was a comprehensive review of the research on multi-grade instruction that included articles, books and research reports from the United States, Canada, Australia and others conducted by Dr. B. Miller in 1989. According to Vincent and Ley (1991: vi) six topic areas emerged from this review considered essential for effective multi-grade instruction - classroom organization, classroom management and discipline, instructional organization, curriculum and evaluation, instructional delivery and grouping, self-directed learning and planning and using peer tutoring.

Dr. Miller developed the handbook around these six instructional areas, and completed a draft in June 1989 with support from the Office of Educational Research and Improvement (OERI).

The second stage began in July 1989, when multi-grade teachers, recommended by educational leaders from the Northwest and Pacific Island regions, attended a conference held in Ashland, Oregon. During the conference, participants were divided into workgroups, each focusing on one topic area. Their tasks were to review the appropriate handbook chapter for clarity and content, to suggest alternative and/or additional instructional strategies to those presented in the handbook and to write case descriptions of activities drawn from their classrooms. The handbook served three general purposes:

- To provide an overview of current research on multi-grade instruction;
- To identify key issues teachers face when teaching in a multi-grade setting and
- To provide a set of resource guides to assist novice and experienced multi-grade teachers in improving the quality of instruction Vincent and Ley 1999: vii)

The Rural Education Programme of the Northwest Regional Educational Laboratory received requests from rural teachers with two overriding concerns regarding multi-grade classrooms:

- What effect does multi-grade instruction have on learner performance?
- What kind of preparation or training does an effective teacher need in a multi-grade classroom? (Vincent and Ley 1999: xi)

This book presents a synthesis of research findings into the cognitive and non-cognitive effects of multi-grade and single-grade classrooms in elementary schools and includes studies that involve the evaluation of the effects of multi-grade grouping. By distinguishing the multi-grade grouping, it avoids an “apples and oranges” problem at the level of the independent variable. The grouping of the studies was relevant to two dependent variables: (1) academic or cognitive achievement, and (2) non-cognitive growth. The first area of relevance is the division into the academic subjects addressed for example, reading, language, mathematics, science, and social studies. The second area of relevance is the division into personal adjustment, social adjustment, self-concept, attitudes toward school and motivation.

According to Vincent and Ley (1999:17), the method used followed the following inclusion criteria:

- **Experimental and control groups**

All studies possessed both experimental (multi-grade or multi-age) and control (single-grade or single-age) groups.

- **Standard measures**

All studies used standard measures of academic achievement or non-academic achievement. Grades and report card scores were not included as achievement variables because of their subjective nature. If they were not based on some objective standard of measurement non-cognitive variables were excluded

- **Comparability of samples**

The establishment of initial comparability of experimental and control samples by means of matching of schools or classes or matching of individual learners within classes or schools were ideal.

- **Duration of multi-grade grouping**

In all of the included studies, multi-grade groups examined had existed for at least one year.

- **Normality of sample**

In all included studies, the teachers in the experimental group did not receive training on the dependent measures and samples of normal learners in regular classes where they were involved.

- **Number of teachers**

At least two experimental and two control teachers were involved in all of the studies included in this review.

According to Vincent and Ley (1999:56) the researcher can unhesitatingly ask two questions with regard to what implications the research literature has for districts currently operating or considering multi-grade classrooms. These questions could be - what effect does multi-grade instruction have on student performance? And what kind of teacher preparation or training does an effective teacher need to teach in a multi-grade classroom? Answers to these questions will develop an overview of key issues facing school districts and teachers involved in contemplating multi-grade classrooms.

3.3.3 Elsewhere in the world

The above only describes a limited view of case studies previously done on multi-grade rural school intervention programmes. These descriptions do not rule out the significance other related studies elsewhere in the world can have. Therefore it is of significant importance that the researcher also takes note of relevant developments elsewhere in the world.

In order to establish where to search for case studies and subsequent data on multi-grade rural interventions the researcher has to find ways of identifying the most common places on the planet where multi-grading occurs. This will enable the researcher to investigate and learn from a global perspective possible multi-grade rural intervention programs which were initialised elsewhere in the world.

Berry (2001:2) defines the proportion of multi-grade schools as one indicator that is frequently used, to determine the degree in which multi-grading appears in a particular country. According to Berry (2001:4) the best data is available for instance in the Caribbean, probably from the Commonwealth Secretariat materials which are reproduced in table 3.1.

Table 3.1: Percentage of multi-grade schools in particular countries in the Caribbean (Berry, 2001:2)

Country	% multi-grade schools
Turks and Caicos Islands	30%
Belize	51%
Dominica	38%
Guyana	47%
Trinidad and Tobago	12%
Jamaica	43%

The figures indicate that, in many of the countries in the region, the schools are a very important means of delivering education to remote communities. In the case of the Turks and Caicos Islands, these communities are, according to Berry (2001:2), scattered across several islands, while in Belize they are located in the rural areas of the country.

There is, according to Berry (2001:2), even less data available from Africa indicating the extent of multi-grading. Little (1995:11) only includes statistics from Zambia where 26% of schools reported having only one teacher in 1984.

Thomas and Shaw (1992), in Vinjevold, Schindler and May (1997:137), include no statistics, but they comment that there has been World Bank support for multi-grade schools in Gambia, Mauritania, Lesotho, Botswana, Niger, Senegal, Guinea, and Zaire. This lack of information is typical of the peripheral position that these kinds of school settings frequently have.

The effective schools and teachers thematic group (www/worldbank.org/education) published a group of twenty case study briefs. This is a first in an expanding collection, which is intended to provide a range of ideas, tried before in various settings, to improve schools and their larger education systems. The reforms focused to varying degrees on expanding access, improving quality and developing delivery capacities of education systems. Some of the reforms focused just on schools and the local community (Bangladesh, Colombia, El Salvador, Guatemala, India, Jordan, Kenya, Lesotho, Malawi, Mali, South Africa, and Palestine) and the others look more at systemic reform (Guinea, Uganda, Malawi, Philippines and Colombia). These are some of the more commonly known reforms presented in this first collection of case studies. Some of these showcase examples of success in improving learner achievement. Others have been included to show why good ideas sometimes fail.

3.4 A FRAMEWORK FOR THE CASE STUDY ON THE MULTI-GRADE RURAL SCHOOL INTERVENTION IN THE WEST COAST WINELANDS EMDC

A case study on the Multi-grade Rural Schools Intervention in the West Coast Winelands EMDC will focus on a single case study designed to research the theory and the application of the intervention. It will consider the applicability of elements identified in the different types of case studies as described in the study above.

As the validity of the study is of outmost importance the different kinds of validity measures, described before, should receive the necessary attention.

3.4.1 Research Goal

The research will focus on a case study on the Multi-grade Rural School Intervention in the West Coast Winelands EMDC, which started in April 2002 and ended in September 2006. The intervention formally took place as part of the Western Cape Education Department initiative for the improvement of teaching and learning in rural schools.

The case study will focus on the following question:

What do teachers perceive to be successes and challenges of the Multi-grade rural school intervention?

3.4.2 Research Objectives

The value of this case study as a research method will be found in the lessons that might have been learned from the Multi-grade Rural School Intervention regarding inset processes being followed as well as the impact it possibly had on the improvement of education practices in the multi-grade rural schools.

The researcher believes that the possible lessons learned from the mentioned project will inform future curriculum inset strategies not only for his personal benefit but also for the Education Department as a whole.

This intervention targeted grades R to seven in reading, writing and mental maths. The case study will focus on the attainment of the project management level, cluster level and school level outcomes and on the impact, it had on the improvement of teaching and learning of literacy and numeracy in a sample of involved multi-grade rural schools. It will study the aims, the intervention strategies followed and the successes and challenges achieved because of the implementation of its strategies.

The case study will reflect on the following aspects of the intervention:

- The aims of the intervention;
- The intervention strategy and
- The successes and challenges experienced in the implementation of the intervention.

The case study will link to a couple of key concepts namely:

- Strategies for change;
- Resource provision;
- Classroom methodology for quality teaching and learning;
- Inset models;
- Teacher motivation;
- Policies on rural school education;
- School curriculum organisation and
- Knowledge dissemination.

3.4.3 Case study methodology

As each case study is unique the data collection, research questions and indeed the unit of analysis cannot, according to Tellis (1997b:4), be placed into a fixed mould as in experimental research. The uniqueness lies in the opportunity to generate new ideas and concepts through accurate observation and critical reflection in terms of the phenomenon.

Furthermore, the advantage of the case study as method of research will give opportunities for new insights. The case study methodology will follow six steps as described by Palmquist (1997:1) which contain the following:

- Determination and Definition of the research questions;
- Selection of cases and determination of data gathering and analysis techniques;
- Preparation for the collection of data;
- The actual collection of data;
- Evaluation and analysis of the report and
- The preparation of the report.

These steps will include the following four stages of case study methodology as described by Yin (1994) cited in (Tellis 1997a:3) and they are:

- The development of the case study protocol which includes:
 - The determination of required skills and
 - The development and reviewing of the protocol.
- The conduct of the case study which includes:
 - The preparation for data collection;
 - The distribution of the questionnaire and
 - The conduct of the interviews.
- The analytical strategy which includes:
 - Analysing the case study evidence.
- The reporting strategy which includes:
 - The development of conclusions, recommendations and implications based on the evidence.

The following seven components of research design, that are according to Yin (1984) cited in Tellis (1997b:4) and Yin (1994) cited in Tellis (1997a:5) important for case studies, will be furthermore considered. They are:

- The study's questions;
- Its propositions, if any;
- Its unit(s) of analysis;
- The logic linking the data to propositions;
- The criteria for interpreting the findings;
- The extent of control an investigator has over actual behavioural events and
- The degree of focus on contemporary events.

The intended methodology will take into consideration the following:

- An open-ended start to all data collection regarding each interview or focus group;
- The use of multiple and diverse data sources;
- The use of a number of different data collection methods;

- A step by step process in which the later steps can be designed to take into account what has been learned from the early steps and
- A continuing focus on challenging the data and interpretations already collected; in particular, when there are apparent agreements between informants, the researcher will deliberately seek the exceptions and when there are disagreements he will look for the explanations as well.

3.4.4 Defining the research questions

The analysis of multi-grade selected case study designs in developing countries and developed countries revealed that frequently asked questions started with what, how and why. According to Tellis (1997a:5) the study's propositions are sometimes derived from how and why questions. According to Yin (1984), cited in Tellis (1997b:5), questions, which start with 'what' justifies an exploratory study. This implies, according to Tellis (1997a:4), that the creation of the framework of the study must be finalised ahead of time and that these questions are helpful in focusing the study's goals.

Therefore, the following questions will be complementary to the research questions stated before:

- What was the intension of the West Coast Winelands Multi-grade Intervention?
- What was the short-term impact in terms of successes and challenges of the West Coast Winelands Multi-grade Intervention on quality teaching and learning in multi-grade classes and education in the broader sense of the word as seen and experienced by the teachers involved? and
- What are the lessons learned from the West Coast Winelands Multi-grade Intervention Project in terms of the development of models for professional development?

3.4.5 Selection of cases and determination of data gathering and analysis techniques

3.4.5.1 Selection of cases

Tellis (1997b:5) mentioned that characteristically the researcher has no control over behavioural events. According to Levy (1988), cited in Tellis (1997b:5), the events examined in case studies, are contemporary. Tellis (1997b:5) adds that an empirical investigation of contemporary phenomenon within its real-life context is one situation in which case study methodology is applicable. The importance, as Tellis (1997b:1) stated, of considering not only the voice and perspective of the role players, but also those of the relevant groups of role players and the interaction between them, will also be considered.

In the event of this case study, the expectation is that the intended outcomes of the West Coast Winelands Multi-grade Rural School Intervention will, as stated by Tellis (1997a:5), reveal what the unit of analysis will be and will define the case.

The unit of analysis is a critical factor in the case study and will therefore, according to Tellis (1997a:5), follow a system of action. This will mean that the researcher will approach this study as a single-case, exploratory/explanatory methodology. Whilst the exploratory methodology will seek answers on the "what" questions the explanatory methodology will also come in handy, in the need to determine to what extent patterns of acquisition and use, established in other environments, were applicable to the case in question. According to Tellis (1997b: 5) the linking of the data to propositions and criteria for interpreting the findings will be represented in the data analysis and the report.

3.4.5.2 Determination of data gathering and analysis techniques

The second stage of the methodology according to Yin (1994), cited in Tellis (1997b:6), is the conduct of the case study. There are in this stage, according to Tellis (1997b:6), three tasks to complete for a successful project. They are:

- Preparation for data collection;
- Distribution of the questionnaire and
- Conducting of interviews.

According to Yin (1989), cited in Tellis (1997b:3), researchers must construct the study in such a manner that construct validity, internal validity, external validity and reliability are ensured. The study will follow the following three remedies, to counteract investigator subjectivity, as proposed by Yin (1994) in Tellis (1997a:5):

- The use of multiple sources of data;
- The creation of a case study database, and
- The maintenance of a chain of evidence.

3.4.5.3 Preparation for data collection

The focus of the case study will fall on aspects like inset models, strategies for change, resource provision, classroom methodology, school organisation, knowledge dissemination and learner learning.

Tellis (1997a:5) highlights the importance of the need for triangulation which arises from the ethical need to confirm the validity of the processes. It also has to address the problem of establishing meaning rather than location. According to Stake (1995), cited in Tellis (1997a:5), triangulation will ensure accuracy and alternative explanations. Tellis (1997b:8) stresses the importance of the use of multiple resources of data to the reliability of the study.

Therefore, the case study of the West Coast Winelands Multi-grade Rural School Intervention will not only include a literature review that focuses on international comparatively related interventions and other case studies, but will also collect a variety of data which will be compared in different ways. This will, according to Denzin (1984), cited in Tellis (1997b:1), enable the researcher to concur with the four types of triangulation identified namely:

- Data source triangulation;
- Investigator triangulation;
- Theory triangulation and
- Methodological triangulation.

To prevent the researcher from losing sight of the original research purpose and questions Palmquist (1997:3) suggests that databases should be prepared to assist with categorizing, sorting and retrieving data for analysis purposes.

The researcher will therefore prepare a database in accordance with the variety of information collected. This will include data derived from the literacy review, questionnaires, interviews and observations. The conduct of interviews will take place in an unstructured in-depth, open-ended and one-on-one manner. The design of the questionnaires will include qualitative close-ended questions. The purpose of the classroom observation instrument will be to identify the impact of the Multi-grade Rural School Intervention on the teaching and learning of literacy and numeracy in multi-grade rural schools.

These interviews will clarify the influencing role the different levels played in the initial stages and during the course of the intervention. The posing of the questions in the questionnaire will determine information with regard to the perceptions, experiences and the understanding that the role players involved had in relating to the impact of the intended goals of the intervention.

According to Palmquist (1997:4) renegotiation of arrangement with the objects of the study or addition of questions to interviews may be necessary as the study progresses.

The data collection will follow a random selection strategy according to the guidelines for sampling (Cohen, Manion and Morrison, 2000:99). Interviews will be taped, transcribed, analysed and sent for feedback where applicable. A covering letter will explain the nature of the tasks. It is hoped that this understanding will lead to honest, reflective responses.

3.4.5.4 The actual collection of data in the field

(Yin 1994) in Tellis (1997b:6) identified six sources of evidence for case study research, which are of great importance for this study. They are:

- Documentation;
- Archival records;
- Interviews;
- Direct observation;
- Participant observation and
- Physical evidence (artefacts)

Additional sources such as reports, journal articles and statistical surveys, as well as a web search, are also of importance for this study.

Table 3.2: Research Methodology: A planning framework for data collection

Research Areas	Research Methodology	
	Rationale	Instrument/ Method
• Literature Review	To focus on international comparatively related interventions.	<ul style="list-style-type: none"> • Internet • Library • Data available
• Provincial Management Structures	To clarify the reason for the Multi-grade Rural School Intervention and the perceived outcomes and the success experience these people had	<ul style="list-style-type: none"> • Unstructured in-depth, open-ended, one-on-one interview • Include qualitative close-ended questions
• 8 Officials involved in the MGI	To focus on the reasons, perceived outcomes and the success experience, which these people had in terms of the implementation of the Multi-grade Rural School Intervention	<ul style="list-style-type: none"> • Unstructured in-depth, open-ended, one-on-one interview • include qualitative close-ended questions
• A minimum of 32 randomly selected rural primary schools with multi-grade classrooms in the West Coast Winelands EMDC which partook in the MGRSI and provincial literacy and numeracy diagnostic tests representing at least 4 teachers per intervention cluster	To determine what they perceived as successes and challenges for their curriculum related professional development as a result of the Multi-grade Rural School Intervention	<ul style="list-style-type: none"> • A qualitative close-ended questionnaire
A minimum of 8 randomly selected rural primary schools with multi-grade classrooms in the West Coast Winelands EMDC which partook in the MGRSI and provincial literacy and numeracy diagnostic tests representing at least 1 teacher per intervention cluster,	To identify the impact of the Multi-grade Rural School Intervention on the multi-grade rural schools	<ul style="list-style-type: none"> • Class Room Observation Instrument
• Data collected from national and provincial systemic test results	To determine the impact the intervention had on teaching and learning in the multi-grade classes	<ul style="list-style-type: none"> • Data Interpretation
• International specialists	To share a possible model for the professional development of teachers in the multi-grade rural schools for reflection purposes	<ul style="list-style-type: none"> • Suggested INSET Model for multi-grade schools

The interviews with personnel at Provincial Management Level will focus on the reasons, perceived outcomes and the success experienced by these persons in terms of the implementation of the Multi-grade Rural School Intervention. These officials will include:

Ms Cindy Shye: Chief Director Rural EMDCs: 2004 – 12 October 2007 09:00

Mr Jannie Beukes: Director West Coast Winelands EMDC: 2001 – 21 September 2007 11:30

Mr Cliffie Frolick: Director Breede River Overberg EMDC: 2001 – 29 October 2007 07:30

A request to fill in a qualitative close-ended questionnaire will be sent to thirty-two randomly selected teachers, four teachers per intervention cluster attached to rural primary schools with multi-grade classrooms. These schools should be in the West Coast Winelands EMDC and be part of the 2002 to 2006 annual diagnostic literacy and numeracy tests. The questionnaires will determine what they perceived as successes and challenges with regard to their curriculum related professional development in the teaching of writing, numeracy and literacy as a result of the Multi-grade Rural School Intervention.

Eight randomly selected teachers, one per intervention cluster, in Multi-grade rural schools, which were part of the 2002 to 2006 Multi-grade Rural School Intervention, will receive classroom visits with a pre-prepared Classroom Observation Instrument to identify the impact of the Multi-grade Rural School Intervention on the teachers in multi-grade rural schools.

A qualitative close-ended interview questionnaire will be prepared to interview eight officials and four service providers, who were involved in the Multi-grade Rural School Intervention. It will determine the perception and understanding that regional education support staff have developed in terms of multi-grade teaching. These will include:

Mr Chester Davids Multi-grade Programme Manager - 21 September 2007 09:00

Mr Johan Joubert Circuit Manager – 19 October 2007 08:00

Miss Hendriena Roussouw Circuit Manager - 21 September 2007 10:00

Miss Faith Lawrence Learning Support 20 - September 2007 09:00

Miss Jennifer Murray Curriculum Advisor 21 - September 2007 08:00

Mr Andre Lamprechts Curriculum Advisor - 21 September 2007 11:00

Miss Alixe Lowenherz IT Advisor - 16 October 2007 12:00

Miss Anneline Coetzee Learning Support - 1 November 2007 16:00

3.4.5.5 Evaluation and analysis of the report

The case study method with its use of multiple data collection methods and analysis techniques provides researchers, according to Palmquist (1997:5), with opportunities to triangulate data in order to strengthen research findings and conclusions.

In the light of the above, the researcher will put into practice, where applicable, the evaluation and analysis methodology as described by Palmquist (1997:5) and will consider the following in the process:

- The sorting of data in many different ways to expose or create new insights and to deliberately look for conflicting data to contradict the analysis;
- The use of quantitative data that has been collected to correlate and support the qualitative data which can be most useful for understanding the rationale or theory underlying relationships;
- The utilisation of multiple investigators to gain the advantage provided when a variety of perspectives and insights examine the data and the patterns – It is stated that where multiple observations converge, confidence in the findings will increase;
- The application of the cross-case search for patterns which will keep the investigator from reaching premature conclusions. Investigators will be required to look at data in many different ways

The researcher will consider the evaluation and analysis strategy, as described by Palmquist (1997:8), which refers to the within and cross-case analysis techniques. This will enable the researcher to examine data for group similarities in order to identify unique patterns within the specific data found in the respective management, support and school level structures. A cross-case analysis will follow when the researcher examines the pairs of within data found between the respective structure levels. In this process patterns will begin to emerge whilst the researcher categorises the similarities and differences in pairs.

3.4.5.6 The preparation of the report

The goal of the report according to Palmquist (1997:5) should be to portray a complex problem in a way that conveys a vicarious experience to the reader. Furthermore, the report will focus on displaying sufficient evidence to gain the readers' confidence that the researcher had explored all avenues clearly, had communicated the boundaries of the case and had given special attention to conflicting propositions.

3.5 EXPECTED OUTCOMES

The expectation of the case study of the Multi-grade Rural School Intervention is that it will inform the researcher's own inset practices as well as the approach and method of curriculum support to multi-grade classes in rural schools. Underpinning this is the way in which the Multi-grade Rural School Intervention changed and influenced the researcher's future support methodology and that of other role players.

The outcome will be a deep and relevant understanding of the different approaches needed to address the diverse curriculum inset support multi-grade rural schools so urgently need.

The researcher believes that the outcome of this study will contribute and enable generations to break out of the recurring cycle of unskilled labour and resultant poverty and deliver learners and rural communities who are able to read, write and who are numerate.

Chapter 4 will provide data, which was gathered and analysed according to the methodologies described in chapter 3 and will affirm the impact the multi-grade rural intervention had or not, with regard to the improvement of literacy and numeracy diagnostic test results in participating multi-grade schools.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

According to Tellis (1997b:1) case study research is not sampling research. The unit of analysis is the programme objectives and the related outcomes of the Multi-grade Rural School Intervention (MGRSI) and is therefore the critical factor in this case study. This is in line with the view of Tellis (1997b:1) that the case study strives towards a holistic understanding of cultural systems of action rather than an individual or group of individuals. The researcher will therefore approach this study as a single-case, exploratory-explanatory methodology that will seek answers on the "what" questions and will investigate, confirm or challenge the programme objectives and related outcomes of the MGRSI programme theory by identifying causes for successes or challenges through pattern matching techniques. The multiple data collection methods and multi-perspective analysis techniques, which the researcher will use, will provide opportunities to triangulate data, which strengthen the validity of research findings and conclusions. The researcher will apply the evaluation and analysis methodology as described by Palmquist (1997:8). It will focus on finding linkages between the research objects and the intended outcomes of the MGRSI and will lead to the identification of conflicting data, correlation between quantitative and qualitative data, multiple observations and within and cross-case search for patterns.

This analysis, as described by Yin (1994) cited in Tellis (1997b:10), will examine, categorise, tabulate and recombine the evidence to address the initial propositions of the study. The information that will emerge from the raw data derived from observations, interviews, questionnaires, school visit instruments and provincial diagnostic results will be analysed, broken down and interpreted in an explanatory way. The researcher will do this as a form of pattern matching and present the data in various main patterns as described by Palmquist (1997:8), Tellis (1997a:8) and Tellis (1997b:11). The researcher will base these patterns on the different Multi-grade Rural School Intervention levels, which form part of the multi-grade theoretical model, described by Mouton (2001 and 2003). The researcher will then make a comparison between the observed diagnostic test results of learners, the demographic context of multi-grade schools, the expectation for success by the management level, perceptions of awareness by the support levels with regard to the implementation of the MGRSI and the perceived experience of the MGRSI application by teachers.

The researcher will also compare the observed practices by teachers and the results of interviews with the management level, support level and teacher level respondents with each other and with above mentioned variables.

4.2 MULTIGRADE LOGIC MODEL FRAMEWORK

4.2.1 Conceptualisation

Mouton (2003:6) reports that the developers of the intervention based the conceptual development of the MGRSI on theory and research, which they had done internationally, as well as through local studies by the HSRC and the Joint Education Trust. The first pilot projects also produced valuable lessons that helped to improve the overall design and structure of the intervention. In an attempt to further improve the conceptualisation, Van As Jordaan, the departmental appointed co-ordinator of the intervention, and departmental representatives worked with Johann Mouton at the University of Stellenbosch following a systematic logic model exercise. Van As Jordaan and departmental representatives completed this document in May 2002, which served as a theoretical model for the MGRSI. The logic model submitted in January 2003 by Johann Mouton served as the guiding tool for the first MGRSI report. It reflected on the first implementation cycle of the intervention, which started on the 27th of August and lasted until the 5th of December 2002. The report provided recommendations to adapt and refine the conceptual core of the intervention.

According to Mouton (2003:8) one of the immediate benefits of the logic model exercise is that it forces one to make the underlying programme theory or “theory of change” of the intervention explicit. A programme theory is, according to Mouton (2003:8), a theory that explains why one does expect the outcomes to materialise as stipulated in the logic model framework.

The logic model includes, according to Mouton (2003:6), the following components:

- The problem which has to be addressed through intervention, and presumed causes of the problem;
- Goals and objectives of the intervention;
- Description of the inputs (resources), programme component activities and outputs;
- Intended results (immediate, intermediate and long-term outcomes).

The logic model enables the researcher to link programmes like, training activities/IT support etc, directly to expected outcomes such as, the improved quality of teaching in multi-grade schools and improved learner performance in numeracy and literacy etc.

The structure of the logic model provides the intended programme objectives, outcomes and actions, which guides the researcher to formulate questionnaires, which will provide answers relating to the causes for successes and challenges of the MGRSI.

Mouton (2003:7) also states the following reasons why a logic model exercise will be useful during the conceptualisation of an intervention:

- It summarizes the key elements of your programme;
- It explains the rationale behind programme activities;
- It clarifies the difference between the activities and the intended outcomes of the programme;
- It shows the cause-and-effect relationships between the activities and the outcomes, that is, which activities are expected to lead to which outcomes;
- It helps you to identify the critical questions for your evaluation and
- It provides the opportunity for programme stakeholders to discuss the programme and agree upon its description.

Mouton (2003:9) emphasises that it should be an ongoing objective of the project team to further adapt and refine the conceptual core of the intervention when evaluation research findings make it necessary.

The project management team only received two reports during the time of the intervention, which started in 2002 and was concluded at the end of 2006. The first one, which reported on implementation cycles 1 and 2, were prepared in January 2003 by Johann Mouton from the University of Stellenbosch (Mouton, 2003). This report focussed on the targets reached relating to the expectations as set by the logic model. Johann Mouton listed and assessed the key expected outcomes at each level, according to a three-point scale, in order to show to what extent the MGRSI had achieved the target. He also added narrative comments to the report. According to Mouton (2003:34), this report could only focus on the project management and cluster level activities and it was not yet possible to draw any conclusions about school and classroom level outcomes.

The Schools Development Unit of the University of Cape Town (SDU) prepared a second report in April 2007 after the completion of the intervention. It reported on the impact of the MGRSI, in a sample of thirty-one multi-grade schools across the province, which were part of the MGRSI (SDU, 2007:6). As in Johann Mouton's report, this report did not cover all the aspects and levels as described in the logic framework extensively. It focussed mainly on the analysis of the performances of educators in respect of the application of mental mathematics, the do and learn package, peer tutoring programme, classroom management and the impact these practices had on learner performance.

The report touched very briefly on general issues relating to the evaluation visit, MGRSI training, educators' attitudes to the MGRSI, curriculum planning, electronic communication and guidance and support from the WCED, educators perceptions of the MGRSI and educators recommendations for further training and support (SDU, 2007:2).

From the above it is clear that the suggestion by Mouton (2002:29) that an evaluation study should commence with the second phase (interactive process evaluation) which will include detailed plans for programme monitoring and outcome evaluation was not realised. Therefore, opportunities to further adapt and refine the conceptual core of the intervention were not possible because of the lack of evaluation research findings. The absence of a wider spectrum of research findings with regard to the implementation and the impact of the MGRSI left the researcher with a very limited range of resources especially relating to the structure and the implementation strategies of the MGRSI.

4.2.2 The structure of the MGRSI

4.2.2.1 Project Management

According to Mouton (2003:19), an approved governance structure should manage the MGRSI, which consists of:

- A **Steering Committee** which is the highest authority and whose function is to determine policy;
- An **Executive Committee** which co-ordinates the project in a more direct way;
- A **Project Manager** who manages the project, and attends and reports to both the Steering Committee and Executive Committee (the project manager is always expected to report to these committees on behalf of the various sub-project managers);
- The **Project Support Office** which is managed by a contract Project Office Administrator and secretary, as determined by the workload and has the following functions::
 - Provides administrative support to the project manager and sub-project managers;
 - Maintains project statistics;
 - Develops procedures and standard documentation for the project;
 - Maintains project plans for sub-project managers and
 - Manages quality assurance processes.

The developers of the intervention expect the MGRSI to operate organisationally in a **matrix structure**, which implies that the project would:

- Be owned by the Rural area Directorate, but co-operates with all the other Directorates;
- Draw on WCED staff and experience and
- Deliver products and develop functions, which the intervention managers would eventually hand over to the WCED Directorates.

The WCED expects the Project Manager to initiate sub-projects and for each one develop a **Project Charter**, which should be presented to the Executive Committee for approval and to the Steering Committee for ratification.

- Each sub-project, where applicable, should have measurable objectives, discrete deliverables, a specific budget and definite duration;
- A suitable sub-project manager should be appointed for each sub-project who should draft a detailed plan for the sub-project, which would be approved by the Project Manager and then presented to the Executive Committee for final approval, and
- There should be three sub-projects, namely:
 - A project for Curriculum and Resources;
 - Assessment and Research, and
 - One for Training, Support and ICT.

4.2.2.2 The components and activities that constitute the structure of the MGRSI

Mouton (2003:11) refers to the following three core sets of components and activities that constitute the structure of the MGRSI:

(a) **The preparatory work** which consists of mainly three activities namely:

- The selection of pilot schools according to a set of a criteria;
- Exploratory visits to the schools to introduce them to the project and to ensure a good working relationship with the school and
- Planning meetings with the EMDC's and staff at schools to ensure that the school is truly committed to becoming involved in the intervention.

(b) **The various training components**

- IT training:
 - Both face-to-face training and online training and support which should cover basic computer literacy, word processing, e-mail and the use of Internet, concluding with the registration for a School Net course;
 - The overall aims of the ICT component should be:
 - To provide a quick and efficient means of disseminating curriculum, learning materials and resources over long distances;
 - To provide systematic storage for these materials and a means of working with them to create new classroom materials and
 - To provide for the development of supportive learning communities over long distances, and ongoing peer support.
 - Theoretical training which includes the following elements:
 - Classroom organisation and management;
 - Literacy focussing on reading and writing;
 - Numeracy focussing on mental maths and
 - ICT skills and online support strategies.

- Demonstrations should be done a week after the completion of the theoretical training where teachers should be given the opportunity to “see the theory in action” and to practice it themselves through a process of preparation, planning, presentation, reflection and repeat presentation and included:
 - The viewing and discussion of a series of videos to visually demonstrate the course content;
 - Live demonstrations and discussions with peers;
 - Coaching and practicing of relevant skills and knowledge to build teaching expertise and
 - Presenting demonstration lessons to learners, and
- Using key teachers on site which includes the following process:
 - Selection and training of experienced multigrade teachers;
 - Key teachers supporting classroom teachers for one week in the classroom to apply the content and strategies they’ve been taught and
 - Provision of an unthreatening, supportive learning environment for the teachers.

(c) The ongoing support

The main support components of the MGRSI constitute the following:

- The multifunctional team which should consist of:
 - A circuit manager (organisational and management support);
 - A curriculum advisor (support in the learning areas and curriculum development) and
 - A learning support person (preventing things “going wrong” and providing support where things have indeed gone awry – specifically as far as reading and numeracy are concerned).
- The Cluster team should consist of teachers within a geographical region who would support each other on a regular basis as well as members from the IT-component.

The IT–component of the MGRSI should be responsible for the development of a web-based infrastructure and the use of mailing lists. It should support the following discrete, but mutually supporting elements:

- Support material e.g. the CDROM;
- The mentor system, and
- Learning networks.

4.2.2.3 The Logic framework outcomes

(a) Project Management Level

The project management level outcomes are, according to Mouton (2003: iv), as follows:

- Progressive curricula for Grades R-7 in reading, writing and mental maths which are available;
- Demonstration schools which have been selected and demonstration lessons which have been developed;
- Videos which have been developed and are used in pilot schools;

- Appropriate standardised tests in reading, writing and mental maths which have been constructed and validated;
- New software and electronic material to support multi-grade schools which are available and online support which is provided to EMDCs and multi-grade schools

(b) Cluster Level

The cluster level outcomes are according to Mouton (2003: iv) as follows:

- Officials at EMDSs who are knowledgeable, informed and competent with regard to multigrade teaching;
- Ongoing support by multi-functional teams and
- Motivating feedback and support for teachers.

(c) Multi-grade School Level

The multi-grade school level outcomes are, according to Mouton (2003: v), as follows:

- **School Principal outcomes:**
 - School principals have the required knowledge and skills to manage the multi-grade schools effectively.
- **Teacher outcomes:**
 - Effective online communication between teachers in a cluster occurs;
 - Teachers are able to do effective year planning for reading, writing and mental maths from grade R-7;
 - Teachers are skilled in time and lesson programme planning;
 - Teachers are able to implement learning programmes for reading, writing and mental maths from grade 1 to 6 effectively;
 - Teachers have adequate knowledge of child development and learning during planning and presentation;
 - Teachers have adequate teaching and management skills;
 - Teachers are skilled in group formation and design of co-operative group tasks;
 - Teachers are able to use a range of appropriate teaching and learning strategies effectively and
 - Teachers have sufficient knowledge and skills to conduct the assessment, evaluation and reporting of learner progress.
- **Learner Outcomes:**
 - Time is effectively spent on learning (time-on-task);
 - Learners know what is expected of them (they know what the outcome should be);
 - Peer-assisted learning takes place;
 - Assignments, repetition and revision are part of learning in a multi-grade class;
 - Learners learn/work in learning centres that support/facilitate self-study, and
 - Improved learner performance in reading, writing and mental mathematics

4.2.2.4 Implementation cycles

Although the initial planning was that all schools and the relevant EMDC officials will have received training after three years starting in 2002 it went on until 2006 (Mouton, 2003:21).. The intervention team completed two pilot cycles and ten implementation MGRSI cycles in the West Coast Winelands EMDC within the mentioned period.

The MGRSI completed two pilot cycles, the first eight cycles in selected schools per circuit as well as the ninth and tenth cycles in selected schools across circuits. The MGRSI cycles took place as follows:

- 1st Pilot cycle: January 2001 in circuit 4 in eight schools involving twenty nine teachers
- 2nd Pilot cycle: June 2001 in circuit 6 in three schools involving six teachers
- 1st implementation cycle: August 2002 in circuit in six schools involving twenty five teachers
- 2nd Implementation cycle: January 2003 in circuit 5 in eleven schools involving thirty six teachers
- 3rd implementation cycle: January 2003 in circuit 8 in nine schools involving seventeen teachers
- 4th implementation cycle: April 2003 in circuit 7 in five schools involving twenty teachers
- 5th implementation cycle: July 2003 in circuit 9 in twelve schools involving fifty one teachers
- 6th implementation cycle: October 2003 in circuit 4 in seven schools involving thirty five teachers
- 7th implementation cycle: January 2004 in circuit 6 in nine schools involving nineteen teachers
- 8th implementation cycle: April 2004 in circuit 8 in eight schools involving twenty five teachers
- 9th implementation cycle: September 2005 combined circuits in five schools involving ten teachers
- 10th implementation cycle: September 2006 combined circuits in seven schools involving twelve teachers

A typical implementation cycle lasted, according to Mouton (2003:22), 5 months. This included a visit to an individual school (1 hour), planning and organisation (3 hours), computer training "face-to-face" (4X4=16 hours), "on-line" training (6weeks – 2hours per week), theoretical training (3 afternoons – 3X4 hours + 1 Saturday – 7 hours), demonstrations (3 afternoons – 3X4 hours + 1 Saturday – 7 hours), "on-line" support (ongoing), key teachers (2 weeks intermittently) and ongoing support (ongoing).

4.3 DATA ANALYSIS BASED ON AN OBSERVATION OF THE IMPACT OF THE MULTIGRADE RURAL SCHOOL INTERVENTION

Analytic techniques described by Miles and Huberman (1984) cited in Tellis (1997b:10) such as rearranging the arrays, placing the evidence in a matrix of categories, creating flowcharts or data displays, tabulating the frequency of responses for different events, using means, variances and cross tabulations to examine the relationships between variables are considered as techniques to facilitate the analysis. This comparison will be concurrent with the evaluation and analysis techniques described by Palmquest (1997:8). This will be the first analysis technique, namely the with-in case analysis, where the researcher will examine the collected data for within-group patterns, similarities and differences.

The data analysis will reflect on information collated from questionnaires and interviews and will cover demographic data, data on logic framework outcomes, classroom observation outcomes, and conducted interviews. The analysis will hopefully provide possible variables, which could be considered as having an impact on the improvement of teaching and learning in the multi-grade context as a result of the MGRSI.

The researcher projected the frequency of responses derived from the representative responses received from schools, which participated in the MGRSI training support cycles and who were part of the provincial literacy and numeracy tests for grades 3 and 6, in some instances as a percentage of the number of responses received. Gathered data is in some instances presented as arithmetical averages based on nominal values. In this and other similar instances, where the frequency of responses is expressed as a percentage of the selected sample, the formula $p = \frac{\sum X}{N} \times 100$ is applied

$$N$$

where "p" is the proportion responses and " $\sum X$ " is the sum of the applicable responses related to a particular variable. "N" indicates the total responses. In other instances data was, where applicable, captured and presented in phase context and where data was only available as representative totals the researcher presented it as such.

4.3.1 Demographic data (Questionnaire A)

Relevant biographical and social information was gathered to provide sufficient contextual information about the case under study (Appendix F). This relevant descriptive demographic information pertaining to the case and situation under study such as age, learning/teaching history, qualifications, human resource development, learner progression, teacher participation and role-players involved will be analysed.

This analysis will supply the context in which the MGRSI took place and will provide the researcher with insight with regard to demographic variables which probably could have an influence on the impact of the MGRSI or other similar interventions in the future. This analysis also will contribute towards the concern raised by SDU (2007:8) relating to the impact which motivation, attitudes and the participation of learners in the class could have on the improvement of their performance. Therefore the analysis does include variables like means of transport, farm owner participation, parent participation, distance from school, access to internet, academic background of parents and learners previously in grade R which will provide information relating to the situation at multi-grade schools which could play a destructive role with regard to learners' improvement of their performance.

Table 4.1: Teacher sample: Implementation cycle

Phases	Population	%	Sample	%
Foundation Phase	149	52.3	34	50.7
Intermediate Phase	136	47.7	33	49.3
		100		100
Total Population	285		67	23.5

Table 4.1 indicates that the researcher received a proportion of 23.5% responses from a population of 285 multi-grade teachers who were involved in the MGRSI in the West Coast Winelands EMDC. It represents 67 responses received out of a sample of 37 schools. It constitutes a sample of 34 foundation phase and 33 intermediate phase respondents.

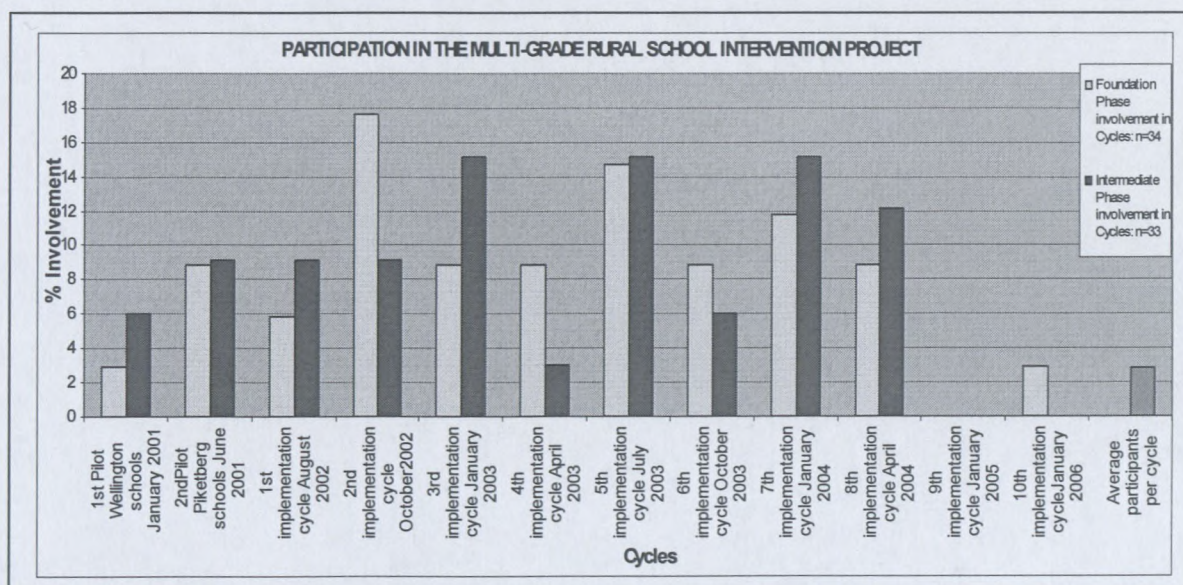


Figure 4.1: Participation in the multi-grade rural school intervention project

Figure 4.1 indicates that a frequency of responses for 2.8% of the total respondents or 5.6 individuals (67 responses divided by 12 cycles) per cycle participated in the survey. The frequency of responses received varies from 100% (2nd Pilot) to 0% (9th Cycle). The best feedback in terms of number of responses received was from multigrade teachers who were involved in the second pilot and in cycles three and seven. The lowest frequency of responses received was 0% and 8.3%. They were from participants in the respective 9th and 10th MGRSI cycles. The MGRSI trained and supported the participants in these cycles as combined circuits. A proportion of six of the twenty-two schools, which were part of the 9th and the 10th MGRSI cycles, were also part of earlier cycles.

Although the researcher did the selection of the sample on a representative basis, figure 4.1 reflects an uneven distribution of responses in the implementation cycles. The uneven feedback relates to a number of variables that could possibly play a part in the number of responses received. The researcher traces these variables to the influence of the voluntary choice to which schools had to respond on the questionnaires as well as the fact that six of the schools, which originally took part in the MGRSI closed down. The researcher also found that originally MGRSI exposed teachers had, in the mean time, changed from schools, grades and phases or had left the system.

A proportion of 36% (24) of the respondents from the selected sample (67) indicated that they were principals at the time when they participated in the MGRSI. A proportion of 25% (17) of them teach in the intermediate phase.

Table 4.2: Learner sample: Implementation cycle

Phases	Population	%	Sample	%
Foundation Phase			1222	62.8
Intermediate Phase			724	37.2
				100
Total Population	8005	100	1946	24.3

Table 4.2 indicates that a proportion of 24.3% (1946) learners from a population of 8005 learners, who formed part of the intervention and were potentially influenced by the MGRSI strategy, constitutes the selected sample.

4.3.1.1 Responses from multi-grade teachers with regard to the age of teachers

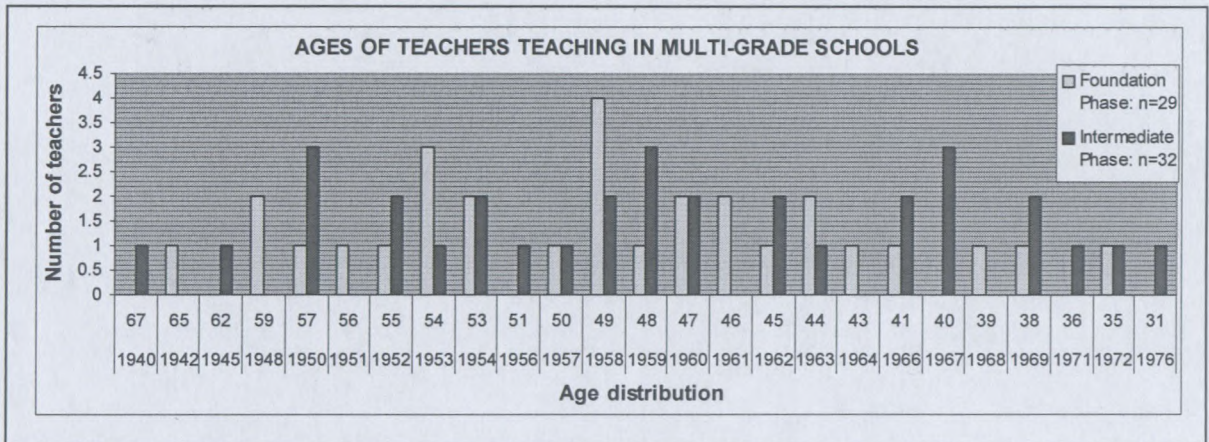


Figure 4.2: Ages of teachers teaching in multi-grade schools

Figure 4.2 illustrates the distribution of the frequency of responses for the average ages of multi-grade teachers between the age of thirty-one and sixty-seven. The survey as illustrated in figure 4.3 shows that the frequency of responses for the average age of foundation and intermediate phase teachers is 49.2 years and 47.5 years respectively. This brings the average age of this particular group to an average of 48.3 years. The age of foundation and intermediate phase multi-grade teachers, do not differ significantly and shows that those teaching in the foundation phase are on average 1.7 years older than their colleagues in the intermediate phase.

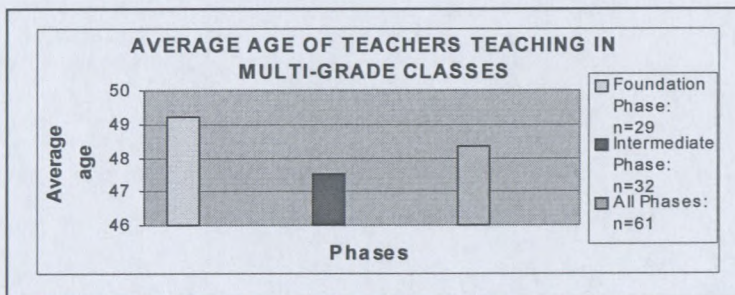


Figure 4.3: Average age of teachers teaching in multi-grade classes

4.3.1.2 Responses from multi-grade teachers with regard to the experience of teachers

Figure 4.4 shows that the difference between the frequency of responses relating to the average multi-grade experience of foundation phase (10.1 years) and intermediate phase (10 years) teacher respondents in their present school is very small.

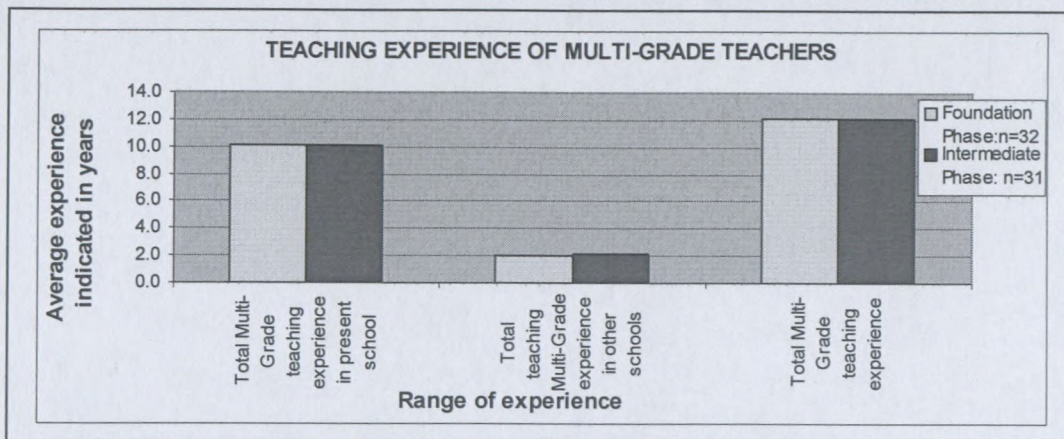


Figure 4.4: Teaching experience of multi-grade teachers

It is found that foundation and intermediate phase respondents have respectively 8.1 years (10.1 – 2) and 7.1 years (10 – 2.9) more multi-grade experience in their present school than previously in other multi-grade schools.

Figure 4.5 indicates that multi-grade teachers do not only have experience in multi-grade classes. The researcher calculated that the frequency of responses for the average multi-grade experience of multi-grade teachers teaching in the foundation and intermediate phases are 12.1 and 12.5 years respectively. The researcher also found that the frequency of responses for the average mono-grade experience of foundation and intermediate phase respondents are 10 and 6.5 years respectively. When the average totals of multi-grade and mono-grade experience are calculated, it reveals that the frequency of responses for the total teaching experience of foundation and intermediate phase multi-grade teachers are respectively 22 and 19.1 years.

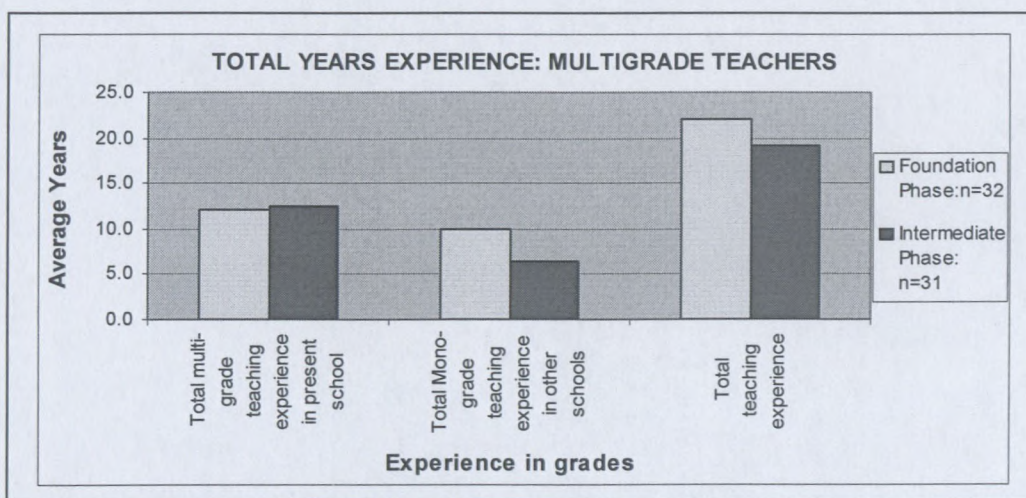


Figure 4.5: Total years teaching experience

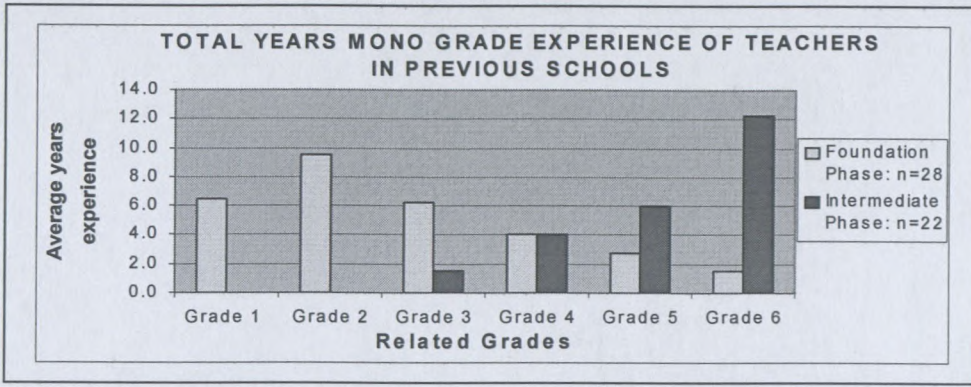


Figure 4.6: Total years mono grade experience of multi-grade teachers in previous schools

As shown in figure 4.6, the frequency of responses for the experience of multi-grade teachers teaching in the foundation phase is the highest with regard to mono-grade teaching in grade 2 and in the case of intermediate phase grade 6. The researcher observes that the tendency is stronger for multi-grade foundation phase teachers to teach in the intermediate mono-grades than it is the other way round. Most of the foundation phase multi-grade teachers teach in grade 4 when teaching in the intermediate mono-grades. In the case of the intermediate phase grouping, the teachers tend to teach in grade 3 when they are teaching in foundation phase mono-grades.

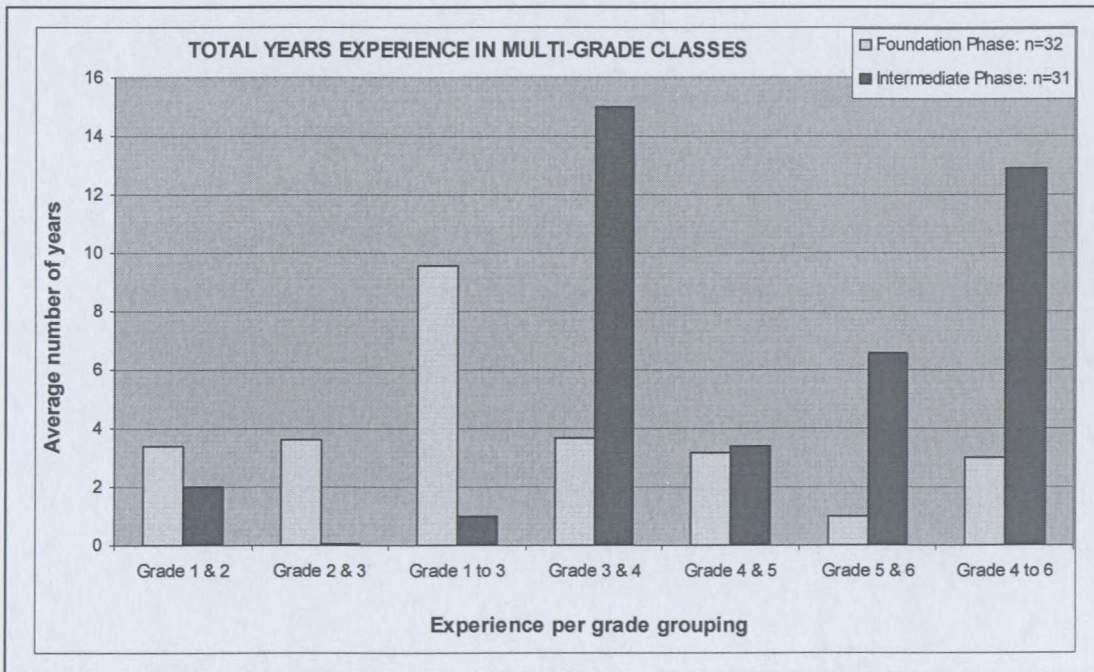


Figure 4.7: Total years experience of multi-grade teachers in multi-grade classes

Figure 4.7 indicates the number of year's experience indicated by the respondents per grade grouping.

Taking into consideration the deviations observed in figure 4.7, the researcher makes the conclusion that the foundation and intermediate phase respondents had the most experience in the respective 1 to 3 and 4 to 6 grade groupings. In both the foundation and intermediate phases the experience of the respondents drops in terms of their experience in other grade groupings.

The few deviations observed included the intermediate phase respondent who indicated significant experience in grade 3 and 4 is at a one-person school responsible for all the grades. In five other instances where teachers taught in phases, which are different from the primary phase they use to teach in, the researcher calculates that it only makes up 8.3% of their total multi-grade experience. In another instance, one foundation phase teacher was utilised to teach the grade 4 and 5 grouping. The one intermediate phase teacher who taught a significant time in grade 1 and 3 is now utilised in the intermediate phase for the first year.

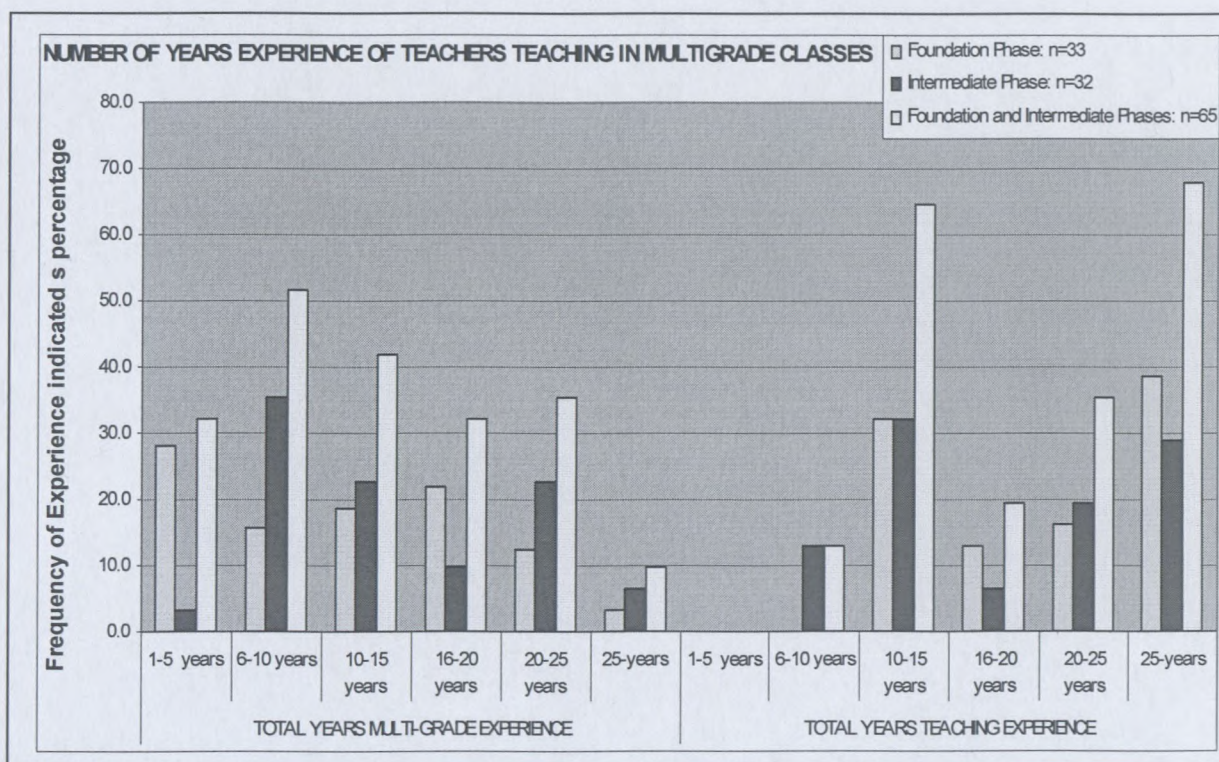


Figure 4.8: Number of years' experience of teachers teaching in multi-grade classes

Figure 4.8 shows that the highest frequency of responses for experience with regard to the foundation and the intermediate phase respondents falls in the 10 to 15 years (32.3%) (32.3%) respectively and in the 25 and more years (38.7%) (29%) **total years teaching experience category**.

The researcher observes the same tendency when the average for the phases is analysed, in which case the frequency of responses for experience also falls mainly in the 10 – 15 years (64.5%) and the 25 and more years (67.7%) total years experience category. From this observation, it is evident that these teachers on average have more than ten years total teaching experience. In this category, the frequency of responses for the total experience of foundation phase multi-grade teachers is slightly higher than observed in the intermediate phase grouping. None of the respondents in this category has less than six years teaching experience.

The frequency of responses for the experience of teaching in multi-grade classes is lower and lies, with regard to the foundation phase and intermediate phase respondents, mostly in the **total years multi-grade experience category** of 6 to 10 (15.6%) (35.5%) and 10 to 15 (18.8%) (22.6%) years experience. The highest frequency of responses with regard to the distribution of total multi-grade experience also falls mostly in the 6 to 10 years experience category.

4.3.1.3 Responses from multi-grade teachers with regard to human resource development

(a) Courses attended

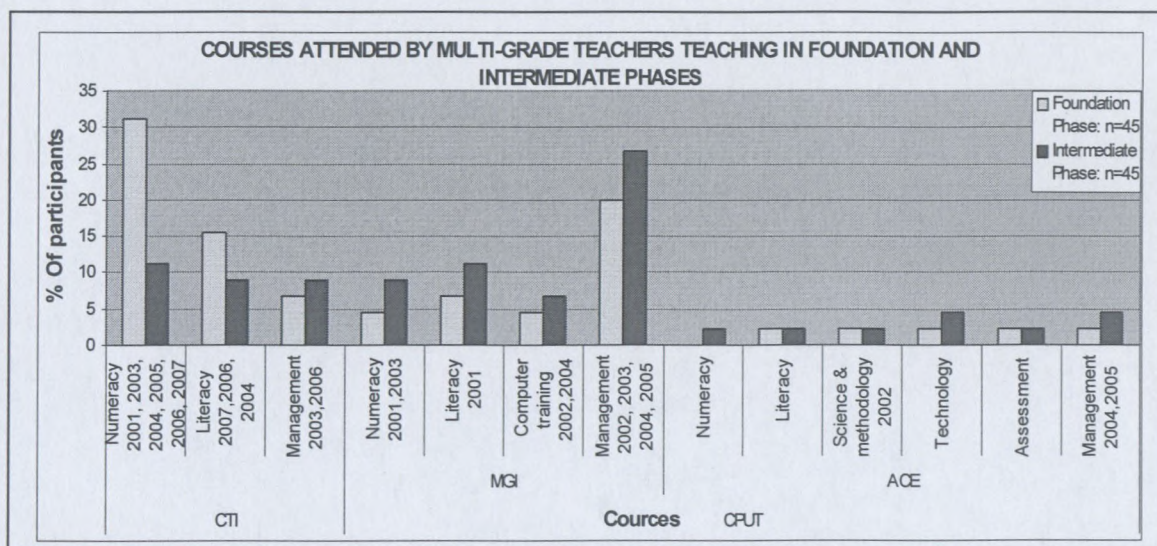


Figure 4.9: Courses attended by multi-grade teachers teaching in foundation and intermediate phases

With regard to courses offered by Cape Peninsula University of Technology (CPUT), it is evident in figure 4.9 that the frequency of responses for teachers, who attended the MGRSI and Cape Teaching Institution (CTI) courses, is higher than those who attended the Advance Certificate for Education (ACE) courses. The reason for this would be that the intervention linked the "MGI" courses to the MGRSI, which expected teachers to participate. The WCED initiated the CTI courses and nominated teachers to attend whilst providing substitutes. The MGRSI resulted in the development of the ACE courses and teachers attended by choice.

The frequency of responses for the recorded intermediate phase multi-grade teachers, attending the courses offered by CPUT, is higher than those of the recorded foundation phase multi-grade teachers. The frequency of responses for foundation phase multi-grade teachers, attending the CTI literacy and numeracy courses, is higher than the responses for the recorded multi-grade intermediate phase teachers. On the other hand, the frequency of responses for multi-grade intermediate phase teachers, who attended the MGRSI literacy and numeracy courses, were higher than the frequency of responses for those teaching in the foundation phase.

With regard to all the other courses, the frequency of responses for multi-grade intermediate phase teachers' attendance was higher. The high incidence of teachers attending the MGRSI management courses is probably an indication of the large training need experienced by the multi-grade teachers in this field.

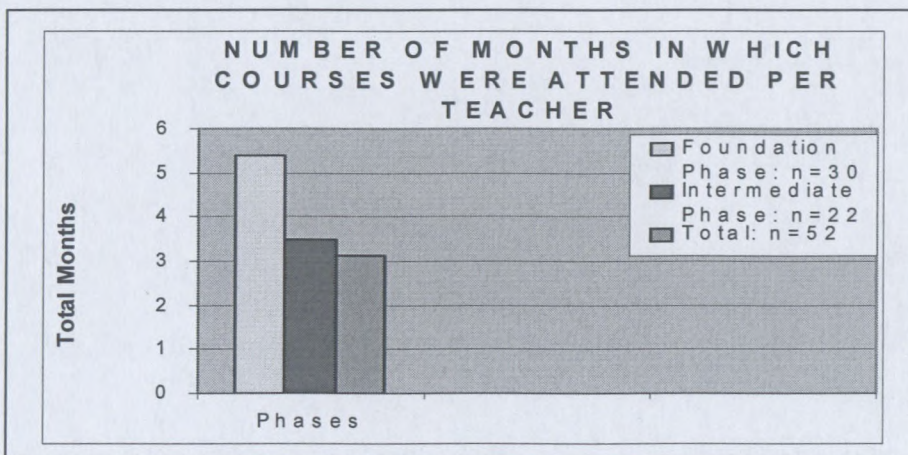


Figure 4.10: Average number of months courses were attended per teacher

In total, as indicated in figure 4.10, the frequency of responses for months spent on courses over a period of seven years (2001 to 2007) is higher in the case of foundation phase multi-grade teachers than in the case of the intermediate phase multi-grade teachers.

Overall as indicated by figure 4.9 it is clear that sufficient in-service training was provided on a constant basis for both phases. The frequency of responses for the attendance of these courses is an average of 3.1 months per teacher in figure 4.10. The researcher questions the quality of the implementation of the content of these courses, especially in the light of the small improvements observed in the literacy and numeracy results as demonstrated in figure 4.13.

(b) Qualifications of multi-grade teachers

The survey shows that multi-grade teachers have at least a three or four year teacher's diploma. Intermediate phase teachers, as indicated in figure 4.11, are slightly academically and professionally better qualified than their colleagues are in the foundation phase.

Only a few multi-grade teachers managed to obtain a more advanced qualification in addition to a basic teacher's diploma, in which case the occurrence of this phenomenon is higher amongst the intermediate phase multi-grade teachers.

It is a concern that most of the teachers only have a basic teacher's diploma which they obtained about 20 years ago, which most probably did not prepare them for the challenges of multi-grade education. The poor attendance of multi-grade and other inset courses is a further concern, especially in the light of the poor academic and professional preparation these teachers have relating to multi-grade teaching.

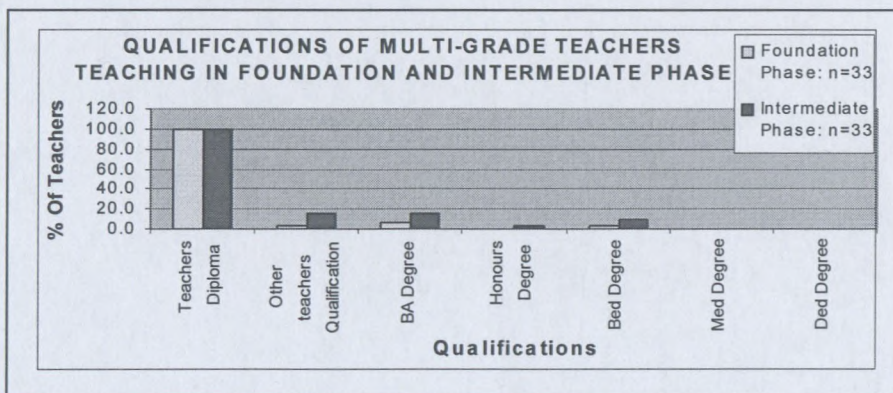


Figure 4.11: Qualifications of multi-grade teachers teaching in foundation and intermediate phases

4.3.1.4 Comparing learners progress with their literacy and numeracy results

According to figure 4.12, the frequency of responses for the average progress of learners between 2002 and 2006 of foundation and intermediate phase grade three and six multi-grade learners observed, are 88.1% and 87.3% respectively.

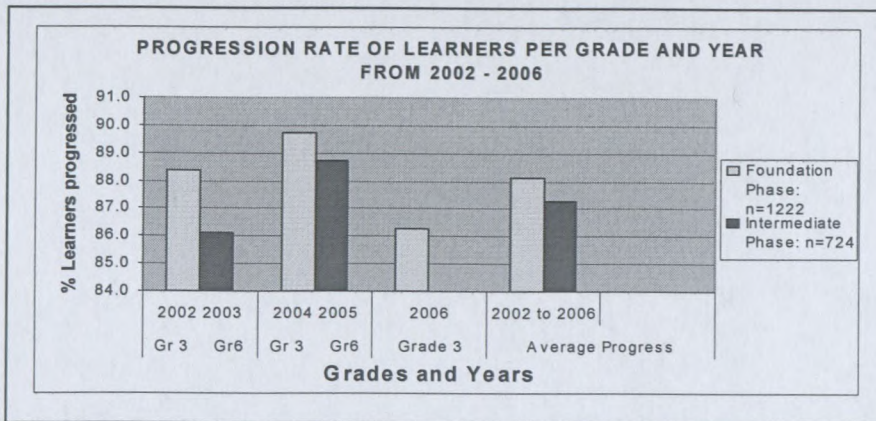


Figure 4.12: Progression rate of learners per grade and year from 2002 to 2006

In relation to the frequency of responses for learners' average provincial diagnostic grade 3 and grade 6 literacy and numeracy results, obtained during the same period, differs significantly from the average progression percentages as revealed. These results, as reflected in figure 4.13, are respectively 33.3% for literacy and 23.4% for numeracy in the foundation phase and 34.6% for literacy and 7.03% for numeracy in the intermediate phase. This reflects a respective difference of 64.7% (88.1% - 23.4%) and 80.3% (87.3% - 7.03%) between the average progression and average numeracy results and a respective difference of 54.8% (88.1% - 33.3%) and 52.7% (87.3% - 34.6%) between the average progression and average literacy results for the foundation and intermediate phases.

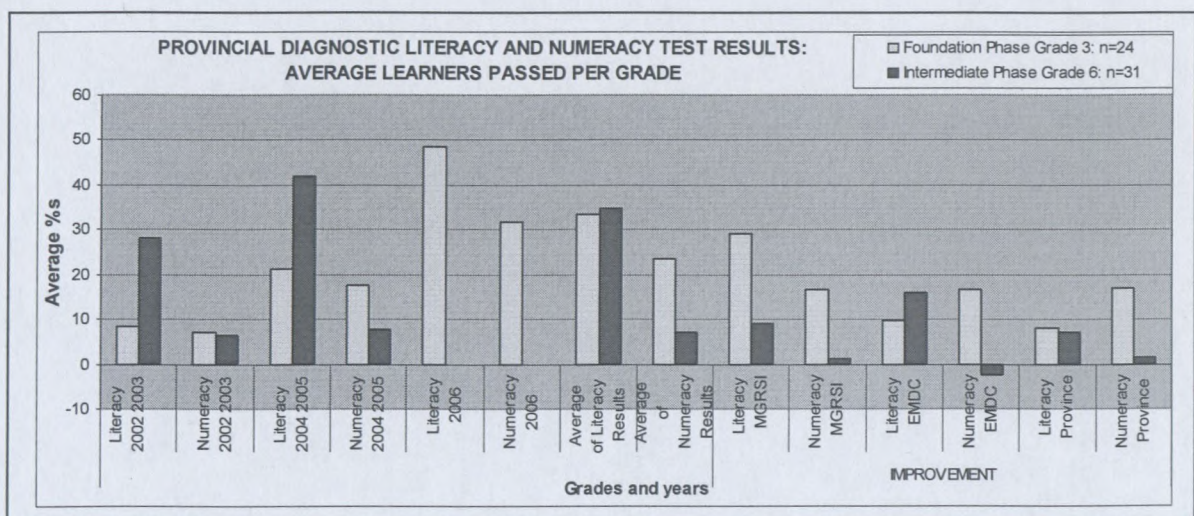


Figure 4.13: Provincial diagnostic literacy and numeracy test results of learners per grade and year from 2002 to 2006

As indicated in figure 4.13 the frequency of responses for improvement of the average literacy and numeracy provincial diagnostic test results between 2002 and 2006, in the observed multi-grade schools, was higher in the foundation phase than in the intermediate phase. The frequency of responses for improvement for the average multi-grade foundation phase results was 29.2% in literacy and 16.6% in numeracy over this period. It differs significantly from the average multi-grade intermediate phase results whose frequency of responses for improvement was only 9.2% in literacy and 1.3% in numeracy over the same period.

In the light of above it is of significant interest to observe in figure 4.12 that although the average progression of multi-grade foundation phase learners dropped by 2.1% (88.4% - 86.3%) between 2002 and 2006, there was an increase in their average literacy and numeracy results. The frequency of responses for the percentage average progression of multi-grade intermediate phase learners grew by 2.6% (88.7% - 86.1%) between 2003 and 2005, whilst there was a drop in the average literacy and numeracy results, which indicates that the correlation between the average progress of multi-grade learners and their average diagnostic test results could not be ignored.

Note has to be taken, as indicated in figure 4.13, of the improvement in the average diagnostic test results of the 2002 group of grade three learners who were tested again in grade six in 2005. An improvement of 33.8% (42.01% - 8.25%) in literacy and 0.6% (7.8% - 7.2%) in numeracy is observed between what was achieved in 2002 and again in 2005. It is also observed in figure 4.12 that there was only a difference of +0.3% (88.7% - 88.4%) between the 2002 (grade 3) and 2005 (grade 6) group average progression results. This improvement in the average diagnostic test results and stability in the average progression results could be an indication that teachers laid the foundation for literacy and in a lesser instance for numeracy, in such a manner that learners did not fall further back and that the contribution by the following grades could play a part.

The researcher further observed in figure 4.13 that the schools participating in the MGRSI, which he analyzed, showed a higher average improvement in their **literacy results** than the rest of the schools in the district and in the province. This is applicable for both the foundation phase for the period 2004 to 2006 and the intermediate phase for the period 2003 to 2005. The variances relating to the average improvement of the literacy results between the MGRSI participating schools and the total schools in the district and the province are respectively **19.4%** (29.2% - 9.8%) and **21%** (29.2% - 8.2%) for the **foundation phase** and **7.6%** (9.2% - 1.6%) and **2.1%** (9.2% - 1.6%) for the **intermediate phase**.

Although the researcher notices an improvement with regard to the numeracy results relating to the MGRSI schools participating in the analysis, for the same period mentioned above, the situation relating to the average numeracy results differs substantially with regard to the experience with the literacy results. The calculated variances are respectively **0%** (16.6% - 16.6%) and **-2%** (16.6% - 16.8%) for the **foundation phase** and **-1.3%** (1.3% - 2.6%) and **-0.2%** (1.3% - 1.5%) for the **intermediate phase**.

From the discussion above the researcher can assume that the MGRSI had a positive impact on learner performance where he observed a substantial improvement between the MGRSI average schools results and those of the district and the province as well as the improvement identified between the successive diagnostic test results.

4.3.1.5 Responses from multi-grade teachers with regard to role-players

(a) Teacher logistical position

According to figure 4.14, 50% (32) of the population of multi-grade teacher respondents (64) travel more than 20 kilometres to their schools and back. 45.5% of them are foundation phase teachers and 54.8% are intermediate teachers. Most of them (80%) travel on their own. 60% of respondents indicated that they have a computer at home and 53% have access to the internet. Although more foundation phase teachers (66.7%) than intermediate phase teachers (51.4%) indicated that they have a computer at home, access to internet was in this instance higher for the intermediate phase teacher respondents namely 62.5% compared to those of the foundation phase which was 43.8%

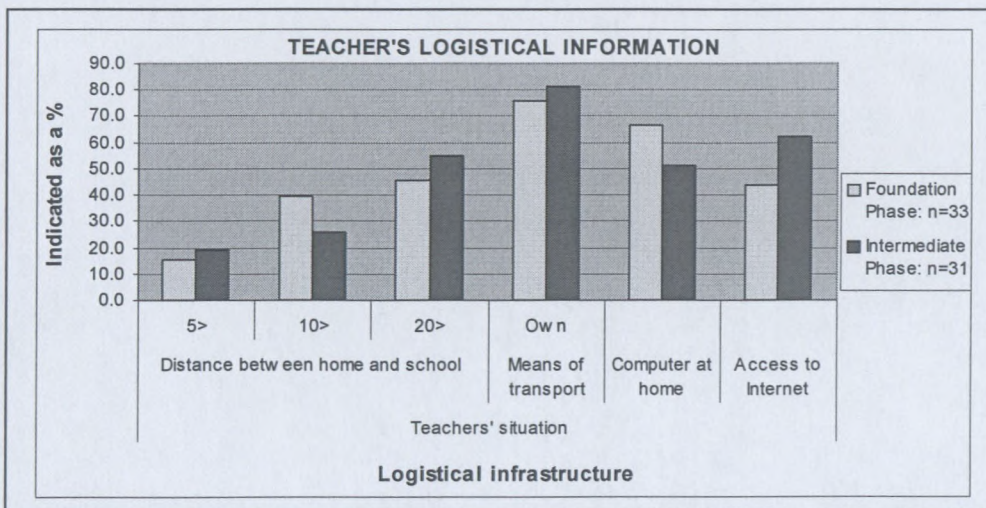


Figure 4.14: Teacher logistical position

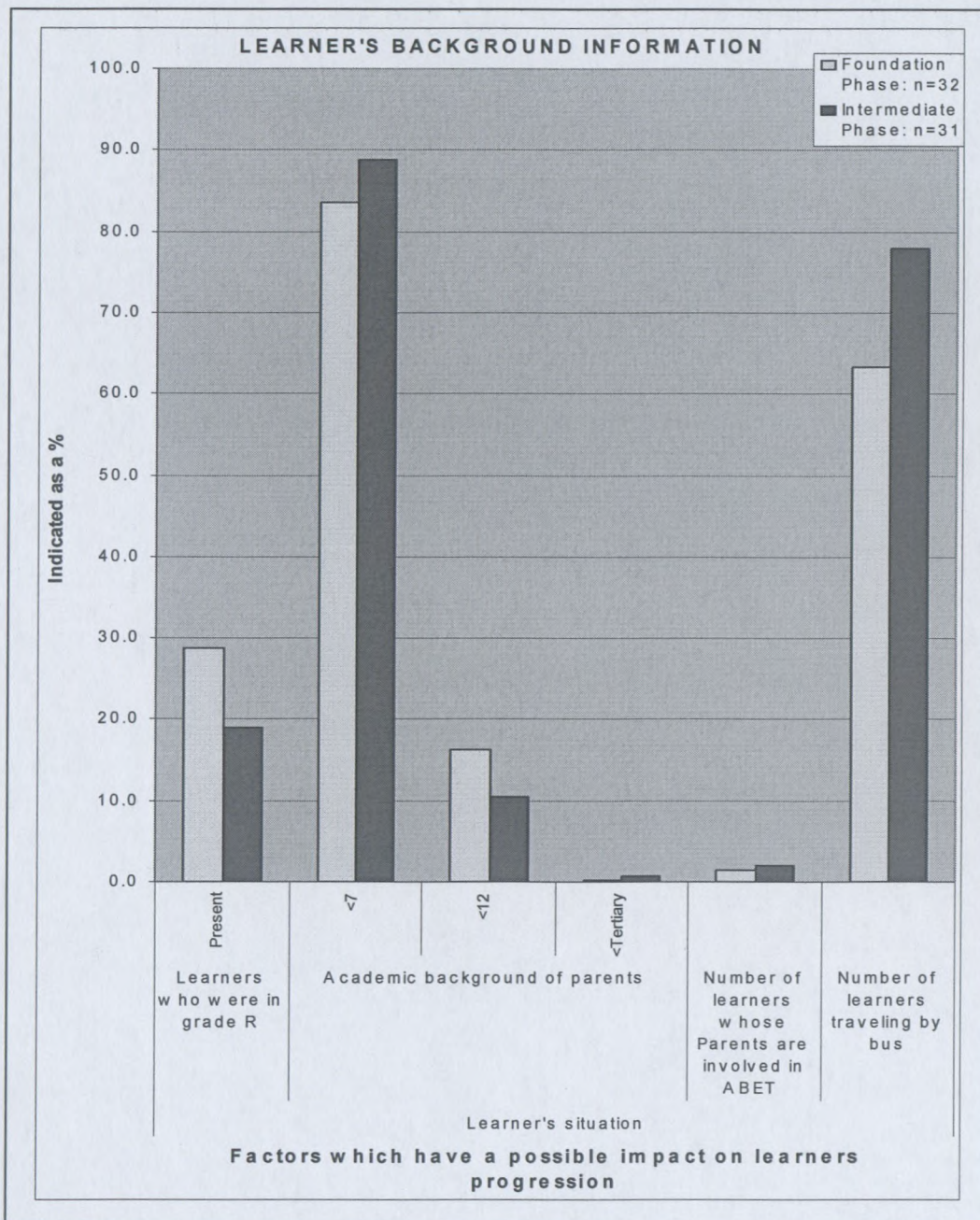
(b) Learners logistical and background position

Figure 4.15: Learner logistical and background position

Figure 4.15 indicates that 24.3% (313) out of the total amount of learners (1286) surveyed, were in a grade R-class before going to school. The academic background of 86% (948) of the population of parents (1099) of the learners who fell in this survey was below grade 7. Five point two percent (88.8% - 83.6%) more intermediate phase parents than foundation phase parents academic background was below grade 7.

Only 1.33% (15) of the population of parents (1128) of these learners were involved in ABET. It is further observed that 65% $((52.3\% + 78\%)/2)$ of these learners had to travel by bus on a daily basis to be able to get to school which means that all of them were staying more than 5 kilometres from their schools. It is also of interest to observe that more learners who were in classes where there were learners who were previously in grade R, travel by bus transport than learners do who were in classes where there were not learners who were previously in grade R.

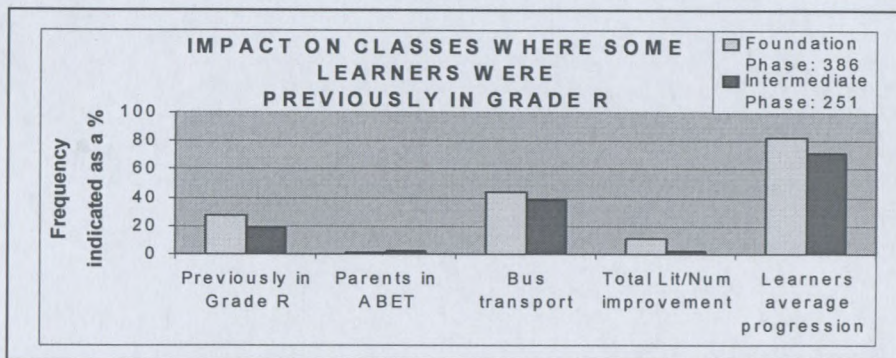


Figure 4.16: Impact on classes where some learners were previously in grade R

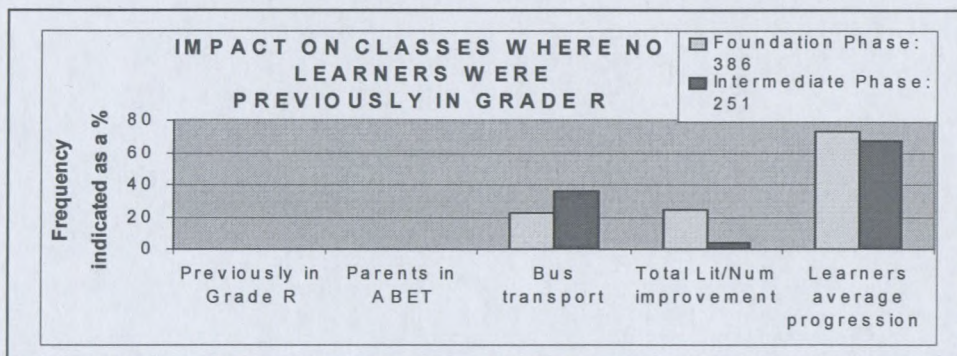


Figure 4.17: Impact on classes where no learners were previously in grade R

Figure 4.16 indicates the frequency of responses for the percentage of learners who were previously in grade R occupying 28.8% of the foundation and 18.9% of the intermediate phase classes, which they attend. The analysis further finds, as indicated in figure 4.17, that the frequency of responses for the improvement of literacy and numeracy results, predominantly in the foundation phase, is higher in the instance where learners were not previously in grade R. The compared difference between the respective average **literacy and numeracy results** for multi-grade learners in the foundation phase is found to be 24.36% (figure 4.17) against 11.19% (figure 4.16) and 4.03% (figure 4.17) against 2.37% (4.16) for multi-grade learners in the intermediate phase.

On the other hand, the frequency of responses for the average **progression** of multi-grade learners in the foundation and intermediate phases who are in classes where there are learners that were previously in grade R is higher than those who were not. When compared it differs respectively by 82.8% (figure 4.16) against 73.4% (figure 4.17) and 71.4% (figure 4.16) against 66.9% (figure 4.17). These results indicate that learners who **were not previously in grade R** have a better chance to repeat a year and subsequently fare better in their literacy and numeracy results. On the other hand, these results also indicate that although those learners who **were previously in grade R** did not fare as well in their literacy and numeracy results as the group who were not previously in grade R, their progression rate was higher which indicates that their exposure to grade R made a difference.

The researcher observes in figure 4.16, that in both the foundation (1.47%) and the intermediate phase (1.98%) classes, where there are learners who were previously in grade R, the frequency of responses for the average parent involvement in ABET (Adult Based Education and Training), is higher (1.67%) than in the instances where learners were not previously in grade R (0%).

Although learners, who are in grade R, are not allowed to be transported by government transport the frequency of responses for learners in grade 3 (44%) who were previously in grade R travel by bus to school is higher than those who were not previously in grade R (21%).

(c) The community participation

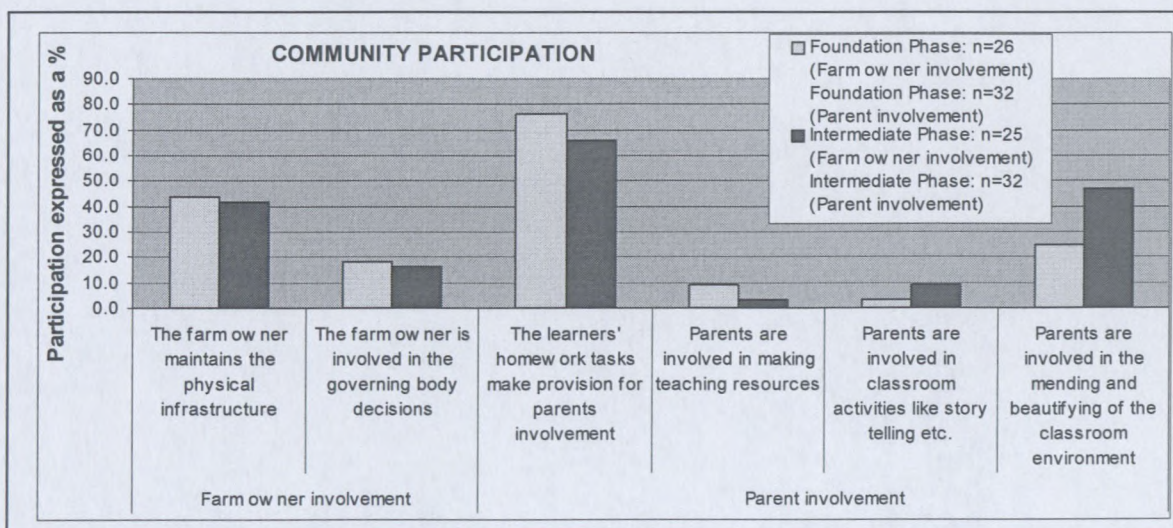


Figure 4.18: Community participation

(i) Farm owner participation

Figure 4.18 indicates that a proportion of 44% (11) of the population of multi-grade foundation phase respondents (26) and a proportion of 41.7% (10) of the population of multi-grade intermediate phase respondents (25) (average of 43%) reported that the farmers attached to their schools maintain the physical structures of the schools. Only a proportion of 18.5% (5) of the population of multi-grade foundation phase respondents and a proportion of 16% (4) of the population multi-grade intermediate phase respondents (average of 17.3%) reported that farmers are involved in governing body decisions.

(ii) Parent participation

As indicated in figure 4.18 a proportion of 76.5% (26) of the population multi-grade foundation phase respondents (32) and a proportion 65.6% (21) of the population of multi-grade intermediate phase respondents (32) (average of 71.2%) believe that learners' tasks make provision for parent involvement. It is indicated by a proportion of 25% (8) of the population multi-grade foundation phase respondents and a proportion 47.1% (16) of the population multi-grade intermediate phase respondents (average of 36%) that the parents are involved in maintaining and beautifying their learners' classrooms. It is also indicated by 9.4% (3) and 3.2% (1) of the population of multi-grade foundation phase respondents and 3.4% (1) and 9.4% (3) of the population of multi-grade intermediate phase respondents (average of 6.6% and 6.4%), that those parents are not involved in making teaching resources or contribute towards classroom activities such as story telling.

4.3.1.6 Concluding remarks

The researcher made the following conclusion from the statistical analysis:

Although the representation of the feedback received was uneven, with regard to the involvement of schools in the implementation cycles, it gave sufficient and meaningful information relating to the social and biographical context of the multi-grade situation in the West Coast Winelands EMDC.

The survey found that the multi-grade teacher respondents are on average over forty seven years of age, have three years professional teacher training, have more than twelve years experience in multi-grade classes and have a total teaching experience of over nineteen years.

The survey also showed that foundation and intermediate phase multi-grade teachers had an initial experience of respectively ten and seven year mono-grade teaching before they taught in a multi-grade context. The researcher expected that this initial mono-grade experience would have an influence on their future approach towards their methodology in the multi-grade class in the sense that they are not sufficiently prepared for the challenges of more grades in one class. The respondent foundation and intermediate phase multi-grade teachers further indicated that their respective experience in mono-grade classes were mostly in grade two and grade six. This fits in well with the phase where they taught at the time of the survey. The researcher also found that when the foundation and intermediate phase multi-grade teachers taught in other phases they tended to teach respectively in grade four and grade three. This experience should provide them with knowledge and skills to understand and manage the bridging challenge between the two phases and apply it where there is a need for a multi-grade combination of grade three and four. This will provide the opportunity to address possible backlogs and prepare new grade four learners for the different intermediate phase challenges from an informed perspective.

As multi-grade teachers tend to have only a basic teacher's qualification and only a few are found to have an additional or further qualification, this situation calls for focussed in service training opportunities which will empower teachers to address the multi-grade challenge seriously. Although substantial training courses were available as indicated in figure 4.9 the frequency of responses for attendance of in service training courses by multi-grade teachers, which is 3.1 months per teacher over a period of seven years, as indicated by figure 4.10, was very poor. The frequency of responses for attendance of the MGRSI courses was the highest for the intermediate phase multi-grade teachers whilst the frequency of responses for attendance of the CTI courses was the highest for their counterparts in the foundation phase. It is also of interest to note that the frequency of responses for attendance of the management courses was higher in the instance of the intermediate phase multi-grade teachers than those of the foundation phase were. Overall it is found that the foundation phase teachers, teaching in multi-grade classes, spend on average more time on in service training courses than the intermediate phase multi-grade teachers, whilst the frequency of responses for attendance of the ACE courses is also low for both phases. Most of these teachers have been teaching for longer than twenty years, have basic teaching qualifications and should need to be re-skilled with regard to their teaching knowledge and skills. The researcher has to question the application of what teachers learned during these courses and what impact the application has especially in the light of the small improvement, which is observed relating to the literacy and numeracy results as demonstrated in figure 4.13.

The researcher questions the teaching methods of multi-grade teachers, their poor attendance of teacher training courses and the subsequent application of what they had learned at these courses. The department of education should consider different options in addressing this phenomenon in the future. These options should include an adapted approach towards in-service training and initial training of multi-grade teachers, which will make a difference for learners and communities in the multi-grade context.

The logistical position of the multi-grade teacher is also very challenging, as most of them have to travel more than twenty kilometres to get at school, mostly in their own transport. The limited access to the electronic media by these teachers has even worsened this scenario. This situation should be addressed seriously in order to assure that quality teachers be kept at these schools and that others feel that it is worthwhile to apply to these schools.

It is a great concern that although the parents' of learners in the multi-grade classes, on average, have an academic qualification of below grade seven only a few of them are participating in the ABET programmes. It is also of interest to note that more parents of learners who were previously in grade R are attending ABET classes. The researcher observed that the rural school parents who realise a need for the improvement of their academic qualification and who are better educated are more serious and feel a stronger need for as early as possible education for their children. The incidence, as illustrated in figure 4.16, where the relation between the percentage of grade R learners, learners travelling by bus and parents involvement in ABET is showed, is a strong indication of the relation between parent academic qualification and the strong need for education for their children.

The researcher could not find a direct relation with regard to the farmer's involvement in governing body decisions and their involvement in the maintenance of the physical infrastructure of the school. This aspect will need further investigation especially with regard to the impact on quality teaching and learning which the farm owner's involvement in the governing body decisions and his or her role in the maintenance of the physical infrastructure will have. Although the researcher observed a strong belief in parent involvement in the tasks of learners, he found little evidence of support from parents relating to their involvement in classroom activities and improvement of the teaching environment.

The gap observed in figures 4.12 and 4.13 between the number of multi-grade learners who progressed and their achievement in the literacy and numeracy provincial diagnostic tests over the past four years is a common concern. The multi-grade teachers should address this challenge by the tempo, quality and level of teaching and learning in the multi-grade context.

This gap could also be a result of the small number of multi-grade learners (see figure 4.15) who attended some form of pre-school education before admission to grade 1. This leads to the possibility that most of the learners starting in grade 1 are actually on a grade R level or worse. Considering the low education levels of their parents, the scenario looks even duller. If the gap between the progression of learners and the demonstrated literacy and numeracy results is not addressed seriously it will cause a bottle neck of learners who cannot cope with the growing challenges at the end of the General Education Training (GET) band and the start of the Further Education and Training band (FET). This will further result in the drop out of learners, which in its turn will lead to crime and violence. As a result of this the question the researcher asks is how learners can progress to the next grade if they are not able to read, write or count according to the expected levels of the grade. The SDU report also mentioned this concern and stated, "It is worrisome that while the learners' performance results show some improvements, even with these improvements, the majority are still not achieving even a 50% pass" (SDU, 2007:6).

From the results indicated in figures 4.16 and 4.17 it is evident that learners who were not previously in grade R have a better chance to repeat a year and subsequently fare better in their literacy and numeracy results. These results also indicate that although those learners who were previously in grade R did not fare as well in their literacy and numeracy tests as the group who were not previously in grade R, their progression rate was higher, which indicates that their exposure to grade R made a difference in this regard. This association between a lower progression percentage and a better improvement in the literacy and numeracy diagnostic test results indicates that the repetition of a grade at an early stage, especially when the learner was not previously in grade R, results in better consolidated literacy and numeracy knowledge and skills. The improvement showed by the 2002 grade three groups in the literacy and numeracy results when they were in grade 6 in 2005 and the small difference between the progression rates of the 2002 group in 2005 is an indication of the phenomenon discussed above and the contribution which the grades that followed grade 3 probably made. The influence of the MGRSI, on the average literacy and numeracy improvement results, as demonstrated in figure 4.13, should also not be underestimated.

Most learners have to travel by bus to get to school. This will certainly have an influence on their attendance pattern especially when the weather is bad or the bus is late. It is further significant to observe in figures 4.16 and 4.17 that more learners, who are in classes where there are learners who were previously in grade R, make use of bus transport than learners who are not in classes where there are learners who were previously in grade R.

The researcher asks the question how these learners were able to attend the Grade R classes whilst the department of education did not provide bus transport for grade R learners. It seems that many learners attend grade R classes without the availability of transport.

4.3.2 Data on logic framework outcomes

4.3.2.1 Responses from the project management level structure (Questionnaire C)

The researcher received responses from three officials who were part of the project management structures and who were involved in the MGRSI at provincial level as well as in the West Coast Winelands EMDC. The researcher will discuss these responses under the headings, position in support structure, reasons for the MGRSI and intended outcomes relating to the logic framework. The responses related to results obtained from the questionnaire for the project management structure (Appendix N). The researcher based the answers on the questions on an order of preference rating scale where one is the main preference and so forth. The responses reflected the respondents' perceptions and expectations with regard to the stated reasons and outcomes of the MGRSI. The researcher presented the data where applicable as percentages.

(a) Position in support structure

During the indicated period, the WCED promoted one director as chief director in the place of one who retired. Both mentioned chief directors were responsible for the implementation of the MGRSI. The directors were responsible for the management of the MGRSI in the districts. Figure 4.19 indicates the position changes in the project management structure.

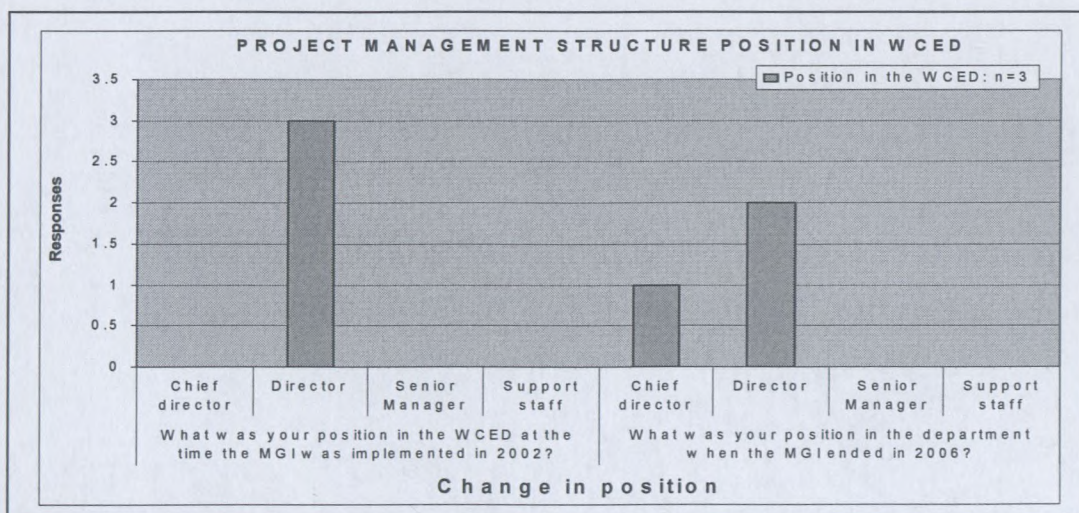


Figure 4.19: Position changes in the WCED support structure

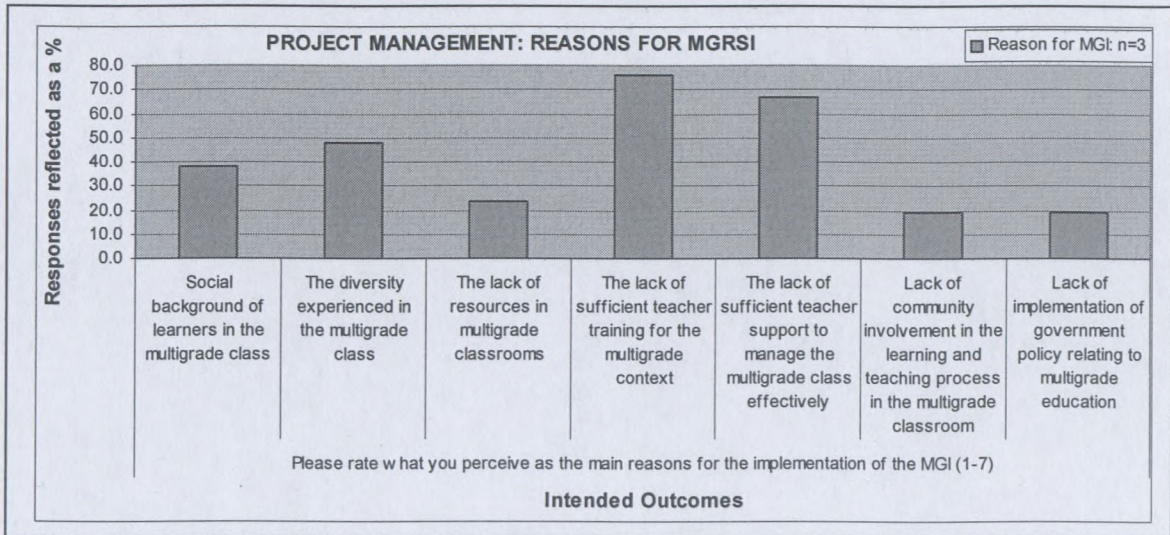
(b) Reasons for the MGRSI

Figure 4.20: Reasons for MGRSI as perceived by respondents who were involved at project management level

Figure 4.20 illustrates what the management structure perceived as main reasons for the implementation of the MGRSI. The researcher found similarities between the reasons in related international resources as previously discussed in chapter 2 and the reasons stated in the MGRSI documentation as demonstrated by the first five statements in figure 4.20.

The management structure perceived the intended outcome “training of teachers to specifically teach in multi-grade settings” as the most important reason amongst the related reasons for the MGRSI and is rated 78.2%.

The frequency of responses for the intended outcome, “the lack of sufficient teacher support to manage the multi-grade class effectively” is the second highest namely, 66.7%, with regard to the perceived reasons for the MGRSI. The frequency of responses for the intended outcomes, “the diversity experienced in the multi-grade class”, “the social background of learners” and the “lack of resources in multi-grade classes” indicates that these intended outcomes are perceived as the least important related reasons for the MGRSI and were rated 47.6%, 38.1% and 23.8% respectively.

All the respondents agreed that a multi-grade intervention should consider all these outcomes.

The two statements, which referred to community involvement and implementation of government policy, which were both not stated reasons for the MGRSI, were perceived as the least important related reason for the MGRSI for which the frequency of responses received was 19%. This result is a clear indication that the management structure did not perceive these outcomes as possible reasons for the MGRSI.

It is clear from the responses received that there is significant consensus that the training of teachers to teach in multi-grade classes is perceived to be the most important reason for the MGRSI. The responses on the other possible reasons for the MGRSI varied significantly and resulted in a low frequency of responses, which is an indication that although there is not a consensus with regard to individual perceptions of reasons for the MGRSI, individuals considered all of them as possible reasons for the MGRSI.

(c) Intended outcomes

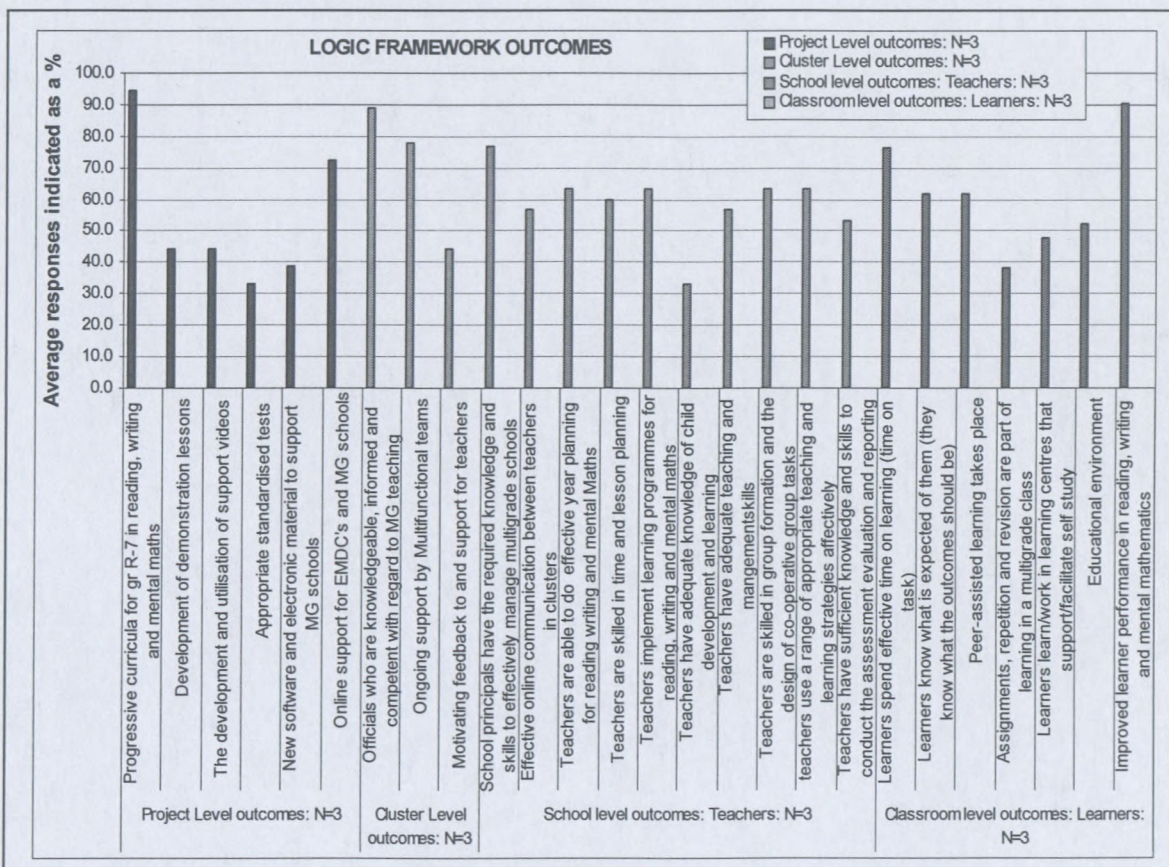


Figure 4.21: Expectation of respondents, who were involved in the project at management level and what outcomes of the MGRSI were the most successfully reached

Figure 4.21 demonstrates the rated expectations of the respondents who were involved at project management level, of what they expected to be the most successful intended outcomes of the MGRSI. The display of the intended outcomes is under the headings of project level outcomes, cluster level outcomes, school level outcomes (teachers) and classroom level outcomes (learners).

(i) Project level outcomes

“Establishment of a progressive curricula for grade R-7 in reading, writing and maths” and “online support for EMDCs and multi-grade schools” are intended outcomes for which the frequency of responses for the rated expectation is the highest namely 94.4% and 72.2%. This stresses the need, expressed by the management structure, for teachers to have clear guidelines in terms of what the curriculum expects them to do and that support to them has to be as close as possible.

The rated expectation for success for the development of resources addressed by the intended outcomes “development of demonstration lessons”, “the development and utilisation of support videos” are the two intended outcomes for which the frequency of responses are the second lowest namely 44.4% for both. The rated expectation for success for the development of resources addressed by the intended outcomes “new software and electronic material to support multi-grade schools” and “appropriate standardised tests”, are the two intended outcomes for which the frequency of responses is the lowest, which is respectively 38.9% and 33.3%.

The responses on the other outcomes varied significantly and resulted in a low frequency of responses, which is an indication that although there is not a consensus with regard to individual project level outcomes individuals considered all of them as expected to be successful because of the MGRSI.

(ii) Cluster level outcomes

“Officials who are knowledgeable, informed and competent with regard to multi-grade teaching” is an intended outcome for which the frequency of responses for the rated expectation for success is the highest namely 88.9%. “Motivating feedback to and support for teachers” is the intended outcome for which the frequency of responses are the lowest namely 44.2% while “ongoing support by multifunctional teams” is the intended outcome for which the frequency of responses for the rated expectation for success is second in this category namely 77.6%.

From above it is evident that the management structure has high expectations with regard to how prepared the officials should be and the role that support should play in this process.

(iii) School level outcomes: Teachers

“School principals have the required knowledge and skills to effectively manage multigrade schools” is the intended outcome for which the frequency of responses for the rated expectation for success is the highest in this category, namely 67.7%. Although not convincingly, the management structure indicated that their number one expectation should be that the school principal has the capacity to be able to manage the multi-grade school effectively.

The frequency of responses for the rated expectation for success is 63.3%, which is the second highest of the intended outcomes. They are “teachers are skilled in group formation and the design of co-operative group tasks”, “teachers use a range of appropriate teaching and learning strategies affectively”, “teachers implement learning programmes for reading, writing and mental maths” and “teachers are able to do effective year planning for reading, writing and mental Maths”.

“Teachers are skilled in time and lesson planning”, “teachers have adequate teaching and management skills”, “effective online communication between teachers in clusters” and “teachers have sufficient knowledge and skills to conduct the assessment evaluation and reporting of learner progress” are intended outcomes, for which the frequency of responses for the rated expectations for success are the 3rd to 4th highest. They are 60%, 56.7% and 53.3% respectively.

“Teachers have adequate knowledge of child development and learning”, is the intended outcome for which the respective frequency of responses for the rated expectation for success is the lowest namely 33.3%.

The low percentages with regard to the expected skills teachers should have is an indication how members of the management structure differ in terms of what skills are seen as more important than other skills, which is an indication that the expectation should be that all the skills should be expected to be developed.

(iv) Classroom level outcomes: Learners

“Improved learner performance in reading, writing and mental mathematics” is the intended outcome for which the frequency of responses for the rated expectation for success is the highest namely 90.5%.

“Learners spend effective time on learning (time on task)” is the intended outcome for which the frequency of responses for the rated expectation for success is the second highest namely 76.2%. “Learners know what is expected of them (they know what the outcomes should be)” and “peer-assisted learning takes place” are intended outcomes for which the frequency of responses for the rated expectation for success is the third highest namely 61.9% for both. “Assignments, repetition and revision are part of learning in a multigrade class”, “learners learn/work in learning centres that support/ facilitate self study” and “educational environment” are the intended outcomes for which the respective frequency of responses for the rated expectation for success is the lowest namely 38.1%, 47.6% and 52.4%.

There is almost consensus found with regard to the management structure’s expectation for success with regard to the improvement of learners’ performance in reading, writing and mental mathematics, which indicates the seriousness around this issue in the WCED. Adding to it the expectation for success with respect to time spent on task is also high enough to mention. Although the responses relating to the other outcomes varied, it indicates that all these outcomes should get the attention they deserve.

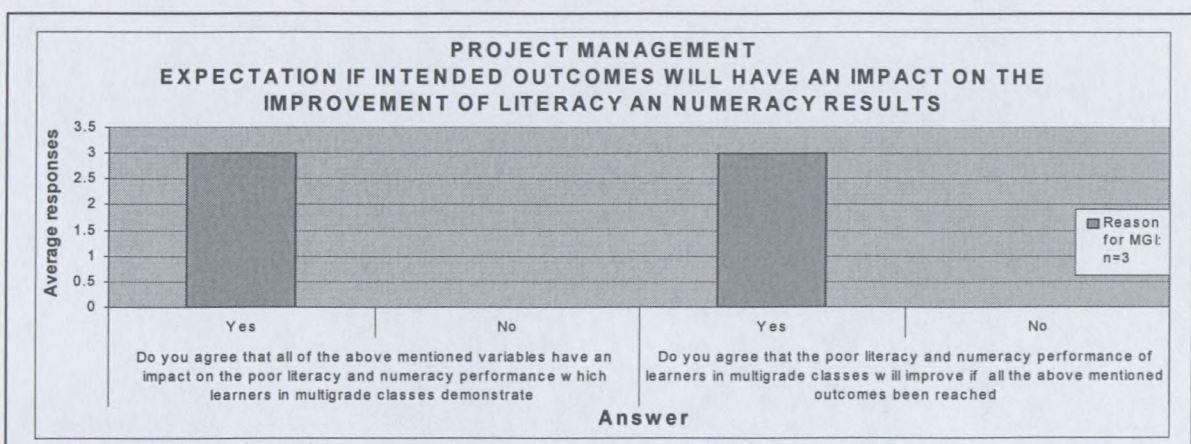
(d) Expectation if intended outcomes will have an impact on literacy and numeracy results

Figure 4.22: Expectation by respondents, who were involved at project management level, if the intended outcomes will have an impact on the literacy and numeracy results

Although not all senior managers agreed about what they expected to be the most successful in the MGRSI with regard to the stated intended outcomes, they all agreed that if the intervention had reached the intended outcomes the literacy and numeracy results would improve.

4.3.2.2 Responses from the support level structure (Questionnaire E)

The researcher received responses from eight officials who were part of the support level structures and who were involved in the MGRSI in the West Coast Winelands EMDC. The researcher will discuss the responses under the headings: position in support structure, component, and activities that constitute the structure of the MGRSI. The researcher based the responses, which related to results obtained from the support level structure questionnaire (Appendix K), on a selection scale, which reflects the opinion of respondents with regard to whether the component and activities, that constitute the structure of the MGRSI, formed part of the MGRSI activities.

(a) Position in support structure

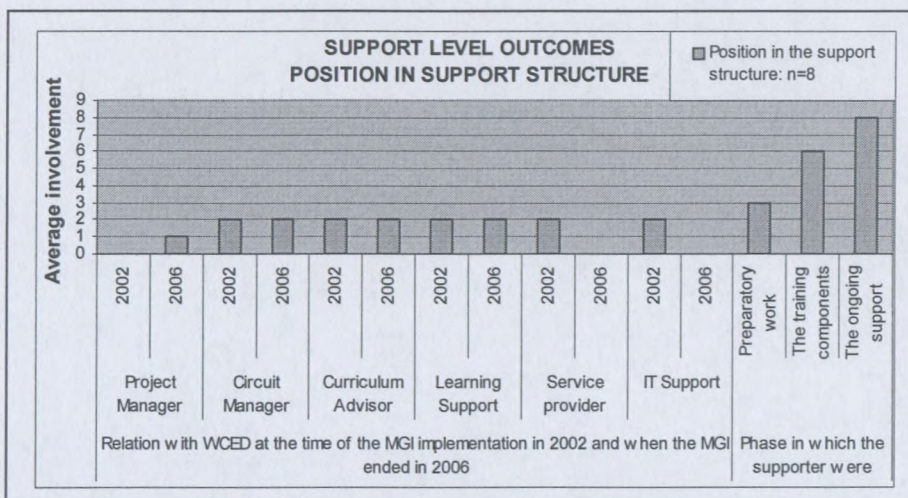


Figure 4.23: Position changes in the WCED support structure

No changes with regard to positions relating to the support staff of the EMDC were evident. The only visible change is the service provider who became a programme manager in the district. The IT support person did not indicate any involvement in 2006. Although all eight respondents indicated that they were involved in ongoing support, six indicated that they were also involved in the training components and three of them indicated that they were involved in preparatory work.

(b) Component and activities that constitute the structure of the MGRSI

The respondents, who were involved in the support level structure, indicated on a selection scale, as illustrated in figure 4.24, which intended outcomes, in their opinion, formed part of the MGRSI preparatory and training strategies. The researcher displayed the intended outcomes under the headings of preparatory work, the training components, the ongoing support and the foci, which formed part of the MGRSI training strategy. Not all these outcomes formed part of the MGRSI intended outcomes and the researcher will indicate them as such.

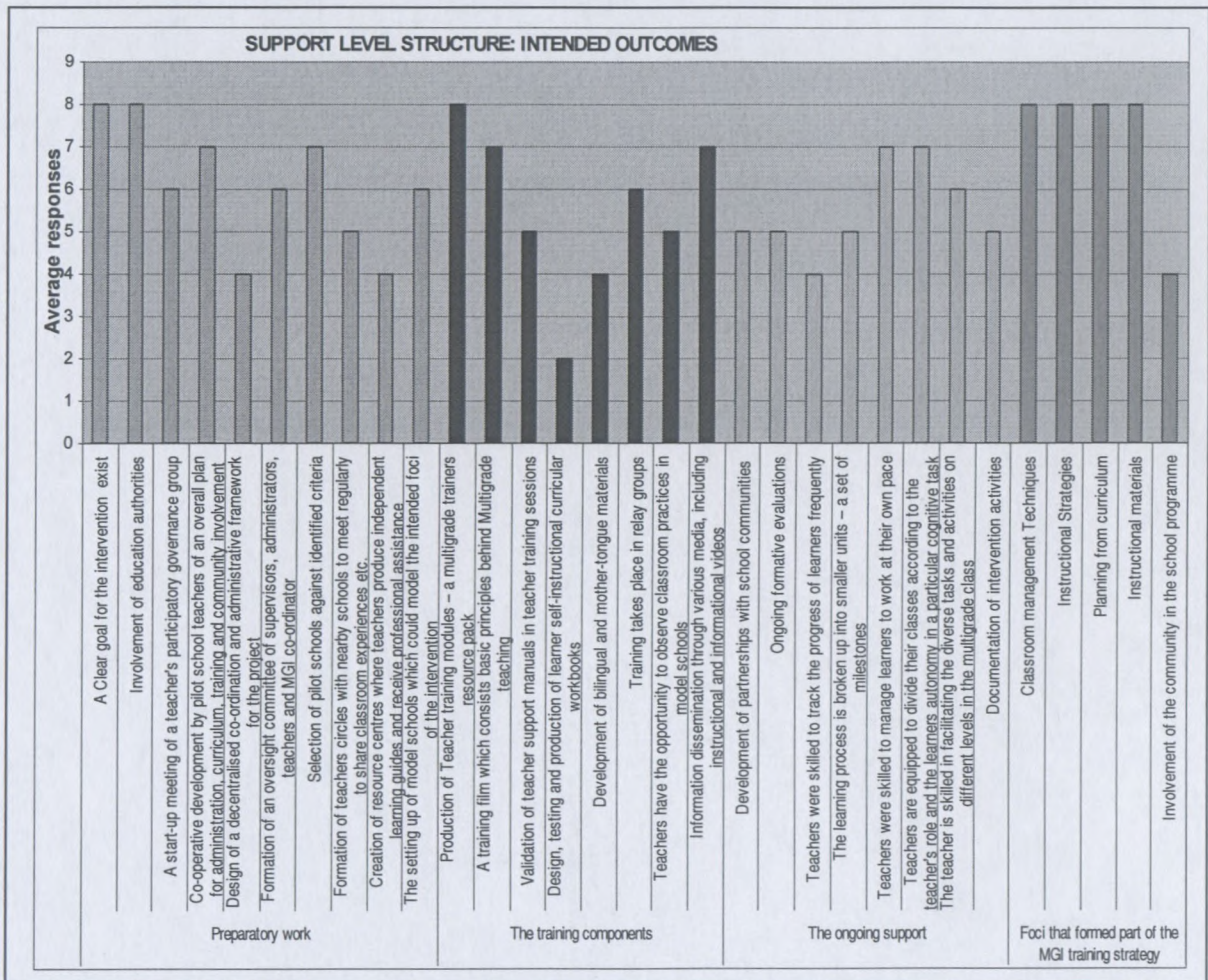


Figure 4.24: Opinion of support level respondents as to whether the support level outcomes were part of the MGRSI

(i) Preparatory work

All eight of the respondents agreed that the two intended outcomes ie. "a clear goal for the intervention exists" and "involvement of education authorities" formed part of the preparatory work.

The support level structure respondents indicated that they were aware of the following support level intended outcomes, which were respectively according to seven, six, six, six and five of the eight respondents, part of the preparatory work. These outcomes are: "The selection of pilot schools against identified criteria", "a start-up meeting of a teacher's participatory governance group", "the setting up of model schools which could model the intended foci of the intervention", "formation of an oversight committee of supervisors, administrators, teachers and MGRSI co-ordinator". The "formation of teacher circles with nearby schools to meet regularly to share classroom experiences etc." is the last one mentioned. The outcome "design of a decentralised co-ordination and administrative framework for the project" was according to four of the eight respondents an intended outcome, which formed part of the preparatory work. This is also the intended outcome, which received the lowest response. All of the above-mentioned outcomes formed part of the initial preparatory work and part of the MGRSI training strategy.

Although it did not form part of the MGRSI preparatory work seven and four of the eight respondents, identified the outcomes "co-operative development by pilot school teachers of an overall plan for administration, curriculum, training and community involvement" and "creation of resource centres where teachers produce independent learning guides and receive professional assistance" as part of the preparatory work. These outcomes were derived from international multi-grade preparation for multi-grade training strategies, as previously mentioned by Rao (2004:13) and Rao, Herzberger and Chandy (2004:4) in chapter 2, and were put amongst the others to establish the perceived position it will have when presented as part of the intended preparation strategies.

(ii) The training components

The "production of teacher training modules – a multi-grade trainers resource pack", which supported the theoretical training, was according to all eight of the respondents an intended outcome which formed part of the MGRSI training strategy. The intended outcomes "a training film, which consist of basic principles behind multigrade teaching" and "information dissemination through various media, including instructional and informational videos" both formed, according to seven of the respondents, part of the MGRSI training strategy. "Training takes place in relay groups" and "teachers have the opportunity to observe classroom practices in model schools" were intended outcomes, according to six and five of the respondents, which respectively also formed part of the MGRSI training strategy. All of the above-mentioned outcomes did form part of the initial training components, which were part of the MGRSI training strategy.

Although the following outcomes did not form part of the MGRSI, the respondents still identified them as intended outcomes for the MGRSI training strategy as strongly as the others were. The pretended outcomes “validation of teacher support manuals in teacher training sessions”, “development of bilingual and mother-tongue materials” and “design, testing and production of learner self-instructional curricular workbooks” were nevertheless respectively, according to five, four and two of the respondents, identified as part of the MGRSI training strategy. These pretended outcomes were derived from international multi-grade training strategies discussed previously in chapter 2 by McEwan and Benveniste (2001:551), Rao (2004:13) and Rao, Herzberger and Chandy (2004:2) and were put amongst the others to establish the perceived position it will have when presented as part of the intended training components.

(iii) Ongoing support

As indicated on page hundred and eighty-nine of this chapter the MGRSI strategy for ongoing support refers to support components, which include certain departmental role players with expected specialised support functions, which they have to perform as part of their daily involvement in schools which they serve. It also refers to the role of cluster teams and the role, which the IT component should play, with regard to networking and sharing.

Although the MGRSI ongoing support strategy was clear with regard to the role players and strategy, the MGRSI did not mention clearly, what the foci of the expected support should be. Therefore, the researcher found it necessary to identify eight foci for support from the findings of an extensive literacy review done that formed part of the multi-grade methodology highlighted by RAO, Herzberger and Chandy (2004:1). The researcher stated these foci in the questionnaire as pretended outcomes for ongoing support, which also corresponds with some of the learner outcomes stated on page hundred and ninety of this chapter.

Not one of the pretended outcomes received a total selection by the respondents. On the other hand, the pretended outcomes “teachers were skilled to manage learners to work at their own pace” and “teachers are equipped to divide their classes according to the teacher’s role and the learner’s autonomy in a particular cognitive task” were both according, to the opinion of seven of the respondents, part of the MGRSI ongoing support strategy. The similarity between these pretended outcomes and the real intended outcomes are observable on page hundred and ninety of this chapter.

Furthermore, according to the opinion of six and five of the respondents, the respective pretended outcomes “the teacher is skilled in facilitating the diverse tasks and activities on different levels in the multigrade class” and “ongoing formative evaluations”, were part of the MGRSI ongoing support strategy, which is the case. The following pretended outcomes “development of partnerships with school communities”, “the learning process is broken up into smaller units – a set of milestones” and “documentation of intervention activities” were, according to the opinion of five of the respondents, part of the MGRSI ongoing support strategy which indeed was not the case.

The pretended outcome “teachers were skilled to track the progress of learners frequently” was, according to the opinion of four of the respondents, an intended outcome which formed part of the MGRSI ongoing support strategy and which was indeed the case as it is described in the learner outcomes on page hundred and ninety of this chapter. This was also the pretended outcome, which received the lowest response.

(iv) Foci of the MGRSI training strategy

All the indicated outcomes which were also part of the MGRSI training strategy, namely classroom management techniques, instructional strategies, planning from curriculum instructional materials were all, according to the opinion of all eight respondents, part of the MGRSI training strategy foci.

On the other hand, the outcome “involvement of the community in the school programme”, which was not part of the MGRSI training strategy, was according to the opinion of four of the respondents an intended outcome, which formed part of the MGRSI training strategy foci. This was also the outcome, which received the lowest response.

4.3.2.3 Responses from the school level structure (Questionnaire B)

The researcher received responses from sixty foundation and intermediate teachers who were part of the provincial literacy and numeracy diagnostic tests and who were involved in the MGRSI in the West Coast Winelands EMDC. The researcher will discuss these responses under the headings project level outcomes, cluster level outcomes and school level outcomes, which formed part of the logic framework outcomes. The researcher based the responses, which relate to results obtained from the questionnaire for the school level structure (Appendix G), on a four point rating scale, calculated as percentages. It reflects the respondents’ perceived ratings, with regard to the successes and challenges they experienced in their curriculum related professional development, because of the MGRSI.

(a) Project level outcomes

The perception of the respondents, namely the school level structure, how they experienced and benefited from the implementation of the intended project level outcomes are demonstrated in figure 4.25. The researcher displayed the intended project level outcomes under the headings - availability of curricula, demonstration schools and lessons, video support, standardised tests, impact of computer hardware and software and internet support.

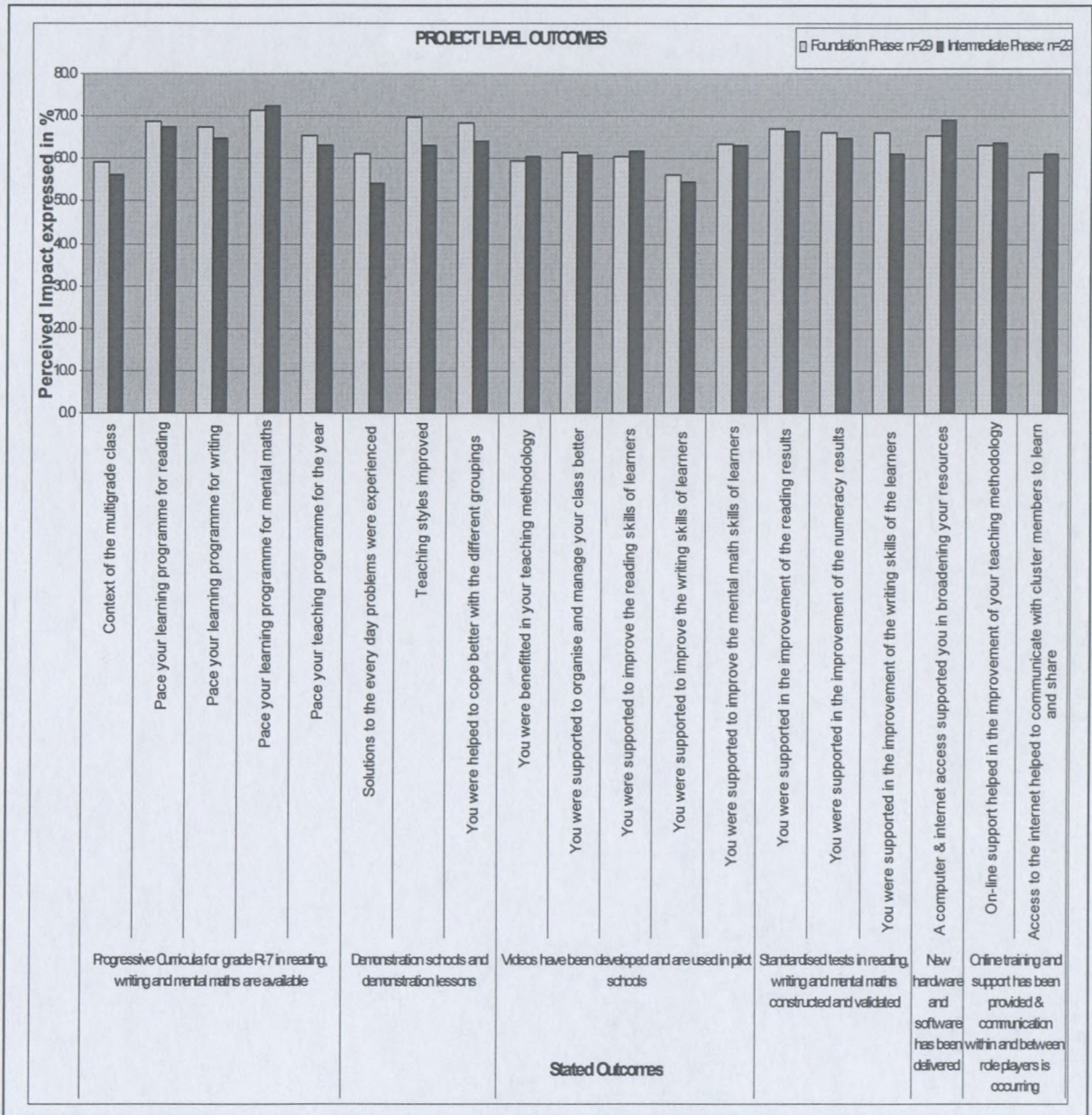


Figure 4.25: Perception of school level respondents with regard to the manner in which the project management outcomes were reached

(i) Availability of curricula

With regard to the overall project level outcome “progressive curricula for grade R to 7 in reading, writing and mental maths are available” the frequency of responses relating to the perceived impact which was experienced, was higher for the foundation phase respondents than for the intermediate phase respondents with an average difference of 1.7% (66.4% - 64.7%).

“The progression table for reading, writing and mental maths developed by MGRSI helped you to pace your learning programme for mental maths” (71.4%, 72.4%) was the intended outcome for which the frequency of responses by the respective foundation and intermediate phase respondents was the highest. The next two intended outcomes which frequency of responses were the second highest are: “the progression table for reading, writing and mental maths, developed by the MGRSI, helped you to pace your learning programme for reading” and “the progression table for reading, writing and mental maths, developed by MGRSI, helped you to pace your learning programme for writing”. The respective frequency of responses for these outcomes was (68.5%, 67.2%) and (67.5%, 64.7%).

The pacing of learning programmes for mental maths was the only intended outcome in this category where the frequency of responses for the intermediate phase average rating was higher than those of the foundation phase respondents. The frequency of responses by the respective foundation and intermediate phase respondents of the intended outcome “the preliminary year plan developed by MGRSI helped you to pace your teaching programme for the year” (65.5% and 62.9%) is observed to be lower than the related intended outcomes for reading, writing and mental maths.

“The learning programmes provided by MGRSI were adequate to the context of the multigrade class you are responsible for” was the outcome of which the frequency of responses by the respective foundation and intermediate phase respondents was the lowest namely 59.2% and 56%.

(ii) Demonstration schools and lessons

With regard to the overall project level outcome “demonstration schools have been selected and demonstration lessons have been developed” the frequency of responses was higher for the foundation phase respondents than for the intermediate phase respondents with an average difference of 6.1% (66.5% - 60.4%).

The intended outcomes “the demonstration lessons as provided by the MGRSI enabled you to improve your teaching style” and “the demonstration of organisation and management of the classroom helped you to cope better with the different groupings” (68.3%, 64.9%) were the outcomes for which the frequency of responses by the respective foundation and intermediate phase respondents was the highest. The frequency of responses for these outcomes was (69.8%, 62.9%) respectively.

“The demonstration schools which were selected by the MGRSI gave you solutions to the every day problems you experience” (61.2%, 54.2%) is the intended outcome of which the frequency of responses by the respective foundation and intermediate phase respondents was the lowest.

(iii) Video Support

With regard to the overall project level outcome “videos have been developed and are used in pilot schools” the foundation phase received a higher frequency of responses than the intermediate phase with an average difference of 0.2% (60.2% - 60%).

The frequency of responses for the intended outcome “the videos developed by MGRSI support you to improve the mental maths skills of learners” was the highest for both the foundation and intermediate phase in the group of five intended outcomes and the responses were 63.5% and 62.9% respectively.

The intended outcomes “the videos developed by MGRSI benefited you in your teaching methodology” and “the videos developed by MGRSI support you to improve the reading skills of learners” were the two intended outcomes where the frequency of responses by the intermediate phase respondents was slightly higher than those of the foundation phase respondents. The responses were 60.3% compared with 59.3% for the first mentioned outcome and 61.7% compared with 60.6% for the second mentioned outcome.

It was found that the range of the frequency of responses for four of the video support intended outcomes was small and that the average differences were only 4.2% (63.5-59.3%) and 2.6% (62.9%-60.3%) for the respective foundation phase and intermediate phase responses received. These outcomes are “the videos developed by MGRSI benefited you in your teaching methodology”, “you were supported to organise and manage your class better”, “the videos developed by MGRSI support you to improve the reading skills of learners” and “the videos developed by MGRSI support you to improve the mental maths skills of learners”.

“You were supported to improve the writing skills of the learners” (56%, 54.3%) is the intended outcome where the frequency of responses was the lowest for foundation and intermediate phase respondents.

(iv) Standardised tests

With regard to the overall project level outcome “appropriate standardised tests in reading, writing and mental maths have been constructed and validated”, the foundation phase received a higher frequency of responses than the intermediate phase with an average difference of 2.4% (66.4% - 64%).

The researcher could not observe any significant difference in the frequency of responses by foundation phase respondents of the intended outcomes in this category. The frequency of responses was 66.4% with a deviation fluctuating between -0.3 % and 0.5%. On the other hand, the frequency of responses for the intended outcomes in this category differ by 3.3% (66.4% - 61.1%) with regard to the responses received from the intermediate phase respondents.

For both of the foundation and intermediate phase respondents the frequency of responses for the intended outcome “the standardised tests in reading, writing and mental maths support you in the improvement of the reading results” was respectively the highest of the three intended outcomes namely 66.9% and 66.4%.

The frequency of responses for the intended outcome “the standardised tests in reading, writing and mental maths support you in the improvement of the writing skills of the learners” was the lowest namely 61.1% with regard to responses received from the intermediate phase respondents.

(v) Impact of computer hardware and software

The frequency of responses for the intended project level outcome “the supplement of a computer with internet access to your school supported you in broadening your resources” was the highest namely 69.2 % with regard to responses received from the intermediate phase respondents, which differs from the foundation phase responses by 3.7% (69.2% - 65.5%).

(vi) Internet support

The frequency of responses for the intended project level outcome “on-line support provided to you by the MGRSI helped you in the improvement of your teaching methodology” was for both the foundation and intermediate phase respondents higher than for the intended project level outcome “access to the internet helped you to communicate with your cluster members in order to learn and share from each other”. The frequency of responses for these outcomes was (62.9%, 69.2%) and (56.9%, 63.8%) respectively.

(b) Cluster level outcomes

The researcher illustrates in figure 4.26 the perceptions of the respondents of how they experienced and benefited from the implementation of the intended cluster level outcomes. The researcher displayed the intended cluster level outcomes under the headings: capacitating of officials and key teachers to provide sustainable support to schools and teachers, ongoing support by multifunctional teams and motivating feedback to and support for teachers during the MGRSI.

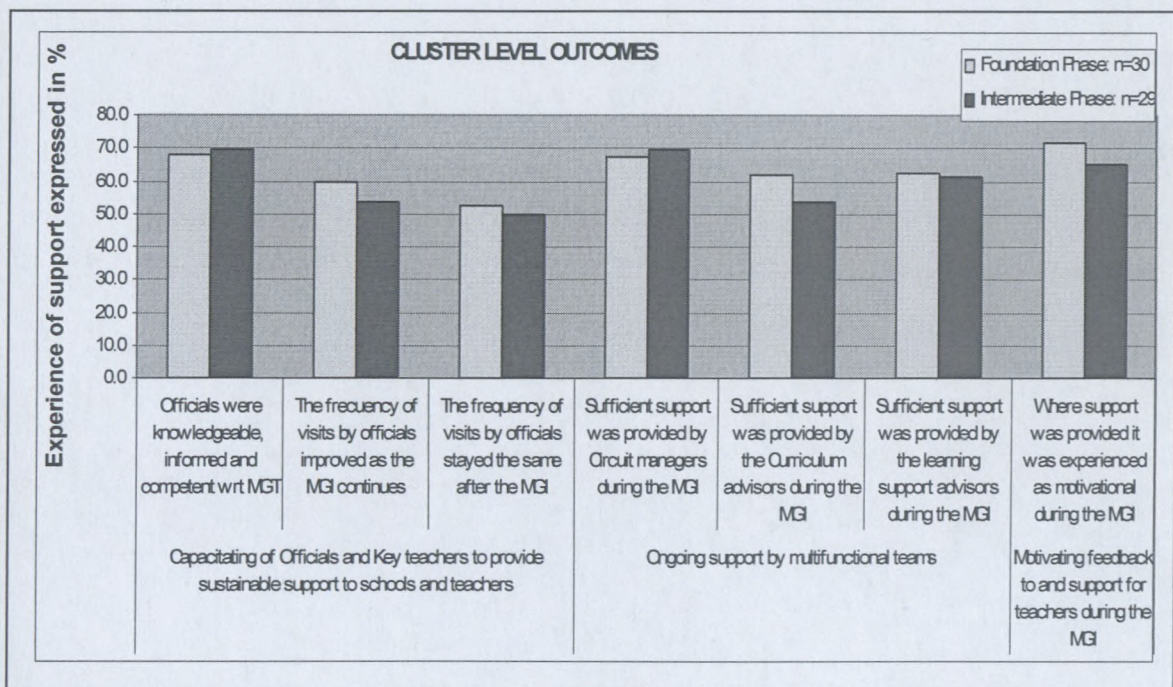


Figure 4.26: Perception of school level respondents with regard to the manner in which the cluster level outcomes were reached

(i) Capacitating of officials and key teachers to provide sustainable support to schools and teachers

The frequency of responses by foundation and intermediate phase respondents for the intended outcome “officials who visited you were knowledgeable, informed and competent with regard to multigrade teaching during MGRSI” namely 67.7% and 69.4% was the highest in this category.

For both the respective foundation and intermediate phase respondents, the frequency of responses for the intended outcome “the frequency of responses for visits by officials improved as the MGRSI continues” was 59.7% and 53.4%. The frequency of responses by foundation and intermediate phase respondents for the intended outcome “visits by officials stayed the same after the MGRSI” was 52.7% and 50% respectively. An average difference of 5.2% $(59.7\% - 52.7\% + 53.4\% - 50\%) / 2$ is noticed in favour of the improvement of the frequency of responses for visits by officials as the MGRSI progressed.

(ii) Ongoing support by multifunctional teams

The frequency of responses by the respective foundation and intermediate phase respondents, of the sufficiency of the support provided by the different support staff of the EMDC is as follows:

- Circuit Managers: 67.2% and 69.6%;
- Curriculum advisors: 62.1% and 53.4%;
- Learning support advisors: 62.5% and 61.6%

From these data, it is evident that foundation phase and intermediate phase respondents experienced the support provided by the various support staff differently. The frequency of responses by the intermediate phase respondents for the “sufficient support” of the circuit manager was higher than for other support, whilst the frequency of responses by the foundation phase respondents to “sufficient support” provided by curriculum advisors was higher than other support provided. The researcher does not notice much difference between the experience of foundation and intermediate phase respondents with regard to how the support by the learning support advisors is given.

(iii) Motivating feedback to and support for teachers during the MGRSI

The frequency of responses by the respective foundation and intermediate phase respondents for the intended outcome “where support was provided it was experienced as motivational during the MGRSI” was 71.6% and 65%.

(c) School level outcomes

The perception of the school level respondents, how they experienced and benefited from the implementation of the intended school level outcomes with regard to the knowledge and skills they obtained to manage multi-grade schools and to teach multi-grade classes, are demonstrated in figure 4.27. The intended school level outcomes are displayed under the headings: school principals have the required knowledge and skills to effectively manage multigrade schools, teacher level and classroom level outcomes.

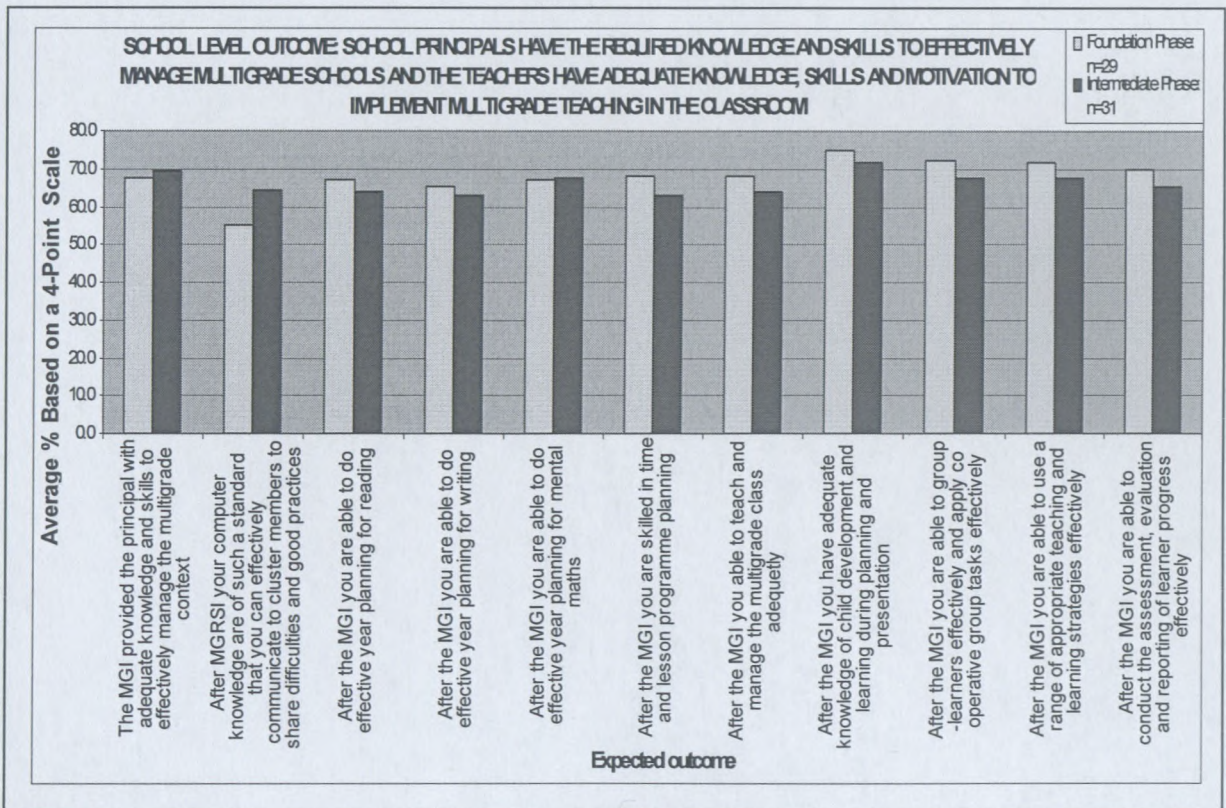


Figure 4.27: Perception of school level respondents with regard to the manner in which the school principal and teacher level outcomes were reached

(i) School principals have the required knowledge and skills to effectively manage multigrade schools

There was not much deviation observed in the frequency of responses by the foundation and intermediate phase respondents, which was 67.6% and 69.4% respectively, with regard to the intended outcome “the MGRSI provided the principal with adequate knowledge and skills to effectively manage the multigrade context”.

(ii) Teacher level outcomes

The frequency of responses to the effectiveness of online communication between teachers in a cluster (55.2% and 64.5%) was 9.3% lower in the instance of foundation phase respondents than in the instance of intermediate phase respondents. This was also the lowest frequency of responses received from foundation phase respondents in this category.

The respective feedback from foundation and intermediate phase respondents in terms of how skilled they are in time and lesson programme planning (67.9 %, 62.9%) corresponded with their perceived ability to do effective year planning for reading, writing and mental maths from grade R-7 (65.6%, 64.7%). The researcher observes that the frequency of responses by respondents of both phases was lower for their belief in their “adequacy to teach and manage the multi-grade class” (68.1%, 63.7%) than the frequency of responses relating to their:

- “Skills in group formation and the design of co-operative group tasks” (72.4%, 67.7%);
- “Knowledge of child development and learning” (75%, 71.7%);
- “Effective use of a range of appropriate teaching and learning strategies” (71.6%, 67.7% and
- “Ability to conduct the assessment, evaluation and effective reporting on learners’ progress” (69.8%, 65.3%).

(iii) Classroom level outcomes

With regard to the overall classroom level outcome, as illustrated in figure 4.28 the foundation phase had a higher frequency of responses than the intermediate phase with an average difference of 2.7% (63.1% - 60.4%).

The frequency of responses by the respective foundation and intermediate phase respondents with regard to their effectiveness of time spent on learning was 74.2% and 68.1%. This corresponds well with the related frequency of responses for the components in this category.

These components are the way in which learners know what teachers expect of them (70.7%, 63.4%), the way in which peer-assisted learning takes place (70.8%, 67.5%), the way in which assignments, repetition and revision are part of learning in a multi-grade class (75%, 70%). The last component mentioned is the way in which learners learn/work in learning centres that support/facilitate self-study (58%, 57%)”.

The frequency of responses to how the respective foundation and intermediate phase respondents perceived improvement in the learners’ performance in reading, writing and mental mathematics was 69% and 64%.

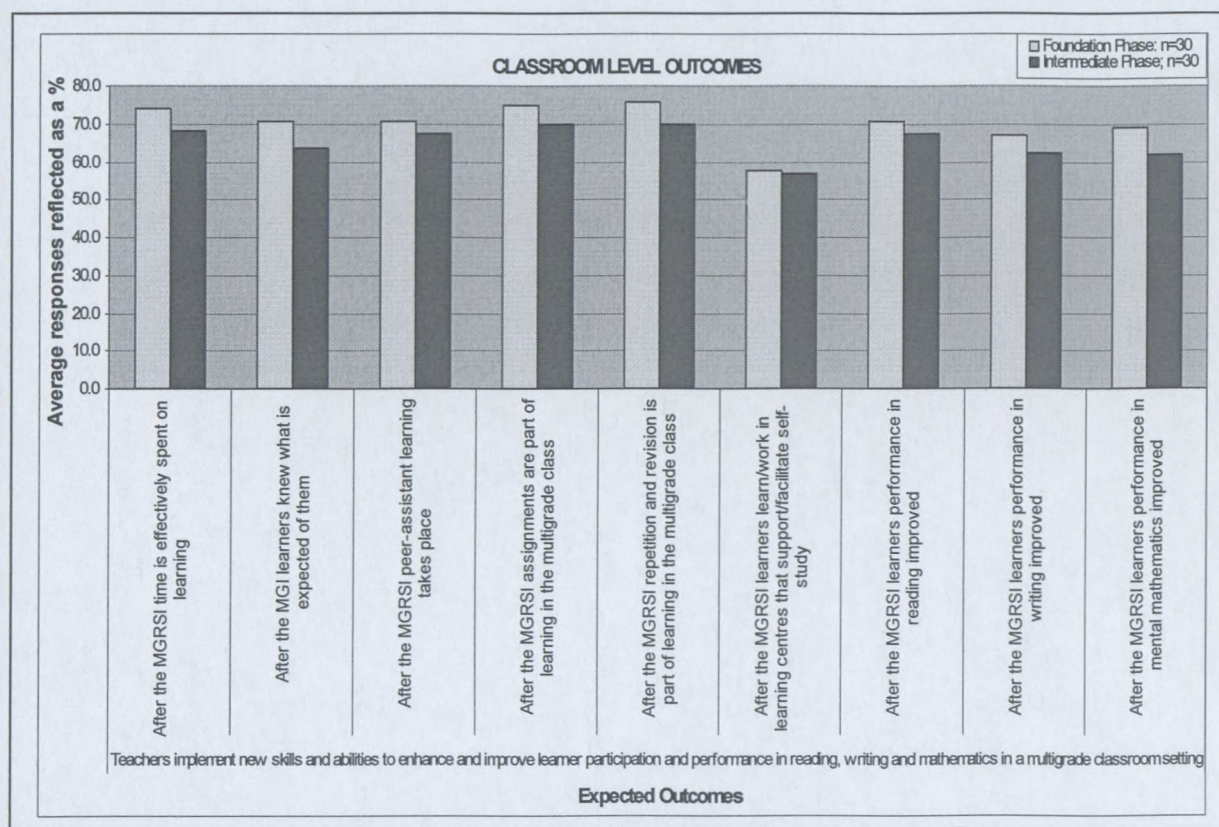


Figure 4.28: Perception of school level respondents with regard to the manner in which the learner outcomes were reached

4.3.2.4 Concluding remarks

The researcher makes the following conclusion from the statistical analysis relating to the logic framework outcomes:

(a) Project management level

The questionnaire relating to the responses received from the project management level structure revealed information relating to the respondents position in the support structure, reasons for the MGRSI and their perceived and expected preferences with regard to the stated reasons and outcomes of the MGRSI.

Continuity within the project management structure as well as the implementation of the MGRSI in the province was secured when one of the rural directors, who was familiar with the management of the MGRSI, was promoted in 2004 as chief director.

As indicated by the extensive literacy review done, the implementation of government policy and community involvement, although it did not form part of the stated reasons for the MGRSI and was also not identified by the project management structure as important reasons for the MGRSI, should be considered to be addressed by future interventions of this nature.

The management structure rated the training of teachers to teach in multi-grade settings as the most important intended reason for the MGRSI, which linked well to the next important reason namely the importance of support to manage the multi-grade class effectively. The responses on the other outcomes, relating to the social background of learners, the diversity of the multi-grade classes and the lack of resources in a multi-grade class, varied significantly and resulted in a low frequency of responses. This should be an indication that although there is not a consensus with regard to individual perceptions of reasons for the MGRSI, all of them were considered by individuals as possible reasons for the MGRSI and therefore cannot be ignored in future interventions of this nature.

The expectation that the establishment of progressive curricula for the multi-grade class and online support would be the most successful of all the stated project level outcomes relates well to the intended outcome referring to the lack of teacher training in the multi-grade context, which the management level structure identified as the most important reason for the MGRSI. This confirms that the management structure agrees that if the expectation is that teachers will receive more training and support they will be able to apply the progressive curriculum in reading, writing and mental maths as well as coping with the challenges of the intended online support. The responses on the other outcomes, relating to “development of demonstration lessons”, “the development and utilisation of support videos”, “new software and electronic material to support multi-grade schools” and “appropriate standardised tests” varied significantly and resulted in a low frequency of responses.

This should again be an indication that, although there is not a consensus amongst the members of the management structure with regard to individual project level outcomes, all of them were considered by individuals to be successful as an outcome of the MGRSI and therefore cannot be ignored in future interventions of this kind.

Although the management structure did not show a high expectation with regard to support and feedback to teachers, they show a high expectation for the competency of the support staff. Their expectations with regard to the ongoing support by multifunctional teams are also high, which confirms the importance of an intervention like the MGRSI to sustain structures that will ensure strong and frequent follow-up support by knowledgeable officials which will strengthen sustainable implementation strategies.

The management structure shows a not convincingly high expectation, within the school outcome category, which relates to the required knowledge and skills expected from a principal to manage the multi-grade school effectively. Their expectation for the MGRSI to be successful in the other intended outcomes, which relate to the skills which teachers are expected to demonstrate, differ in most instances from what they expected the impact the MGRSI should have on the development of the principal.

The expectations for the school level outcomes relating to the skills in group formation and co-operative tasks, the ability to use a range of appropriate teaching and learning strategies affectively, the effective year planning for reading, writing and mental maths and the implementation of learning programmes for reading, writing and mental maths were relatively high (60%+). It differs in terms of lower frequency of responses with regard to the expected outcomes which refer to being skilled in time and lesson planning, having adequate teaching and management skills, effective on-line communication in clusters, sufficient knowledge and skills to conduct the assessment evaluation and reporting of learner progress as well as adequate knowledge of child development and learning. From above findings, it is important to note that although the expectation should be that the multi-grade teacher should possess a well-established theoretical knowledge about multi-grade teaching it is also of significant importance that the multi-grade teacher should be able to implement it in practical terms in the real situation.

The moderate consensus observed amongst the responses from the management structure with regard to the expected teacher's skills, is an indication of how members of the management structure differ in terms of which skills are seen as more important than others. This should be an indication that managers should expect that future interventions of this nature would develop all the mentioned skills.

The average expectation of the management structure with regard to the school level outcomes was disconcertingly low. The consensus should be that the healthy management of the MGRSI strategy at school level would have a positive impact on the ability of teachers to implement the learning programmes, which would certainly have a positive influence on the successful implementation of the MGRSI.

The expectations for the outcomes relating to the improvement of learners' performance in reading, writing and mental maths and the question of learners spending effective time on learning (time on task) was rated the highest and second highest respectively. This actually confirms the relatedness of these two outcomes and that the attainment of success with regard to the improvement of learners' literacy and numeracy performance will depend on responsible time management. With this in mind, it is of significant interest to note that the expectation for the outcome relating to "the assignment, repetition and revision are part of learning in a multi-grade class" was the lowest and for the outcome relating to "learners learn, work in learning centres that support and facilitate self study" was the second lowest.

The relation the researcher found amongst the expectations by the management level with regard to the classroom level outcomes "learners know what is expected of them" and "peer assistant learning takes place", is interesting as the researcher expected that the success in reaching one of these outcomes would depend on the successful application of the other one. The respondents rated both these outcomes third in this category of outcomes.

The project management structure all agreed that if the MGRSI had reached all the intended outcomes it would have had an impact on the improvement of the literacy and numeracy results.

(b) Support level

The questionnaire relating to the responses received from the support level structure revealed information relating to the respondents position in the support structure and their opinion with regard to the components and activities that constitute the structure of the MGRSI. Not all the stated outcomes formed part of the MGRSI and the researcher indicated them as such.

With the exception of the service provider, who became a programme manager, and the withdrawal of the IT support person after 2005, the support level structure did not change much after the completion of the MGRSI.

The support level structure indicated that they were much more involved in ongoing support than in the training components and preparatory work.

The researcher observed that, according to the opinion of all the respondents in the support level structure, a clear goal for the intervention exists and education authorities were involved. The selection of pilot schools, setting up of model schools, start-up meetings, formation of an oversight committee and formation of teacher circles were, according to the opinion of a range of five to seven out of eight respondents, preparative activities which formed part of the MGRSI preparatory work, which was indeed the case. Only four of the respondents indicated that, according to their opinion the design of a decentralised co-ordination framework formed part of the MGRSI preparatory work although it was not the case. According to the opinion of seven (for the first mentioned outcome) and four (for the second mentioned outcome) out of eight respondents, the following intended outcomes formed part of the intended outcomes of the MGRSI, which was not the case. These outcomes which were derived from international resources are “the co-operative development of an overall plan by pilot school teachers for administration, curriculum training and community involvement” and “the creation of resource centres where teachers produce independent learning guides and receive professional assistance”.

From above it is clear that not all the support level respondents were clearly aware of all the preparative activities that formed part of the MGRSI preparatory work. Although some of the indicated preparative activities did not form part of the MGRSI preparatory work, the respondents indicated it as existing preparative activities, which indicates that it is important for future preparatory work of this nature.

The production of a multi-grade trainer’s resource pack is the training component, which formed, according to all eight the respondents’ opinion, part of the MGRSI training strategy. According to the opinion of a range of five to seven respondents, the following intended outcomes formed part of the MGRSI training strategy, which was indeed the case. The intended outcomes are “the production of a training film which consists of basic principles behind multi-grade teaching”, “information dissemination through various media including instructional and informational videos”, “training taking place in relay groups” and “observation of classroom practices by teachers”.

The validation of teacher support manuals in teacher training sessions, the design, testing and production of learner self instructional curricular workbooks and the development of bilingual and mother-tongue materials were intended outcomes derived from international resources but were according to the opinion of a range of two to five respondents part of the MGRSI training strategy.

From above it is clear that not all the support level respondents were clearly aware of all the training components that formed part of the MGRSI training strategy. Although some of the indicated training components did not form part of the MGRSI training strategy the respondent indicated it as existing training activities, which indicates that it is most probably important for future training strategies of this nature.

The ongoing support outcomes stated in questionnaire E relates to extensive literature research and corresponds mostly with the intended MGRSI school level outcomes. These outcomes complement the MGRSI ongoing support components as described previously. According to the opinion of seven out of eight respondents, the following intended outcomes formed part of the MGRSI training strategy, which was the case. These outcomes are “the skills development of teachers with regard to the management of learners to work at their own pace as well as on different levels”, “teachers are equipped to divide their classes according to the teacher’s role” and “the learners autonomy in a particular cogitative task”. The teachers are skilled in facilitating the diverse tasks and activities on different levels in the multi-grade class, ongoing formative evaluations and teachers are skilled to track the progress of learners frequently are outcomes which formed, according to the opinion of a range of four to six of the eight respondents, part of the MGRSI strategy, which was the case. Although the outcomes relating to development of partnerships with school communities and the learning process is broken up into smaller units, as a set of milestones it did not form part of the MGRSI training strategy but it was identified, according to the opinion of five of the eight respondents, as part of the MGRSI training strategy.

From above it is clear that not all the support level respondents were clearly aware of all the ongoing support strategies, which complemented the MGRSI training strategy. Although some of the indicated support strategies did not form part of the MGRSI training strategy, the respondents indicated it as existing ongoing support strategies, which indicates that it most probably will be important for future support strategies of this nature.

The support structure respondents totally agreed that classroom management techniques, instructional strategies, planning and instructional materials, which were MGRSI foci, were foci of the MGRSI training strategy. Although four of the eight respondents indicated that the community involvement should be a focus, it did not form part of the MGRSI strategy.

(c) School level structure

The questionnaire relating to the responses received from the school level structure revealed information relating to project management outcomes, cluster level outcomes and school level outcomes with regard to the curriculum related professional development successes and challenges they experienced as a result of the MGRSI.

(i) Project level outcomes

With regard to the availability of **progressive curricula for grades R to 7 in reading, writing and mental maths**, it is found that the foundation phase frequency of responses were on average calculated to have the highest frequency of responses for all the intended outcomes. The respondents perceived the adequacy of the provision of the learning programmes in the context of the multi-grade class as the least successful of the related outcomes for both phases. As this was a focus of the MGRSI this is a major concern and should be addressed seriously in future interventions of this kind. Teachers should understand that the pre-planned learning programme could not always address the diverse context from which learners come and that the challenge lies within the ability of the multi-grade teacher to link the expectation of the curriculum to the framework of reference of the learner.

The respondents perceived the assistance of **the progression tables** to pace the learning programmes for mental maths, reading and writing as recently successful as demonstrated by the frequency of responses for, which were of the highest of the related outcomes and varied between 64% to 72%. Although this was a focus of the intervention, it is evident that some teachers did not perceive the preparation of the pacing of year programmes successfully as a priority, which will certainly have an impact on the application and its consequence. This will then still result in learners ending up at the end of the academic year not sufficiently prepared for the challenges of the next grade or phase.

The foundation phase frequency of responses related to the **selection of demonstration schools and the development of demonstration lessons** were on average calculated to have the highest frequency of responses for all intended outcomes.

If sustainability was the target of the intervention, it is an alarming accusation that the solutions offered to every day problems was perceived as unsuccessful by the respondents as demonstrated by the low frequency of responses. The researcher expects that in an intervention like this every day problems would occur on a constant basis especially when the intervention was in its growing shoes and immediate informed recommendations or solutions would have helped.

The respondents perceived the role, which the **demonstration lessons and demonstration schools** played in the improvement of teaching styles and coping with different groupings, as reasonably successful as demonstrated by the frequency of responses, which varies between 62% and 69%. Being a focus of the MGRSI, it is evident that some teachers did not perceive the preparation with regard to the improvement of teaching styles and coping with different groupings as successful, which will certainly have an impact on the consequence of the application thereof.

The foundation phase frequency of responses related to **the development of videos and their usage in pilot schools** was on average calculated to have the highest frequency of responses for the intended outcomes. The respondents of both phases perceived the benefit of the video support related to the improvement of mental maths as the most successful, but the least successful with regard to the improvement of writing skills. The high value, which the school level structure put on the benefit of the video relating to the improvement of mental maths, is encouraging and should have an impact on the improvement of the mathematical skills of learners. As writing forms an important part of the teaching and learning process, it is alarming that teachers perceived the benefit of the video as unsuccessful and will certainly have an impact on the writing strategy in the multi-grade classrooms. In the process of learning, writing is of major importance as a medium, through which the teacher can offer the learner opportunities for repetition and revision.

The slightly greater interest showed by the intermediate phase teachers in obtaining skills from the video support relating to teaching methodology and improvement of reading skills could be characteristic of the challenging need which multigrade teachers in the intermediate phase are experiencing in this regard. The frequency of responses with regard to how the school level structure perceived the outcomes, addressed by the MGRSI video support, varies between 54% and 63%. This is alarmingly low considering the benefit these outcomes could have on the improvement of the multi-grade teachers' ability with regard to teaching methodology, classroom management and the improvement of the reading, mental maths and writing skills of the learners, if implemented seriously in the multi-grade class.

With regard to **the construction and validation of standardised tests in reading, writing and mental maths** the foundation phase frequency of responses was on average calculated to be the highest for all the intended outcomes. The respondents of both phases perceived the influence of the standardised test relating to the improvement of the reading results by the MGRSI as most successful which is commendable as this is a major barrier which learners have to overcome in their pursuit of knowledge. As in the case of the video support, respondents from both phases perceived the influence the standardised tests had on writing skills the least successful.

Intermediate phase respondents perceived the impact of **the delivery of computer hardware and software** as the most successful. Although this is one of the responses from the school level structure of which the frequency of responses is the highest amongst the ratings of the project management outcomes it will not have any impact on the improvement of the teaching and learning process in the multi-grade classroom if not utilised sufficiently. The researcher found evidence that the MGRSI actually contributed towards this need in providing on-line support. Respondents of both phases perceived the on-line support as more successful with regard to the improvement of teaching methodology and least successful with regard to helping with cluster communication. It is of significant value that the MGRSI in some way succeeded in addressing the improvement of teaching methodology through the means of internet support and is it a method to explore more. Although the on-line support was not similarly successful with regard to cluster communication, it should get more attention in the future in order to break the isolation of the multi-grade teacher.

(ii) Cluster level outcomes

Although the frequency of responses relating to the intended cluster level outcome (*officials were knowledgeable, informed and competent*) was of the highest of all the intended outcomes in this category, the overall cluster level outcome which relates to the capacity of officials and lead teachers to support, was on average the lowest. Both phases show a slight decline with regard to the frequency of responses for visits after the MGRSI, compared to the amount of visits during the intervention. The two phases experienced the amount of support provided by the various officials differently whilst the foundation phase respondents experienced the support more motivational. Although the knowledgeability and competency of the officials are highly valued, the frequency of responses for visits are questioned and with that the sustainability of the MGRSI, as it is expected that the newly attained knowledge and skills by teachers should be strengthened and nourished by continuous support strategies.

(iii) School level outcomes

The frequency of responses for the outcome, which relates to the provision of knowledge and management skills for the principal, is for both phases almost 70%. The role and preparation of the principal should be of major importance for the success of implementing the MGRSI strategies at multi-grade schools. Therefore, it is a concern that the frequency of responses is low with regard to the respondents' perception of the preparation of principals for their management role.

The researcher observed a relation between figures 4.25 and 4.27 with regard to how the respondents perceived the manner in which the **project management level outcomes** and the **school level outcomes** were reached with regard to effective year planning and the pacing of it for reading writing and mental maths. The researcher found that in both instances the calculated frequency of responses, were the highest with regard to the outcome (effective year planning and the pacing of it for **reading and writing**) in the **foundation phase**. On the other hand, the calculated frequency of responses for the outcome (effective year planning for **mental maths** and the pacing of it) is the highest with regard to the related outcomes in the intermediate phase. The relation between the frequency of responses for the respective project management level and the school level outcomes with reference to **programme planning** varies within an average range of almost 64.2% ($65.5\% + 62.9\% / 2$) (*Project level*) to 65.3% ($67.9\% + 62.9\% / 2$) (*School level*). With reference to the **effective year planning for mental maths, reading and writing** the average relation varies within ranges of almost 68.6% ($68.5\% + 67.5\% + 71.4\% + 67.2\% + 64.7\% + 72.4\% / 6$) (*project level*) to 65.6% ($67\% + 65.5\% + 67.2\% + 63.7\% + 62.9\% + 67.5\% / 6$) (*School level*). As this was clearly a major focus of the MGRSI, as it was addressed by different outcomes levels, these findings, which are made according to results demonstrated across two outcomes levels, are concerning in the light of how important planning, especially in the multi-grade context, is considered to be. The relation between the frequency of responses for the expected respective project management level and the school level outcomes with reference to **on-line communication** varies within an average range of almost 59.8% ($55.2\% + 64.5\% / 2$) (*School level*) to 64% ($62.9\% + 56.9\% + 63.8\% + 61.2\% / 4$) (*Project level*). The researcher came to the conclusion that the above mentioned findings actually confirms a previous finding made under the project management outcomes that the on-line communication was not as successful as it was intended to be.

It is observed that the frequency of responses by the teachers with regard to their adequacy to teach and manage the multi-grade class, is lower than their perceived ability in group formation, design of group tasks, knowledge of child development and learning, appropriate learning and teaching strategies and assessment and reporting on learners' progress. This is an indication that teachers actually have more trust in their individual capabilities like the design of group tasks than in the broader concept of managing the multi-grade class. The implication of this knowledge for further interventions like the MGRSI is that it should focus on specific needs when intervention programmes are drawn up.

The researcher further found that the frequency of responses for the related teacher level outcomes, referred to above, is higher than the corresponding project level outcomes. The significance of this lies in the difference in teachers' perception of the initial training they received and how they perceived their own application of what they have learned, which received a more positive rating.

The frequency of responses for the **classroom (learner) level outcomes**, namely time spent on learning, learners who know what is expected of them, successful peer-assisted learning, the integration of assignments, repetition and revision as part of the learning process as well as learners who work in teams in learning centres, which support self-study, is reasonably high for both phases. It also corresponds well with the frequency of responses, which relates to classroom management strategies described as teacher level outcomes. The frequency of responses for the outcome which addresses the way in which learners learn/work in learning centres that support/facilitate self-study is alarmingly low and should receive further attention.

Although the frequency of responses for the expectation of the management structure and perceived improvement by the classroom level structure of implementation skills in reading, writing and mental maths is an average of 63.3% and 66.5% respectively, the impact of it is not yet evident in reality as shown in figures 4.12 and 4.13.

(d) A comparison of how the logic framework outcomes was expected and perceived by the different role players

Table 4.3 indicates a comparison of how the management level, support level and school level respondents expected and perceived the logic framework outcomes. This comparison is in concurrence with the evaluation and analysis techniques described by Palmquest (1997:8). This forms part of the second analysis technique, namely the cross-case analysis, where the researcher examines the collected data for pattern similarities and differences in identified pairs.

This exercise will indicate how the perceived impact of the intended project, school level and the awareness of support level outcomes compare with the related logic outcomes and perceived reasons for the MGRSI. Where there are instances where comparable values for certain intended outcomes do not appear, it is because these outcomes are covered somewhere else. Intended outcomes printed in cursive are outcomes, which were not part of the MGRSI strategy but which the researcher derived from an international literature review. They were included in the survey to establish how respondents will perceive their value in order to establish what their importance could be in future interventions like the MGRSI.

Where the researcher had found comparative differences between the average ratings of the expectations of the management level structures and project level outcomes and the perceptions with regard to the impact of the intervention by the school level structure the highest value is most of the time in favour of the school level structure. The differences between the identified values are as follows:

<5% = 27 intended outcomes (6 in favour of management level structures and project level outcomes and 21 in favour of school and support level structures)

<10% = 27 intended outcomes (10 in favour of management level structures and project level outcomes and 17 in favour of school and support level structures)

<20% = 23 intended outcomes (10 in favour of management level structures and project level outcomes and 13 in favour of school and support level structures)

<30% = 16 intended outcomes (6 in favour of management level structures and project level outcomes and 10 in favour of school and support level structures)

<40% = 13 intended outcomes (10 in favour of management level structures and project level outcomes and 3 in favour of school and support level structures)

<50% = 3 intended outcomes (0 in favour of management level structures and project level outcomes and 3 in favour of school and support level structures)

Table 4.3.2: Logic framework outcomes of the MGRSI

Project level outcomes	School level outcomes	Classroom level outcomes	Cluster level outcomes	Perceived Reasons	Expectations	School level structure				Opinion of Support level with regard to their inputs	
				Management level for MGRSI	Management level (Logistical framework) with the success of MGRSI	Perceived results with input by Project level	Perceived impact on Teacher level	Perceived impact on Learner level	Perceived experience of Cluster level		
<p>Progressive curricula for gr R-7 in reading, writing and mental maths</p> <ul style="list-style-type: none"> The learning programs provided by the MGRSI were adequate to the context of the MG class The progression table for reading, writing and mental maths developed by MGRSI helped you to pace your learning program 				94.4	65.5	65.5					
						57.6					
<ul style="list-style-type: none"> The preliminary year plan developed by MGRSI helped you to pace your teaching program 	<p>After the MGRSI you are able to do effective year planning for reading, writing and mental maths</p>	<p>After the MGRSI learners knew what is expected of them</p>		63.3	68.6	65.6					
	<p>Teachers implement learning programs for reading, writing and mental maths</p> <p>After the MGRSI you are skilled in time and lesson program planning</p>			61.9			67				
				63.3							
				60	64.2	65.4					
			Planning from curriculum								100

Table 4.3.4: Logic framework outcomes of the MGRSI

Project level outcomes	School level outcomes	Classroom level outcomes	Cluster level outcomes	Perceived Reasons	Expectations	School level structure				Opinion of Support level with regard to their inputs	
				Management level for MGRSI	Management level (Logistical framework) with the success of MGRSI	Perceived results with input by Project level	Perceived impact on Teacher level	Perceived impact on Learner level	Perceived experience of Cluster level		
<ul style="list-style-type: none"> You were helped to cope better with the different groupings 			<p>Teachers were skilled to manage learners to work at their own pace</p> <p>Teachers are equipped to divide their classes according to the teacher's role and the learners autonomy in a particular cognitive task</p>	Management level for MGRSI						62.5	
			<p>The teacher is skilled in facilitating the diverse tasks and activities on different levels in the multigrade class</p>			68.3				87.5	
<ul style="list-style-type: none"> You were helped to cope better with the different groupings 					53.3	68.3	67.6				
			<p>After the MGRSI you are able to conduct the assessment, evaluation and reporting of learner progress effectively</p>			68.3				62.5	
			<p>Ongoing formative evaluations</p> <p>Teachers were skilled to track the progress of learners frequently</p>			68.3				50	
		<p>After the MGRSI learners learn/work in learning centres that support/facilitate self-study</p>			47.6	68.3		57.2			

Table 4.3.5: Logic framework outcomes of the MGRSI

Project level outcomes	School level outcomes	Classroom level outcomes	Cluster level outcomes	Perceived Reasons	Expectations	School level structure				Opinion of Support level with regard to their inputs	
				Management level for MGRSI	Management level (Logistical framework) with the success of MGRSI	Perceived results with input by Project level	Perceived impact on Teacher level	Perceived impact on Learner level	Perceived experience of Cluster level		
<ul style="list-style-type: none"> You were helped to cope better with the different groupings 						68.3					25
<p>The development and utilisation of support videos</p> <ul style="list-style-type: none"> You were benefited in your teaching methodology 		Reason 4: the lack of sufficient teacher support to manage the MG class effectively		67.2	44.4	60.1					
<ul style="list-style-type: none"> You were benefited in your teaching methodology 		After the MGRSI learners performance in reading, writing and mental maths improved			90.5	68.1		66.5			
			Instructional Strategies			59.8					100
		After the MGRSI you are able to use a range of appropriate teaching and learning strategies effectively			63.3	59.8		69.6			
		After the MGRSI you have adequate knowledge of child development and learning during planning and presentation			33.3	59.8		73.3			

Table 4.3.6: Logic framework outcomes of the MGRSI

Project level outcomes	School level outcomes	Classroom level outcomes	Cluster level outcomes	Perceived Reasons	Expectations	School level structure				Opinion of Support level with regard to their inputs	
				Management level for MGRSI	Management level (Logistical framework) with the success of MGRSI	Perceived results with input by Project level	Perceived impact on Teacher level	Perceived impact on Learner level	Perceived experience of Cluster level		
<ul style="list-style-type: none"> You were benefited in your teaching methodology 			Development of partnerships with school communities Involvement of the community in the school program			59.8				62.5	
						59.8				50	
<ul style="list-style-type: none"> You were supported to organise and manage your class better 	Reason 6: Lack of community involvement in the learning and teaching process in the MG classroom			19		59.8					
		Educational environment			52.4	61.2					
	After the MGRSI you able to teach and manage the multigrade class adequately				56.7	61.2	65.9				
		After the MGRSI time is effectively spent on learning Educational environment			76.2	61.2		71.1			
			Documentation of intervention activities Classroom management technique		52.4	61.2				75	
						61.2				62.5	
						61.2				100	

Table 4.3.7: Logic framework outcomes of the MGRSI

Project level outcomes	School level outcomes	Classroom level outcomes	Cluster level outcomes	Perceived Reasons	Expectations	School level structure				Opinion of Support level with regard to their inputs	
					Management level (Logistical framework) with the success of MGRSI	Perceived results with input by Project level	Perceived impact on Teacher level	Perceived impact on Learner level	Perceived experience of Cluster level		
<ul style="list-style-type: none"> You were supported to improve the reading, writing and mental maths skills of learners 			<p>A training film which consists basic principles behind MG teaching</p>	Management level for MGRSI	90.5	59.8				87.5	
<ul style="list-style-type: none"> Appropriate standardised tests 			<p>The learning process is broken up into smaller units – a set of milestones</p>		33.3	59.8				62.5	
<ul style="list-style-type: none"> You were supported in the improvement of the reading, writing and numeracy results 	<p>Reason 3: The lack of resources in MG classrooms</p>			23.8		65.2				65.2	

Table 4.3.8: Logic framework outcomes of the MGRSI

Project level outcomes	School level outcomes	Classroom level outcomes	Cluster level outcomes	Perceived Reasons	Expectations (Logistical framework) with the success of MGRSI	School level structure				Opinion of Support level with regard to their inputs	
						Perceived results with input by Project level	Perceived impact on Teacher level	Perceived impact on Learner level	Perceived experience of Cluster level		
<p>New software and electronic material to support MG schools</p> <ul style="list-style-type: none"> A computer & internet access supported you in broadening your resources 			<p>Production of teacher training modules – MG- trainers resource pack</p>		38.9	67.3					100
						67.3				100	
<ul style="list-style-type: none"> PC & internet access supported you in broadening your resources 			<p>Instructional materials</p>			67.3					62.5
						67.3				50	
<p>Online support for EMDC's and multi-grade schools</p> <ul style="list-style-type: none"> On-line support helped in the improvement of your teaching methodology 			<p>Validation of teacher support manuals in training sessions</p>			67.3					
						67.3					
<ul style="list-style-type: none"> Access to the internet helped to communicate with cluster members to learn and share 	<p>After MGRSI your PC knowledge are of such a standard that you can effectively communicate to cluster members to share difficulties and good practices</p>		<p>Development of bilingual and mother-tongue materials</p>		72.2	61.2					
						63.4				87.5	
			<p>Information dissemination through various media, including instructional and informational videos</p>			59.1			59.8		
					56.7						

4.3.3 Classroom observation outcomes (Classroom visitation instrument)

The researcher will discuss the results of the classroom observations done in foundation and intermediate phase classes in nine schools. These schools represent eight implementation cycles under the headings: arrangement of the physical environment, evaluation of the peer tutor programme, evaluation of the mental maths and the evaluation of the reading package and other MGRSI Resources. The researcher based the responses, which relate to results obtained from the observation instrument for classroom visits, on a four point rating scale, calculated as percentages. It reflects the observed ratings by the researcher, based on the following descriptions where a one is “not at all”, a two “attempted” a three “present” and a four “excellent”.

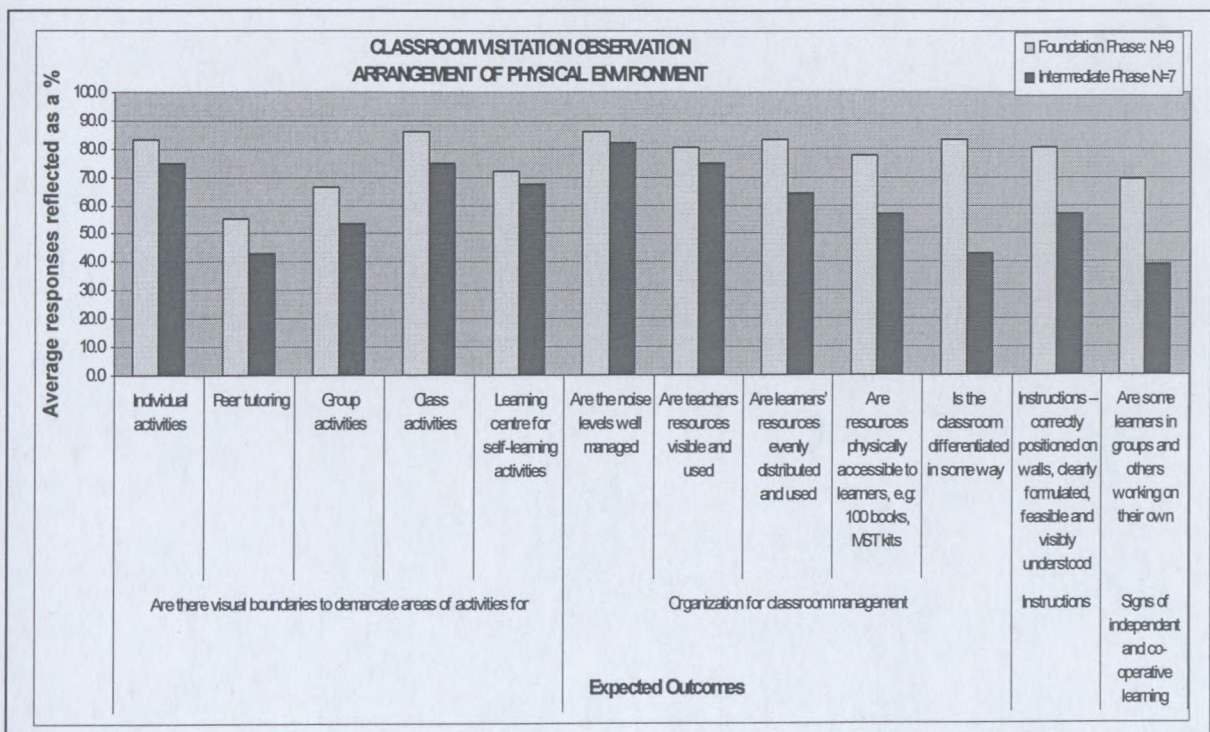


Figure 4.29: Classroom observation results with regard to the physical environment in selected multi-grade classrooms

4.3.3.1 Arrangement of Physical Environment

The average responses reflected on the foundation phase ratings for the intended outcomes relating to the physical environment of the multi-grade classrooms were in all incidents much higher as illustrated in figure 4.29 than the average responses reflected in the intermediate phase ratings.

It has an average difference of (the researcher also indicates the respective foundation and intermediate phase ratings as well as the average rating for the intended outcome in brackets):

9, 9% for the section on visual boundaries for demarcated areas: (72.8%, 62.9% = 68.4%)

8.3% for the intended outcome "individual activities"; (83.3%, 75% = 79.7%)

12.7% for the intended outcome "peer tutoring"; (5.6%, 42.9% = 50%)

13.1% for the intended outcome "group activities"; (66.7%, 53.6% = 60.9%)

11.1% for the intended outcome "class activities" and (86.1%, 75% = 81.3%)

4.3% for the intended outcome "learning centre for self-learning activities" (72.2%, 67.9% = 70.3%).

17.9% for the section on organisation for classroom arrangement: (82.2%, 64.3% = 74.4%)

4% for the intended outcome "are the noise levels well managed"; (86.1%, 82.1% = 84.4%)

5.6% for the intended outcome "are teachers resources visible and used"; (80.6%, 75% = 78.1%)

19% for the intended outcome "are learners' resources evenly distributed and used"; (83.3%, 64.3% = 75%)

20.7% for the intended outcome "are resources physically accessible to learners" and (77.8%, 57.1% = 68.8%)

40.4% for the intended outcome "is the classroom differentiated in some way ". (83.3%, 42.9% = 65.6%).

23.5% for the section on the purpose and positioning of instructions and (80.6% 57.1% = 70.3%)

30.1% for the section on independent and co-operative learning (69.4%, 39.3% = 56.3%).

The percentage difference observed between the respective ratings for the intended outcomes "organisation and classroom management" (82.2%, 64.3%) and for "visual boundaries to demarcated areas" (72.8%, 62.9%) for foundation and intermediate phase classrooms visited is the result of the observed absence of visual boundaries to some of the demarcated areas for group activities and peer tutoring in both phases.

The researcher observed that intermediate phase classrooms showed in many cases an absence of classroom differentiation and with that, in a lesser instance, a lack of physical accessibility and even distribution of resources to learners. With the above in mind the researcher questions the possible relation between the absence of clear boundaries for class activities and organisational and managerial challenges.

Where the researcher had found desks still to be in a traditional row format, he observed little or no group work. The researcher observed successful group work where teachers arranged desks in a manner, which enhanced group work. When so called "class teaching" took place, where learners for example were expected to respond as a choir, little space for independent stimulating thinking was observed. Furthermore, the researcher saw old, outdated and irrelevant wall charts, posters and learning materials pasted on the walls of foundation and intermediate phase classrooms. He observed that learners were many times involved in non-stimulating mechanical filling in of one-word answers or senseless colouring in activities. Consolidation exercises were in many instances not enough or appropriate to strengthen newly learned concepts or to remediate where it is necessary. The researcher observed a huge difference between the foundation and intermediate phase ratings relating to the instruction and co-operative learning sections where the recorded ratings were alarmingly low for the situation found in the intermediate phase classrooms.

Only when teachers differentiated with regard to learners' specific needs and levels of progress, allowing learners to be independently involved in their own learning and utilizing the existing learner centres meaningfully, the researcher observed quality teaching and learning. Educators demonstrated this well when they engaged for demarcated periods with small groups of learners identified according to their level of development, while others were involved in other relevant and meaningful tasks. The researcher recommends the following resources, which he observed, to be utilised successfully in the multi-grade class. They are the use of beats, number lines, number concepts, blocks, cards, MST kits and stimulating activity sheets that addressed the needs of learners.

Lack of space and huge numbers caused in many cases, a problem with arranging demarcated areas of support. In other instances, the researcher observed signs of the existence of demarcated areas and utilisation of resources but these were not utilised fully or at all. In the instances where demarcated areas, resources and group work strategies were well utilised it was evident that the teacher had planned for it and that learners were confident with the routines followed.

4.3.3.2 Evaluation of Peer Tutor Program

The researcher displayed the ratings of the foundation phase responses for both sections and all intended outcomes relating to the category peer tutor programmes in figure 4.30. In all incidents, the foundation phase ratings are much higher than the intermediate phase ratings with an average difference of (the researcher also indicates the respective foundation and intermediate phase ratings as well as the average rating for the intended outcome in brackets):

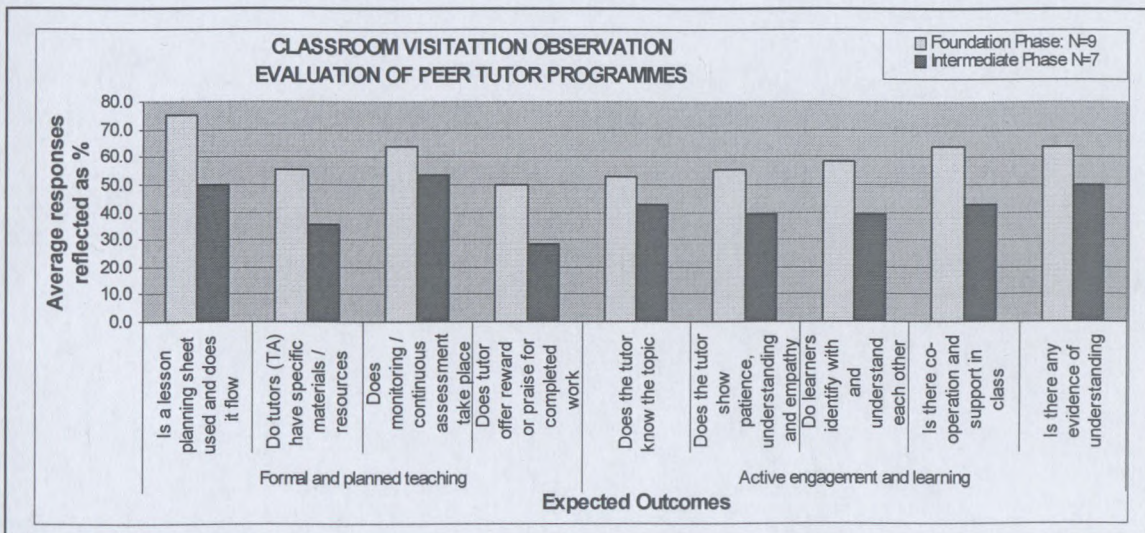


Figure 4.30: Classroom observation results with regard to the peer tutor programmes in selected multi-grade classrooms

19.1 % for the section **Formal and planned teaching:** (61.1%, 42% = 52.7%)

25% for the intended outcome “is a lesson planning sheet used and does it flow”; (75%, 50% = 64.1%)

19.9% for the intended outcome “do tutors have specific materials / resources”; (55.6%, 35.7% = 46.9%)

9.7% for the intended outcome “does monitoring / continuous assessment take place” and (63.3%, 53.6% = 59.4%)

21.4% for the intended outcome “does tutor offer reward or praise for completed work”. (50%, 28.6% = 40.6%)

16% for the section **“Active engagement and learning (58.9%, 42.9% = 51.9%)**

9.9% for the intended outcome “does the tutor know the topic”; (52.8%, 42.9% = 48.8%)

16.3% for the intended outcome “does the tutor show patience, understanding and empathy”; 55.6%, 39.3% = 48.4%

19% for the intended outcome “do learners identify with and understand each other”; (58.3%, 39.3% = 50%

21% for the intended outcome “is there co-operation and support in class” and (63.9%, 42.9% = 54.7%

13.9% for the intended outcome “is there any evidence of understanding” (63.9%, 50% = 57.8%.

The intended outcome “is a lesson planning sheet used and does it flow” is observed as the outcome which achieved the highest rating in the foundation phase context namely 75%. It is also the highest rating in this category. The situation relating to the same outcome found in the intermediate phase classrooms is just the opposite with a rating of 50%. In three instances no form of planning could be shown or had been completed for the day. Those educators indicated that they forgot the planning at home. In one instance an educator indicated that the planning had been done weekly and not on a daily basis.

It is a concern that the intended outcome “does monitoring / continuous assessment take place” is the outcome rated the highest for the intermediate phase context namely 53.6%. This raises questions with regard to not only the implementation of the peer tutor programmes in the intermediate phase in the multi-grade context but also questions about the situation found, as demonstrated by the accompanying ratings, with regard to formal and planned teaching as well as active engagement in teaching and learning especially in this phase.

The researcher questions the existence of a formal tutor programme in the foundation and intermediate phases. The situation relating to peer tutoring, as seen in the attached ratings, is even worse in the intermediate phase context. In most of the instances, the researcher found that for some or other reason it fell into disuse. Although the researcher, in some instances, found evidence of peer tutoring, as illustrated by the different ratings, it was in most cases not planned. Where teachers implemented it, they did it with great success. Examples which were observed was the role of the peer tutors which proved to be valuable when they took the lead in their little groups, when playing domino games or facilitating reading on wall charts while the teacher is involved with another group. Teachers should not underestimate the consequent value of recognition for work well done, which derived from these kinds of interactions amongst learners.

The WCED initiative of adding teacher assistance in foundation phase classrooms and initiatives from schools themselves in this regard leads to the impression by teachers that it could replace the tutor programme implemented during the MGRSI.

4.3.3.3 Evaluation of Mental Maths

The foundation phase rating for all the intended outcomes and sections relating to the evaluation of mental maths were as illustrated in figure 4.31 in all incidents much higher than the intermediate phase ratings. It has an average difference of (the researcher also indicates the respective foundation and intermediate phase ratings as well as the average rating for the intended outcome in brackets):

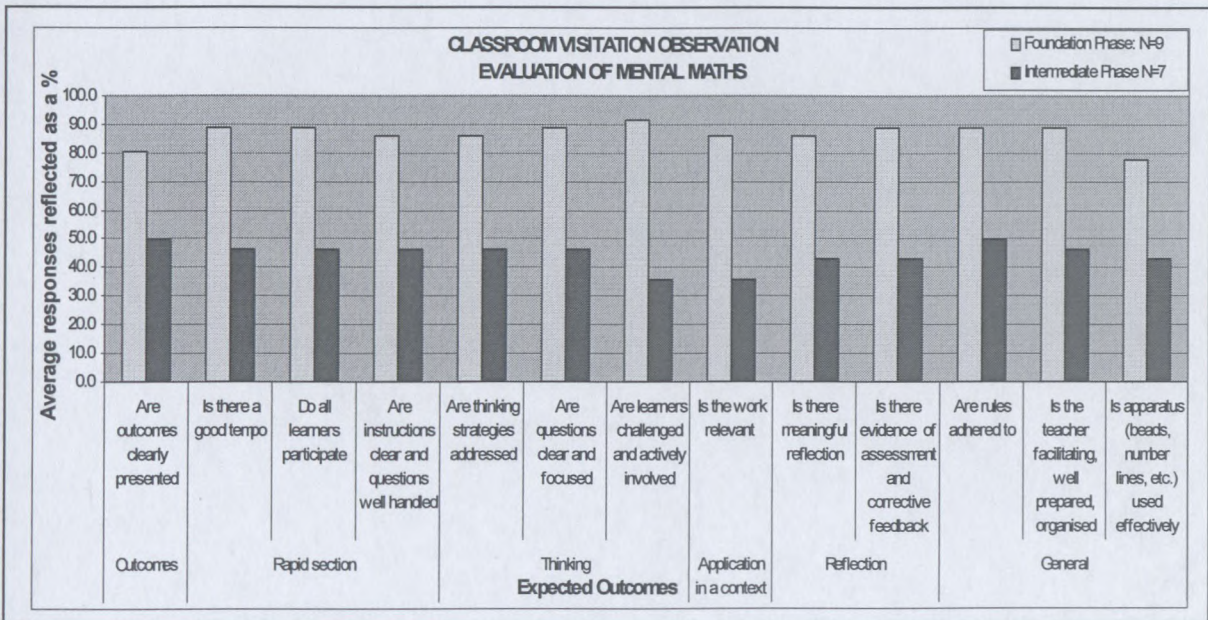


Figure 4.31: Classroom observation results with regard to the evaluation of mental maths in selected multi-grade classrooms

30.6% for the section Outcomes (80.6%, 50% = 67.2%)

30.6% for the intended outcome “are outcomes clearly presented”

41.6% for the section Rapid section (88%, 46.4% = 69.8%)

42.5% for the intended outcome “is there a good tempo” (88.9%, 46.4% = 70.3%)

45.8% for the intended outcome “do all learners participate” (88.9%, 46.4% = 70.3%)

42.7% for the intended outcome “are instructions clear and questions well handled” (86.1%, 46.4% = 68.8%)

50% for the section Thinking (88.9%, 42.9% = 68.8%)

42.7% for the intended outcome “are thinking strategies addressed (= x - ÷)” (86.1%, 46.4% = 68.8%)

42.5% for the intended outcome “are questions clear and focused” (88.9%, 46.4% = 70.3%)

56% for the intended outcome “are learners challenged and actively involved” (9.7%, 35.7% = 67.2%)

50.4% for the section Application in a context (86.1%, 35.7% = 64.1%)

50.4% for the intended outcome “is the work relevant (work done at learner’s level)”

46.3% for the section Reflection (87.5%, 42.9% = 68%)

46.9% for the intended outcome “is there meaningful reflection” (86.1%, 42.9% = 64.3%)

45.8% for the intended outcome “is there evidence of assessment and corrective feedback” (88.9%, 42.9% = 67.9%)

44.6% for the section General (85.2%, 46.4% = 68.2%)

38.9% for the intended outcome “are rules adhered to (no shouting of answers – u-formation, etc.)” (88.9%, 50% = 71.9%)

42.5% for the intended outcome “is the teacher facilitating, well prepared, organised” (88.9%, 46.4% = 70.3%)

34.9% for the intended outcome “is apparatus (beads, number lines, etc.) used effectively” (77.8%, 42.9% = 62.5%)

In the instances where the researcher observed the presented outcomes of the mental maths exercises as meaningful, it was clear that the relevant educators based the purpose of the exercises on the needs they assessed previously through reflection, and learning derived from base line assessment done. As reflected by the attached ratings, foundation phase teachers implemented the application and utilisation of mental maths generally well. On the contrary the researcher questions the quality of the implementation of mental maths in the intermediate phase, especially where he observed that the relevancy and challenge of the exercises were disconcertingly low. In some instances, the mental maths exercises did not show any purpose and were not always on the learners’ development levels, which resulted in learners yawning, mumbling meaningless things or copying from each other when they have to respond in writing. The worst was that the involved educators did not even notice it. When groups were smaller and the educator based the probing and challenging questions on identified backlogs and the strengthening of concepts, which was relevant to that particular group of learners, it resulted in sufficient individual involvement of learners. The involvement of learners was even better when learners, not only had to answer orally, but also had to write it on little black boards in order to experience the solutions. A prerequisite for exercises like this is that the rest of the other learners have to be involved in other well-planned meaningful and stimulating tasks. In one instance, the researcher found that all the learners in a particular group did not even have pencils to be able to carry on with the expected task.

The habit of doing mental maths where the whole class answer as a choir still occurs and does not seem to serve any purpose. Where it is observed that educators based the mental maths exercises on concepts like counting backwards, counting forward, smaller, bigger etc as well as on problem solving questions where learners are expected to explain where they got the answers from, it will certainly add to the improvement of learners' thinking skills.

It is a concern that the researcher observed in many instances, especially in the intermediate phase classrooms, little evidence of educators who assessed learners' workbooks on a daily basis. The lack of evidence of thorough follow-up by educators or corrective work done by learners mostly in the intermediate phase classrooms is also a matter of concern.

Although in many instances reading resources were available for learners to utilize freely, the evidence was lacking regarding maths resources. The teachers had always packed away the maths resources and as a result, it was not available for learners to utilize freely. The teachers' comments were that they planned for the utilization of the maths resources, which formed part of the maths lessons, and then put it away on completion of the lesson.

4.3.3.4 Evaluation of the Reading Package and other MGRSI Resources

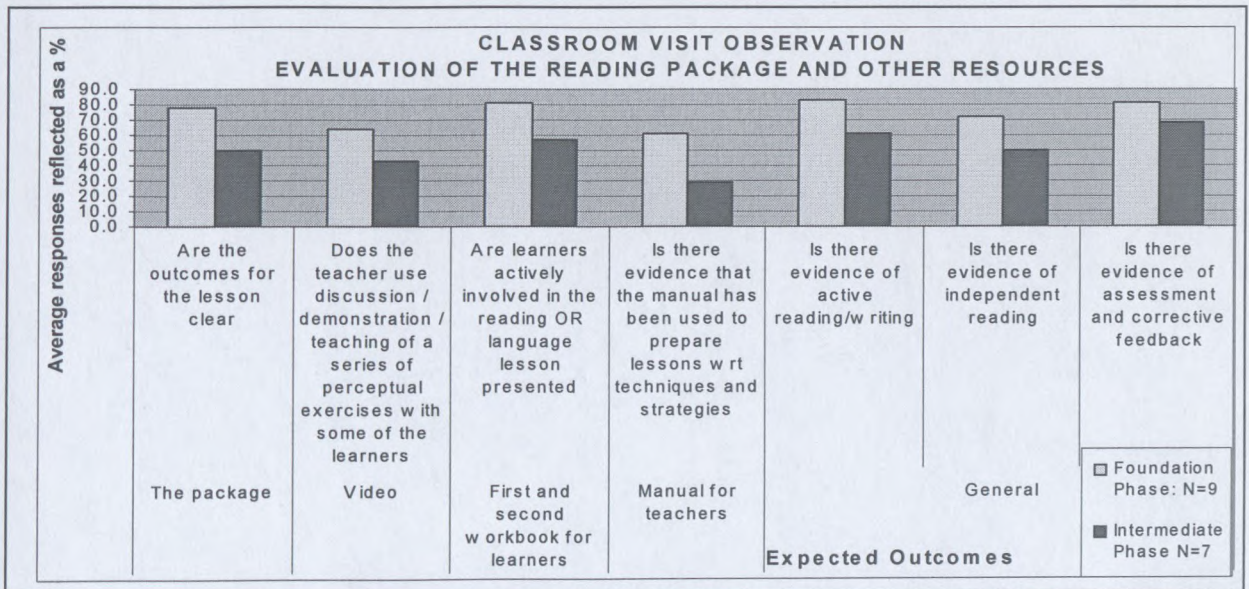


Figure 4.32: Classroom observation results with regard to the evaluation of the reading package and other resources in selected multi-grade classrooms

The foundation phase rating for all the intended outcomes and sections relating to the evaluation of the reading package and other MGRSI resources were in all incidents much higher than the intermediate phase ratings.

It has an average difference of (the researcher also indicates the respective foundation and intermediate phase ratings as well as the average rating for the intended outcome in brackets):

27.8% for the section The package (77.8%, 50% = 65.6%)

clear 27.8% for the intended outcome “are the outcomes for the lesson”

21% for the section Video (63.9%, 42.9% = 54.7%)

21% for the intended outcome “does the teacher use discussion / demonstration / teaching of a series of perceptual exercises with some of the learners”

23.5% for the section First and second workbook for learners (80.6%, 57.1% = 70.3%)

28.1% for the intended outcome “are learners actively involved in the reading OR language lesson presented”

32.5% for the section Manual for teachers ((61.1%, 28.6% = 46.9%)

32.5% for the intended outcome “is there evidence that the manual has been used to prepare lessons with regard to techniques and strategies”

19.2 % for the section General (78.7%, 59.5% = 70.3%)

22.6% for the intended outcome “is there evidence of active reading/writing” (83.3%, 60.7% = 73.4%)

22.2% for the intended outcome “is there evidence of independent reading” (7. 2%, 50% = 62.5%)

12.7% for the intended outcome “is there evidence of assessment and corrective feedback” (80.6%, 67.9% = 75%)

As indicated in the presented data analysis, foundation phase educators teaching in the multi-grade context, complied mostly with the intended outcomes assessed. The researcher cannot say the same about the intermediate phase context and found little evidence, as demonstrated in figure 4.32, of the intended outcomes described.

Educators in general are aware of the package and felt positive about it. It also became evident that although they utilized it frequently when they were involved in the MGRSI implementation phases they are not consulting it anymore when preparing their lessons.

Although the researcher observed the application of some of the techniques, as mentioned in the package, educators did not always recognise it as coming from the MGRSI.

Reasons offered for not utilizing or partially utilizing the video was the unavailability of technical equipment to play the video material and not enough packages in which case the copy of the package is stored in the principal's office.

The researcher observed methods like reading in pairs, reading to others, oral and written comprehension exercises, arranging of cards in sentence sequence and writing it in workbooks and utilisation of learning centres for reading during the classroom visits.

4.3.3.5 Concluding remarks

From the summary of data presented in tables 4.4 and 4.5, the researcher could not find any obvious relatedness when he compared effective classroom practices, related variables, and literacy and numeracy improvement and learner progression results. The researcher attempted to find clearer correlating tendencies between observed classroom practices and findings from demographic data as well as perceptions teachers have relating to the affect of the project management, cluster level and teacher level outcomes of the MGRSI. In the attempt the researcher categorized the observations in three scenarios, namely rating for classroom visitation is high and literacy and numeracy improvement is lower, rating for classroom visitation is similar to the rating of the literacy and numeracy improvement, and rating for classroom visitation is lower, and literacy and numeracy improvement is higher.

(a) Three scenarios

(i) Rating for classroom visitation is high and the rating for literacy for numeracy improvement is lower

The researcher observed in both the foundation and intermediate phase data, referred to as (5.1 & 73) and (16.1 & 33) in tables 4.4 and 4.5 respectively, the following occurrences. In the instances where the rating for the classroom visitation was high and the rating for literacy and numeracy improvement were in relation lower the progression results were high and the educators perception was the highest amongst the target groups with regard to the impact of the MGRSI project management, cluster level, teacher level and classroom level outcomes.

The educators' ages differ by six years, which varies from forty-eight years to fifty-four years. They have an average experience of twenty-nine years, divided respectively as twenty-nine years mono-grade experience and four years multigrade experience for the foundation phase educator and twenty-four years multi-grade experience for the intermediate phase educator. Although this reflects that, the intermediate phase educator has much more multi-grade experience it does not show any significant difference in the results displayed.

Table 4.4: Comparison of observed data of classroom visits and results, perceptions and expectations relating to the MGRSI implementation

Legend (Coding explanation)	Improved in Lit/Num results & were previously in Gr R					Improved in Lit/Num results & were not previously in Gr R					Did not improve in Lit/Num results and were previously in Gr R			Did not improve in Lit/Num results and were not previously in Gr R			
	Foundation Phase Responses										Intermediate Phase Responses						
Focus areas for comparing																	
Coding for schools: school visit questionnaire	1.1	3.1	5.1	7.1	9.1	10.1	12.1	13.1	15.1	2.1	4.1	6.1	8.1	11.1	14	16.1	
Coding for schools: questionnaire A and B	45	39	73	14	93	24	64	57	33	45	39	73	14	24	57	33	
Cycles	5th	4th	8th	1st	10th	2nd	7th	6th	3rd	5th	4th	6th	1st	2nd	6th	3rd	
2002	Lit			0	9				18								
	Num			11	0				15								
2003	Lit									15.8	63.6	11.8	93.1	21.1	32.5	55.6	
	Num									0	81.8	0	0	0	0	0	
2004	Lit	5.4	58.3	0	75	22.5	7.1		22.5	28.6							
	Num	11.4	58.3	5.3	35.7	5	0		17.5	42.9							
2005	Lit									50	100	18.2	87.9	37.5	52.5	20	
	Num									0	42.9	9.1	7.1	0	0	0	
2006	Lit	40.9	73.7	4.8	92.1	24.7	0		16	60							
	Num	27.3	78.9	4.8	27.3	9.6	6		6	80							
Improvement	Lit	35.5	15.4	4.8	92.1	2.2	-7.1	0	-2	31.4	34.2	36.4	6.4	-5.2	16.4	20	-35.6
	Num	15.9	20.6	-0.5	16.3	4.6	6	0	-9	37.1	0	-38.9	9.1	7.1	0	0	0
Average improvement	25.7	18	2.15	54.2	3.4	-0.6	0		-5.5	34.3	17.1	-1.25	7.75	0.95	8.2	10	-17.8
Comparing order	3	4	6	1	5	7	9	8	2	1	6	4	5	3	2	7	
Progression results	87.5	54.8	100	84.7		97		95.1	75	58.6		93.3	103	100		100	
Comparing order	4	7	1	5	8	2	8	3	6	3	4	2	1	1	4	1	
School visit results	85.4	62.2	97.6	86	62.8	70.7	81.7	48.8	87.8	34.8	47	39.6	65.2	43.9	37.2	82.3	
Phase Average	75, 9%										50%						
Total Average	64, 6%																
Comparing order	4	8	1	3	7	6	5	9	2	7	3	5	2	4	6	1	
Project Management outcomes as a %	53.6	54.2	77.6	69.7	75	75	69.7	52.6	60.5	67.1	0	53.9	60.4	72.4	0	71.1	
Cluster level outcomes as a %	60.7	45.8	67.9	67.9	0	71.4	89.3	28.6	60.7	64.3	0	50	55	71.4	0	67	
Teacher level outcomes as a %	38.4	0	47.7	47.7	0	47.7	47.7	29.5	47.7	34.1	0	31.8	47.7	45.5	0	47.7	
Classroom level outcomes as a %	47.2	0	55.6	50	45.8	58.3	50	47.2	58.3	47.2	0	44.4	52.8	58.3	0	61.1	
Phase Average	56, 4%										55, 16%						
Total Average	55, 86%																
Comparing order	6	9	3	4	8	2	1	7	5	4	6	5	3	1	6	2	

Table 4.5: Comparison of demographic data with observed data of classroom visits

Focus areas for comparing	Foundation Phase Responses									Intermediate Phase Responses						
Age of teachers	41	44	53	54	43	?	57	?	54	44	3	?	41	45	?	48
Total Experience of teachers	18	14	33	35	20	19	38	?	22	12	?	16	13	14	0	24
Multigrade experience of teachers	5	9	4	8	3	16	32	?	18	2	0	16	23	14	0	24
Qualifications of teachers	TD	TD	TD	TD	TD	TD	TD	TD	TD	TD	TD	TD+BA	TD	TD	TD	TD
Courses attended by teachers	0.75	3	0.48	0.5	0.13	0.5	0.06	0.6	0.32	1.16	0	0.48	0	0	0	0.32
Distance to school	5>	5>	20>	10>	20>	10>	10>	20>	20>	5>	20>	20>	5>	20>	0	20>
Form of transport	Own	Other	Other	Own	Other	Other	Own	Own	Other	0	Own	Own	Other	Own	0	Own
Access to computer	0	Yes	0	Yes	Yes	Yes	Yes	0	0	0	Yes	Yes	Yes	yes	0	Yes
Access to Internet	0	Yes	0	Yes	Yes	0	Yes	Yes	0	Yes	Yes	Yes	Yes	0	0	Yes
% of present learners previously in grade R	0	31.8	61.1	81	34.7	81.3	10	0	0	0	?	0	95	46.1	0	0
Qualifications of parents	0	0	<7	<7	<7	<7	<7	<7	<7	0	<7	<7	0	<7	0	<7
% of Parents in ABET	0	0	0	0	6.1	0	0	0	0	0	0	0	0	0	0	0
% of Learners travelling by bus	0	27.3	88.9	0	12.2	100	0	0	0	0	0	74.1	0	65.3	0	0
Farm owner involvement in maintenance of school	0	0	Yes	Yes	Yes	0	0	0	0	0	0	Yes	0	Yes	0	0
Farm owner involvement in governance of school	0	0	0	Yes	0	0	0	0	0	0	0	Yes	0	0	0	0
Parents involvement in homework	0	Yes	Yes	Yes	0	Yes	0	0	Yes	0	Yes	Yes	Yes	Yes	0	Yes
Parents involvement in making resources	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parents involvement in classroom activities	0	0	0	0	0	0	0	0	0	0	0	0	Yes	0	0	0
Parents involvement in the beautification of the classroom	0	Yes	0	0	0	Yes	0	0	0	Yes	0	0	Yes	Yes	0	0

They attended an average of 0.4 months of courses divided respectively in 0.48 and 0.32 months. They both stay less than twenty kilometres from their school but drive with other and by own transport respectively.

With regard to the learner situation the parents of the learners are not educated above grade seven and are also not attending ABET classes. Parents are in both instances involved in the learners' homework but nowhere else.

In the mentioned foundation phase sample, 61% of the learners were previously in grade R and none in the intermediate phase sample. 88.9% of the foundation phase learners in this sample travel by bus but none of the intermediate phase learners. Where the farm owner is involved in the maintenance of the school relating to the foundation phase sample it is not the case with the intermediate phase sample. The intermediate phase educator has access to a computer and internet while the foundation phase educator does not have any access to such facilities.

(ii) Rating for classroom visitation is similar to the rating of the literacy and numeracy improvement

The researcher observed from the respective foundation phase samples (7.1 & 14) and (15.1 & 33) in tables 4.4 and 4.5 the following occurrences. In the instances where the classroom visitation ratings correlated with the rating of the numeracy and literacy improvement, the progression rate for those grades were lower and the educators perception of the MGRSI was amongst the lowest average amongst the target groups, with regard to the impact of the MGRSI project management, cluster level, teacher level and classroom level outcomes.

The two educators are both fifty-four years of age and have an average experience of twenty-eight years, divided respectively as twenty-seven years mono-grade experience and eight years multi-grade experience in the first sample and four years mono-grade and eighteen years multi-grade experience in the second sample. They attended an average of 0.4 months of courses, which reflects 0.5 months and 0.32 months for the two respective foundation phase educators. They stay less than ten and twenty kilometres from their school respectively and use their own transport. The educator in the first sample has access to a computer and internet while the second educator does not have access to either of the two.

With regard to the learner situation, the data indicated that in the first sample 81% of the learners in the present class were previously in a grade R class whilst it is not the case in the second sample. None of the learners travel by bus. Only the parents of the learners in the second sample are not educated above grade 7. 6.1% of the learners' parents in the first sample are involved in ABET classes whilst none of the second sample is involved. The parents in the second sample are only involved in the learners' homework and nowhere else.

Farm owners in the first sample are involved in the maintenance of the school and in governing body decisions, which is not the case in the second sample.

(iii) Rating for classroom visitation is low and rating for literacy and numeracy improvement is higher

The researcher observed, in both the foundation and intermediate phase data respectively referred to as (3.1 & 39) and (2.1 & 45) in tables 4.4 and 4.5, the following occurrences. In the instances where the rating for the classroom visitation was low and the rating for literacy and numeracy improvement were in relation higher the progression results were lower and the educators perception of the MGRSI were lower than average with regard to the impact of the MGRSI project management, cluster level, teacher level and classroom level outcomes.

The two educators are both forty-four years old. They have an average experience of thirteen years divided respectively as five years mono-grade experience and nine years multigrade experience for the foundation phase educator, and ten years mono-grade experience and two years multi-grade experience for the intermediate phase educator. Although this reflects that the educators have different multi-grade experience, they both demonstrate better than average results regarding literacy improvement. It became evident during the school visit, that the trained educator did not teach in a multi-grade context as was expected, but was teaching a mono-grade 3 class. The numeracy improvement in the foundation phase example is also meaningful in this regard. They attended an average of 2.5 months of courses divided respectively in 3 and 1.16 months. They both stay less than five kilometres from their school. Only the foundation phase respondent indicated access to a computer and internet.

With regard to the learner situation there is no indication of the parents' education level. The researcher observed that in the mentioned foundation phase sample 31.8% of the learners were previously in grade R and none of the intermediate phase sample. 27.3% of the learners in the foundation phase sample travel by bus and none of the intermediate phase sample.

None of the parents in this foundation and intermediate phase sample are attending ABET classes. Parents are in both instances involved in the learners' homework and the beautification of the classroom. The farm owner is not involved in the intermediate phase sample. Whilst the foundation phase sample is not located on a farm.

(b) Correlating tendencies found in the analysis of the three presented scenarios

The researcher picked up the following tendencies in the analysis of the presented data relating to the visitation samples in sixteen schools.

- **Learner situation**

- Only 50% of the respondents in the school visit sample indicated that an average of 29.4% of their learners were previously in a grade-R class. The **average improvement** of literacy and numeracy test results of the classes in the sample who had learners who were previously in grade-R and those who were not is 14.5% and 27.1% respectively. On the other hand when the literacy and numeracy averages of the learners who were previously in grade-R classes and those who were not and **who did not improve** in the literacy and numeracy test results is calculated, a significant difference is observed namely -0.3% $((-0.6\% + 0\%)/2)$ and -8.2% $((-5.5\% + -1.25\% + -17.8\%)/3)$ respectively.
- Although the above arguments do not clearly convince that learners who were previously in grade-R do better with regard to the literacy and numeracy test results than those who were not, the same phenomenon appeared as previously discussed when the progression results of these groupings were compared. Again the progression rate of the group of learners who were previously in grade R were higher than of those who were not and is calculated at 88.5% $((54,8\%+100\%+84.7\% +103\%+100\%)/5)$ and 78.6% $((87.5\%+75\%+58.6\%+93.3\%)/4)$ respectively. The reasons why learners, who were in grade R, do not benefit from it, as is expected, could be queried against the background of the frequency of responses for attending grade-R and the quality of the preparation for grade1 and the continuous preparation in the other successive grades.
- Although only 38% of the respondents indicated that the learners in their classes travel by bus, it varies between 12.2% and 100% of learners in a class. The school attendance of these learners can be questioned considering the influence of the distance of a minimum of five kilometres from which learners are staying from school, the possible consequent influence of weather conditions and the reliability of their transport.

- **Teacher situation**

- No evidence could be found from the presented data if the age, the number of years experience of teachers, or courses attended contributed to the improvement of literacy and numeracy results. This lack of correlation leads to the raising of the question, that if age and career experience, as well as the attending of courses, do not have any significant impact on the literacy and numeracy performance of learners, what else is left to turn this titanic around;

- When the impact of the various cycles on the improvement of the literacy and numeracy results are considered, it is interesting to note, that the biggest literacy and numeracy improvements recorded, relating to the sample of schools visited and the total schools which responded on questionnaires, were those who were involved in the pilot and the 1st, 2nd, 4th and 5th cycles and are recorded as follows:

Foundation phase:	1 st cycle literacy 48.7%,
	5 th cycle numeracy 27.8%;
Intermediate phase:	4 th cycle literacy 23.3%,
	2 nd pilot cycle numeracy 4.7%;
 - All the teachers who were part of the sample schools visited indicated that they have to travel an average of more than 10 kilometres to get to their schools. Weather conditions can play a crucial part in getting at school, as most of them have to travel on dirt roads. Breakdowns with respect to transport and travelling with others have to be considered as a factor which can prevent a teacher getting to school;
 - The training of the teachers who were part of the sample schools visited is poor and they are in possession of only a basic teacher's diploma. Only in one instance a teacher has obtained a degree and in this case no significant improvement in literacy and numeracy results was detected;
 - All the foundation phase teachers who were part of the sample schools visited indicated that they are attending courses whilst this is not the case with all the intermediate phase educators. It is also not clear if the attending of courses really made an impact on the improvement of the literacy and numeracy results in their schools and
 - Although most of the teachers who were part of the sample schools visited have access to computers and internet facilities no evidence could be found that it had any direct impact on the improvement of literacy and numeracy results. Results improved whether there was access to these facilities or not.
- **Parent involvement**
 - Only one respondent indicated the involvement of parents in ABET;
 - The academic qualifications of these parents are indicated to be grade 7 and below;
 - No parents are indicated to be involved in making teaching resources;
 - Only one respondent indicated the involvement of parents in classroom activities and
 - Only 31% of parents are indicated to be involved in the beautification of classrooms
 - **Farm owner involvement**
 - Only 31% of the farm owners are indicated to be involved in the maintenance of the school and
 - Only 12.5% of the farm owners are involved in school government decisions.

- **The relation between ratings of classroom visits, literacy and numeracy improvement, learner progression and the perceptions relating to the impact of the MGRSI**
- Only in one instance could a correlation be found (see tables 4.4 and 4.5: codes 15.1 & 33) between classroom practices and the impact of it on the improvement of literacy and numeracy results. This particular educator implemented most of the classroom practices promoted by the MGRSI. Although there were more good practices observed, no relation was visible with regard to whether it had any impact on literacy and numeracy improvement.
- Although farm owner involvement and parent participation will contribute towards the further improvement of literacy and numeracy results, it was lacking in most of the observed cases. Schools should address these important variables seriously in the future.
- The academic stimulation of preschool learners is an important prerequisite for the successful preparation of learners for grade 1. Therefore, schools must ensure that all those learners have permanent access to quality education.
- Schools have to take the literacy and numeracy performance of learners in consideration when they make decisions, relating to learners progression. Too many incidents occurred where the literacy and numeracy results were low and the progression results were high. As is expected the correlation between these two entities should be closer to the quality of teaching, the completion of the outcomes and the application of assessment standards should be assured with regard to the learners who have to progress at the end of the year.
- The general perceptions relating to the impact of the MGRSI, indicated by the selected sample of educators involved in the classroom visitations, correlate proportionally strongly with what was observed in the classrooms (see table 4.4). The calculated average ratings for how these teachers perceived the impact of the MGRSI intended outcomes is 55.9%. This differs by 8.7% from the average ratings of 64.6% calculated for the classroom visits. Although the perceptions of the impact of the MGRSI seems to be lower than that found in the classrooms it seems as if many of the MGRSI concepts are already implemented in the classrooms.
- It appears that there is a strong correlation of respectively 56.4% and 55.2% between the foundation and the intermediate phases with regard to their calculated average ratings relating to their perceptions of the impact of the MGRSI. On the other hand, the researcher observed, a huge difference between the calculated average ratings of the classroom observations of these two phases.

- When the average for foundation phase classroom visit ratings calculated as 75.9% is compared with the calculated average of the intermediate phase visit ratings, which is 50%, it stresses again the concern, raised previously, relating to the challenges identified in the multi-grade intermediate phase context.

4.3.4 Interviews (Interview questionnaires)

The results of the interviews done with sixteen teachers, eight support level officials and three management level officials will be discussed under the headings teacher interviews, support level interviews and management level interviews.

4.3.4.1 Teacher level interviews

The researcher did sixteen interviews during and after the completion of the class visits. The researcher did not record these interviews but posted the notes, which he took during the interviews to the respondents for their comment. None of the respondents indicated that they have any objection with regard to the content of the notes. The feedback received from the respondents is available as a representative extraction, printed in italics, in appendix I. The researcher based his critical comment on a summary of the answers received, which relate to the following questions:

- Can you give me some insight into how you use the learning centres in your classroom?
- Can you tell me on what basis you differentiate your class?
- How do you get learners to move around the classroom between the centres in an orderly fashion?
- How do you support the peer tutors? What programme do you have in place for their training? Are they useful in the classroom?
- In what ways did the manuals influence the way you plan and teach?
- Has the project encouraged you to reward peer tutors for their work? If so how? Has your work as a Multi-grade teacher been rewarded in any way? If so how?
- Has this project had any impact on the ways in which you teach literacy and numeracy overall?
- Is there anything else you think we should know about the project and how it worked and what you did or would still like to get out of it?

The feedback on these questions will be discussed as explained under the following headings, namely the utilization of learning centres, the basis for differentiation, learner movement between learning centres, teacher support to peer tutors, the role of the manuals in planning and teaching, reward for peer tutors and teachers. The researcher will also divide these comments into foundation phase and intermediate phase comments.

(a) Utilisation of learning centres

The set up and utilisation of learning centres in the foundation phase does not seem to be problematic and serves different purposes. Many of the intermediate phase respondents on the other hand found it problematic to set up and utilise learning centres because of the availability of suitable space and negativity from the staff.

The resources, which are available in the learning centres, vary from reading books, and maths resources to brochures, newspapers and magazines. This enables learners, coming from deprived environments and opportunities to have first hand access to news and knowledge. The provision made for more advanced learners in the form of computer and television programmes is an important function, which teachers must not neglect. Teachers have to consider the resources in the learning centres in their lesson planning so that learners can see the link between the teaching and learning process in the school and the challenges of daily life. Teachers must not underestimate the utilisation of the learning centre for repetition and consolidation purposes as well as addressing the needs of the learners.

The partnership observed between schools and municipal libraries is commendable. Where learning centres are implemented it is found that it is in most cases stocked with fiction material and not with other resources related to other learning areas especially maths. It is not commendable that teachers must share resources or must sign out for it, as resources must be at hand and at the disposal of learners whenever needed. Teachers must broaden the function of the learning centre from enabling learners to read for fun to enabling them to do calculations for fun or to engage with other learning areas for fun. It is a commendable practice to monitor if and what learners have read and if they understand what they have read. More enjoyable ways in which it can be done must be considered, like sharing the book they have read with parents during a parent evening or to draw and display pictures illustrating the story.

(b) Basis for differentiation

The criteria mentioned by the respondents relating to how learners and groups of learners are identified for differentiated teaching and learning addresses the following principles of observation namely, if and how the outcomes are reached, the level and tempo of progress and the assessment of needs. Teachers do not spell out clearly what their understanding is of the role of baseline assessment, which should play a more dynamic role in the teaching and learning process. Teachers should see it as a continuing process and build it into learning programmes and lesson plans.

Although grouping of learners in strong and weak pairs and utilization of peer tutors proved to be beneficial for the weaker ones, additional stimulation for the stronger ones has to be built into the lesson plans. The role of the teacher assistant can add quality to the teaching and learning process if the teacher plans and implements it well. The utilisation of specialised teachers outside the formal school time can also contribute towards the improvement of learners needing more support as well as those who need more stimulation especially in instances where the home cannot provide it.

Needs based resources, adapted to the level of understanding of the learner, displaying concrete examples, and exercises which contribute to the understanding and consolidation of the needed skills, and concepts have to play a pivotal role in rendering professional support to learners who need it. The belief that learners will experience success if they complete a lesser amount of work is not acceptable. The saying, "practice makes perfect" should rather be implemented. Learners can still experience success with a larger amount of work if it is set according to their ability. Exercises have to have the intention to consolidate through repetition.

(c) Learner movement between learning centres

The teacher has to plan for the utilisation of the learning centre. This will determine its purpose in the learning and teaching process. The particular planned programme for the day will determine the movement of learners between workstations, which includes the learning centre, as well as the arrangement there is for learners who are waiting for the next task.

(d) Teacher support to peer tutors

There is no doubt that the peer tutor or the teacher's assistant will be able to play a supportive role in the teaching and learning process. The evidence presented in this section underlines the importance of such a function. It is however clear that this kind of support needs careful and in advance planning from the teacher's side and cannot be done in an informal way. Teachers should be aware of the different ways teachers can utilise peer tutors and teaching assistants. Leadership, specialisation and repetitive support are some of the mentioned positive attributes, which peer tutors, and teacher assistance can add value to quality education.

(e) The role of the manuals in planning and teaching

It is evident from the feedback received that the content of the manual is, in the instances where the teacher implemented it, perceived as valuable. From the perspective of the respondents the value of the manual lies mainly in the guidelines which are given relating to mental maths strategies and support to learners who are struggling in reading, and the planning strategies, classroom arrangement and the methodology that is related to it. Where it is found that teachers do not implement the manual, it is for some reason or another not in the possession of the teacher. In other instances, the researcher observed that teachers used the manual at the start of the programme as a guideline but lose interest later on and found reasons to consequently go on with the old practices or implement partially. The challenge lies in how multi-grade teachers and support officials perceived the purpose of the manual in the context of preparing learners for life challenges.

(f) Reward for peer tutors and teachers

It is agreed that the rewarding of learners with sweets and stars is a form of recognition for what they are doing, but this is also an opportunity where intrinsic values like, always assist where needed or sharing, can be strengthened. Teachers can do this as mentioned by some of the respondents, through the appreciation other learners show by clapping hands or sharing on another level. Teachers recommend the frequent change of peer tutors, which will strengthen the feeling that every one in the class can be of assistance.

Teachers show a serious need for appreciation and recognition from officials with regard to the challenge of the multi-grade context in which they work. Support structures should note the significance of how important and rewarding it is for teachers to be successful in what they do. Teachers are also becoming aware of the importance of technical assistance in the form of electronic media and other resources, which can make life easier for them. Government structures should consider the need for some kind of remuneration for the extra expenses multi-grade teachers have.

(g) Impact on the teaching of numeracy and literacy

From the feedback received, it is evident that teachers admitted that they have learned a lot from the intervention. They felt that the intervention contributed towards specific multi-grade methodology which covered the implementation of work stations, individual teaching for learners who experienced learning difficulties, group work, learning strategies, language integration, utilisation of stronger learners and the strengthening of number concepts. In two instances teachers felt that the intervention did not make any impact on their teaching ability.

(h) General comments on project

It is clear that teachers need more training and specialised support especially with regard to the bridging between the foundation and the intermediate phases, aspects of mental maths, management of time, utilisation of space, integration strategies, differentiation strategies and the link with self-directed learning. There is also a need for ready-made resources, which can be adapted to the context of the learners' frame of reference and community activities. Teachers are also requesting the implementation of teacher assistance and the support from lead teachers. Notice has also been taken of requests to address the heavy administration load which is experienced by teachers and especially the principals of multi-grade schools.

The challenge of creating opportunities for farm learners and their parents that will provide them with tools that will enable them to face the challenges of the future and the global world, place a big responsibility on the approaches multi-grade teachers will follow in the future.

4.3.4.2 Support level interviews

The researcher did eight interviews with officials who were involved in the support of multi-grade schools and teachers during the MGRSI. The researcher divided the interviewees as follows: two circuit managers, two learning support advisors, two curriculum advisors, one programme manager and an IT advisor. The researcher recorded and transcribed these interviews. The feedback received from the respondents is available as a representative extraction, printed in italics, in appendix L. The researcher based his critical comment on a summary of the answers received, which relate to the following questions:

- Did you understand your role as part of a multifunctional team clearly in the multigrade intervention strategy? What was your perceived role in the MGRSI?
- What would you perceive as obstacles, which prevent you being effectively involved in the training programme of the multigrade intervention? Please indicate what you think would be the impact it had on the success of the intervention.

- Do you think that the theoretical training sufficiently took into consideration the prior knowledge of multigrade educators in order to equip them for classroom implementation? Indicate examples, which will support your view.
- How important do you see the demonstration strategy followed by the multigrade intervention? Please indicate reasons for your answer.
- What do you see as the most important activities, which you should support in the multigrade class? Explain what you will expect the impact would be if the support structure supports those activities well.

The feedback on these questions will be discussed as explained under the following headings, namely role as part of the multifunctional team, perceived stumbling blocks, consideration of prior knowledge, the demonstration strategy and activities to be supported in the multi-grade class.

(a) Role as part of multifunctional team

The depth of understanding of roles amongst the different role players differs significantly. The curriculum advisors and learning support officials, especially, claim that the communication relating to their expected involvement was not clear in the initial stages of the intervention. The understanding of the roles varies from just supporting the intervention to a total commitment to specialised support. The researcher observed a relation between the perceived understanding of roles and special interest of particular role players. There is also no indication of who took the lead in a particular service context. The roles, which the researcher identified from the feedback received, are training and preparing of teachers with regard to multi-grade theory and practice, monitoring the expected implementation, support based on a particular framework of interest, certification of teachers, co-ordination of logistics, the mitigation of the distance challenge through the provision and utilisation of ICT resources and management, and governance support.

(b) Perceived stumbling blocks

The perceived obstacles identified by the interviewees are as follows:

- It was not compulsory for officials to attend the teacher training and therefore did not have any understanding what the training was about;
- The circuit managers were not all involved in the training and subsequently did not support the intervention as they should;
- The language of the material did not always consider language preference of the target group and resulted in an extra effort to do translation;
- Sustainable support was not possible because of long distances, lack of person power and lack of time because of a variety of tasks to be done;
- Mentorship by means of computer technology was not possible because of the communication system with the schools which never materialised;
- There was no co-ordination in terms of date management which made support difficult in terms of the implementation of specialised programmes;
- Not all EMDC staff was involved which resulted in poor follow-up support;

- The attitude of some schools and teachers made support difficult and
- The training of teachers was not sufficient and therefore they did not implement the outcomes as expected, which resulted in more time needed for the delivery of support.

(c) Consideration of prior knowledge

Although it is felt that the consideration of the diverse nature of multi-grade schools necessitated a well-planned base line assessment of prior knowledge, it is also evident, from the feedback received, that the multi-grade teachers initially had little or no prior knowledge relating to multi-grade teaching. They also have different multi-grade experiences that could add value to the process. Where teachers could plan together, the intervention created an opportunity where teachers could share their prior knowledge and experience with regard to the implementation of the new knowledge and concepts. The lack of background knowledge relating for instance to learning and remedial support for barriers of learning made it difficult for teachers to understand the different concepts related to it. Their previous knowledge of teaching did not provide them with sufficient background to understand the theoretical concepts.

(d) The demonstration strategy

Teachers experienced the practical demonstrations as more effective than the videos especially where lead teachers who were teachers themselves did them. Substitutes were available for these teachers. The multi-grade teachers were able to observe practices, which were similar to their own situation. The training provided support for teachers to arrange their classrooms. The trainers used learners in the demonstrations, which included the utilisation of the do and learn and mental maths learning materials. The MGRSI arranged cluster meetings where teachers could share their practices. Successful implementation also leads to an opportunity for further study and improvement of qualifications in multi-grade teaching.

(e) Activities to be supported in the multigrade class

The interviewees mentioned, in order of preference, the following most important activities that the support structures should support in the multi-grade class:

- Thorough planning and preparedness;
- Practical and implemental differentiation and intervention strategies;
- Adaptation of teaching methods based on the development needs of the different grades and levels of learners in the multi-grade class;
- The creation of an inviting classroom climate that accommodates the expectations of a qualitative multi-grade teaching and learning process which provides space for reading, exercising maths, homework, research and for fetching things to do as well as work stations;

- Classroom management;
- An integrated approach for the intermediate phase supported by a sanctioned adaptation for multigrade schools;
- Peer tutoring;
- The utilisation of the computer for the teacher/pupil communication;
- Children must know what is expected of them;
- Self directed learning;
- Skills of reading and counting must be realized;
- Preparation of learners for future job and education possibilities and
- New concepts like learning and teaching styles, which were not part of any basic teacher training before.

4.3.4.3 Management level interviews

The researcher did three interviews with officials who were involved in the management of the MGRSI. The researcher recorded and transcribed these interviews. The feedback received from the respondents is available as a representative extraction, printed in italics, in appendix O. The researcher based his critical comment on a summary of the answers received, which relate to the following questions:

- Do you think that the scheduled implementation cycle of the MGRSI contributes towards the future planning of similar departmental initiatives? Please state reasons for your answer.
- Do you think that the involvement of different departmental stakeholders contributed towards the sustainability of the MGRSI project? Please state reasons for your answer.
- What lessons could be learned from the project management approach, which was followed during the implementation stages of the multigrade intervention?
- What would you consider as strengths and weaknesses of the Multigrade Intervention strategy?
- How would you say the logic model contributed to the success or the failure of the Multigrade Intervention project?

The researcher will discuss the feedback on these questions as explained under the following headings, namely scheduled implementation cycle, involvement of departmental stakeholders, lessons to be learned, strengths and weaknesses and the contribution of the logic model.

(a) Scheduled implementation cycle

The interviewees agreed that the future planning of departmental projects has to consider what the system learned from the implementation cycles of the MGRSI. The piloting and the consequent role out of the cycles provided certain lessons, which enabled the management to rectify some of the problematic activities. The importance to allocate and put aside time for such an intervention and the consequent adjustment of departmental eprogramms is underlined.

It is felt that the department of education should address the uniqueness of multi-grade teaching, especially from a curriculum implementation perspective more seriously in the future. The management structure questioned the design of the cycles, which did not make provision for expanding in the future, for sustainability and for ownership of the intervention.

(b) Involvement of departmental stakeholders

Some departmental officials were more involved than others were, because everyone did not attend all the meetings, which had an impact on the sustainable effect the intervention. On the other hand, the management structure experienced the support characterised by a multi-faceted approach and by different angles from which people came to bring particular expertise to the table. The involvement of HEIs, which contributed towards the certification of teachers, added to the growing body of knowledge generated by the intervention. The management structure felt that the “foreignness” of central co-ordination created a lack of ownership at district level.

(c) Lessons to be learned

The interviewees indicated that the lessons, which they learned from the intervention, were that the project management approach enables one to plan fairly into the future because:

- The ten to twelve different stages were well set up;
- That the focussed involvement in multi-grade teaching should be part and parcel of the work plan of each and every official in the office;
- That monthly reflection meetings on different levels will help to inform the management team about the progress of the implementation as well as the utilisation of the resources;
- That there should be separate reports for multi-grade schools and these reports should form the basis for all new planning;
- That, flowing from this, the project manager must be from within the WCED and not an outsider because that person comes with the knowledge and leaves with the knowledge;
- That any future project must make certain that all the conditions are met before it starts;
- That future projects make provision for who is taking responsibility;
- That the cycles of a project will not go on without influencing the sustainability of the project;
- That an intervention, when getting to a particular point, has to withdraw with the assurance that things should then go on smoothly;
- That an exit strategy has to make provision for an evaluation report and
- That the consultation with the service provider should be clear and specific, in terms of the expected evaluation outcomes.

(d) Strengths and weaknesses

The interviewees identified the following strengths and weaknesses of the multigrade intervention strategy:

Strengths:

- The programme was well structured;
- The advocacy was well done;
- Baseline assessments were done through workshops with schools;
- The teachers were empowered in their knowledge of E-learning and electronic research;
- It led to a camaraderie amongst all multi-grade teachers across the province;
- It helped teachers to organise their classrooms more effectively and to improve their teaching strategies in a multi-grade class;
- The project demonstrated that teachers can't work across more than one phase;
- The use of lead teachers was a big plus as they came from the same situation;
- It was worthwhile to spend money on substitutions for them;
- The discussion clusters;
- The intervention taught teachers to think in terms of the project and achieving what they wanted within the set time limit;
- The members of management were involved in the project;
- The project was led by a person in a position of a director and
- The chief curriculum advisors were involved from the beginning.

Weaknesses:

- Cohesiveness amongst all the staff of the district office could not really be mustered to work on the project or to shift the mindsets of curriculum advisors to see to it that schools need special support in terms of specific challenges which multi-grade teachers experience;
- The project was mainly driven by the programme managers in the district instead of everybody adjusting their programmes to accommodate the multi-grade schools;
- Not all schools committed themselves to the project;
- The project did not focus on all learning areas and the full National Curriculum Statement;
- Although all schools indicated interest on the online course a number of teachers never completed the course;
- The lack of available computers and electronic connectivity was a problem;
- ICT equipment should be available to everybody and not on loan;
- Follow-up, reflection and revisits were not built into the programme and
- The project was terminated because of budget constraints and not because there was no merit in it.

(e) The contribution of the logic model

The following aspects of the logic model, as identified by the interviewees, contributed to the success and failure of the multi-grade intervention namely:

Successes:

- The model was based on available international experience, which included valuable literature from overseas countries and exposure to international personalities and shared with all stakeholders;
- Everybody involved in the project could see the bigger picture right from the start;
- The planning was not done in bits and pieces;
- The objectives which were set were clear and could be followed and reported on by everybody and
- All the stakeholders understood the model and as such contributed to the success of the project.

Failures:

- One of the most visible failures was that the attitudes of some of the teachers and their classroom practices could not be changed;
- The model did not provide proper planning for the revisiting of teachers where the programme was previously rolled out and could therefore not ensure the enforcement of knowledge and
- The sustainability of the intervention.

Other concerns: The respondents also mentioned a few concerns for future attention, which the project did not cover directly or indirectly. They are:

- The independence of teachers from a need for outside help which relate to their application of group work, knowledge of learning strategies like co-operative learning, which forms part of the multi-grade teaching method and their understanding and consideration of multiple intelligences also in the multi-grade and mono-grade classes;
- The appointment of teachers and principals at farm schools who are coming from the town and who are in many instances foreigners who do not care about the learners and the community or what happens outside the official hours;
- The lack of hope that some officials show;
- The lack of high expectations for the learners, which teachers show, and
- The lack of priority by role-players in the upliftment of rural communities.

"If you don't have hope you don't have any commitment to uplift the learners and communities". (S. Shaye, 2007:430)

4.4 FINAL CONCLUSION

The data analysis and the consequent interpretation of questionnaires, findings of classroom observations and responses from interviewees provided valuable information, which is essential for determining if and how the MGRSI impacted on the improvement of literacy and numeracy. This information will be arranged in chapter 5 according to the expected outcomes of the MGRSI as described in the theoretical model of the multigrade programme logic framework (Mouton, 2001 and 2003) and conclusions will be made which will be presented as successes, challenges and lessons to be learnt.

CHAPTER 5

SUMMARY AND FINDINGS

5.1 INTRODUCTION

In this chapter the expected outcomes of the MGRSI as described in the theoretical model of the multigrade programme logic framework (Mouton, 2001 and 2003), will be compared with the findings made in chapter 4. The researcher will base these findings on the perceptions and expectations of respondents as well as learning derived from the literature review described in chapter 2. The researcher will present the conclusions as:

- Successes, challenges and lessons to be learnt relating to the intention of the Multi-Grade Rural School Intervention;
- The short term impact it had on quality teaching and learning in multi-grade classes and education in the broader sense of the word and
- The lessons learned from the Multi-grade Intervention in terms of the development of models for professional development.

5.2 THE CASE STUDY REPORT

The researcher will base this case study report on the outline of the case study protocol as suggested by Tellis (1997b:4). It will include extensive relevant readings on the topic under study namely:

- The following of field procedures as prescribed;
- The keeping of the research question in mind and
- The focusing on an analytical strategy, which will guide the outline and the format for the final report.

The report will, as described by Palmquist (1997:9) focus on displaying the boundaries of the case. According to the guidelines set by Palmquist (1997:9), it will include:

- The thanking of the participants;
- The stating of the problem;
- The research questions;
- The methods used to conduct the research;
- The data analysis and techniques used;
- The potential flaws in the method used;
- The data gathering and analysis techniques used and
- Concluding answers to the questions and suggestions for further research.

5.2.1 Thanking of participants

Sixty-seven teachers representing 37 multi-grade rural schools, 8 officials linked to support structures in the district and three officials linked to management structures in the WCED participated in the data collection done by means of questionnaires and interviews. The researcher heartily appreciated the exceptional dedication in the way all these participants responded to the requests to fill in questionnaires and to make themselves available for interviews.

5.2.2 The problem statement

What teachers perceived to be successes and challenges of the Multi-grade Rural School Intervention is the main research question and demarcates the research problem.

5.2.3 Research questions

The problem statement covers the following questions:

- What was the intension of the Multi-Grade Rural School Intervention?
- What was the short-term impact in terms of successes and challenges of the Multi-grade Intervention on quality teaching and learning in multi-grade classes and education in the broader sense of the word as seen and experienced by the teachers involved?
- What were the lessons learned from the Multi-grade Intervention in terms of the development of models for professional development?

The researcher will address these questions as part of the conclusion.

5.2.4 Research methods used

The researcher used a variety of research methods as described by Palmquist (1997:5) in order to strengthen the research findings and conclusions. The researcher triangulated the data through multiple data collection methods and analysis techniques, to ensure validity and reliability of the case study research.

5.2.4.1 Multiple data collection methods

The researcher followed three interrelated tasks, namely the preparation for data collection, distribution of the questionnaire and the conducting of interviews as described by Yin (1994) in Tellis (1997b: 6).

(a) Preparation for data collection

The literature review which was done prior to the preparation for data collection provided the researcher with knowledge about and insight into the theory of case study research, the programme theory of the Multi-grade Rural School Intervention in the West Coast Winelands EMDC and the views of other researchers. This knowledge contributed as a reference and a resource towards the contextualisation of the case under study and served as a framework for the data collection.

The Directorate Research and the District Directorate of the West Coast Winelands, which are both directorates of the Western Cape Education Department, granted permission to collect data from schools in the West Coast Winelands district. This ensured the support of the Provincial Education Department as a service provider as well as the support of the schools, which were the client in this scenario.

Eight different close-ended and open-ended questionnaires for distribution to schools, teachers, management and support level officials were prepared for observation and interview purposes and were based on the expected outcomes of the MGRSI. The researcher constructed the questionnaires according to the following foci:

- **Questionnaire A:** A close-ended questionnaire requesting demographic data from multi-grade teachers in rural schools in the West Coast Winelands EMDC who took part in the Multi-grade Intervention and were part of the 2002-2006 annual literacy and numeracy tests ;
- **Questionnaire B:** A close-ended questionnaire, requesting multi-grade teachers in rural schools in the West Coast Winelands EMDC, who took part in the Multi-grade Intervention and who were part of the 2002-2006 annual literacy and numeracy tests, to rate the experience they had with regard to the implementation of the MGRSI intended outcomes;
- **Questionnaire C:** A close-ended questionnaire, requesting the provincial management structure, who were involved in the Multi-grade Intervention in the West Coast Winelands EMDC, to indicate what they expected to be the most successful intended outcomes of the MGRSI. The content of this questionnaire relating to the reasons for the implementation of the MGRSI was found in related international resources as previously discussed in chapter 2 and are not directly related to stated reasons in the MGRSI documentation;
- **Questionnaire D:** A close-ended classroom observation questionnaire for the evaluation of MGRSI classroom practices of multi-grade teachers in rural schools in the West Coast Winelands EMDC, who took part in the Multi-grade Intervention and who were part of the 2002-2006 annual literacy and numeracy tests;
- **Questionnaire E:** A close-ended questionnaire, requesting the support structure, who were directly involved in the Multi-grade Intervention in the West Coast Winelands EMDC, to indicate which of the intended MGRSI outcomes formed, according to their opinion, part of the MGRSI preparatory and training strategies. The content of this questionnaire relating to the training strategy was found in related international resources as previously discussed in chapter 2 and did not at all form part of the MGRSI intended outcomes;

- **Interview questionnaire for teachers:** An open-ended questionnaire for teachers relating to their understanding of multi-grade concepts and the application thereof;
- **Interview questionnaire for support structure:** An open-ended questionnaire for support structure relating to their understanding of their support role and how they perceived the MGRSI to be successful and
- **Interview questionnaire for the management structure:** An open-ended questionnaire for management structures relating to their perception of the MGRSI success and sustainability of the intervention.

The researcher coded the questionnaires sent to schools in order to be able to monitor the reception of them. The researcher sent questionnaires A and B to forty-five schools. The researcher based the selection of these schools on a random sample of at least three schools per cycle, spread evenly across the two pilot and ten implementation cycles.

The researcher selected the management structure interviewees according to their different positions and their roles in the structure. The three interviewees represented the head office of the Western Cape Education Department, the departmental chairperson of the MGRSI and the director of the relevant EMDC, which formed part of the case study.

The researcher selected the support structure interviewees according to their different positions, roles and involvement in the structure. The division of the eight interviewees were as follows: two circuit managers, 2 curriculum advisors, 2 learning support advisors, 1 MGRSI manager and 1 IT support advisor.

The researcher selected, for the purpose of classroom observation and interviews, a minimum sample of one school per cycle up to a total of nine schools representing five circuits in the West Coast Winelands district. Participation in the MGRSI, size of schools, distances from support centres, teaching learners from grade one to six and taking part in the implementation phases of the MGRSI were major criteria followed in the sampling of these schools.

In addition to this, the researcher considered the following representative categories, as part of the criteria for sampling. The researcher indicated the participating schools in brackets according to their allocated codes.

- Schools which took part in the MGRSI and only have mono-grade classes; (39)
- Schools which teach learners in their mother tongue in a multi-grade context while the language of instruction of the rest of the school is different; (57)
- Schools with a low proportion of teachers trained by the MGRSI; (93)
- Schools with mono-grade and multi-grade classes; (14; 45; 57; 73; 93)
- Multi-grade schools with two grades in a class; (14; 45)
- Multi-grade schools with three grades in a class; (24; 33)
- Multi-grade schools with six grades in a class; (64)
- Multigrade schools which were involved in more than one implementation phase; (14)

- Multigrade schools which are also part of the district's special support programme; (73; 93)
- Schools nominated as those which, according to circuit managers, are perceived to implement the multigrade strategies the most successfully in their circuits and (24; 39)
- Multigrade schools, which are far from, support services. (33)

The interviewer phoned the interviewee sample in advance explaining what the research was about and negotiated a time to meet.

(b) Distribution of the questionnaire

The researcher sent questionnaires A, B, C and E with an enclosed letter, to the selected participants by means of registered post, explaining the purpose of the research and gave the assurance that he would respect confidentiality.

The researcher used questionnaire D and the interview questionnaire when the scheduled visits and interviews took place. A letter, which explained the purpose of the interview, preceded these visits and declared that the researcher would respect the confidentiality of the interviewee.

(c) Conducting of interviews

At the start of each interview, the interviewer explained his role in some detail and made clear the purpose of the research and the intended utilization of the data. The researcher provided comfort in explaining that he would protect the interviewee's identity in the reports.

All the interviews began in the same open-ended way. The interviewer ensured that the information collected was contributed freely by the informants and was mindful not to allow the questions asked to determine the answers. As the interviews progressed, the probes increased in number and detail.

Where classroom observation took place an interview followed the observation period. The structure of the interview was in such a manner, that it probed the insight and understanding of matters related to in the observation instrument.

Close-ended and open-ended interviews were done with three officials in the provincial management structures who were directly involved in giving the go ahead for the project. The interviewer also did close-ended and open-ended interviews with eight selected officials involved in the training and support of the multigrade teachers.

All those interviewed for the purposes of this research had full knowledge of the purpose of their interview and had the option of reading the relevant areas of the document before submission. The researcher taped the interviews done with government officials. The researcher took notes of the interviews with teachers and sent back the transcriptions of those interviews for checking, and further comment.

The interviewing provided a necessary avenue for inquiry and contextualised observations made in the different settings. The value of the interviews cannot be underestimated. Based on the researcher's experience of supporting rural schools with multi-grade classes he presumes to understand the experiences of the stakeholders in these schools and the meaning they draw from their experiences. This enabled the researcher to verify the observations made in the classrooms with respect to the manner in which the teacher perceived his or her relating actions and to understand his or her behaviour in context. A tape recording and the feedback allowed the researcher to confirm the wording of any statement he wished to quote and to check that notes were accurate for content analysis.

5.2.4.2 Analysis techniques

The researcher followed and applied the evaluation and analysis methodology as described by Palmquist (1997:5) as follows:

- The researcher sorted the data in different ways to expose or create new insights and deliberately looked for conflicting data to contradict the analysis. The researcher derived scenarios, comparisons, relations, differences, categories, frequency of events, successes and challenges that addressed the initial propositions of the study from the sorted data and presented it in the summaries, graphs and tables.
- The researcher collected and correlated quantitative data with the collected qualitative data in order to seek evidence which would support the fact that the quantitative data supported the qualitative data or not. These exercises contributed to the understanding of the rationale or theory underlying the relationships found.
- The literature review provided the case study with considerable related information, which in turn provided a variety of perspectives and insights when the researcher examined the data and the patterns. This provided sufficient confidence in the findings.
- The researcher did subjective and cross-case searches for patterns, similarities and differences, to ensure that premature conclusions were not drawn. The researcher looked at data in many different ways and linked it to the intended outcomes of the MGRSI. The researcher compared the inputs of different role players with regard to their experiences and perceived expectations and understanding of the stated intended outcomes of the MGRSI. The researcher made comparisons in order to recognise patterns supporting or not supporting the expectations of the MGRSI.

The researcher applied the three analytical techniques, namely pattern matching, explanation building and time series analysis as suggested by Yin (1994).

- The researcher did pattern matching when comparing the empirical based pattern, obtained through the questionnaires and interviews, with the predicted patterns as described by the MGRSI programme theory.
- The researcher applied explanation building where variables, which the implementers could not control, hampered the implementation of the MGRSI.
- Time series analyses were necessary in the event where the starting and the ending points of the MGRSI were of interest.

5.2.4.3 Potential flaws in the methods used

It is felt that if the researcher could make copies or take photos of relevant documents and physical evidence (artefacts), which the researcher identified during the visits to schools, it could add to the insight in the depressing situations, which he sometimes observed in multi-grade classes. Although the educators had the interview questionnaire at his/her disposal during the interview, the researcher was under enormous pressure to complete the interview questionnaire in the time available, because the interviewer could only conduct the interviews during breaks or after school. The incomplete and sometimes incorrect manner in which a few respondents filled in some of the questionnaires was a concern. Where it occurred, the researcher omitted the responses in the data capturing process and only considered the responses correctly filled in for capturing. The researcher accounted for the omissions in the total responses indicated in the graphs. Although the researcher followed up the sending back of questionnaires, it remained a problem getting back a 100% of the original consignment. The lack of input by the farm owners and parents, relating to their involvement in the environment of the school, and the learning and teaching of the learners in the rural multi-grade school is a lost opportunity in comparing their possible comment with those of the teachers.

5.2.5 Concluding answers to the research questions

The researcher experienced that this case study showed similarities to the complex character which, according to Palmquist (1997:1), case studies demonstrate. Multiple sources of data collected from multi-grade teachers, district and provincial support staff and provincial diagnostic test results therefore challenged the case study. These data related to multiple cases within the study, as represented by the different levels of involvement. It produced, as a result, different kinds and levels of information and large amounts of data for analysis. The advantages of the case study method are, as stated by Yin (1994) cited in Palmquist (1997:1), also in this instance, applicable to real-life, contemporary and human situations as represented by the multi-grade challenge. It addressed public accessibility through written reports as illustrated by the received feedback from the questionnaires and information collected through interviews and observations.

The researcher was therefore convinced that this study would answer the stated research questions, which related directly to the average reader's everyday experience in the classroom. These answers would facilitate an understanding of the complex real-life situations in the rural multi-grade context.

The stated research questions, mentioned hereafter, will therefore provide the answers, which will provide insight into what teachers perceived to be the successes and challenges of the Multi-grade Rural School Intervention, which is the research problem. The researcher will, as part of the final cross-case analysis as described by Palmquist (1997:9), examine combinations of the available data and categorize it as patterns, similarities and differences.

5.2.5.1 What was the intension of the Multi-Grade Rural School Intervention?

From the available documented information, with regard to the origin of the MGRSI, the intension of the MGRSI was never meant to exist in a vacuum. Therefore, in preparation of the MGRSI theoretical framework, the original intervention committee did extensive international and local research, to anticipate possible pitfalls and gain knowledge from previous experiences. This process opened up the opportunity to consider and compare international and local perspectives when the intension of the MGRSI was evaluated. The belief was that this exercise would provide a broader context for the measurement of the intension of the MGRSI and would result in recommendations for future interventions of this kind. It was therefore felt that the measurement of the intension of the MGRSI as rolled out in the West Coast Winelands EMDC should not be in isolation but in the context of the Millennium Development Goals and in order to achieve the challenge of Education for All. The researcher did this in the context of international, national and local (district level) views which provided an in depth and broad understanding of the intension of the MGRSI in the West Coast Winelands EMDC.

(a) International context

Samuel (2005:137) states that Education for Rural People (ERP) lies at the heart of rural development and is fundamental for reducing poverty worldwide. The Millennium Development Goals (MDGs), which are, according to Gasperini and Atchoarena (2005:2), based on the ERP, will ensure that by 2015 the learning needs of all young people and adults will be met.

It is believed that it should be done through the improvement of early childhood care and education, access to complete free and compulsory quality primary education, the improvement in levels of adult literacy, equitable access to basic and continuing education for all adults, achievement of gender equality in education and the improvement of quality of education. The achievement of all these MDGs places a huge responsibility on governments to provide sufficient opportunities for quality teaching and learning for all the education needs in their respective countries. The rendering of a quality service to all children will require, according to Hartwell, DeStefano, and Benbow (2004:2), an extensive overhaul of policies and programmes and far more public resources than are likely to be available.

From the literature reviewed it became clear that if national policies are not in place it will be an uphill struggle to implement programmes and to provide sufficient resources for rural education. This is, according to Joubert (2006:3), demonstrated by the fact that governments tend to focus on the improvement of conventional schools, often leaving the development of multi-grade schools to local initiative. This could prove a major stumbling block to reaching the MDGs. Furthermore, it is, according to Atchoarena and Sedel (2003:54), evident that in most countries public policies also fail to integrate rural development with basic education. With this in mind, policy makers need to acknowledge that providing education to rural communities requires recognition of multi-grade teaching as a recognised field of specialisation, and the way it relates to different local needs including geographical, social and cultural considerations.

The challenge for addressing the education needs of children, who live in the poorest and most remote regions of countries all over the world lies, according to Hartwell, DeStefano and Benbow (2004:2), in the development and scaling up of complementary models that have demonstrated that they can effectively reach chronically underserved populations and regions. Little (2005:19) suggests that policy makers pay close attention to the latest insights into better teaching and learning and efficient system management. With this in mind policy makers need to structure the content of the national curriculum and all associated curriculum materials in a way that supports multi-grade teaching.

The River model in India and the Escuela Nova Model in Colombia are examples of programmes supported by their respective governments which provide possible solutions for better teaching and learning and efficient system management in the poorest and most remote regions in the world.

The observed success of the RIVER project, according to Rao, Herzberger and Chandy (2004:4), which took place within India's very diverse cultural and socio-economic context and the difficult conditions of a developing economy, lies in the intention of the project to set up a model school and to prepare training groups thoroughly prior to the commencement of the teacher training programme.

The follow-up monitoring and support strategy to sustain new approaches, processes and materials in schools across a geographically wide area and the utilization of a Multigrade Teachers' Resource Pack, which also aimed at sustainable support, were important variables for sustainable teacher performance in the multigrade context.

The above mentioned new approaches included a learning continuum based on the breaking down of the learning process into smaller units, which leaves the teacher with a clear understanding of every child's progress at his or her own pace through the curriculum. As such, the teacher should maintain a weekly record of each learner and class progress. The River model based the classroom management on the level of the teacher's role and the child's autonomy in a particular cognitive task. It also expected the teachers to be rooted in the community, to draw upon local resources and create local-specific materials to supplement the usual educational materials.

In the Colombian State, the Escuela Nueva reform programme intended to provide, according to McEwan and Benveniste (2001:548), rural multigrade schools with special training and instructional materials. Teacher in service training provided teachers with the pedagogical skills to implement in the multi-grade classroom. The courses used a detailed manual organized similarly to student learning guides.

In a similar vein to the Indian River model and the Colombian Escuela Nueva reform programmes, the Malaysian DoE involved, according to Boylan, Nor and Rahman (1996:12), the teachers, the learners, the curriculum, the resources, the society and the environment in an 'intervention model'. The importance of a community based curriculum taught by village youth trained in especially designed multi-grade methodologies is highly recommended by Rao (2004:3).

Both the River and Escuela Nueva models confirm the importance of the alignment between the intention of teacher training and sustainable quality classroom practices. Lazarus (2005:56) confirms that the relationship between teacher quality and student achievement are closer to each other than other factors including class size and per pupil expenditures.

Boylan, Nor and Rahman (1996:10) refer to a further study done in 1992 by Azizah and Sharifah, which relates to teachers preparedness for teaching learners in rural schools and which found that almost half of the respondents had never attended in service courses, which rendered them incapable of engaging in a quality teaching and learning process.

Rao (2004:8) sees the overall solution to the problem of rural schooling in substituting the idea of schools as isolated institutions with the idea that schools are resource centres for the community in which they are located.

Working through this conviction meant replacing a teacher-centred, textbook oriented, mono-grade approach with one that met the multiple learning needs of learners viewed as members of a community and families with diverse cultural traditions and varied livelihoods.

(b) National context

Samuel (2005:140) mentions reasons why it is important to argue for rural education in South Africa. The reasons are that:

- The constitution requires it,
- People are living there,
- There is a popular demand for it,
- Human development can be enhanced,
- Joy of learning and individual well-being can be experienced,
- Social progress can be developed,
- Political participation can take place,
- Social justice can be experienced,
- Democracy can be applied and
- Development can take place.

Although rural education is of significant importance, the curriculum and pedagogies of rural schooling are still the same as those found in urban settings. The performance levels in literacy and numeracy of children in multigrade rural schools in South Africa are at least two years behind their counterparts in developed countries (Beukes and other, 2001:4). There is however, according to Joubert (2006:2), a low level of awareness among decision makers of the impact illiteracy has on the development of rural people. Joubert (2005:3) states that to enable generations to break out of the recurring cycle of unskilled labour and resultant poverty, state education must deliver learners who are able to read, write and who are numerate and furthermore, that the preparation and training of teachers should be sufficient for the multigrade/rural school system.

Considering the above statements, it is a relief to note that The Ministerial Committee on Rural Education (2005:12) found wide support for the view that allows for state provision to resource rural schooling and organise it differently from urban schools as a necessary measure to meet the needs of rural learners. Chapter 4 of the White Paper on Education and Training (1995:6) affirms its commitment and intention to the enhancement of quality education. It says, "The system needs to increasingly open access to education and training of good quality, to all children, the youth and adults and to provide means for learners to move easily from one learning context to another". It is clear that the South African government is committed not only to providing education for all, but also ensuring that what the government provides is of the best quality that it can afford. Investment in the skills of multi-grade teaching is contributing to the goal of quality basic education for all (Joubert, 2006:12).

Nelson Mandela stresses that the most important challenge facing South Africa is the task of improving the quality of education, which in this process often overlooks the immense, untapped potential of rural communities to take the lead in shaping a better future for themselves (Samuel, 2005:vii).

(c) District context

In January 2000, the government introduced the Tirisano plan (which means working together). As their contribution to the National Rural Upliftment plan, the Western Cape Education Department implemented the Multi-grade Rural Schools Intervention in April 2002 for a three-year period.

The intervention was according to Mouton (2003:4) built on four key pillars focussing on

- Classroom management and instructional strategies;
- In-service training;
- ICT and
- The value of mental mathematics.

It targeted six areas, which include:

- The configuration of learning spaces and classroom organisation;
- Classroom routines and discipline;
- Curriculum structuring and planning;
- Teaching strategies and
- Self-directed strategies and peer tutoring.

The main intervention mode consisted of INSET. The components of such training consisted of the following:

- Presentation of theory;

- Modelling and demonstrations;
- Practice in the workshop setting or under simulated conditions;
- Structured feedback and
- Coaching for classroom application.

The HSRC and the Joint Education Trust based the conceptual development of the Multi-grade Rural School Intervention on theory and research both internationally as well as on local studies. Another important phase in the further improvement of the conceptualisation occurred during the first half of 2002 when the research team worked with Johannes Mouton at the University of Stellenbosch following a systematic logic model exercise. The components of the model according to Mouton (2003:6) include:

- The problems to be addressed through intervention as well as presumed causes of the problems;
- Goals and objectives of the intervention;
- Description of the inputs (resources);
- Programme component activities as well as outputs and intended results (immediate, intermediate and long-term outcomes).

The immediate benefit of the logic model for the Multigrade Rural School Intervention meant making the underlying programme theory of the intervention explicit.

The core programme theory of the Multi-grade Rural School Intervention states that the intervention would train teachers to efficiently manage and organise their multi-grade classrooms. It also focussed on the development of relevant learning programmes and resources to make it available to schools. It furthermore focussed training teachers in these schools to use, develop and apply such learning programmes optimally. The utilization of information and communication technologies was meant to support such training and applications. The intervention consequently also focussed on training EMDC officials to provide ongoing support to such teachers.

Mouton (2003:10) declares that the overall aim of the MRGSI was to develop multi-grade teaching in rural primary schools through professional growth, resources and support to gain a measurable improvement in learner's performance in reading, writing and mental mathematics together with a positive attitude towards lifelong learning.

(d) Conclusion

From the evidence of the literature reviewed, it is clear that the intention of the Multi-grade Rural School Intervention was not an isolated event.

According to Mouton (2003:5) the real need of multi-grade schools in the Western Cape led to the development of an initiative, subsequently designed and adapted and based on a systematic study of relevant theory, research and practice elsewhere in the world and locally. Therefore any measurement of the intention of the MGRSI has to be based on international and national (South African) perspectives relating to what those viewpoints will be, regarding previous and future expectations, and when interventions of this kind were and will be considered.

The intention of the MGRSI was not only to follow a programme theory but also to contribute towards the South African National Rural Upliftment Plan. The MGRSI addressed two of the six Millennium Development Goals, namely meeting the learning needs of all young people, specifically the poor learners in the multi-grade rural context and the improvement of quality education, to render quality service to all the learners, according to Hartwell, De Stefano and Benbow (2004:2), to overall policies, programmes and provide sufficient resources.

The reviewed literature rates these variables high and therefore has to be considered within the context of the MGRSI and the weight it is carrying relating to the intention of the MGRSI.

Although the design of the MGRSI was in the format of a formal business plan, approved by the WCED, there is no evidence of a connection with any **policy** requirements. The reason for this is most probably that no national and therefore no provincial multi-grade education policy existed at the time of the intervention. The only need for a policy framework of some sort related to actions needed by the MGRSI for the compilation of a progressive curricula for grades R to seven in reading, writing and mental mathematics and the specific didactical approaches needed for the multi-grade context.

On the contrary it was stated by Mouton (2003:8) that the logic model, which forces one to make the underlying programme theory (theory of change) of the intervention explicit, is a useful means of communicating the elements of the programme to policy makers and other role players. The programme theory links the programme components (training activities), expected outcomes (improved learner performance), and provides the explanation why one does expect the outcomes to materialise as stipulated in the logic model framework.

The acceptance of the logic model, designed by Johann Mouton and a research team, provided a firm basis for the **programme** that the intervention followed. It laid out how and why the programme would operate, the activities of the programme, the relationship amongst the resources and the outcomes or changes/effects the programme hoped to achieve.

The intention of the logic model was according to Mouton (2003:7):

- To provide the means to summarize the key elements of the programme;
- Explain the rationale behind the programme activities;
- Clarify the difference between the activities and the intended outcomes of the programme;
- Show the cause and effect relationship between the activities and the outcomes;
- Help to identify the critical questions for evaluation and
- Provide the opportunity for programme stakeholders to discuss the programme and agree upon its description.

The MGRSI intended to provide a range of **resources** to schools in support of reading and mental mathematics. This intention to provide a wide range of resources in the form of progressive curricula for reading, writing and mental mathematics, manuals, videos, standardised tests, electronic equipment and software, reading packages and support structures is in line with successful international tendencies as demonstrated by India, Colombia and other countries who have reported successful multi-grade interventions.

The MGRSI demonstration strategy, the setting up of a model school and the training of multi-grade teachers accomplished in relay groups showed a similarity to the Indian River project. The MGRSI further focused on school and classroom management, arrangement of classrooms, planning, methodology and assessment strategies followed in the multi-grade classroom. It also included manuals and videos, which assisted teachers further with what they had learned. The provision of ICT equipment and skills remind one of similar initiatives in Finland and Greece and these should support the teachers further in sharing challenges and good practices. The intention to construct standardised tests in reading and writing was a unique initiative for multi-grade schools, which could serve as a means to measure the impact of the MGRSI. Above-mentioned strategies linked well with international expectations, which promote the alignment of teacher training with sustainable quality classroom practices which, Lazarus (2005:56) confirms, stated that teacher quality is more closely related to student achievement.

Although the members of the multifunctional teams (MFT), as human resources, were described in terms of their normal day-to-day tasks, which they were supposed to render to the multi-grade school, no clear indication could be found as to what the frequency and depth of training for the MFT should be. The expectation with regard to the particular MGRSI focus of MFT school visits and the frequency of MFT visits to schools was very vague and described as "normal" and preventing "things going wrong". Nevertheless it did link up with international expectations as mentioned by Rao, Herzberger and Chandy (2004:4) that highlight the importance of monitoring to sustain the new approaches, processes and materials in the schools. The developers of the intervention, on the other hand, planned the training and the expectations for the key teachers well and it was easy to understand.

It will be of significant value to take note of intentions derived from international experiences and which could add new knowledge to future interventions of this kind. The setting up of a **model school**, as mentioned in the Indian River project, served as a model, which gave teachers a format to help them to focus on salient features of the methodology. The model school provided the teachers with the opportunity to observe, as part of their two training classes, one for mathematics and one for language. Observed from the Indian River project, the **analysis of data** at the end of the academic year would yield valuable insights, such as typical time spent on teacher directed activities, the average time taken for learners to complete the continuum and average time spent to complete each activity. In Malaysia, Indonesia, Colombia and India observers rated the **involvement of the community**, where parents are active partners in the schooling of their children, highly and see it as vital to the success of their multi-grade interventions.

Observers see the idea that schools must become **resource centres of the communities** as a solution for the isolation tendencies, which usually occur in the multi-grade context. India and Colombia rate a **multi-grade methodology**, which consisted of individualized instruction, active learning, use of special self-instructional texts and "learning cards" very highly. India and Columbia based this system on the strong belief that real and meaningful learning takes place through dynamic interaction between teacher and learners and among learners themselves.

Monitoring support is vital to sustain new approaches, processes and materials in schools across a geographically wider area. Ranjan (2003:55) indicates that support visits must be compulsory on a fixed day of the month. Such a person should visit the school for the whole day and observe the implementation of the kit, find out what the problem areas are and then offer on the spot solutions. A well thought-out strategy should be prepared for this interaction with the teacher. The visit can also include the conducting of a simple test with the children to ascertain their progress since the previous visit.

The MGRSI intended to develop multi-grade teaching in rural primary schools through professional growth, resources and support. It further intended to gain measurable improvement in learner's performance in reading, writing and mental mathematics as well as a positive attitude, under teachers, towards lifelong learning. From above it is clear that the intention of the MGRSI was in line with international and national expectations as it focussed overall on improving the quality of education in the multi-grade context.

5.2.5.2 What was the short term impact in terms of successes and challenges of the Multi-grade Intervention on quality teaching and learning in multi-grade classes and education in the broader sense of the word as seen and experienced by the involved teachers?

Responses received through questionnaires, observations and interviews will provide information which will determine what short term impact the Multi-grade Intervention had on quality teaching and learning in multi-grade classes and education in the broader sense of the word in terms of successes and challenges experienced. The researcher will discuss the responses under two major headings namely, the demographic variables, which possibly could have an influence on the impact of the MGRSI and the influence of the structure of the MGRSI on the impact of the MGRSI.

(a) Demographic variables which could possibly have an influence on the impact of the MGRSI

The researcher will explore the following demographic variables, namely participation in the MGRSI, teacher situation and learner situation to determine what influence these variables could have on the impact of the MGRSI.

(i) Participation in the MGRSI

From the feedback received, it became evident that some teachers exposed to the MGRSI, changed from schools, grades and phases and left the system. As it is already difficult to find trained quality teachers in the rural areas this could result in the appointment of substitutes that are not trained through the MGRSI and they then fell back on old practices. Teachers who took part in the MGRSI and have to teach in a mono-grade class or a new phase often do not see the link with the MGRSI or are not able to adapt to the expectations of the MGRSI. Future multi-grade interventions should make provision for sustainability in this regard. Initial training courses for aspirant teachers and annual inset training programmes could be a possible solution.

It is a concern that the researcher received little or no response from participants of the ninth and tenth implementation stages although the researcher followed them up. The researcher certainly questions the impact of the MGRSI with regard to the commitment to the project of those participants.

(ii) Teacher situation

The following teacher related variables, which could possibly have had an impact on the literacy and numeracy diagnostic test results will be discussed under the following headings namely, the influence of the relation between age, experience, courses attended and literacy and numeracy diagnostic test results and the teacher's logic position.

- **Influence of the relation between age, experience, courses attended and literacy and numeracy diagnostic test results**

From the survey, it became evident that the average age of teachers teaching in multi-grade classes is over forty-seven years. They had a total average experience of nineteen years of which an average of twelve years were in multi-grade classes.

The other experience they had, before they taught in the multi-grade context, was mostly in mono-grade classes related to the combinations they were teaching. Multi-grade teachers had an average of three years professional teacher training (only a few managed to have an additional qualification) and their attendance of in-service training courses averaged 3.1 months per teacher over a period of seven years.

The researcher expects that the above mentioned group of mature teachers with regard to age and experience would benefit from an intensive intervention like the MGRSI. This intervention should have contributed and influenced the teaching and learning practices in their classrooms, which should lead to a significant improvement of the literacy and numeracy results. Despite the contribution of the MGRSI, the researcher observed the opposite when reviewing the improvement of the literacy and numeracy results over the past six years. The question that arises is what reasons teachers and support structures could offer to explain this lack of significant improvement in those diagnostic test results.

Table 5.1 shows a comparison across the mentioned time span between the average improvement of literacy and numeracy results and the other variables related to age, experience and courses attended.

The researcher indicated the identified relations in bold. Both the foundation and intermediate phase comparisons show a significant relationship between the higher age of teachers, more multi-grade and other experience, longer periods spent attending courses and significant improvement of literacy and numeracy diagnostic test results. This is an indication that mature and experienced teachers most probably benefit from their own experience and from inset courses, which they have attended.

Table 5.1: Comparison of literacy and numeracy and progression results with variables like age, experience and courses attended

Age distribution	Percentage of responses FP	Foundation Phase						
		Average age	lit/num results	Progression gr 3	Multi-Grade Experience	Mono-Grade Experience	Total Experience	Courses attended
30>	11.5	37	35.01667	88.517108	6.3333333	3.3333333	9.6666667	0.14
40>	50	46	17.44231	92.836257	11.5	12.076923	23.576923	2.41538462
50>	34.6	54	24.13889	85.906837	11.222222	14.888889	26.111111	10.0311111
60>	3.8	65	50	93.75	20	7	27	0.13
Average	26	49	19.17432	89.237672	10.756757	8.8918919	19.648649	4.36081081
Age distribution	Percentages of responses IP	Intermediate Phase						
		Average age	lit/num results	Progression gr 6	Multi-Grade Experience	Mono-Grade Experience	Total Experience	Courses attended
30>	13.8	37	0.5	84.187276	4	1.75	5.75	0.165
40>	51.7	45	2.406667	81.060606	10.066667	5.6666667	15.733333	3.59866667
50>	27.5	55	10.275	75.036075	20.25	7.875	28.125	0.34375
60>	6.9	65	-7.125	53.846154	17	10	27	6.5
Average	29	48	3.964865	88.606274	10.513514	5.4594595	15.972973	2.08432432

On the other hand, the three youngest respondents, who taught in the foundation phase, obtained the best literacy and numeracy test results amongst the applicable respondents, despite their low attendance of inset courses. This is probably an indication of the influence their initial training had on their knowledge and teaching skills.

From the above it is clear that experience, the attendance of inset courses, initial training and the fact that the teacher is still young play a role in the manner in which they deliver the curriculum. Therefore, the MGRSI, as an inset strategy, should have made a difference in similar scenarios. The researcher will later explore how the teachers implemented the content of the intervention and how the support structures supported the rollout of the intervention and reported on it in an appropriate manner.

- **Influence of the teachers' logistical position**

The logistical position of the multi-grade teacher can certainly have an influence on the impact of the MGRSI. Factors like travelling long distances to schools with own transport and the limited access to electronic media add to the serious isolation these teachers experience. This situation contributed to the difficulty, which these teachers have in communicating with each other in order to share their experiences and good practices.

(iii) Learner situation

The researcher will discuss the following learner related variables, which could have an impact on the literacy and numeracy diagnostic test results under the following headings namely, the learners' logic position, influence of learners' background position and the influence of the farm owner's participation.

- **Influence of learners' logistical position**

It was found that most learners who were in multi-grade classes travel by bus to get to school which would certainly have an influence on their attendance pattern, especially when the weather is bad or the bus is late. Consequently, the lack of attendance of multi-grade learners would have a negative impact on the success of a project like the MGRSI.

As indicated before in figures 4.12 and 4.13 the gap between the progression results and the literacy and numeracy diagnostic test results is of great concern. During the period of the MGRSI, this gap narrowed because of the improvement of the literacy and numeracy results and the drop in progression results. As this improvement could not be linked to a specific influence, the influence of the MGRSI cannot be ignored, as the MGRSI provided training, demonstrations and guidelines which could have resulted in a better tempo, quality and level of teaching and learning in the multi-grade context. These efforts, discussed later on, included focus on training in classroom organisation and management, focus on literacy, reading and writing and numeracy and focus on mental mathematics as well as ICT skills and online support strategies.

- **Influence of learners' background position**

The lack of involvement of parents in the rural areas in the learning and teaching process of their children is a huge concern and needs serious attention. From the survey it became evident that parents who are better educated are more serious and feel a stronger need for as early as possible education for their children and are also more involved in their children's learning and in school related activities. Therefore, it is of outmost importance that any intervention relating to the improvement of multi-grade teaching should include the community and the academic needs of those communities.

- **Influence of farm owner participation**

Although a proportion of nearly 80% of the population responses received were from schools, situated on farms, only 17% of the schools reported that farm owners were involved in governing body decisions. As the researcher expects the learning environment of learners to be conducive for quality teaching and learning in those schools, the farm owners' contribution could be of critical value in this regard. The farm owner can contribute towards the upgrading of the school buildings, the skills development of farm workers, the setting of a culture of life long learning on the farms and broadening the career horizons of farm workers and their children. Therefore, it is of outmost importance that any intervention relating to the improvement of multi-grade teaching should include the participation of the farm owner and other relevant role-players, which could make a significant difference in the lives of rural people.

(b) The influence of the structure of the MGRSI on the impact of the MGRSI

The researcher will discuss the possible influence, which the following structural focus areas of the MGRSI namely, the project management, the components and activities that constitute the structure of the MGRSI and the expectation and perceived impacts of the logic framework outcomes, could have on the impact of the MGRSI.

(i) Project management structure

The following aspects, relating to the project management structure, namely position in the support structure, reasons for the MGRSI, implementation cycles, involvement of departmental stake holders, strengths and weaknesses and lessons to be learned, will be explored. This will determine what influence these aspects could have on the impact of the MGRSI on improving both literacy and numeracy in the multi-grade context.

- **Position in the support structure**

The project management and the support level structures did not change much after the completion of the MGRSI. This secured the continuity within these structures. Both structures were beneficial for the facile continuation of the MGRSI. The support level structure indicated that they were much more involved in ongoing support than in the training components and preparatory work, although they also indicated a much lower awareness of the ongoing support foci.

This could have had an influence on their delivery of MGRSI support as it provided them with sufficient knowledge and skills to deliver the support expected and to take ownership of the intervention.

- **Reasons for the MGRSI**

Future interventions of this kind, as indicated by the extensive literacy review done, should implement government policy and community involvement although it did not form part of the stated reasons for the MGRSI and the project management structure did not identify it as an important reason for the MGRSI.

The management structure rated the training of teachers to teach in multi-grade settings as the most important intended reason for the MGRSI and this linked well to the next important reason, namely the importance of support to manage the multi-grade class effectively. The responses on the other outcomes, relating to the social background of learners, the diversity of the multi-grade classes and the lack of resources in a multi-grade class, varied significantly and resulted in a low frequency of average responses. This should be an indication that, although there was not a consensus with regard to individual perceptions of reasons for the MGRSI, all of them were considered by individuals as possible reasons for the MGRSI and therefore cannot be ignored in future interventions of this kind.

The project management structure all agreed that if the MGRSI had reached the intended outcomes it would have had an impact on the improvement of the literacy and numeracy results.

- **Implementation cycles**

The value of continuing reflection in a project like the MGRSI is acknowledged by the management level structure. It became evident that the piloting and the consequent rollout of the cycles provided certain lessons, which enabled the management to amend some of the activities, which were identified by the project management structure as problematic. It is further felt that the future design of the cycles of an intervention like the MGRSI should make provision for expansion, sustainability and ownership by all the stakeholders.

The interviewees from the project management structure felt that support structures should seriously consider the co-ordination and alignment of intervention activities with departmental programmes, during the rollout of an important intervention like the MGRSI.

It is felt that the education department should address the uniqueness of multi-grade teaching more seriously in the future, especially from a curriculum implementation perspective.

- **Involvement of departmental stakeholders**

Interviewees of the management structure indicated that some departmental officials were more involved in the support of the MGRSI than other departmental officials, and that consequently it had a negative impact on the sustainability of the intervention. The rendering of support was characterised by a multi-faceted approach from different angles, which brought particular expertise to the table. Members of the management structure felt that the involvement of HEIs in the certification of teachers, added to the growing body of knowledge generated by the intervention. This also contributed towards the collaboration between the department and tertiary institutions. Management felt that the “foreignness” of central co-ordination created a lack of ownership of the MGRSI at district level.

- **Strengths and weaknesses**

According to interviewees from the management structure, the **strengths** identified related to three categories, namely the project management strategy, the approach focussing on the needs of teachers and schools and the contribution the strategy made towards multi-grade classroom management.

With regard to the project management strategy followed by the MGRSI, the management structure felt that the well-structured composition of the programme and the involvement of district managers opened the way for participants to see the bigger picture right from the start. They felt that the project team did not plan in bits and pieces and the objectives, which were set, were clear and could be followed and reported on by everybody. The stakeholders understood the model and as such contributed to the success of the project. The management structure related the success experienced to the initiative to base the project on available international experience, which included valuable literature from overseas countries, exposure to international personalities and in sharing it with all stakeholders.

The second category of strength, identified by the management structure, was the baseline assessments and the advocacy done, which related to the specific needs of multi-grade teachers and schools.

The management structure also identified a third category of strength, which related to the MGRSI activities. These activities focused on the organisation of multi-grade classrooms, improvement of teaching strategies, the utilisation of lead teachers, discussion in clusters and capacity with regard to knowledge in E-learning and electronic research. The involvement in the intervention also led to a camaraderie amongst all multi-grade teachers across the province.

The interviewees of the management structure identified three categories of **weaknesses** namely, the lack of cohesiveness of district staff to support the specific challenges of the multi-grade teachers, the commitment of schools and gaps identified with regard to the training strategy.

The first category of weakness, identified by the management structure, was that instead of everybody adjusting their programmes to accommodate the multi-grade schools programme managers mainly drove the MGRSI, which lead to insufficient follow-up support.

The management structure identified, as a second weakness, the lack of commitment of certain teachers and schools to the project and teachers who failed to complete the E-learning course. This lack of exposure resulted in insufficient participation in cluster activities.

The management structure identified the third weakness as gaps in the MGRSI strategy. They referred to these gaps as:

- The lack of focus on all the learning areas and the full National Curriculum Statement;
- The lack of available computers;
- The lack of electronic connectivity
- The lack of a structured follow-up strategy, which included reflection and revisits and
- The termination of the project, because of budget constraints, and not because there was no merit in it.

• **Lessons to be learned**

From the feedback, received from the management structure interviewees, it became evident that the project management approach of the MGRSI enabled participators to plan well into the future and that it should have contributed towards the focussed involvement in multi-grade teaching of each official in the district, which was not always the case.

Members of the management structure felt that, although a monthly reflection meeting was held to inform the management team about the progress of the implementation and the utilization of resources, it was also expected that in future interventions of this kind, separate reports for multi-grade schools should be submitted and that these reports should form the basis for all new planning.

Future interventions, like the MGRSI, should get to a point, where they can withdraw, with the assurance that things should then go on smoothly. Therefore, the management structure suggested that in future interventions of this kind the project manager must be from within the WCED in order to ensure sustainability, responsibility and accountability. If the WCED expects this suggestion to be applied to future projects and interventions, it will have implications for future policy relating to the outsourcing of similar projects and interventions. There are furthermore many non-government organisations (NGOs), which are doing wonderful work in schools and are adding value to the improvement of teaching and learning skills in classrooms. This also applies to the training done by the Cape Teaching Institute (CTI) which provides INSET training for teachers on an ongoing basis. But Implementation often fails in these instances because of the lack of sustainable support.

From the above it is clear that the department of education should exploit other means to ensure sustainability. It should find means to link its existing development and support functions to training activities done outside the normal sphere of departmental development and support to schools. Any departmental approved INSET-training programme should be co-ordinated and followed up at district level. This will mean that officials, who render the support, are trained, become involved in the training process and base their support strategy on the monitoring and support of the expected implementation of the learned theory and practice. All intervention strategies should have quality indicators, which departmental officials, schools and teachers can utilise to measure the progress in applying the new learned teaching methodologies, knowledge or skills.

The management structure also recommended that an intervention of this proportion should have an exit strategy, which will make provision for a complete evaluation report. The consultation with the service provider should be clear and specific in terms of the evaluation outcomes. A report of this nature should address the stated intended outcomes of the intervention and the impact the activities of the intervention had on the expected improvement because of the intervention. The logic model of Johann Mouton provided the means to do it. It did not only identify the different levels of involvement but also the different strategies, which the intervention intended to follow.

(ii) The components and activities that constitute the structure of the MGRSI

Although the management structure did not show a high expectation with regard to motivating support and feedback to teachers (table 5.2.2), it showed a high expectation for the competency of the support staff. Their expectation with regard to the ongoing support (table 5.2.1) by multifunctional teams was also high which confirms the importance of an intervention like the MGRSI to sustain structures that will ensure strong and frequent follow-up support by knowledgeable officials, which will strengthen sustainable implementation strategies.

The researcher will discuss the following components and activities that constitute the structure of the MGRSI, which possibly could have an influence on the impact of the MGRSI, under the following headings, namely

- The preparatory work;
- The various training components and
- The ongoing support.

The researcher will compare the analysed and interpreted data to determine in which way the intervention has met the perceived expectations of the management level and school level respondents with regard to their perceived experiences of the input and impact of the intervention, because of the influence of the logic framework outcomes. The researcher will note these experiences as variances and relations derived from calculations based on perceived differences and relatedness between the different logic framework outcomes and school level outcomes (teachers). The school level outcomes will serve as the point of departure for this comparative approach to determine the way in which teachers experienced the impact of the successes and challenges of the support.

- **Preparatory work**

Table 5.2.1: Variances and relatedness found with regard to the knowledgeable skills of the support structure and the effectiveness of ongoing support

VARIANCE	CALCULATION	LEVELS OF INTENDED OUTCOMES	
		LOGIC MODEL	TEACHER
		Officials who are knowledgeable, informed and competent with regard to MGRSI teaching	
-19.2%	69.7%-88.9%	88.9%	69.7%
		Ongoing support by multifunctional teams	
-14%	63.8%-77.8%	77.8%	63.8%
		The frequency of visits by officials improved as the MGI continues	
-20.2%	57.6% - 77.8%	77.8%	57.6%
		The frequency of visits by officials stayed the same after the MGI	
-25.6%	52.2% - 77.8%	77.8%	52.2%

The calculated variance as indicated in table 5.2.1 between the perceived expectation of both the logic framework outcomes (*officials who are knowledgeable, informed and competent with regard to MGRSI teaching*) and (*ongoing support by Multifunctional teams*) by the management level structure and the perceived experience of the cluster level outcomes by the school level structure, was relatively high. The average frequency of the responses by the teacher level structure, with regard to their experience of the competence of the officials, as illustrated in figure 4.26, was of the highest of all the cluster level outcomes. On the other hand, the frequency of responses relating to the experience of the overall cluster level outcome (59,9%), as indicated in figure 4.26, which referred to the capacity of officials and lead teachers to support, was on average the lowest amongst the other related cluster level outcomes.

When compared with the relative low frequency of visits of officials (table 5.2.2), the researcher assumes that the officials who occasionally visited the schools were knowledgeable because of the special interest he or she had in multi-grade teaching. Furthermore, only half of the support level respondents were, as indicated in figure 4.24, aware of the design of a decentralised co-ordination framework, which formed part of the MGRSI preparatory work. This could result in a situation where the alignment of the support structures was not towards the expectation.

The MGRSI should have addressed these significant variances identified between the expectation of the management level (logic framework) and the perceived impact of the school level outcomes earlier. From this data, it is clear that the expectation of the management team was much higher than the impact experienced by teachers. Knowledge of this observation could assure the proactive alignment of the expectations of the management structure with the perceived impacts experienced by the school level structure with regard to the improvement of performance in reading, writing and mental mathematics. If effective monitoring, reflection and orientation and skills development of officials took place on a continuing basis this could be addressed in time.

The above findings are confirmed by the inconsistent feedback (figure 4.24) received from the support level structure. From this it became evident that, despite their acknowledgement that the goals of the intervention were clear and that the education authorities were involved, they were not all completely aware of all the preparation activities that formed part of the MGRSI training strategy.

This lack of awareness with regard to information such as, knowledge about selection of pilot schools, setting up of model schools, start-up meetings, formation of an oversight committee and of teacher circles could have an impact on the co-ordination and quality of their future service delivery practices, and could also strengthen the way in which they strategize their support activities.

Some of the indicated preparation activities, such as co-operative development of an overall plan by pilot school teachers for administration, curriculum training and community involvement and the creation of resource centres where teachers produce independent learning guides and receive professional assistance, did not form part of the MGRSI planned preparatory work. Although they were not part of the planned preparatory work of the MGRSI the support structure still listed them as existing preparation activities, which indicates a necessary consideration for future preparatory work of this nature.

According to the feedback from the support level interviewees, the baseline assessment of the prior knowledge of multi-grade teachers revealed that they initially had little or no prior knowledge relating to multi-grade teaching. According to the support level structure, the MGRSI acknowledged and considered the different multi-grade experiences of those that could add value to the process and in the presentation of new concepts, which is an important strategy to keep in mind in any preparation strategy of an intervention of this nature.

Consequently, opportunities for planning together in clusters, where teachers could share their prior knowledge and experience as well as their experience with regard to the implementation of the new knowledge, formed part of the MGRSI strategy. The intervention also considered the teachers' prior knowledge in the presentation of new concepts. This acknowledgement could contribute towards teachers' willingness to participate in the intervention and would provide them with confidence to share with others.

The support level structure identified the lack of background knowledge, relating for instance to learning and remedial support to barriers of learning, as a stumbling block for teachers to understand the different related concepts. It also mentioned that previous knowledge about teaching did not provide multi-grade teachers with sufficient background to understand the theoretical concepts. The identification and consideration of difficulties like these is important for any intervention. If not addressed, teachers will experience gaps in their preparation, which will have an influence on the application of the strategies, which they have learned.

- **The various training components**

From the inconsistent feedback received from the support level structure (figure 4.24), it became evident that they were not all clearly aware of all the training components that formed part of the MGRSI training strategy. There was a lack of awareness with regard to information such as knowledge about the production of a multi-grade trainer's resource pack, the production of a training film, which consists of basic principles behind multi-grade teaching and information dissemination through various media, including instructional and informational videos. There was also a lack of awareness with regard to training, which took place in relay groups, and the observation of classroom practices by teachers. This lack of awareness could have an impact on the co-ordination and quality of their future service delivery practices. Furthermore the provision of knowledge, relating to this information, could strengthen the way in which they would strategize their support activities.

Some of the indicated training components, such as the validation of teacher support manuals in teacher training sessions, the design, testing and production of learner self instructional curricular workbooks and the development of bilingual and mother-tongue materials did not form part of the MGRSI training strategy. Although they were not part of the MGRSI training components the support structure still listed them as training activities, which indicates a necessary consideration for future training strategies of this nature.

The MGRSI demonstration strategy formed a major part of the training component. It comprised, according to the support level structure, practical demonstrations, which involved learners and the utilization of learning materials relating to mental mathematics and 'do and learn'. Although the support level structure indicated that their awareness of a training film was higher than their awareness of the setting up of model schools (figure 4.24), which could model the foci of the intervention. The MGRSI demonstrations (figure 4.25) were seen as more effective than the video presentations, especially when presented by lead teachers, who were teachers themselves. Substitutes were made available for these lead teachers. These MGRSI demonstrations enabled these teachers to observe practices, which were similar to their own situation. This assistance included support in the arrangement of the multi-grade classrooms.

Although the support level structure agreed that classroom management techniques, instructional strategies, planned and instructional materials were foci of the MGRSI training strategy, they also admitted that some of them did not have any understanding as to what the training was about. Knowledge of these foci should therefore contribute positively to the future knowledge of the support level structure and their support strategies to schools.

This is an indication that the support staff did not yet feel fully equipped to support multi-grade schools with regard to the mentioned foci. Furthermore there were mixed feelings in the support level structure relating to the community involvement in the school programme, which is an indication that it should be a focus, although it did not form part of the MGRSI strategy.

The support level structure identified, in order of preference, the following as major support activities in the multi-grade class:

- **Thorough planning and preparedness** to provide confidence and structure;
- **Differentiation and intervention strategies** to provide learners with equal opportunities;
- **Adaptation of teaching methods** based on the development needs of the different grades and levels of learners in the multi-grade class;
- **Inviting classroom climate** that would accommodate the expectations of a qualitative multi-grade teaching and learning process which would provide space for reading, exercising mathematics, homework, research and for locating things to do as well as work stations;
- **Classroom management** that would provide teachers with fewer disciplinary challenges and provide space for learners to be comfortable with themselves, where they could explain, communicate and not feel shy;
- **Integrated approach** for the intermediate phase supported by a sanctioned adaptation for multigrade schools;
- **Peer tutoring** to take the load off the teacher's shoulders;
- **The utilisation of the computer** for the teacher/learner communication
- The need for children to **know what is expected** of them;
- **Self directed learning** where learners have the opportunity to take responsibility for their own learning and progress at their own pace;
- **Skills for reading and counting** need to be realized;
- **Preparation of learners for future job** and education possibilities and
- New concepts like **learning and teaching styles**.

Although the researcher observed a relation between the perceived understanding of roles and the special interest of particular role players in the support structure, the researcher found that the understanding of their roles in the MGRSI varied from just supporting the intervention to a total commitment to specialised support. It was also found that the depth of understanding of roles in the MGRSI amongst the different role players differed significantly.

Curriculum advisors and learning support officials indicated that the communication relating to their expected involvement in the MGRSI was not clear in the initial stages of the intervention. There was also no indication of who took the lead in a particular service context.

The different roles identified from the feedback received are:

- Training and preparing of teachers with regard to multi-grade theory and practice;
- Monitoring the expected implementation;
- Providing support based on a particular framework of interest;
- Certification of teachers;
- Co-ordination of logistics;
- The mitigation of the distance challenge through the provision and utilization of ICT resources and

- Management and governance support.

The support level structure further identified the following perceived obstacles, which could prevent effective involvement in the training programmes of the MGRSI, and the impact it could possibly have on the success of the intervention:

- It was **not compulsory** for officials to attend the teacher training and therefore they did not have any understanding as to what the training was about;
- Not all the **circuit managers were involved** in the training and consequently they did not support the intervention as they should have;
- The **language of the material** did not always consider the language preference of the target group, which resulted in extra effort to do translation;
- **Sustainable support** was not possible because of long distances;
- **Lack of person power** and **lack of time** with respect to the variety of tasks to be completed;
- **Mentorship** by means of computer technology was not possible because of the poor communication system with the schools;
- There was **no co-ordination** in terms of date management which made support difficult in terms of the implementation of specialised programmes;
- **Not all EMDC staff was involved** which resulted in poor follow-up support;
- **The attitude of some schools and teachers** made support difficult and
- **The training of teachers was not sufficiently implemented**, which resulted in more time needed for the delivery of support.

- **The ongoing support**

The calculated variance, as indicated in table 5.2.2, between the perceived expectation of the logic framework outcomes, (*motivating feedback to and support for teachers*) and (*ongoing support by multifunctional teams*) by the management structure and the perceived experience of the cluster level outcomes by the school level structure (figure 4.26), was relatively large.

Table 5.2.2: Variances and relatedness found with regard to the motivating feedback for teachers and the effectiveness of ongoing support

VARIANCE	CALCULATION	LEVELS OF INTENDED OUTCOMES	
		LOGIC MODEL	TEACHER
		Motivating feedback to and support for teachers	
25%	69.4%-44.4%	44.4%	69.4%
		Ongoing support by multifunctional teams	
-14%	63.8%-77.8%	77.8%	63.8%

The researcher identified a huge variance between the expectation of the management level structure (logic framework) and the perception of the school level structure of the impact of the logic framework outcome.

This variance related to the motivating feedback and support to teachers. This indicates that, although the expectation from the management level was very low, the school level experience of the impact was much higher.

The variance, identified by the researcher, between the expectation of the management level (logic framework) and the perception of the school level of the impact of the logic framework outcome, which related to the ongoing support of multifunctional teams, was not so considerable. On the other hand, the experience of the school level structure, with regard to the input relating to the mentioned outcome, was still lower than the expectation of the management level structure.

The above findings were confirmed by the inconsistent feedback received from the support level structure (figure 4.24). It became evident that they were not all clearly aware of all the ongoing support strategies, which complemented the MGRSI training strategy. The teachers' input confirmed that the two phases experienced the amount of support, provided by different officials, differently and that the experience of the support was more motivational for the foundation phase respondents. Although the knowledge ability and competency of the officials who visited the schools were highly valued, the frequency of visits was questioned (figure 4.26) and with that the sustainability of the MGRSI. Furthermore, the frequency of the ratings for both phases showed a slight decline with regard to the frequency of visits after the MGRSI. This observation indicates that although the support structures should have strengthened and nourished the newly attained knowledge and skills of teachers by means of continuous support strategies the lack of frequent visits hampered the quality of the follow-up support.

The researcher identified a lack of awareness (figure 4.24) with respect to information such as the development of teachers' skills to manage learners working at their own pace, as well as on different levels, and their ability to divide their classes according to the role of the teacher and the learners' autonomy in a particular cognitive task. The support structure also showed a lack of awareness with respect to preparation to facilitate the diverse tasks and activities on different levels in the multi-grade class, their development in ongoing formative evaluations and their preparation to track the progress of learners frequently. This lack of awareness could have an impact on the co-ordination and quality of the future service delivery practices of the support structure and could strengthen the way in which they strategize their ongoing support activities.

Some of the indicated support strategies such as the documentation of intervention activities, the development of partnerships with school communities and the breaking up of the learning process into smaller units as a set of milestones did not form part of the MGRSI training strategy. Although these pretended outcomes were not part of the training strategies of the MGRSI the support structure still listed them as ongoing support strategies, which indicates a necessary consideration for future ongoing support strategies of this nature.

(iii) The framework of the logic model

The following logic framework outcomes, namely the project management level, cluster level, multi-grade school level (teachers) and classroom level (learners), will be explored to determine if the comparisons between the observed results, which are derived from the intensive data analysis done, show any influence on the impact of the MGRSI.

The researcher will compare the analysed and interpreted data to determine in which way the intervention has met the perceived expectations, perceptions and opinions of the management level, support level and school level respondents, with regard to their perceived experiences of the input and impact of the intervention, because of the influence of the logic framework outcomes.

The researcher will note these experiences as variances and relations derived from calculations based on perceived differences and relatedness between the different logic framework outcomes, the project level outcomes, cluster level outcomes, school level outcomes (teachers) and classroom level outcomes (learners). When the researcher calculates the variances and relations it will be done according to the following sequence, namely the perceived impact of the learner level outcome and teacher level outcome, the perceived impact of the input of a project level outcome, the awareness of a support level outcome and the expectation of the logic framework outcome. The first mentioned in all the calculations of variables will be in the order as described above. The researcher, will for instance, subtract the perceived expectation relating to the specific logic framework outcome from the perceived experience of the impact of the input of the specific project level outcome. Where applicable the school level outcomes will serve as the point of departure for this comparative approach to determine the way in which the school level experienced the impact of the successes and challenges of the MGRSI.

The researcher will make comparisons under the following project management headings:

- Progressive curricula for grade R to 7 in reading, writing and mental mathematics which are available;
- Demonstration schools and demonstration lessons;

- Videos which have been developed and are used in pilot schools;
- Standardised tests in reading, writing and mental mathematics which have been constructed and validated;
- New hardware and software which has been delivered and
- On-line training and support which has been provided, and communication within and between role-players which is occurring.

The researcher will use tables to illustrate broad comparisons of the variances and relatedness explored with regard to the main project level outcomes. The researcher will express the variances and the frequencies as percentages in terms of the observed relative differences between them. A narrative explanation and interpretation will follow the findings.

- **A broad comparison of the variances and relatedness explored with regard to the main project level outcomes**

The researcher observed that the management level structure (logic framework), as indicated in table 5.3, expected that the progressive curricula and on-line support for the multi-grade class would be the most successful of all the project level outcomes, stated under the logic framework outcomes. This related well with the lack of teacher training in the multi-grade context, which the management level structure identified as the most important perceived reason for the MGRSI (table 5.6.1).

This confirmed that the management level structure agreed that if the expectations were that teachers would receive more training and support, they would be able to apply the knowledge and skills obtained during the MGRSI. The researcher also observed that the management structure indicated a relatively low expectation of success for the MGRSI with regard to the other four project level outcomes. This raises the question of the management structure's belief that these intended project level outcomes of the MGRSI would have had any impact on the improvement of teaching and learning performances in the multi-grade context.

As indicated in table 5.3, the average calculated variance between expectation for success of the MGRSI project level outcomes by the management level structure (logic framework) and the perception of the school level structure, with regard to their experience of the impact of the input of four of the six intended project level outcomes is 21%. The four intended project level outcomes referred to are, *development of demonstration lessons, development and utilization of support videos, appropriate standardised tests and new software and electronic material to support multi-grade schools*. The perceived experience of the impact of the input by the school level structure was in this case higher than the expectation by the management level.

Table 5.3: Comparison between the expectation of the management level structure relating to the logic framework outcomes and the experience of the school level structure relating to the impact of the input of the project level outcomes

COMPARISON BETWEEN THE EXPECTATION OF THE MANAGEMENT LEVEL STRUCTURE RELATING TO THE LOGIC FRAMEWORK OUTCOMES AND THE EXPERIENCE OF THE SCHOOL LEVEL STRUCTURE RELATING TO THE IMPACT OF THE INPUT OF THE PROJECT LEVEL OUTCOMES												
Progressive curricula for grade R to 7 in reading, writing and mental mathematics are available		Demonstration schools and demonstration		Videos have been developed and are used in pilot schools		Standardised tests in reading, writing and mental mathematics are constructed and validated		New hardware and software has been delivered		On-line training and support has been provided and communication within and between role-players is occurring		
Logic frame work level	Project level	Logic frame work level	Project level	Logic frame work level	Project level	Logic frame work level	Project level	Logic frame work level	Project level	Logic frame work level	Project level	
94.4%	65.5%	44.4%	63.4%	44.4%	60.1%	33.3%	65.2%	38.9%	67.3%	72.2%	61.25	
65.5% - 94.4%		63.4% - 44.4%		60.1% - 44.4%		65.2% - 33.3%		67.3% - 38.9%		61.2% - 72.2%		
VARIANCE	-28.9%	19%		15.7%		21.9%		28.4%		-11%		

This observation raises the question if the expectation of the management structure had any influence on how the school level structure experienced the impact of the input of the intended project level outcomes.

The relevant tables illustrated below indicate that the individual ratings, relating to the respective sub foci within the respective logic level outcomes, varied considerably. These sub-foci outcomes resulted, in some cases, in relative low frequency of average responses. As individuals considered all of them to be successful in some way or another, future interventions of this nature should not ignore them.

- **Variations and relatedness found relating to the progressive curricula for grade R to 7**

The frequency of responses as indicated in table 5.4.1 with regard to the expectation of the management level structure for the success of the overall logic framework outcome, numbered as (9) was exceptionally high. Furthermore there was a huge calculated variance, between the expectation of the management level structure numbered as (9), and the experiences by the school level structure of the impact of the input of the related project level outcome numbered as (8).

Table 5.4.1: Variances and relatedness found with regard to the progressive curricula for grade R to 7

VARIANCE	CALCULATION	LEVELS OF INTENDED OUTCOMES						
		LOGIC MODEL (9)			PROJECT (8)		TEACHER	
		<i>progressive curricula for grade R to 7 in reading, writing and mental mathematics is available</i>						
-28.9%	65.5% - 94.4%	94.4%			65.5%			
		<i>Teachers are able to do effective year planning for reading, writing and mental mathematics (1)</i>	<i>Learners know what is expected of them – time on task (2)</i>	<i>Teachers are skilled in time and lesson planning (3)</i>	<i>Pace your learning programme for reading, writing and mental mathematics (4)</i>	<i>Pace your teaching programme for the year (5)</i>	<i>After the MGRSI you are able to do effective year planning for reading, writing and mental mathematics(6)</i>	<i>After the MGRSI you are skilled in time and lesson programme planning (7)</i>
		63.3	61.9%	60%	68.6%	64.2%	65.6%	65.4%
	Averages →	61.7%			66.4%		65.5%	
4.7%	66.4% - 61.7%	61.7%			66.4%			
3.8%	65.5% - 61.7%	61.7%					65.5%	
-0.9%	65.5% - 66.4%				66.4%		65.5%	

This large variance was also visible between the overall expectation mentioned in the logic framework outcome numbered as (9) and the expectations raised with regard to the related logic model outcomes numbered as (1), (2) and (3). A considerable variance was also visible between the overall expectation mentioned in the logic framework outcome numbered as (9) and the experience with regard to the perceived experience of the impact of the input of the related project level outcomes, numbered as (4), (5) and (8). Another considerable variance was visible between the overall expectation mentioned in the logic framework outcome numbered as (9) and the impact experienced of other related individual teacher level outcomes, numbered as (6) and (7), by the school level structure.

This observation probably indicates a misinterpretation of the relatedness of the indicated individual related sub-foci outcomes and the overall project level outcome. It could also be a result of a lack of belief that the intended outcomes would be successful or that the project could be successful without reaching one or more of the stated outcomes. If either of the two possibilities is applicable, future interventions of this nature should ascertain that the conceptualisation of the intended overall outcome and its relatedness to other related outcomes should be internalised by all relevant stakeholders. It should also ensure that sustainable support measures are in place in order to improve the knowledge and skills of teachers and to maintain the developed knowledge and skills.

The small variances observed in table 5.4.1 between the expectation, the perceived experience of the impact of the input and the perceived experience of the impact of the respective intended project and school level sub-foci outcomes, are a more realistic demonstration of the relatedness between what should be expected and experienced. The researcher expects that these percentages will improve as soon as there is adequate strategizing, follow-up, and continuous and sustainable support

- ✓ **The learning programmes provided by MGRSI were adequate in the context of the multi-grade class for which teachers are responsible**

Table 5.4.2: Variances and relatedness found with regard to the learning programmes provided by MGRSI were adequate to pace learning programmes for reading, writing and mental mathematics

VARIANCE	CALCULATION	REASON FOR MGRSI	LEVELS OF INTENDED OUTCOMES
			PROJECT
		<i>social background of learners in the multigrade class</i>	<i>The learning programmes provided ny MGRSI were adequate to the context of the multi-grade class you are responsible for</i>
19.5%	57.6% - 38.1%	38.1%	57.6%

The unsatisfactory experience by the school level structure, as observed previously (p224 and p237), with regard to the provisioning of learning programmes in the context of the multi-grade class, could have a negative effect on the MGRSI process. As the researcher expected this outcome to form the core of any multi-grade classroom teaching and learning approach, it should be of concern that, as indicated in table 5.4.2, the management level structure rated the related reason for the MGRSI (*social background of learners in the multigrade class*) relatively low.

Future interventions of this kind should be aware that, although the intervention provided pre-prepared learning programmes that could help the struggling teacher, who has to work on his or her own, they should consider providing space in the learning programme to adapt to the context of the environment from which the learners come. It should also enable the teacher to link the expectation of the curriculum to the framework of reference of the learner.

- ✓ **The progression table for reading, writing and mental mathematics developed by MGRSI helped to pace the learning and teaching programme for reading, writing and mental mathematics**

The calculated average frequencies of responses relating to the logic framework outcome (*teachers are skilled in time and lesson programme planning*) were not relatively high.

The same was observed with regard to the perceived experience of the project level outcome (*the provisioning of the progression tables for reading, writing and mental mathematics to pace the respective learning and the teaching programmes*) and the perceived experience of the intended teacher level outcomes (*after the MGRSI you are skilled in time and lesson programme planning*). It corresponded well with how the management level expected the impact of the outcome to be successful. It also corresponded well with how successful the school level perceived their experience of the impact of the input of the project level outcome and their experience of the impact of the teacher level outcomes on the improvement of teaching and learning. The calculated average frequency of responses also indicated an expectation that there was still space for improvement, especially with regard to the practical implementation of the theoretical knowledge and skills in the multi-grade classroom context.

As indicated in table 5.4.3 and 5.4.4, the researcher observed small variances between the expectations of success of the management level, the perceived experience of the impact of the input of the project level outcome and the perceived experience of the impact on the improvement of teaching and learning as experienced by the school level structure. The researcher also observed that the calculated variances between the awareness of the support level and the perceived experience by the school level structure, relating to the project and teacher level outcomes, were considerable. This indicated that the support level was highly aware of the planning needed.

Table 5.4.3: Variances and relatedness found with regard to the learning programmes provided by MGRSI were adequate to pace teacher learning programmes for reading, writing and mental mathematics

VARIANCE	CALCULATION	LEVELS OF INTENDED OUTCOMES			
		LOGIC MODEL	PROJECT	TEACHER	LEARNER
		<i>Teachers are able to do effective year planning for reading, writing and mental mathematics</i>	<i>The provision of the progression tables for reading, writing and mental mathematics to pace the learning programme for reading, writing and mental mathematics</i>	<i>After the MGRSI teachers were able to do effective year planning for reading, writing and mental mathematics</i>	<i>After the MGRSI learners knew what was expected of them</i>
5.3%	68.6% - 63.3%	63.3%	68.6%		
2.3%	65.6% - 63.3%	63.3		65.6%	
-3%	65.6% - 68.6%		68.6%	65.6%	
1.4%	67% - 65.6%			65.6%	67%
		<i>Learners know what is expected of them</i>			<i>After the MGRSI learners knew what was expected of them</i>
5.1%	67% - 61.9%	61.9%			67%

Table 5.4.4: Variances and relatedness found with regard to the preliminary year plan developed by the MGRSI to pace the teaching programme for the year

VARIANCE	CALCULATION	LEVELS OF INTENDED OUTCOMES			
		LOGIC MODEL	PROJECT	TEACHER	SUPPORT
		<i>Teachers are skilled in time and lesson programme planning</i>	<i>The provision of the progression tables for reading, writing and mental mathematics to pace the teaching programme for the year</i>	<i>After the MGRSI teachers were skilled in time and lesson programme planning</i>	<i>Planning from curriculum</i>
4.2%	64.2% - 60%	60%	64.2%		
5.4%	65.4% - 60%	60%		65.4%	
1.2%	65.4% - 64.2%		64.2%	65.4%	
-35.8%	64.2% - 100%		64.2%		100%
-34.6%	65.4% - 100%			65.4%	100%

The much lower perceived experience of the impact of the intervention at the school level structure however raises the question of the frequency and quality of involvement by the support structure to sustain planning in multi-grade schools.

The above findings indicated that the management, school and support level structures' expectations, experiences and awareness of the successful provisioning of progressive curricula, for grade R to seven, were in some instances different. The unsatisfactory feedback from the management and the school level respectively with regard to the reason (table 5.4.2) and the perceived experience of the impact of the outcomes (tables 5.4.3 and 5.4.4) relating to the context of the multi-grade class, is also a concern. All these factors could influence the implementation at school level.

Classroom observations and interviews with the school level structure proved that teachers were in some instances not able to submit any form of planning and others only planned on a weekly basis. It is therefore clear that they would benefit from more training and follow-up support, which could strengthen what they have already received. Therefore, interventions of this nature should include follow-up strategies, which will ascertain consolidation of new learned knowledge and skills and support the application of it on a sustainable basis. This will ensure that the pacing and adapting of learning and teaching programmes accommodates the framework of reference of the learners accordingly. Learners will be sufficiently prepared for the challenges of the next grade or phase by the end of the academic year.

- **Variations and relatedness found relating to the development of demonstration lessons**

Table 5.5.1: Variations and relatedness found with regard to the development of demonstration lessons

VARIANCE	CALCULATION	LEVELS OF INTENDED OUTCOMES	
		LOGIC MODEL	PROJECT
		<i>Demonstration schools have been selected and demonstration lessons have been developed</i>	<i>Demonstration schools and demonstration lessons</i>
19%	63.4% - 44.4%	44.4%	63.4%

The variance, between the expectation by the management structure of the success of the logic framework outcome (*demonstration schools have been selected and demonstration lessons have been developed*), and the perceived experience of the impact of the input of the project level outcome (*demonstration schools and demonstration lessons*) was relatively large. The researcher also observed, as indicated in table 5.5.1, that the calculated frequency of responses was much lower for the logic model outcomes, which was an indication that the management level structure had a relatively low expectation of the success for the development of demonstration schools and demonstration lessons.

The perceived experience of the impact of the input of the project level outcome showed a relative moderate frequency of responses, which indicated a relatively moderate success of the MGRSI in this regard. The relatively low frequency of responses relating to the expectation of the management structure was probably as a result of either not believing that the concept could serve its purpose or not sufficiently informed about the purpose and the planned strategy. With this in mind, future interventions of this nature should ensure that all the role players are, before the rollout of the intervention, fully informed with respect to the purpose and strategies of the programme, which should lead to ownership and high expectations with regard to the success of all intended outcomes of the intervention. The researcher believes that the level of expectations by the management level structure should have an influence on the experiences of the other role players, and should also influence their involvement and continued support of the intervention. The construction of the advocacy of the intended programme should raise the expectations in such a manner that all the role players understand the concepts and contexts of the intended intervention programme.

✓ **Solutions to the every day problems were experienced**

Table 5.5.2: Variances and relatedness found with regard to the solutions to the every day problems, which were experienced

VARIANCE	CALCULATION	REASON FOR MGRSI	LEVELS OF INTENDED OUTCOMES				
			LOGIC	PROJECT	TEACHER	SUPPORT	
		<i>The lack of sufficient teacher support to manage the multi-grade class effectively</i>	<i>Ongoing support by multi-functional teams</i>	<i>solutions to every day problems were experienced</i>		<i>Teachers have the opportunity to observe classroom practices in model schools</i>	<i>The setting up of model schools which could model the intended foci of the intervention</i>
-9.1%	57.6%-66.7%	66.7%		57.6%			
-20.2%	57.6% - 77.8%		77.8%	57.6%			
11.1%	77.8% - 66.7%	66.7%	77.8%				
8.3%	75% - 66.7%	66.7%					75%
-2.8%	75% - 77.8%		77.8%				75%
-4.9%	57.6% - 62.5%			57.6%		62.5%	
-17.4%	57.6% - 75%			57.6%			75%
-12.5%	62.5% - 75%					62.5%	75%
			<i>School principals have the required knowledge and skills to effectively manage multi-grade schools</i>		<i>The MGRSI provided the principal with adequate knowledge and skills to effectively manage the multi-grade context</i>		
0.8%	68.5% - 67.7%		67.7%		68.5%		

The calculated frequency of responses from the management structure, as indicated in table 5.5.2, relating to the reason for the MGRSI was relatively high as well as the expectation for the success of the ongoing support by multifunctional teams, which was even higher. This was again an indication of how important the management structure rated the challenge of teacher support.

The researcher detected a relatively small variance between the **impact** of the project level outcome (*solutions experienced to every day problems*) and the **awareness** of the support level structure (*teachers have the opportunity to observe classroom practices in model schools*) and the stated **reason** for the MGRSI (*the lack of sufficient teacher support to manage the multi-grade class effectively*).

These above mentioned variables, however, varied quite a bit from the frequency of responses relating to the awareness of the support level outcomes (*the setting up of model schools, which could model the intended foci of the intervention*) by the support level structure, which was much higher. This indicated that although the awareness of the setting up of model schools was relatively high it did not reflect the same affects on the perceived experience of the impact of the input of solutions to the everyday problems.

Furthermore, the frequency of responses was high, and the variance relatively small, with respect to the expectation for success of the logic framework outcome (*ongoing support by multi-functional teams*) and the awareness of the support level structure (*the setting up of model schools, which could model the intended foci of the intervention*). The calculated variance between the perceived experience of the impact of the input of the project level outcome (*solutions to every day problems were experienced*) and these support related intended outcomes was also relatively large. Again, these calculations indicated that the high expectation for success by the management level and high awareness by the support level did not offer the everyday solutions the school level expected.

The involvement of the support level structure should be of cardinal importance in any intervention of this nature. The comprehensive awareness of setting up of model schools by the support level structure, which can model the intended foci of the intervention, is therefore not sufficient on its own. Therefore the support level structure should be consistently aware of the support level outcome, which enables teachers to have the opportunity to observe classroom practices in model schools. If not, the support level structure will not be sufficiently prepared to support the school level structure in such a manner that they will experience the solutions they need on a daily basis. This observation is also strengthened by a previous finding in the previous chapter (p217 and p229) that the solutions offered to every day problems was perceived as unsuccessful by the school level structure. Therefore, support structures need to be fully aware that their strategies provide schools with information about existing support facilities, and provide them with the opportunities to utilise such support facilities. Monitoring and follow-up activities have to be regarded as non-negotiable.

From observations and interviews with the school level structures it became clear that teachers needed more training and specialized support, especially with regard to bridging the gap between the foundation and the intermediate phases, certain aspects of mental mathematics, time management, the utilisation of space, integration strategies, differentiation strategies and the link to self-directed learning. Teachers also showed a serious need for appreciation and recognition from officials with regard to the challenge of the multi-grade context in which they worked. Support structures should take note of the significance of how important and rewarding it is for teachers to be successful in what they do.

Teachers were also becoming aware of the importance of technical assistance in the form of electronic media and other resources, which can make life easier for them. The government should consider remuneration for extra expenses for multi-grade teachers, which will be supportive in raising of the morale of these teachers, which could make it inviting for quality teachers to apply to multigrade schools.

The management structure showed a relatively high expectation for success of the logic framework outcome, which related to the required knowledge and skills expected from a principal to manage the multi-grade school effectively. The frequency of responses relating to the experience of the impact of the teacher level outcome (*the MGRSI provided the principal with adequate knowledge and skills to effectively manage the multi-grade context*) and the expectation of the success of the logic framework outcome (*school principals have the required knowledge and skills to effectively manage multi-grade school*) was relatively high. The variance between the two respective outcomes was relatively small. The role and preparation of the principal has to be of major importance for the success of implementing the MGRSI strategies at multi-grade schools and has to be the first line of support with regard to solutions to everyday problems experienced. The researcher observed that, although the frequency of responses with regard to the expectation and experience of the impact of the outcome (*school principals have the required knowledge and skills to effectively manage multi-grade schools*) was relatively high, it was expected to be higher, because the principal, as manager, forms an important kingpin in the implementation of any intervention.

✓ Teaching styles improved

Table 5.5.3: Variances found with regard to the improvement of teaching styles

VARIANCE	CALCULATION	LEVELS OF INTENDED OUTCOMES		
		LOGIC MODEL	PROJECT	LEARNER
		<i>Assignments, repetition and revision are part of learning in a multi-grade class</i>	<i>Teaching styles improved</i>	<i>After the MGRSI repetition and revision is part of learning in the multi-grade class</i>
28.3%	66.4% - 38.1%	38.1%	66.4%	
23.5%	71.6% - 38.1%	38.1%		71.6%
5.2%	71.6% - 66.4%		66.4%	71.6%

The calculated variance observed in table 5.5.3 between the expectations of success of the management level logic framework outcome (*assignments, repetition and revision are part of learning in a multi-grade class*) and the perceived experience of the impact of the input of the project level outcome (*teaching styles improved*) differed substantially.

The same observation was made between the mentioned expected management level outcome and the perceived experience of success of the learner level outcome (*after the MGRSI repetition and revision is part of learning in the multi-grade class*). The relatively low frequency of expectation observed from the management structure should be a concern, taken the positive experience of the impact of the learner level outcome.

The researcher observed that the calculated variance between the perceived impact of the input by the project level outcome (*teaching styles improved*) and the perceived experience of the impact of the learner level outcome (*after the MGRSI repetition and revision is part of learning in the multi-grade class*) was relatively small. The frequency of responses of the perceived experience of the impact was relatively high.

The positive perceived experience of the school level structure, relating to the experience of the impact of the learner outcome with regard to the improvement of teaching performance, should be an indication of the importance attached to the implementation of repetition, revision, and the role played by the MGRSI in this regard. The researcher observed during interviews with the school level structure and classroom visitations that this perceived experience of success was not evident in many instances, especially not in many of the intermediate phase multi-grade context classes visited. Learners were often involved in non-stimulating mechanical filling in of one-word answers or senseless colouring in activities. Consolidation exercises were in many instances neither sufficient nor appropriate to strengthen newly learned concepts or to remediate where necessary. The belief that learners will experience success if they complete a lesser amount of work is not acceptable. The saying, 'practice makes perfect', should rather be implemented. It is a concern that in many instances, especially in the intermediate phase classrooms, there was little evidence of teachers assessing learners' workbooks on a daily basis. The lack of evidence of thorough follow-up by teachers or corrective work done by learners, mostly in the intermediate phase, is also a matter for concern.

Learners can still experience success with a larger amount of work if it is set according to their ability. Exercises have to have the intention to consolidate through repetition. Schools and teachers should be sensitised and supported to follow an approach, which will ensure the frequent consolidation of teaching, and learning. Management and support structures should focus their support strategies in the multi-grade schools on the improvement of consolidation in the multi-grade classes.

✓ **Teachers were helped to cope better with different groupings**

Table 5.5.4: Variances found with regard to the help provided in order to cope better with different groupings

VARIANCE	CALCULATION	REASON FOR MGRSI	LEVELS OF INTENDED OUTCOMES			
			LOGIC MODEL	PROJECT	TEACHER	LEARNER
		<i>The diversity experienced in the multigrade class</i>	<i>Teachers are skilled in group formation and the design of co-operative group tasks</i>	<i>Teachers were helped to cope better with different groupings</i>	<i>After the MGRSI teachers were able to group learners effectively and apply cooperative group tasks effectively</i>	
20.7%	68.3% - 47.6%	47.6%		68.3%		
5%	68.35 - 63.3%		63.3%	68.3%		
6.8%	70.1% - 63.3%		63.3%		70.1%	
1.8%	70.1% - 68.3%			68.3%	70.1%	
22.5%	70.1% - 47.6%	47.6%			70.1%	
			<i>Teachers have sufficient knowledge and skills to conduct the assessment evaluation and reporting</i>	<i>Teachers were helped to cope better with different groupings</i>	<i>After the MGRSI teachers were able to conduct the assessment, evaluation and reporting of learners progress effectively</i>	
15%	68.3% - 53.3%		53.3%	68.3%		
14.3%	67.6% - 53.3%		53.3%		67.6%	
-0.7%	67.6% - 68.3%			68.3%	67.6%	
			<i>Peer assisted learning takes place</i>	<i>Teachers were helped to cope better with different groupings</i>		<i>After the MGRSI peer-assistant learning took place</i>
6.4%	68.3% - 61.9%		61.9%	68.3%		
8.4%	70.3% - 61.9%		61.9%			70.3%
2%	70.3% - 68.3%			68.3%		70.3%
			<i>Learners learn/work in learning centres that support/ facilitate self study</i>	<i>Teachers were helped to cope better with different groupings</i>		<i>After the MGRSI learners learn/ work in learning centres that support/ facilitate self study</i>
20.7%	68.3% - 47.6%		47.6%	68.3%		
8.4%	57.2% - 47.6%		47.6%			57.2%
-11.1%	57.2% - 68.3%			68.3%		57.2%

The calculated variance indicated in table 5.5.4, between the possible reason for the MGRSI (*the diversity experienced in the multigrade class*) and the perceived experience of the impact of the input of the project level outcome (*being helped to cope better with different groupings*) was relatively large.

The calculated variances between the perceived experience of success of the teacher level outcome (*after the MGRSI, being able to group learners effectively and apply co-operative group tasks effectively*) and the perceived experience of the impact of the input of the project level outcome (*being helped to cope better with different groupings*) were relatively small. The researcher made the same observation between the mentioned expected teacher level outcome and the expectation by the management level relating to the logic framework outcome (*teachers are skilled in group formation and the design of co-operative group tasks*). The frequency of responses for all these intended outcomes were relatively high. The frequency of responses for the expectation by the management level was the lowest amongst the mentioned intended outcomes.

The frequency of responses related to the expectation of success by the management structure and the perceived experience of the impact experienced by the school level structure differed significantly with respect to how the management structure rated the reason for the MGRSI (*diversity experienced in the multi-grade class*). As this should be one of the main reasons for the MGRSI, it should be a concern that it was not a priority reason.

Future interventions of this nature should address diversity, because it should be one of the most important challenges in the multi-grade class context. On the other hand, the alignment relating to the comparison made amongst the different perceived expectations and experiences of the mentioned outcomes indicated agreement amongst the relevant role-players with regard to the importance of group work in the multi-grade class. Although the experience of the impact of the MGRSI in this regard was positive, it was not yet perfect.

Future interventions of this kind have to take into account that no matter how good the experience of the impact was perceived, it will still need continuous and quality follow-up support to sustain what has been learned. This observation was most probably supported by the high frequency of responses illustrated in table 5.5.5 relating to the awareness of the support level structure of the related relevant support level outcomes. They are *teachers who are equipped to divide their classes according to the teacher's role and the learners' autonomy in a particular cognitive task, and teacher skills in facilitating the diverse tasks and activities on different levels in the multi-grade class*.

This also confirms that the alignment observed between the frequencies of the responses of the above mentioned support level awareness outcomes most probably resulted in the improvement of the support delivery demonstrated in the higher frequency of responses registered with regard to how the impact of the outcome relating to group work was experienced by the teacher level structure.

Table 5.5.5: Variances found with regard to the help provided in order to cope better with different groupings

VARIANCE	CALCULATION	LEVELS OF INTENDED OUTCOMES						
		PROJECT	SUPPORT	SUPPORT	SUPPORT	SUPPORT	SUPPORT	SUPPORT
		<i>Teachers were helped to cope better with different groupings</i>	<i>Teachers were skilled to manage learners to work at their own pace</i>	<i>Teachers were equipped to divide their classes according to the teacher's role and the learners' autonomy in a particular cognitive task</i>	<i>The teacher was skilled in facilitating the diverse tasks and activities on different levels in the multi-grade class</i>	<i>Ongoing formative evaluations</i>	<i>Teachers were skilled to track the progress of learners frequently</i>	<i>Design, testing and production of learner self-instructional curricular workbooks</i>
5.8%	68.3%-62.5%	68.3%	62.5%					
-19.2%	68.3%-87.5%	68.3%		87.5%				
-6.7%	68.3%-75%	68.3%			75%			
5.8%	68.3%-62.5%	68.3%				62.5%		
18.3%	68.3%-50%	68.3%					50%	
43.3%	68.3%-25%	68.3%					25%	

Although the school level structure perceived the experience of the teacher outcome (*after the MGRSI teachers are able to group learners effectively and apply co-operative group tasks effectively*) most positively, classroom visits undertaken (figure 4.29) indicated that an absence of classroom differentiation, especially in the intermediate phase multi-grade classrooms, exists. The same tendency was observed (figure 4.29) with regard to independent and co-operative learning which was rated the second lowest in the physical environment category of the classroom observation section. This finding should be a concern with regard to the criteria, which teachers used to assess their own practices. It is found that the assessment of their differentiation (group activities) strategies and application of co-operative learning methods differed by 9.1% (70% - 60.9%) and 13.7% (70% - 56.3%) respectively from what was observed practically by the researcher.

Only when teachers differentiate with respect to learners' specific needs and levels of progress, allowing learners to be independently involved in their own learning and utilizing existing learner centres were meaningful quality teaching and learning evident. Teachers, who engaged for specified periods, with small groups of learners identified according to their level of development, while others were involved in other relevant and meaningful tasks, demonstrated this well. The criteria mentioned by teachers as to how they identify learners and groups of learners for differentiated teaching and learning purposes covered the following principles of observation namely:

- If and how they reached the outcomes,
- The level and tempo of progress and
- The assessment of needs.

Although teachers did not clearly spell out the role of baseline assessment, it should play a dynamic role in the teaching and learning process. Baseline assessment is a continuing process and should be a permanent part of learning programmes and lesson plans.

The calculated variance between the perceived experience of the impact of the teacher level outcome (*after the MGRSI teachers were able to conduct the assessment, evaluation and reporting of learners progress effectively*) and the perceived experience of the impact of the input of the project level outcome (*teachers were helped to cope better with different groupings*) was relatively small. The frequency of responses was relatively high. On the other hand the calculated variances between the mentioned intended outcomes and the logic framework outcome (*teachers have sufficient knowledge and skills to conduct the assessment evaluation and reporting*) were relatively large.

From the above it was clear that the MGRSI, despite the low expectation by the management structure, actually succeeded in providing teachers with sufficient knowledge and skills to conduct the assessment evaluation and reporting. The similarity between the perceived impact of the input by the project level outcomes and the perceived impact of the experience of the teacher level outcomes indicated that the preparation of the teachers to implement the expected outcome corresponds with the perceived impact it had on the teachers teaching performance.

As indicated in table 5.5.5 small variances were found between the frequency ratings of the awareness of the support level structure of the existence of the relating support level outcomes, and the perceived experience of the project level outcome (*teachers were helped to cope better with different groupings*).

The related support level outcomes are *ongoing formative evaluations, where teachers are skilled to manage learners to work at their own pace and the teacher is skilled in facilitating the diverse tasks and activities on different levels in the multi-grade class*. The relative low frequency of some of the responses and the inconsistency of it was an indication that the support level structure was not in a position to adequately support assessment strategies in schools. To sustain important foci in the multi-grade classroom, like these intended assessment strategies, future interventions of this nature should ensure that the relevant role players are well prepared in each aspect of the intended strategy.

The calculated variance between the perceived experience of success of the teacher level outcome (*after the MGRSI peer-assistant learning takes place*) and the perceived experience of the impact of the input of the project level outcome (*teachers were helped to cope better with different groupings*) was relatively small. The variance between the mentioned school level outcomes and the expectation for success of the management level outcome (logic framework) (*peer assisted learning takes place*) was also relatively small. The frequency of responses for all these outcomes was relatively high except for the expectation of the outcome from the management structure, which differs, by approximately 6% to 9% from the related project and learner level outcomes. It is clear from the above findings that the impact of peer-assisted learning was highly acknowledged by the school level structure and, that, future interventions of this nature should consider it as foci.

Although the experience noted from the school level structure with respect to the implementation of peer assistance is positive, classroom observations and interviews done found that in most of the instances, for some or other reason, peer-tutoring fell into disuse. Where it was in use, it was in most cases unplanned. Where teachers implemented it well, they did it with great success. Teachers felt that there was no doubt that the peer tutor or the teacher assistant would not be able to play a supportive role in the teaching and learning process. It is however clear that this type of support needs careful and advance planning from the teacher and cannot be done in an informal way. Peer tutors proved to be valuable when they took the lead in their little groups when playing domino games or facilitating reading on wall charts while the teacher was involved with another group. Teachers should not underestimate the consequent value of recognition for work well done by the peer tutors. Although the rewarding of these learners with sweets and stars was a form of recognition for what they were doing, this provided an opportunity where teachers could strengthen intrinsic values such as, "always assist where needed" or "sharing". This was done through the appreciation other learners showed by clapping hands or sharing on another level. The frequent change of peer tutors should strengthen the feeling that every one in the class could be of assistance.

The WCED initiative of adding teacher assistance in foundation phase classrooms as well as the initiatives from schools themselves in this regard lead to the impression by teachers that it could replace the tutor programme which was implemented during the MGRSI. If the teacher plans well, the role of the teacher assistant however can add quality to the teaching and learning process. The researcher observed that the utilization of specialised teachers outside the formal school time could also contribute towards the improvement of those learners needing more support as well as those who needed more stimulation especially in instances where the home could not provide it.

The calculated variance observed between the perceived experience of success of the learner level outcome (*after the MGRSI learners learnt/worked in learning centres that supported/facilitated self-study,*) and the perceived experience of the impact of the input of the project level outcome (*teachers were helped to cope better with different groupings*) was relatively large. The calculated variance between the mentioned outcomes and the expectation for success of the management level outcome (logic framework) (*learners learn/work in learning centres that support/facilitate self-study*) was also relatively large. This observation indicated that although the teacher level structure perceived the impact of the input of the project level outcome as reasonably successful, it did not reflect the expectation by the management structure, or the impact it had on the school level structure in the improvement of teaching performance. Although this finding was not supported by the observations made during school visitations (figure 4.29) with respect to the existence of boundaries observed for the allocation of learning centres, the implementation of those demarcated spaces were not so evident. Availability of space and negative staff members were the main reasons offered for problems experienced in the setting up of learning centres. Where learning centres were implemented it was found that it was in most cases stocked with fiction material and not with other resources related to learning areas, especially mathematics. Teachers should extend the function of the learning centre from enabling learners to read for fun to enabling learners to do calculations for fun or to engage with other learning areas for fun. The value of learning centres should not be underestimated and they can play a major role in enabling learners, coming from deprived environments and opportunities, to acquire first hand access to knowledge.

Although the expectation of the management structure was low with regard to the role of learning centres in the multi-grade class the researcher believes that this should form the basis of the methodology followed in the multi-grade classroom. An intervention of this nature should inform and prepare management and support structures to establish this facility in multi-grade schools.

Therefore future interventions of this nature should ascertain that the manager of the intervention always keeps both the departmental management and the recipient in the intervention abreast of the rollout of the intended outcomes and the follow-up strategy. This should enable the departmental management to put measures in place if deemed necessary.

- **The development and utilisation of support videos**

Table 5.6.1: Variances found with regard to the development and utilisation of support videos

VARIANCE	CALCULATION	REASON FOR MGRSI	LEVELS OF INTENDED OUTCOMES	
			LOGIC MODEL	PROJECT
			<i>The lack of sufficient teacher training for the multi-grade context</i>	<i>The development and utilisation of support videos</i>
15.7%	60.1% - 44.4%		44.4%	60.1%
-15.9%	60.1% - 76.2%	76.2%		60.1%
-32.2%	44.4% - 76.2%	76.2%	44.4%	

The observed variance in table 5.6.1, between the expectations for success by the management structure of the logic framework outcome (*the development and utilisation of support videos*) and the perceived experience of the impact of the school level structure (*videos have been developed and are used in pilot schools*), was relatively large. The variance between what was perceived as the main reason for the MGRSI (*the lack of sufficient teacher training for the multi-grade context*) and the perceived experience of the impact of the input of the project level outcome (*videos have been developed and are used in pilot schools*) was even greater.

The researcher observed that although the management structure indicated a relatively low expectation of success for the related logic framework outcome, the management structure rated the perceived reason for the MGRSI related to the necessity of teacher training much higher. The perceived experience of the impact of the input of the project level outcome by the school level structure was also higher than the expectation for the success of the logic framework outcomes. The researcher further observed that the average frequency of responses for the overall outcome (*videos have been developed and are used in pilot schools*) was the lowest amongst the average frequency of responses for the six overall project level outcomes. Added to this finding, the school level structure assessed the perceived experience of the impact of the input of the mentioned project level outcome as relatively moderate. These observations should be a concern as the researcher expected that this intended outcome (*videos have been developed and are used in pilot schools*) would play a major demonstrative and supportive role in the intervention.

Although the management structure assessed the lack of sufficient teacher training as a very important reason for the MGRSI, it still expected that the development and utilisation of support videos, with the focus on training, would not be equally successful. Future interventions of this nature therefore have to ensure that the management of the intervention keeps the education management structures and other relevant role-players informed with regard to the purpose of resources and the implementation thereof. This will determine higher expectations for the impact of the intended outcomes and, as a result, be supportive in the utilisation of these outcomes. The management of the intervention should take care that low expectations by the education management will not lead to uncertain and poor motivated support resulting in low impacts.

The perceived relatively high impact experienced by the school level structure, which the videos had on the improvement of mental mathematics in the multi-grade classroom (p218 and p230), should be noted for future interventions of this nature. It was also alarming to observe that the school level structure experienced the role of the video as less successful relating to the improvement of the writing skills of learners. The researcher believes that writing is an important vehicle in the academic and social development of the learner. Therefore, future interventions of this nature should revisit the approach for better results.

✓ **Teachers were benefited in their teaching methodology**

The calculated variance was relatively small between the expectation of success of the logic framework outcome (*teachers use a range of appropriate teaching and learning strategies affectively*) by the management structure and the perceived experience of the impact of the input of the project level outcome, (*teachers have benefited in their teaching methodology*). The calculated variance between the mentioned intended outcomes and perceived experience of the impact of the teacher level outcomes (*after the MGRSI teachers are able to use a range of appropriate teaching and learning strategies effectively*) by the school level structure was also relatively small.

The researcher experienced the opposite with respect to the considerable variance observed between the expectation by the management structure of the logic framework outcome (*teachers have adequate knowledge of child development and learning*) and the perceived experience of the impact of the project level outcome (*teachers have been benefited in their teaching methodology*). The calculated variance between the mentioned intended outcomes and the perceived experience of the teacher level outcome (*after the MGRSI teachers have adequate knowledge of child development and learning during planning and presentation*) by the school level structure are also considerable.

The frequency of responses, as indicated in table 5.6.2, with regard to the perceived experience of the impact of the input of the project level outcome (*teachers have been benefited in their teaching methodology*) was observed to be relatively and alarmingly low. The frequency of responses relating to the impact experienced by the two related teacher outcomes (*after the MGRSI teachers are able to use a range of appropriate teaching and learning strategies effectively*) and (*after the MGRSI teachers have adequate knowledge of child development and learning during planning and presentation*) was much higher. Although the frequency of responses for the perceived experience of the impact of the input of the intended outcome by the school level structure was low, there was still an indication that the MGRSI had contributed towards the improvement of the teaching performances of multi-grade teachers. It most probably addressed the challenging need, as noted before, which multi-grade teachers were experiencing in this regard.

Table 5.6.2: Variances found with regard to how support videos benefit teaching methodology

VARIANCE	CALCULATION	LEVELS OF INTENDED OUTCOMES					
		LOGIC MODEL	PROJECT	TEACHER	REASON FOR MGRSI	SUPPORT	
		<i>Teachers use a range of appropriate teaching and learning strategies affectively</i>	<i>Teachers have benefited in their teaching methodology</i>	<i>After the MGRSI teachers are able to use a range of appropriate teaching and learning strategies effectively</i>			
-3.5%	59.8% - 63.3%	63.3%	59.8%				
6.3%	69.6% - 63.3%	63.3%		69.6%			
9.8%	69.6% - 59.8%		59.8%	69.6%			
		<i>Teachers have adequate knowledge of child development and learning</i>	<i>Teachers have benefited in their teaching methodology</i>	<i>After the MGRSI teachers have adequate knowledge of child development and learning during planning and presentation</i>	<i>Lack of community involvement in the learning and teaching process in the multi-grade classroom</i>	<i>Development of partnerships with school communities</i>	<i>Involvement of the community in the school programme</i>
26.5%	59.8% - 33.3%	33.3%	59.8%				
40%	73.3% - 33.3%	33.3%		73.3%			
13.5%	73.3% - 59.8%		59.8%	73.3%			
2.7%	62.5% - 59.8%		59.8%			62.5%	
-9.8%	50% - 59.8%		59.8%				50%
29.2%	62.5% - 33.3%	33.3%				62.5%	
16.7%	50% - 33.3%	33.3%					50%
43.5%	62.5% - 19%				19%	62.5%	
31%	50% - 19%				19%		50%

The feedback received from interviews with the teacher level structure where teachers confirmed that they had learned a lot from the intervention supported this observation. They felt that the intervention contributed towards specific multi-grade methodology which covered the implementation of work stations, individual teaching for learners who experienced learning difficulties, group work, learning strategies, language integration, utilization of stronger learners and the strengthening of number concepts. The researcher believes that if the school level structure experienced the initial training as needs driven, the frequency of the responses for the impact of the input of the project level outcomes would be higher and consequently, the frequency of responses for the experience of the impact of the teacher level outcomes would be even higher. Therefore, future interventions of this nature should ensure that the needs of teachers are fully considered. Teachers should be equipped in such a manner that they are flexible enough to adapt the methodology to address the specific context and needs of the learners in their multi-grade classes.

The researcher compared the frequencies of responses with regard to the expectations of the success of the respective logic framework outcomes by the management level structure. It was found that the frequency of responses relating to the expectation for success of the logic framework outcome (*teachers use a range of appropriate teaching and learning strategies affectively*) was much higher than the frequency of responses for the expectation for success of the logic framework outcome (*teachers have adequate knowledge of child development and learning*). The researcher expected that the teacher level outcomes (*after the MGRSI teachers were able to use a range of appropriate teaching and learning strategies and learning during planning and presentation*) would be dependent on each other in the application of any teaching methodology. On the other hand, the frequency of responses relating to the expectations by the management level with regard to these two outcomes varied by almost 30%. Future interventions of this nature need to be mindful that management structures and other role players must be well informed with regard to the purpose of the foci of activities and their relatedness, which will mean that expectations relating to the impact of it and the support activities will be aligned towards quality sustained teaching improvement.

The calculated variances were relatively small between the perceived experience of the impact of the input of the project level outcome (*teachers have been benefited in their teaching methodology*) and the support level structure awareness outcomes (*development of partnerships with school communities*) and (*involvement of the community in the school programme*). On the other hand the differences between the frequencies of the responses of the mentioned outcomes were relatively large.

It was furthermore evident that the respondents did not consider the involvement of the community in the school programme as a priority. The researcher observed a greater awareness of the concept (development of *partnerships with school communities*) than for the concept (*involvement of the community in the school programme*). Therefore future interventions of this kind should ensure that the understanding of the context and purpose of concepts are clear, in order to be able to understand the possible relatedness. The variance between the perceived reason for the MGRSI (*lack of community involvement in the learning and teaching process in the multi-grade classroom*) and the awareness of the related concepts, discussed above, is considerable. The frequency of responses related to the perceived reason was also relatively low, which was an indication that community involvement in the learning and teaching process was not a clear concept to all the role players. The above discussion supports this assumption.

✓ **Teachers were supported to organise and manage their class better**

The researcher observed that the calculated variance between the perceived experience of the impact of the input of the project level outcome (*teachers were supported to organise and manage their class better*) and the perceived experience of the teacher level outcome (*after the MGRSI teachers were able to teach and manage the multi-grade class adequately*) were relatively small. The frequency of responses for the mentioned outcomes was relatively moderate. On the other hand, the observation showed that the frequency of responses, relating to the expectation of the management structure, of the success of the logic framework outcome (*teachers had adequate teaching and management skills*) was lower and the variance greater, with regard to the related teacher level outcomes. Although the school level structure indicated that teachers experienced a relatively high impact with the input of the project level outcome and a relatively high impact with the teacher level outcome, the management structure showed doubt relating to their expected success in providing teachers with skills to teach and manage the multi-grade class. Both the school and management level structures have to take this observation seriously, as the relatively high impact experienced by the teacher level structure is not evident in the diagnostic literacy and numeracy test results. Therefore, this observation then questions the criteria against which the school level structure assessed their teaching and learning practices. Future interventions of this nature should consider the setting of criteria, which the school level structure can utilize to assess their experience of the impact of an intervention.

Table 5.6.3: Variances found relating to the support to organising and managing the multi-grade class better

VARIANCE	CALCULATION	LEVELS OF INTENDED OUTCOMES						
		LOGIC MODEL	PROJECT	TEACHER	LEARNER	SUPPORT		
		<i>Teachers have adequate teaching and management skills</i>	<i>Teachers were supported to organise and manage their class better</i>	<i>After the MGRSI teachers were able to teach and manage the multi-grade class adequately</i>				
4.5%	61.2% - 56.7%	56.7%	61.2					
9.2%	65.9% - 56.7%	56.7%		65.9%				
4.7%	65.9% - 61.2%		61.2%	65.9%				
		<i>Learners spent effective time on learning – time on task</i>	<i>Teachers were supported to organise and manage their class better</i>		<i>After the MGRSI time is effectively spent on learning</i>			
-15%	61.2% - 76.2%	76.2%	61.2%					
-5.1%	71.1% - 76.2%	76.2%			71.1%			
9.9%	71.1% - 61.2%		61.2%		71.1%			
		<i>Educational environment</i>	<i>Teachers were supported to organise and manage their class better</i>					
8.8%	61.2% - 52.4%	52.4%	61.2%					
		<i>Learners spent effective time on learning – time on task</i>	<i>Teachers were supported to organise and manage their class better</i>			<i>Training took place in relay groups</i>	<i>Documentation of intervention activities</i>	<i>Class-room management techniques</i>
-13.8%	61.2% - 75%		61.2%			75%		
-1.3%	61.2% - 62.5%		61.2%				62.5%	
-38.8%	61.2% - 100%		61.2%					100%
-9.1%	65.9% - 75%			65.9%		75%		
3.4%	65.9% - 62.5%			65.9%			62.5%	
-34.1%	65.9% - 100%			65.9%				100%
-3.9%	71.1% - 75%				71.1%	75%		
8.6%	71.1% - 62.5%				71.1%		62.5%	
-28.9%	71.1% - 100%				71.1%			100%

The researcher observed that the calculated variance between the perceived experience of the impact of the input of the project level outcome (*teachers were supported to organise and manage their class better*) and the perceived experience of the impact of the learner level outcome *after the MGRSI (time was effectively spent on learning)* was relatively large. The frequency of responses of the mentioned outcomes was relatively high.

On the other hand the researcher found that the frequency of responses relating to the perceived experience of the project level outcome was much lower and the variance greater relating to the logic framework and learner level outcomes. This indicated that although the frequency of the perceived impact of the input of the project level outcome was relatively low the management level structure had high expectations whilst the experienced impact of the learner level outcome was also relatively high. This relatedness did not only reflect a successful impact of the MGRSI in this regard but also showed a resemblance in the ratings relating to the expectation of the management structure and the experience by the learner level structure. Although the variance was large between the awareness of the support level (*classroom management and techniques*) and the perceived impact of the learner level outcome (*after the MGRSI time was effectively spent on learning*) the researcher detected an interrelationship between the high expectancy of the management level structure and the awareness of the support structure. This most probably resulted in the higher perceived experience of the learner level outcome.

The researcher expected that the school **environment** would be **conducive for teaching and learning** and that the teachers would have **adequate teaching and management skills**. The low expectation by the management level structure, relating to both these two logic framework outcomes, should therefore be a concern. This observation should receive attention by future interventions of this nature so that the education environment and teaching and management skills can improve and the belief that it can be done be enhanced.

Although the frequency of the responses relating to the expectation of the success of the logic outcome (*educational environment*) was relatively low, the frequency of the responses of the related perceived experience of the impact of the project level outcome by the school level structure was relatively higher. The observed findings during the classroom visits (table 4.29) were higher than the frequency of the ratings, with respect to the experienced impact of the input of the project level outcome. Although the researcher assessed the observed educational environment higher, it still revealed a lack of physical accessibility and even distribution of resources to learners and the absence of clear boundaries for class activities. The researcher observed successful group work in instances where the teacher arranged the desks in a manner, which enhanced group work.

When so called “class teaching” took place, little space for independent stimulating thinking was observed. Space and huge numbers were in many cases a problem in arranging demarcated areas of support. In other instances, the researcher observed signs of the existence of demarcated areas and utilisation of resources, but these were not utilised fully or at all. In the instances where demarcated areas, resources and group work strategies were well utilised it was evident that the teacher had planned for it and that learners were confident with the routines followed. Old, outdated and irrelevant wall charts, posters and learning materials did not add to a stimulating classroom environment. These observations and findings stressed again the importance of the need for sustainable guidance and support and a belief that it could change. The relative low frequency of responses by the school level structure relating to their experience of the impact of the input of the project level outcome (*teachers were supported to organise their class better*) is a strong indication of the needs mentioned above.

The frequency of the responses related to the awareness of the support level (classroom management techniques) was relatively high. The above mentioned awareness did not correspond well with how the impact of the teacher level (*after the MGRSI teachers were able to teach and manage the multi-grade class adequately*) and learner level outcomes (*after the MGRSI time was effectively spent on learning*) were perceived to be experienced. The observed variance between the awareness of the support level structure relating to the classroom management techniques was also relatively large when compared with the experience of the school level structure with respect to their perceived experience of the impact of the input of the project level outcome (*teachers were supported to organise and manage their class better*). These findings indicated that, although the awareness of the support level structure was high with regard to the classroom management techniques, it did not have a similar impact on the experience of the above mentioned teacher and learner level outcomes. Future interventions of this kind should activate the awareness of support structures in such a manner that all the energy of those structures will be utilised to maximise support activities.

The frequency of responses to the support level structure with regard to the awareness outcome (*documentation of intervention activities*) was much lower than the average of the related awareness outcomes in this category. This showed some uncertainty with regard to the awareness, which is acceptable, because this outcome was not a formal outcome of the intervention. Although this outcome was not a formal outcome of the intervention, the frequency of the responses indicates that the future interventions of this nature should consider it as an outcome.

✓ **Teachers were supported to improve the reading, writing and mental mathematic skills of learners**

The calculated variance, as indicated in table 5.6.4, was relatively large in the comparison between the expectation by the management structure (logic model) (*improved learner performance in reading, writing and mental mathematics*) and the perceived experience of the impact of the input of the project level outcome (*after the MGRSI learners performance in reading, writing and mental mathematics improved*). The calculated variance was also considerable with respect to the mentioned logic framework outcome and the perceived experience of the impact of the learner level outcome (*teachers were supported to improve the reading, writing and mental mathematics of learners*). It was, furthermore, observed that the calculated variance between the experienced impact of the input of the project level outcome (*teachers were supported to improve the reading, writing and mental mathematics of learners*) and the experience of the impact of the above mentioned learner level outcome (*after the MGRSI learners performance in reading, writing and mental mathematics improved*) was much smaller.

Table 5.6.4: Variances found with regard to the support to improve the reading, writing and mental mathematic skills of learners

VARIANCE	CALCULATION	LEVELS OF INTENDED OUTCOMES				
		LOGIC MODEL	PROJECT	LEARNER	SUPPORT	
		<i>Improved learner performance in reading, writing and mental mathematics</i>	<i>Teachers were supported to improve the reading, writing and mental mathematics of learners</i>	<i>After the MGRSI learners performance in reading, writing and mental mathematics improved</i>	<i>A training film which consists basic principles behind multi-grade teaching</i>	<i>The learning process is broken up in smaller units – a set of milestones</i>
-30.6%	59.8% - 90.5%	90.5%	59.8%			
-24%	66.5% - 90.5%	90.5%		66.5%		
-6.7%	66.5% - 68.1%		59.8%	66.5%		
3.8%	59.8% - 56%		59.8%		56%	
2.7%	59.8% - 62.5%		59.8%			62.5%
-34.5%	56% - 90.5%	90.5%			56%	
-38%	62.5% - 90.5%	90.5%				62.5%
6.5%	62.5% - 56%				56%	62.5%

Although the variance was relatively large, with respect to, the expectation of the management structure and the perceived experience of the learner level structure, the respondents from the school level structure perceived the assistance of the MGRSI, with regard to the impact of the input of the project level outcome much lower. The researcher found the relatively small variance between the perceived experience of the impact of the input to the mentioned project level outcome and the awareness of the support level structure (*a training film, which consists of basic principles behind multi-grade teaching*) challenging, considering the role of support structures in preparing teachers for the implementation of new methodologies. The comparison found between the low frequencies of responses of both the support level and the experience of the impact of the intervention should be an indication of the importance of the role of the support structure in the preparation and implementation of new methodologies. From the above, it is again evident, that future interventions of this nature should not underestimate the importance of the role of the support level structure and should consider it as an outcome.

The above findings illustrate a moderate experience of success with regard to the improvement of learners' performance in reading, writing and mental mathematics. On the other hand, the observation from interviews and practices in classrooms proves that the environment and methodology used by the school level structure was in many instances not conducive to the improvement of learners' performance in reading, writing and mental mathematics. In many instances reading resources were available for learners to utilize freely. The same could not be found regarding mathematics resources. The researcher observed that it was always packed away and not available for learners to utilize freely. Furthermore the quality of the implementation of mental mathematics in the intermediate phase can be questioned especially where it was observed that the relevancy and challenge of the exercises were low, which was a concern. The researcher found that in some instances the mental mathematics exercises did not show any purpose and were not always on the learners' development levels, which resulted in learners yawning, mumbling meaningless things or copying from each other when they had to respond in writing. In one instance, all the learners in a particular group did not even have pencils to be able to carry on with the expected task.

Although the researcher found proof that the levels of the intended outcomes were, in many instances, not yet reached, there was also evidence of good practices, which already existed. Methods like reading in pairs, reading to others, oral and written comprehension exercises, arranging of cards in sentence sequence and writing them in workbooks and the utilisation of learning centres for reading were good practices worth mentioning.

It is furthermore commendable practice to monitor what learners has read and if they understand what they have read. More enjoyable ways in which this can be done must be considered, such as sharing the book they have read with parents during a parent evening or to draw and display pictures illustrating the story. It is necessary that support structures pick up these good practices and share them where needed.

In the instances where the researcher observed presented outcomes of the mental mathematics exercises as meaningful, it was clear that the relevant teachers based the purpose of the exercises on the needs they had assessed previously through reflection and base line assessment. When groups were smaller and the educator based the probing and challenging questions on identified backlogs and the strengthening of concepts, which was relevant to that particular group of learners, it resulted in sufficient individual involvement of learners. The involvement of learners was even better when learners, not only had to answer orally, but also had to write it on little black boards in order to confirm the solutions. A prerequisite for these exercises was that the rest of the learners had to be involved in other well-planned, meaningful and stimulating tasks. Where the researcher observed that teachers based the mental mathematics exercises on concepts like counting backwards, counting forward, smaller, bigger etc as well as on problem solving questions expecting learners to explain where they got the answers from, it added to the improvement of the learners' thinking skills.

The observed relationship between the relatively large variance, relating to the expectation of the management structure (logic framework) and the awareness of the support structure indicated that in future interventions of this nature, the advocacy of the intervention should be very thorough so that all role players could be on board, having mutual expectations and speaking in the same tongues. Although the awareness of the outcome relating to the breaking up of the learning process in smaller units, like a set of milestones, had a higher frequency of responses, despite the fact that it did not form part of the intervention, indicated the importance of this outcome for future consideration. The variance observed between the awareness of the support level outcomes was an indication that, although the breaking up of the learning process in smaller units was not one of the intended outcomes, the awareness of it received a higher frequency of responses, which indicated the importance of this outcome for consideration in future interventions of this nature.

The relatively high frequency of responses by the management structure as illustrated in table 5.6.4, with regard to their expectation of the improvement of learners' performance in reading, writing and mental mathematics, stressed the seriousness in the WCED to be successful in the improvement of learners' performances in these aspects of the curriculum.

Therefore, future interventions of this nature should build into their strategy measures to pro-actively identify and address large variances, as identified above. The management structure should pro-actively align its expectations of the intervention with the planned roll-out of the training and support strategies and the affect it would have on the improvement of the school level structure. This alignment should include the strategies, resources and role-players needed to satisfy the stated expectation. Future intervention should also build effective continuous monitoring, reflection and support into the strategy, so that any deviation could be detected on time.

- **Standardised tests in reading, writing and mental mathematics were constructed and validated**

The researcher found a relatively large variance between the expectation for success of the logic framework outcome (*appropriate standardised tests in reading, writing and mental mathematics have been constructed and validated*) and the perceived experience of the impact of the input of the project level outcomes (*teachers were supported in the improvement of reading, writing and numeracy results*). The frequency of responses relating to the experienced success of the school level structure almost doubled the expectation for success of the management structure.

Table 5.7: Variances found with regard to constructed and validated standardised tests in reading, writing and mental mathematics

VARIANCE	CALCULATION	LEVELS OF INTENDED OUTCOMES	
		LOGIC MODEL	PROJECT
		<i>Appropriate standardised tests in reading, writing and mental mathematics have been constructed and validated</i>	<i>Standardised tests in reading, writing and mental mathematics are constructed and validated</i>
31.9%	65.2% - 33.3%	33.3%	65.2%

From the above, the researcher observed that the frequency of responses, with regard to the expectation of the management level was relatively low relating to the role that standardised tests could play in the improvement of the reading, writing and numeracy of learners. It however did not seem to have any influence on how the impact of the input of the project level outcome was experienced by the school level structure.

The researcher identified this phenomenon in most of the situations where the frequencies of the expectations of the management structures were lower than the frequencies of experiences of the impact of the input of the project level outcomes.

The researcher observed further that the variances between the expectations for success of the intervention by the management level structure and the perceived experiences of success of the intervention by the school level structure were relatively large. In these instances, the variances between the frequency of responses relating to the perceived experience of the impact of the input of the project level outcomes and those of the perceived experienced impact of the teacher or learner outcomes were relatively small. The researcher can therefore conclude that the impact of the experience of the input of the standardised test on the school level structure would have had an influence on the experience of the impact on the teacher and learner level. If so, it should be accepted that the application of the standardised test would most probably make a difference with regard to the improvement of reading, writing and mental mathematics and would raise the expectation by the management structure with regard to the implementation of it in future interventions of this kind.

The researcher also observed, (p215 and p228) that the school level structure experienced the construction and validation of standardised tests in reading, writing and mental mathematics as the least successful with regard to the improvement of writing skills. Future interventions of this nature should revisit the purpose and content of standardised tests in order to be able to make a better contribution towards the importance of improving the vital writing skills in the multi-grade context.

- **New hardware and software had been delivered**

A relatively large variance was noted between the possible reason for the MGRSI (*the lack of resources in multi-grade classrooms*) and both the experienced impact of the input of the project level outcome (*new hardware and software had been delivered*) and the perceived expectation by the management level (logic framework) (*new software and electronic material to support multi-grade schools*). This observation together with the relatively low frequencies of responses by the management structure observed in table 5.8, with regard to the lack of resources as a possible reason for the MGRSI, and the relatively low expectation is a concern. Therefore, future interventions of this nature should promote the importance of providing and utilising resources in the multi-grade class in such a manner that all those responsible for enhancing quality education in multi-grade schools are aware of the importance and role the resources should play in those classes.

Table 5.8: Variances found with regard to new hardware and software that had been delivered

VARIANCE	CALCULATION	REASON FOR MGRSI	LEVELS OF INTENDED OUTCOMES					
			LOGIC MODEL	PROJECT	SUPPORT			
		<i>The lack of resources in multi-grade classrooms</i>	<i>New software and electronic materials to support multi-grade schools</i>	<i>New hardware and software had been delivered</i>	<i>Production of teacher training modules – multi-grade trainers resource pack</i>	<i>Instructional materials</i>	<i>Validation of teacher support manuals in training sessions</i>	<i>Development of bilingual mother tongue materials</i>
44%	67.3% - 23.3%	23.8%		67.3%				
28.4%	67.3% - 38.9%		38.9%	67.3%				
15.1%	38.9% - 23.8%	23.8%	38.9%					
32.7%	67.3% - 100%			67.3%	100%			
32.7%	67.3% - 100%			67.3%		100%		
4.8%	67.3% - 62.5%			67.3%			62.5%	
17.3%	67.3% - 50%			67.3%				50%

Although the frequency of responses to the reason for the MGRSI by the management level structure (*the lack of resources in multi-grade classrooms*) was relatively low, the frequency of responses to the awareness of the support level outcomes (*instructional materials and production of teacher training modules – multi-grade trainers' resource pack*) was relatively high. The researcher observed, in the relevant attached tables, that in the majority of instances the frequency of responses was higher for the awareness of the support outcomes than it was in the case of the frequency of responses provided for the reasons of the MGRSI. This indicated that the researcher could not find a comparison between these aspects to prove that they had any influence on each other. This again is an indication that future interventions should ensure that all the role players are not only aware, but are also equipped to train and support.

Considerable variances were also observed between the awareness of the two support level outcomes (*production of teacher training modules – multi-grade trainers resource pack and instructional materials*) and the perceived experience of the impact of the input of the project level outcome (*new hardware and software had been delivered*). This observation raised the expectation for the support level to have a major influence on the experience of the provision and application of the project level outcome (*new hardware and software had been delivered*). Although the awareness was high, it did not reflect on the impact as the researcher expected it to.

The researcher also identified this tendency in most of the instances where he compared the frequency of responses of the awareness of the support outcomes and the impact of the input of the project level outcomes as illustrated in the relevant tables.

It was further observed that the frequency of responses, by the support level structures, for the awareness of the support level outcomes (*validation of teacher support manuals in training sessions*) and (*development of bilingual and mother-tongues materials*), which were not intended outcomes of the MGRSI, was relatively low. The recognition of these two support level outcomes and the level on which they were recognised, should be noted for consideration by future interventions of this nature, especially with respect to quality assurance and for addressing the diverse language needs which have become more and more of a challenge in multi-grade schools.

Interviews and classroom observations revealed that there was a need for ready-made resources, which can be adapted to the context of the learners' frame of reference and community activities. Teachers also requested the implementation of teacher assistance and the support from lead teachers. Notice was also taken of requests to address the heavy administration load, which was experienced by teachers, and especially the principals of multi-grade schools. Other resources which were observed to be utilized successfully, such as the use of beads, number lines, number concepts, blocks, cards, Maths, Science and Technology (MST) kits and stimulating activity sheets addressing the needs of learners could be recommended and should be monitored and supported on a sustainable basis. It was also found that needs based resources, adapted to the level of understanding of the learner, and displaying concrete examples and exercises, which contributed to the understanding and consolidation of the necessary skills and concepts, were required to play a pivotal role in rendering professional support to learners who needed it.

Teachers, in general, were aware of the existence of a training manual and felt positive about it. It was felt that the value of the manual lay mainly in the guidelines given relating to mental mathematics strategies and support to learners who were struggling in reading, and the planning strategies, classroom arrangement and the methodology related to it. Where it was found that the manual was not implemented it was for some reason or another not in the possession of the teacher. In other instances it was found that teachers used the manual at the start of the programme as a guideline but lost interest later on and found reasons to revert to the old practices, or implement partially. This finding indicates that multi-grade teachers do need guidelines for their activities and appreciate it if they are utilising it. The lack of a sustainable monitoring strategy most probably resulted in the fading away of the utilisation of the manual.

If officials had continuously monitored the utilisation of the implementation of the guidelines described in the manual, teachers would have had a better chance to internalise and implement those guidelines.

Although the researcher observed the application of some of the techniques as mentioned in the package, teachers did not always recognise it as coming from the MGRSI. Reasons identified for not utilizing or partially utilizing was the unavailability of technical equipment to play the video material and not enough packages in which case the copy of the package was stored in the principal's office. The challenge lies in how multi-grade teachers and support officials perceived the purpose of the manual in the context of preparing learners for life challenges.

- **On-line training and support had been provided and communication within and between role-players which was occurring**

Table 5.9.1: Variances found with regard to the on-line training and support, which has been provided and where communication within and between role-players which was occurring

VARIANCE	CALCULATION	LEVELS OF INTENDED OUTCOMES	
		LOGIC MODEL	PROJECT
		on-line support for EMDCs and multi-grade schools	<i>Online-training and support has been provided & communication within and between role-players which was occurring</i>
-11%	61.2% - 72.2%	72.2%	61.2%

The frequency of responses relating to the imagined success of the logic model outcome (*online support for EMDCs and multi-grade schools*) was higher than the perceived experience of the impact of the input of the project level outcome (*on-line training and support has been provided and communication within and between clusters and other role-players in the intervention was occurring*). This resulted in a relatively large variance.

This finding indicated that, despite the relatively high expectation for success of the management level structure, the experience of the school level structure did not correspond with it. This observation has an impact on future interventions of this nature in the sense that interventions should make provision to meet the expectations through putting in place well established monitoring and sustained support systems.

✓ **On-line support helped in the improvement of teaching methodology**

Table 5.9.2: Variances found with regard to the on-line training and support which has been provided and communication within and between role-players, which was occurring

VARIANCE	CALCULATION	LEVELS OF INTENDED OUTCOMES		
		LOGIC MODEL	PROJECT	SUPPORT
		<i>On-line support helped in the improvement of teaching methodology</i>	<i>On-line support helped in the improvement of teaching methodology</i>	<i>Information dissemination through various media including instructional and informational videos</i>
-8.8%	63.4% - 72.2%	72.2%	63.4%	
15.3%	87.5% - 72.2%	72.2%		87.5%
-24.1%	63.4% - 87.5%		63.4%	87.5%

The variance, as indicated in table 5.9.2, between the expectation of success by the management level of the logic framework outcome (*on-line support helped in the improvement of teaching methodology*) and the perceived experience of the impact of the input of the project level outcome (*on-line support helped in the improvement of teaching methodology*) was relatively small. On the other hand, the researcher observed that the variance between the mentioned intended outcomes and the perceived awareness of the support level outcome by the support level structure outcome (*information dissemination through various media including instructional and informational videos*) was relatively great.

The considerable variance found between both the awareness of the support level and the expectation of the management level, compared with the experience of the school level, was an indication that high awareness and high expectation did not necessarily contribute to the experience of the impact which the school level structure experienced.

Future interventions of this nature should therefore ensure that expectations by management structures and awareness by the support structures are addressed in such a manner that they are fully informed and equipped to manage and support strategies like information dissemination in the rural context through mediums such as on-line support. The buy-in of all the relevant role-players and continuous monitoring and support measures should be put in place to ensure sustainability.

- ✓ **Access to the internet helped to communicate with cluster members to learn and share**

Table 5.9.3 Variances found with regard to the access to the internet, which helped to communicate with cluster members to learn and share

VARIANCE	CALCULATION	LEVELS OF INTENDED OUTCOMES		
		LOGIC MODEL	PROJECT	TEACHER
		Effective on-line communication between teachers and clusters	<i>Access to the internet helped to communicate with cluster members to learn and share</i>	<i>After the MGRSI teacher computer knowledge was of such a standard that they could effectively communicate to cluster members to share difficulties and good practices</i>
2.4%	59.1% - 56.7%	56.7%	59.1%	
3.1%	59.8% - 56.7%	56.7%		59.8%
0.7%	59.8% - 59.1%		59.1%	59.8%

The calculated variance between the expectation for success of the logic framework outcome (*effective on-line communication between teachers and clusters*) and the perceived experience of the impact of the input of the project level outcome (*access to the internet helped to communicate with cluster members to learn and share*) was relatively small. The calculated variance between the mentioned intended outcomes and the perceived experience of the impact of the teacher level outcome (*after the MGRSI teachers' computer knowledge was of such a standard that they could effectively communicate to cluster members to share difficulties and good practices*) were also relatively small. The frequency of the responses amongst these variables was also relatively low.

Although access to internet should be a perfect solution to the challenges of the isolation in the rural context, the researcher observed that the expectation for success of the management structure was exceptionally low.

The researcher further observed that the low frequency of responses relating to the access to internet and the extent of computer knowledge demonstrated, indicated that the school level structure also did not experience these outcomes as successful. It is therefore of major importance that when future interventions of this nature are serious about providing sustainable communication structures to multi-grade school they should ensure that computer equipment and internet access is secured and maintained.

(c) Conclusion on what teachers perceived to be successes and challenges of the MGRSI

According to findings derived from interviews, questionnaires and observations, the MGRSI experienced several successes and challenges. The sustainable application of methodologies and resource applications, which were suitable for the needs of the multi-grade class, should have been the biggest challenge for the MGRSI. The observation of the influence of demographic variables and the influence of the structure of the MGRSI revealed possible factors, which could have an impact on the successes and challenges of the MGRSI.

Although the quality of teaching and learning in some of the observed multi-grade schools benefited from the MGRSI it did not provide them with sufficient equipment, skills and a body of knowledge which could last them for ever. The researcher questions the teaching methods of multi-grade teachers, their poor attendance of teaching training courses and the subsequent application of what they had learned at these courses. The provincial literacy and numeracy diagnostic test results proved that many of the concepts developed by the MGRSI were not internalised sufficiently. They faded away as time went by and trained teachers stopped implementing the new learned knowledge and skills, who were in some instances replaced by others who did not have any training in multi-grade teaching. The department of education should consider different options with respect to how to address this phenomenon in the future. These options should include an adapted approach towards in-service training and initial training of multi-grade teachers, which would make a difference for learners and communities in the multi-grade context.

The involvement of higher education institutions and other inset training institutions in the pre-set and inset preparation of teachers for the multi-grade context should also become a priority. The department of education should consider the fiscal recognition of an advanced qualification in multi-grade teaching to arouse the interest of qualified teachers to teach in rural multi-grade schools.

Future interventions of this nature should take into account factors like the precarious logistical position of multi-grade teachers before there can be any hope of sustainable implementation and consolidation of the new learned concepts. The department of education should seriously consider attending to factors, like isolation, long distances, bad roads and weak communication systems. The education department should treat this as a matter of urgency if the department is serious about arousing the interest of quality teachers to apply to those schools.

Therefore, this intervention should not be an end but a start of new beginnings and driven by the department of education as an important vehicle to change the environment and teaching methodologies in those deprived schools and environments.

Teachers who taught for a long time (more than 25 years total experience) seemed to benefit from their experience and from attending inset courses. Younger teachers (under 10 year's total experience) seemed to benefit from their initial pre-set training. The researcher observed that multi-grade learners who were in those classes fared better in their literacy and numeracy diagnostic tests than those who were not.

In order to address the needs of this diverse group of teachers this observation indicates the importance of a baseline assessment of teachers' knowledge and skills before the implementation of any inset or intervention. It was evident that the MGRSI was conscious of this need and approached the training by considering teachers' prior knowledge relating to multi-grade teaching. The MGRSI further created opportunities for teachers to add value from their own experiences. Consequently, the sharing in clusters of prior knowledge and experiences with the implementation of new knowledge and skills formed an important link in the MGRSI strategy.

Classroom observations and interviews done revealed that the observations made in some instances differed substantially from how the teachers rated their own experience of the aspect which was observed. This led to the question, "on what basis do teachers assess their own practices?" The multi-grade guideline, provided to multi-grade teachers, should have given indications of the different approaches in the multi-grade classroom. From this observation, it is evident that if quality education is the expectation for multi-grade classes, teachers must be empowered to monitor and assess their own practices on a frequent basis.

The researcher observed that most of the rural multi-grade learners travel by bus and only a few have the opportunity to attend grade-R classes. Many of them also progress through the grade system without being able to read, write and calculate on the level they should. Only a few of those learners' parents attended ABET classes. The inclusion of parents and community interest in the teaching and learning process of the multi-grade child was very poor in the selected proportion of schools. The lack of background knowledge with regard to learning and remedial support to obstacles of learning was the main obstacle for teachers in understanding multi-grade teaching and learning concepts. This diverse situation requires exceptional courage, skills and knowledge from the teacher who has to cope with these diverse challenges.

The researcher could not find a direct relationship to the farmer's involvement in governing body decisions and their involvement in the maintenance of the physical infra structure of the school. This aspect will need further investigation especially with regard to the impact on quality teaching and learning which the farm owner's involvement in the governing body decisions and his or her role in the maintenance of the physical infrastructure will have. Although the researcher observed a strong belief in parent involvement in the tasks of learners, he found little evidence of support from parents relating to their involvement in classroom activities and improvement of the teaching environment.

The researcher also found that the role of the farm owner should not be underestimated. The farm owner can play a major role in the upgrading of school buildings and the erecting of shelters for learners who have to travel by bus. The farm owner can also render a service to the rural community on another level and can contribute towards the development of farm workers skills, the setting of a culture of life long learning on the farms and the broadening of the career horizons of farm workers and their children. Future interventions of this nature should address all these mentioned, and other diverse elements, familiar to the rural situation, so that the intervention does not only pertain to the isolated school situation but also to the broader situation, so that community members can realise the value of further education and develop a broader vision for future career possibilities.

Although the management level structure fully agreed that if the MGRSI had reached the intended outcomes, it would result in the improvement of literacy and numeracy results, the researcher observed that the management level's overall expectation of success, for the impact of the project level outcomes, was relatively low.

The management level structure furthermore saw the training of multi-grade teachers as the most important reason for the MGRSI but they did not show a high expectation with regard to the capability of the support staff to support and give motivating feedback to these teachers. The researcher observed furthermore that the school level structure did not experience the ongoing support by multi-functional teams and the capacity of the officials as high as the management structure indicated their expectation of the success would be.

The support level structure indicated a relatively high involvement in the ongoing support activities and a much lower awareness of what the foci of the ongoing support actions should be. The feedback, which was also inconsistent, relating to their awareness of the preparation activities, the various training components and the ongoing support strategies of the MGRSI, strengthened this observation.

The fluctuation of awareness and the different understanding of roles amongst the different role players in the MGRSI surely should have had an impact on the co-ordination and quality of service delivery practices. Although the frequency of responses relating to the awareness of intended outcomes by the support level structure were high in most of the instances, the variance was greater relating to the impact of the intended related outcome experienced by the school level structure. This observation confirms that although the support level structure was well aware of strategies and activities, the frequency of awareness identified in most of the cases did not correspond with the frequency of success experienced by the school level structure. These identified variances confirmed that the incoherent involvement of the support level structure led to fluctuating awareness and subsequent uncoordinated support to schools which certainly affected the success of the MGRSI.

The school level structure reported that the low frequency of school visits declined further after the intervention, which is also a symptom of the fluctuating awareness the support structure experienced of the design of a decentralised MGRSI co-ordination framework. From above observations, it will be important for future interventions of this nature to build into the intervention programme sustainability and ownership. It should also ensure that departmental support programmes accommodate the foci of the intervention and create space for implementation cycles to expand.

When the researcher compared the perceived experience of the implementation of the project level outcomes and the perceived experience of the impact of the related teacher and learner level outcomes, the researcher observed that the variances in most of the cases were relatively small. The researcher also observed that whether the frequency of the responses was large or small it did not have an impact on the size of the calculated variance. This meant that when the perceived experience of the success of the implementation of a new methodology received a low frequency of responses, the frequency of responses for the perceived experience of the impact it had in the classroom, was also low. The opposite is experienced when the frequency of responses for the perceived experience of the success of an implementation were high. These findings are an indication of how important the preparation and initial implementation strategies should be in ensuring a quality impact on the result.

The management level structure agreed that if the expectations were that teachers would receive more training and support they would be able to apply the knowledge and skills, obtained during the MGRSI.

They subsequently indicated high expectations for the logic framework outcomes, relating to the availability of progressive curricula for grade R to seven in reading, writing and mental mathematics, and the provisioning of on-line training and support for communication purposes within and between role-players. On the other hand they indicated low expectations of success with regard to how successful the other project level outcomes, referring to the development of demonstration schools, development and utilisation of support videos, appropriate standardised tests and the provision of new software and electronic materials to support multi-grade schools.

The huge variance observed between the first two mentioned expectations and the rest should be a concern, as these outcomes should have been inter-dependable in reaching the outcomes of the MGRSI. The misinterpretation of the relatedness between the stated outcomes, or a lack of belief that the intended outcomes would have been successful, and the belief that the project could be successful without reaching one or more of the stated outcomes could probably be reasons for this phenomenon. Future interventions should be aware of the possibility that management level structures and other relevant role players are not always fully aware or informed of the reasons and the purpose of intended outcomes. This could influence expectations of the success of intended outcomes in such a way that outcomes that could be crucial in an intervention of this nature do not receive the attention deserved, which can result in poor performances, which will obviously have a negative impact on the final intervention results.

The researcher further observed that the experiences of the implementation of the mentioned project level outcomes (*development of demonstration schools, development and utilisation of support videos, appropriate standardised tests and the provision of new software and electronic materials by the school level structure*) were in all instances higher than the expectation of the management structure. The only exception is the first two above mentioned outcomes (*a progressive curricula for grade R to 7 in reading, writing and mental mathematics and the provisioning of on-line training*) and (*support for communication purposes*) for which the frequency of responses (expectation for success) was higher in the case of the management structure. The researcher observed this variance between the expectation and both the experience of the implementation of project level outcomes and the impact of teacher and learner level outcomes in almost all of the related comparisons made. This could be an indication that the expectations identified did not have any or little impact on the delivery of the outcomes. Although the researcher could not make any direct comparison between the level of expectancy of success and the experience of it, the question could be that, "if the expectation was higher should it have a bigger impact on the success experience with regard to the delivery of the outcomes?"

The degree of involvement of the management structure in the management of the MGRSI, which seemed to operate only on a reflection and report level, could provide the answer to this question. From the above it is evident that interventions of this nature cannot take place in isolation and have to be part of the operational strategy of the department of education. Officials on the different levels of service delivery have to take responsibly and be accountable for the management and support of such approved interventions.

A comparison of variances and relatedness amongst expectations, perceptions and opinions of the different management, support, school and learner level structures revealed the successes and challenges of the MGRSI. It was also beneficial to future interventions of this nature with regard to the experienced impact of the sub outcomes within the six main project level outcomes. These observations of expectations, perceptions and opinions of the different management, support, school and learner level structures, with regard to how successful the MGRSI was experienced, are revealed as unsatisfactory (<60%), satisfactory (61% - 69%) and excellent (>70%) in table form here below.

Table 5.10.1 A comparison of variances and relatedness amongst expectations, perceptions and opinions of the different management, support, school and learner level structures

Intended project level outcomes	Progressive Curricula for grade R to 7	
	Experience of the impact by the school level structure	Recommendations for improvement and future interventions of this nature
<i>The learning area programmes provide by MGRSI were adequate to the context of the multi-grade class you are responsible for</i>	Unsatisfactory with regard to how the provisioning was experienced	Space should be provided to accommodate the context of the environment where the learner comes from and teachers should be trained and supported to adapt their teaching to that
<i>The progression table for reading, writing and mental mathematics developed by MGRSI helped teachers to pace their learning and teaching programme for reading, writing and mental mathematics</i>	Satisfactory for both the experience of the provisioning as well as the implementation by the teacher	Follow-up support strategies should be implemented to ensure that planning is paced, linked to the framework of reference of individual learners and is appropriate on a daily basis
Intended project level outcomes	Development of demonstration lessons	
	Experience of the impact by the school level structure	Recommendations for improvement and future interventions of this nature
<i>Solutions to every day problems were experienced</i>	Unsatisfactory with regard to how the provisioning was experienced.	The support level structure and the principal should be fully aware of the every day solutions available and in this instance the availability of demonstration schools and lessons to be able to render the support if needed.

Table 5.10.2: A comparison of variances and relatedness amongst expectations, perceptions and opinions of the different management, support, school and learner level structures

Intended project level outcomes	Development of demonstration lessons	
	Experience of the impact by the school level structure	Recommendations for improvement and future interventions of this nature
<i>Teaching styles improved</i>	Satisfactory with regard to how the provisioning was experienced.	Teachers should be assisted continuously with regard to stimulating and meaningful exercises, which involve learners actively in the learning and teaching process, well-structured follow-up strategies and appropriate corrective work done by learners.
<i>Teachers were helped to cope better with different groupings</i>	Satisfactory with regard to how the provisioning as well as the implementation were experienced.	Teachers should be supported to plan for the diverse context they have to teach for providing for learners' specific needs and levels of progress, allowing learners to be independently involved in their own learning and utilizing the existing learning centre and relevant resources optimally.
Intended project level outcomes	Development and utilisation of support videos	
	Experience of the impact by the school level structure	Recommendations for improvement and future interventions of this nature
<i>Teachers benefited in their teaching methodology</i>	Unsatisfactory with regard to how the provisioning was experienced but excellent with regard to how the implementation was experienced	Continuous support relating to the implementation of work stations, teaching of learners with learning difficulties, group work, language integration, utilization of stronger learners, the strengthening of number concepts and involvement of the community in the learning and teaching process, should be done.
<i>Teachers were supported to organise and manage their class better</i>	Satisfactory with regard to how the provisioning was experienced as well as how the implementation was experienced.	Intensive continuous support should be rendered with the focus on the even distribution of resources, clear boundaries for class activities, relevant wall charts and group work strategies.
<i>Teachers were supported to improve the reading, writing and mental mathematics skills of learners</i>	Unsatisfactory with regard to how the provisioning was experienced but satisfactory with regard to how the implementation was experienced	The setting of mile-stones and the breaking up of the learning process in smaller units, purposeful comprehension and mental math exercises which are on the learners' development levels, and the application of a combination of oral and writing activities should be strategies which should be developed and supported on a continuous basis.
Intended project level outcomes	Standardised tests in reading, writing and mental mathematics are constructed and validated	
	Experience of the impact by the school level structure	Recommendations for improvement and future interventions of this nature
<i>Standardised tests in reading, writing and mental mathematics were constructed and validated</i>	Excellent with regard how the provisioning was experienced	The standardised test for reading, writing and mental mathematics was the least successful with regard to the improvement of the writing skills and should therefore be revisited in this regard.
Intended project level outcomes	New hardware and software has been delivered	
	Experience of the impact by the school level structure	Recommendations for improvement and future interventions of this nature
<i>New hardware and software has been delivered</i>	Satisfactory with regard to how the provisioning was experienced	The challenge for support level structures is to monitor the implementation of resources and to give guidance with regard to where, when and how to utilize the resource received from the MGRSI

Table 5.10.3: A comparison of variances and relatedness amongst expectations, perceptions and opinions of the different management, support, school and learner level structures

Intended project level outcomes	On-line training and support has been provided and communicated within and between role-players is occurring	
	Experience of the impact by the school level structure	Recommendations for improvement and future interventions of this nature
<i>On-line support helped in the improvement of your teaching methodology</i>	Satisfactory with regard to how the provisioning was experienced	On-line support is a means through which the isolated teacher in the rural areas can have the opportunity to communicate and share own experience and receive new material. A condition, which has to be taken into consideration, is the availability of equipment and access.
<i>Access to the internet helped to communicate with cluster members to learn and share</i>	Unsatisfactory with regard to how the provisioning was experienced and to how the implementation was experienced	Support structures should as a matter of urgency ensure that the school level structure is skilled with regard to computer and internet skills and that the computer equipment and internet access is secured and maintained.

The strengths of the MGRSI as identified in this study were:

- The partial involvement of district managers;
- Involvement of HEI's;
- The well-structured composition of the MGRSI programme;
- The set objectives;
- The exposure to international experience;
- The baseline assessments done;
- Improvement of teaching strategies;
- Communication in cluster context;
- Knowledge of E-learning;
- Utilisation of lead teachers;
- The demonstration strategy and
- The focus on the organisation of classrooms.

The weaknesses of the MGRSI as observed were:

- The lack of sustainability;
- The lack of commitment by schools;
- Gaps identified with regard to the training strategy, which included the lack of focus on all the learning areas and the full National Curriculum Statement;
- The lack of electronic connectivity;
- The lack of a structured follow-up strategy and
- The lack of cohesiveness in the support activities at district level.

Challenges identified for future interventions of this nature are:

- **The preparation of future interventions which should focus on:**
 - The goals of the intervention which should be clear;
 - The design of implementation cycles which should make provision for expansion, sustainability and ownership by all stakeholders;
 - The implementation of government policies which support the unique needs of the multi-grade context;
 - The addressing of the diverse needs of the multi-grade context;
 - Informing all the role-players in the intervention of the context and concepts relating to the intervention strategy;
 - The training and involvement of all the role-players in the intervention in the planning and rollout of the intervention strategy;

- The design and application of teacher support manuals;
 - The design and utilisation of standardised tests for reading, writing and mental mathematics which teachers and support staff can use for diagnostic purposes;
 - The design and utilisation of a progressive curricula in reading, writing in mental mathematics according to smaller units with milestones;
 - The design and utilisation of self instructional curricular workbooks in the mother tongue of the learners which allow adaptation to the context of the environment from which the learners come;
 - The design, development and utilisation of resources which are conducive to the challenges of the multi-grade context;
 - The accommodation and addressing of the diverse language needs which become more and more of a challenge for multi-grade schools;
 - The heavy administration load which teachers experience and
 - The involvement of HEI's in a strategy to prepare and train beginner teachers in the didactics of the multi-grade context.
- **The reflection strategies which should focus on:**
 - Schools to submit separate reports on a continuous basis which will form the basis for reflection at both district and provincial level;
 - The alignment of support strategies with the needs identified in submitted school reports and
 - The continuous documentation of intervention activities.
- **The training which should focus on:**
 - The provision of criteria to the multi-grade teacher which can serve as a tool to measure the success of own practices;
 - The continuous INSET preparation of multi-grade teachers to bridge the gap for those who are not prepared for teaching in multi-grade classes or who need to be re-trained;
 - The training and utilisation of lead teachers and the provision of substitutes for them;
 - The training of teachers in the implementation of peer tutors;
 - The provisioning of electronic communication facilities to enhance sharing of good practices and access to a wide spectrum of resources;
 - The training and utilisation of teacher assistants;
 - The preparation and utilisation of demonstration lessons and demonstration schools;
 - Group work to cope with the diverse challenge in the multi-grade class and the consolidation, as part of the learning process, should be strengthened;
- **The support which should focus on:**
 - The involvement of communities and farm owners in intervention strategies;
 - The creation of resource centres for teacher and community development purposes at schools;
 - The acknowledgement of the multi-grade class teachers' prior knowledge;
 - Follow-up strategies which should build on the needs identified by district and provincial structures after their reflection meetings;
 - Follow-up support which should be done on a frequent basis with the intention of building sustainability;
 - The follow-up support which must focus on learner progression and action plans linked to quality indicators for improvement of methodologies;
 - The principal's pivotal role in the extension of the monitoring and support strategy should be acknowledged and strengthened;
 - The building in of appreciation and recognition measures where good practices are observed;

It was observed that the reason for the termination of the intervention was budget constraints and not because there was not merit in it. This intervention served its purpose in making management, support and school structures aware of the multi-grade challenge and equipped teachers with the knowledge, skills and resources which empowered them with the basic abilities to manage and teach in the multi-grade context. The WCED should consider a follow-up multi-grade intervention strategy, which would focus on the preparation and empowerment of the different service delivery levels of the department of education. This would equip them with knowledge and skills to render sustainable quality follow-up support to multi-grade schools.

It became evident that future interventions of this nature should ensure that sustainability, responsibility and accountability are built into the project, and that the focussed involvement of each and every official in the department of education is secured and that regular reflection opportunities take place with basic reports from the teachers and schools involved. Future interventions of this nature should also ensure that there is a well-structured exit strategy, which will make provision for a complete evaluation report.

5.2.5.3 What are the lessons that can be learned from the Multi-grade Intervention in terms of the development of models for professional development?

The developers of the multigrade intervention strategy based the theory of the intervention on international research findings and experience and the intervention as such was never an isolated event. In order to be able to report on the lessons learned from the multigrade intervention, in terms of the development of models for professional development, the researcher will first provide a brief review of international findings in this regard.

Therefore, the researcher will cover this section in terms of what the researcher learnt from the international literature review as well as from the MGRSI, which will also serve as a conclusion.

(a) What is learned from the international literature review

According to Joubert (2006:3) the lack of policies or a lack of executing existing policies to support quality teaching and learning in multi-grade schools is a concern, given that as many as one-third of classrooms world wide are reported to be multi-grade. The need is now not only to increase the pace of investment of financial and human resources devoted to basic education, but also the political will to make the Education for All programmes a reality for every child, young person and adult in every nation.

All countries became increasingly aware of the need to build internal partnership amongst various governments, ministries and agencies, but also together with civil society organizations and the private sector. According to Hartwell, DeStefano and Benbow (2004:2) the challenge is to develop and scale up complementary models that have demonstrated that they can effectively reach chronically underserved populations and regions.

In South Africa, according to the Report of the Ministerial Committee on Rural Education (2005:12), wide support was evident for state provision of rural schooling. According to the latter report, governments should resource rural schools and organise them differently from urban schools as a necessary measure to meet the needs of rural learners, and recommended that governments treat rural schools as a separate category of "special schools" and receive more funding. Joubert (2006:4) indicates that the centralised effort towards curriculum change resulted in overloaded and fragmented programmes. Samuel (2005:343) found that teachers are inadequately trained and ill equipped to meet the extraordinary high expectations of the curriculum and are hindered by inadequate resources and support. Learners on the other hand experience their classrooms as authoritarian rather than democratic places, spaces in which there is little learning and less understanding. Joubert (2006:5) indicates that no or little motivation or support during the implementation of the renewal in the classroom was experienced.

Teachers have according to Joubert (2006:5) a difficulty in overcoming the anxiety they experience when attempting new ways of teaching and subsequently do not stay with the new strategies long enough. They abandon their efforts and return to the old familiar strategies. Many teachers still focus on drill and practice instead of focussing on learner's understanding and application of knowledge. Juvane (2005:11) suggests that at national level policy decisions will be required to incorporate multigrade teaching in pre- and in-service teacher education programmes, but also to consider use of multigrade techniques in mono-grade settings. Joubert (2006:11) expresses the opinion that one of the greatest difficulties in promoting multi-grade teaching is the inflexibility of a grade-based curriculum. Berry (2001:7) states that, given the pressing problems and concerns, which the multi-grade teaching situation has to address, the conceptual and skill requirements of the prescribed curriculum are too great for the teacher to cope with. Ames (2004:246) suggests that the improvement of curriculum content must focus on developing subject matter in a way, which makes it relevant to the social conditions of the communities and the needs of the learners. The general idea is the creation of curricula, which meet the needs of learners and teachers in multi-grade settings and reduce the daily curriculum-planning burden on the teacher. Colby and Witt (2002:12) refer to Colombia where the Escuela Nueva Programme used an integrated approach to improve teaching and learning in multigrade schools.

Central to this approach was the development of learning guides enabling learners to progress at their own speed. *Forgotten Schools* (2004:41), states that the development of alternative teaching methods, for the enhancement of learning in multi-grade classes, is important. This implies that whatever the configuration of content may be, basic education should equip learners to continue learning, apply critical thinking and cope with the changes they will encounter in life. The thinking should be how **multi-grade methodology** can influence mono-grade methodology and **NOT** the other way around

Rao (2004:3) sees the overall solution to the problem of rural schooling in substituting the idea of schools as isolated institutions with the idea that schools are resource centres for the community in which they are located. This means replacing a teacher-centred, textbook oriented, mono-grade approach with one that meets the multiple learning needs of learners who teachers view as members of a community and families with diverse traditions and varied livelihoods. Boylan, Nor and Rahman (1996:5) indicate that rural schools experience a lack of basic resources such as books, workbooks, computers and trained teachers. They further report that the production and dissemination of teaching/learning materials in Malaysia were successful when used by teachers in rural primary schools in the belief that it will improve the quality of teaching and thereby raise the level of student achievement. Rao (2004:7) further notes the significance of parents who become active partners in the schooling of their children. It can happen in a variety of ways such as participating in the group learning activities that draw upon the resources of the community, which will ensure close relations between the school and the community as well as parental support for the learning of the child. It will instil a sense of ownership and pride in the community and nurture a sense of comfort with their school.

Many variables such as access to quality schooling for rural learners, learner transience, parental and community participation and involvement and background of learners are found to have an impact on quality teaching and learning in the rural multi-grade school. Although these factors could affect learners learning, Lazarus (2005:56) reports, that the US Department of Education sees teacher quality more closely related to student achievement than other factors, including class size and per pupil expenditures. Lazarus (2005:61) recommends three policy implications to address the unique needs of rural schools. The first one is to permit rural schools to use teachers who do not have full credentials. To provide professional development opportunities for rural teachers to ensure that both, new and experienced teachers, know how to use instructional strategies that promote student achievement. Policymakers in the past have often ignored the unique skills that rural teachers need for effective teaching of learners in sparsely populated areas.

Boylan, Nor and Rahman (1996:10) report that, although a study done by Azizah and Sharifah in 1992 relating to teachers preparedness for teaching learners in rural schools, found that almost half of the respondents had never attended in-service courses the literacy review indicated that preparation for multi-grade teaching has to happen on a much wider front. The New South Wales Department of School Education in Australia, known as the Rural and Distance Education Directorate, introduced, according to Boylan, Nor and Rahman (1996:3), a plan, which provided equitable, quality education and training for rural learners and assisted them to achieve participation rates and educational outcomes at least equivalent to those of learners in the urban areas. These policies had outcomes at four levels namely the learner, the teacher, the school community and pre-service teacher education. At the **learner level** improved access to participation in a diverse range of curricular experiences, social activities and cultural experiences either at school or in a different location were established. At the **teacher level**, they addressed collegial networks, professional isolation, closer involvement with community representatives, and the use of telecommunications technology for delivery of lessons. At the **school community level** they brought about improved access to cultural and social activities as well as closer school/community links and community members having a direct role in determining the educational activities provided to their children. At the **pre-service teacher / education level**, they met the challenge to prepare teachers for rural appointments and the inclusion of courses that provided the necessary skills and expertise to teach by using telecommunicated modes of delivery.

Boylan, Nor and Rahman (1996:4) report that teachers in the isolated areas in new South Wales in Australia, met regularly to discuss matters relating to the Country Area Programme (CAP) and also made use of these opportunities to establish a professional network of colleagues from whom advice, support and help could be sought. This network had a significant, positive effect and reduced the feeling of professional isolation by the rural teacher. Distance Education Centres established in rural locations brought the teacher and the isolated learners into closer and more regular contact. As part of the commitment to increase access, a teacher who may be up to 250 km away delivered lessons via audio graphics to groups of students at their home school. Principals in small primary schools were given additional release time to attend to administrative duties and all central school principal positions were made non-teaching appointments. They provided all small, remote primary schools and all central schools with satellite reception facilities. Additionally, all central schools were given additional telecommunications facilities. Each small remote rural school was provided with a per capita grant, which acknowledged the impact that geographic isolation had on the school's operating budget (e.g. every phone call/fax is a long distance call) in addition to their school's annual entitlement grant (recurrent funding/budget).

According to Paasimaki from the Chydenius Institute in Finland as cited by Costas, Sofoklis and Michail (2003:68), the defenders of multi-grade schools in Finland see multigrade schools as a basic human right of learners to go to school near their home. Teachers of those schools are professionally isolated and only have a few colleagues with whom they can share pedagogical ideas, problems and materials. The multigrade teachers' work in Finland is also very demanding and therefore contacts and professional networks are a necessity. Finnish schools' information technology equipment is quite advanced and teachers are used to having computers during the learning process. The 2001-2003 curriculum created for Finnish multigrade teachers, offered the opportunity of two weeks to get acquainted with multigrade teaching. It included the multigrade curriculum, differentiation and individualization of teaching in multigrade schools with less than 50 pupils. Observation, participation in the planning and evaluation of the actual teaching and seminars were some of the methods used. Finish teachers had the opportunity to come up with thoughts and hopes for a proper training programme and identified priorities, which should be addressed in future training events. The training programmes equipped teachers with elements of new and different learning methods, explained these methods and gave adequate knowledge of how to use these methods in a multigrade class situation. It also supplied teachers with information and technical support on how to use these ITC environments and programmes in multigrade teaching and equipped teachers with knowledge of how to organize teaching in a multigrade class.

According to Sotiriou, cited by Costas, Sofoklis and Michail (2003:80), the HELLAS SAT satellite launched in May 2003 had significant advantages compared to conventional ways of training based on more traditional telecommunication services. The ZEUS project provided rural areas in Greece with high-speed down link connections and offered the opportunity to deliver training, and utilise fully the capabilities of multimedia tools. It aimed at fully exploiting and validating the use of satellite communications as a platform for delivery of educational content to isolated rural schools. The aim was to create a network of about 10 pilot schools in different areas across Greece. Satellite links provided an excellent solution to the presented problems and to meet the identified needs experienced by these remote education sites. Kallinikos from the primary school of Pyles Karpathos, cited by Costas, Sofoklis and Michail (2003:85) reports that the idea of creating school centres in the Greek countryside had the full support of the educational organization. Modern methods like multigrade grouping, peer tutoring and total cognitional perceptions, started to form part of the school organization previously perceived as disadvantages of multigrade schools. The maintenance of multigrade schools and the advantages, which telecommunication developments have for them, are also important for the sustainable survival of the multi-grade school. .

The success of the RIVER project, according to Rao, Herzberger and Chandy (2004:4), which took place within India's very diverse cultural and socio-economic context and difficult conditions of a developing economy, can be linked to the setting up of a model school and the thorough preparation of training groups prior to the commencement of the teacher training programme. The follow-up monitoring and support strategy to sustain new approaches processes and materials in schools across a geographically wide area and the utilization of a Multigrade Teachers' Resource Pack, which also aimed at sustainable support, were important variables for sustainable teacher performance in the multigrade context.

In the Colombian State, the Escuela Nueva reform programme provided, according to McEwan and Benveniste (2001:548), rural multi-grade schools with special training and instructional materials. Teacher in-service training provided teachers with the pedagogical skills to implement the multigrade classroom. The courses used a detailed manual organized on similar lines to student learning guides.

According to Monk (1997:23) demonstration and coaching are the best methods to use to change a teacher's pedagogical knowledge. To help teachers to cope with multi-grade teaching, officials should provide psychological support as well as technical assistance by means of ongoing reflection, mentoring and coaching. Research done by Lubben, Campbell and Dlamini (1995:8) proved that in the event of the implementation of a new approach, it is more successful when the focus is on the improvement of the learner's learning, rather than on the teacher's teaching.

(b) What is learned from the MGRSI

The multi-grade intervention cannot be seen as an isolated event. The developers of the MGRSI based the design of the intervention on a systematic study of relevant theory, research and practice elsewhere in the world and adapted it accordingly. Any measurement of the intention of the MGRSI was therefore based on international and national perspectives. The intention of the MGRSI was to contribute to the South African National Rural Upliftment Plan. In the absence of a national policy on multi-grade teaching, the findings from the MGRSI contributed towards the development of such a policy. The logic model was a useful means of communicating the elements of the programme to policy makers and other role players. It is recommended that any future intervention should follow the logic model for it will provide a firm basis for the programme to be followed. It will lay out why and how it believes the programme will work, the activities that should be done, the relationship amongst the resources and the outcomes or changes/effect it hopes to achieve.

It was further found that the provision of resources like the beats for mental mathematics and the look and learn package which formed part of the MGRSI, was in line with the approaches of similar international multi-grade intervention initiatives. The strategies followed by the MGRSI, such as the setting up of model schools, demonstration lessons, videos, training in relay groups, teacher guidelines and the implementation of ICT linked well with observed international strategies. The construction of standardised tests for reading, mathematics and writing is a unique method, which does not only measure the impact of the intervention but also serves as a tool for the teacher to identify the gaps in learners' learning.

Although the strategies followed by the MGRSI were in line with recorded successful international multi-grade interventions it was found that the concepts which were learned faded away over time and fell away when a new teacher, who did not receive training, replaced one who had training. Higher education institutions that have to develop teacher-training packages, which include multi-grade teaching, should and could address this challenge. The education department can contribute in the training of officials, responsible for the support of multi-grade schools, extensively with regard to the methodologies and curriculum adaptation strategies, which are unique to the multi-grade context.

This study proved that although the initial impact of the MGRSI was noticeable in many instances, especially in the foundation phase, the sustainable implementation of the learned multi-grade strategies needed thorough follow-up support. Future projects should focus on preparing teachers to be independent, who do not need outside help, relating to their application of group work, knowledge of learning strategies like co-operative learning, which forms part of the multi-grade teaching method and their understanding and consideration of multiple intelligences, also in the multi-grade and mono-grade classes. The education department should therefore arrange frequent inset opportunities for multi-grade teachers to be skilled or to be re-skilled. Any inset training for teachers teaching in multi-grade classes should take into consideration their prior knowledge, experience and their individual needs. The correlation found in this study between the quality of the training and the implementation in the classroom should alert developers to develop training programmes, which provide the teacher, not only with theoretical knowledge and skills, but also with simulated and demonstrated practical knowledge and skills. The multi-grade teacher should be equipped thoroughly to manage the diversity experienced in the multi-grade class. Trainers should not underestimate the role of demonstration lessons and demonstration schools. Training should furthermore not be one-dimensional, focussing only on the teacher but also focussing on four levels, namely the teacher level, learner level, community level and pre-service level.

The school should become the centre of activity in communities and should serve as a resource centre where communities can gather and, together with the learners, improve their academic and social knowledge and skills.

As the multi-grade teacher is, in most instances isolated, the role of frequent cluster meetings and access to internet can provide opportunities for the sharing of good practices as well as the distribution of new and updated resources. The education department should not disregard the role of the lead teacher in the quality improvement process of the multigrade context. Multi-grade teachers learn best from other experienced multi-grade teachers who are successful.

As mentioned previously any intervention of this nature should be sustainable. If support structures do not render sufficient support on a regular basis, the learning from the initial training will fade. Therefore it is essential that all the role players have mutually internalised the reason, the purpose, the content, the context and the strategy to follow. All the role players should have high expectations of the success of the intended outcomes of the intended intervention. If the department of education funds a strategy like the MGRSI, the department officials on the different levels of service delivery should know their roles and take full responsibility and accountability for the successful implementation and achievement of the intended outcomes. Any intervention strategy should ensure a well-structured exit strategy, which will make provision for a complete evaluation report.

The support level structure should play a vital role in sustaining what teachers have received, observed and learned. The planning of the utilisation of resources and differentiation strategies and the implementation of such planning should form the basis of the monitoring and support approach by the support level structure. The focus of the monitoring and support actions should be on the learners' learning. The monitoring should include simple tests with learners to determine their progress since the previous visit. Support structures should also construct their monitoring and support strategies by working with the learners determining if learners are familiar with methods and resources and at the same time doing some modelling for the teacher to observe.

It would be ideal if monitoring and support visits could be compulsory on a fixed day of the month visiting the school for the whole day. Such a person should observe how the resources are utilised, identify problem areas with regard to the teacher's classroom management capabilities and then offer on the spot solutions.

The focus of the support visit to a multi-grade class should include the evidence of daily planning, utilisation of resources, classroom management strategies followed, the frequent assessment of activities and assessment strategies followed. The support official should leave the school/teacher with an action plan. This plan must include the expected areas, which need attention and provide ways to address them. Support structures should also look out for good multi-grade practices and give recognition where needed for teachers' abilities. The role of the principal in providing support in the multi-grade school should not be underestimated. Especially in the context of the isolation of these schools, the principal should be the first link of motivation, provision, monitoring and support in the support chain. Support structures should therefore also focus their strategies on these challenges.

Support structures should support and guide isolated multi-grade teachers in how to assess their own teaching practices. Indicators for successful teaching and learning processes in the multi-grade context should be available to teachers for internal reflection purposes. Indicators as suggested would also be handy for sustainability purposes after the completion of inset programmes.

Note has to be taken, from the observations made, of the appointment of teachers and principals at farm schools who are coming from the town and who are in many instances a foreigner. Very often they do not care about the learners and the community or what happens outside the official school hours. The department of education should seriously address the lack of hope that some officials display, the lack of high expectations for the learners, which teachers show, and the lack of a sense of priority by role-players in the upliftment of rural communities.

This study proved that an alarmingly low percentage of learners in multi-grade classes had the opportunity to attend Grade R. The academic and social stimulation in their homes are also poor because of the low academic training of their parents and the poor quality of life most of them experience. The comparison between the low achievement experienced with regard to the provincial diagnostic literacy and numeracy tests and the high progression rate of learners in multi-grade schools alerted the researcher to focus on the tempo, quality and level of teaching and learning in the multi-grade context. If this aspect is not seriously attended to in the multi-grade class, it will cause a bottle neck of learners who cannot cope with the growing challenges at the end of the General Education Training (GET) phase and the start of the Further Education and Training phase (FET). This will further result in the drop out of learners, which in turn leads to crime and violence.

The multi-grade curriculum should therefore be structured in such a way that the assessment standards attainable for literacy, numeracy and writing are paced on a learning ladder in such a way, that the average learner is able to achieve all the outcomes for those learning areas by the end of the year. The teacher should maintain a record of each learner's progress on the learning ladder and should update it weekly, as well as keep a record of how the progression of the class as a whole is distributed along the learning ladder. The general idea should be that the department of education creates and/or adapts a curriculum, which will meet the needs of learners and teachers in multi-grade settings and reduce the daily curriculum-planning burden on the teacher.

Central to this approach would be the development of learning guides/activity charts enabling learners to progress at their own speed. Basic education should equip learners to continue learning, apply critical thinking and cope with the changes they will encounter in life. The multigrade teacher and support structure should be mindful of the importance of continuing consolidation of new and previous learning. Teachers should further be aware of the importance of the improvement of writing and communication skills as an important vehicle in the academic and social development of the learner.

Although the utilisation of peer assistance has many advantages, the teacher can combine it with teacher assistants. Schools should identify those assistants in the community, which the school serves, keeping in mind that the assistant will develop an interest in education. It is expected that the person will be qualified as a teacher with the intention to return to the community and render a service which will be based on compassion and understanding.

From this study, it became evident that international research showed that the quality of the teacher has a greater impact on student achievement than any other factor. Therefore, governments cannot ignore the precarious logistical position of teachers and learners in the multi-grade context. The education department should find ways to win the interest of quality teachers to teach in multigrade schools and to keep the existing quality teachers in those schools. Community, parents' and farm owners' (where applicable) involvement in the teaching and learning of their children and in school activities should be of significant value for setting a culture of life long learning, the broadening of career horizons and the realisation of the importance of schooling.

5.2.6 Suggestions for further research

The researcher could not find a direct relation with regard to the farmer's involvement in governing body decisions and their involvement in the maintenance of the physical infrastructure of the school. This aspect will need further investigation especially with regard to the impact that the farm owner's involvement in the governing body can have on quality teaching and learning in the school and the broadening of the vision of the ordinary farm worker.

The implementation of community involvement did not form part of the stated reasons for the MGRSI and the project management structure did not identify it as an important reason for the MGRSI. The extensive literature review done however highlights this factor as important in the multi-grade context. Therefore, the researcher recommends considering it for further investigation, especially with the intention of determining what the role of the school should be in the upliftment of the community's social and academic levels.

The responses on the other outcomes, relating to "development of demonstration lessons", "the development and utilisation of support videos", "new software and electronic material to support multi-grade schools" and "appropriate standardised tests", varied significantly. They resulted in a low frequency of average responses. The researcher therefore recommends considering it for further investigation to determine which of these training strategies affected the improvement of multi-grade teachers' teaching practices the best.

Although the management structure did not show a high expectation with regard to support and feedback to teachers, it showed a high expectation for the competency of the support staff. The researcher recommends further investigation of the expectation, with regard to the ongoing support by multifunctional teams, with the focus on monitoring of and support for multi-grade schools.

The management structure showed a not convincingly high expectation with regard to the school level outcome, which relates to the required knowledge and skills expected from a principal to manage the multi-grade school. Their expectation for the MGRSI to be successful in the other intended outcomes which relate to the skills, which teachers are expected to demonstrate, did not differ much from what they expected the impact the MGRSI should have on the development of the principal. The researcher recommends that this scenario should be investigated further especially with regard to the monitoring and support role the multi-grade principal should play.

Although the expectation should be that, the multi-grade teacher should have a well-established theoretical knowledge about multi-grade teaching it is also of significant importance to investigate how the system will/can ensure that the multi-grade teacher is able to implement it practically in the real situation.

The moderate consensus observed amongst the responses from the management structure with regard to the expected skills teachers should be an indication of how members of the management structure differ in terms of which skills are seen as more important than others. The researcher recommends further investigation relating to the possibility of the existence of other skills, which multi-grade teachers need, beside those addressed by the MGRSI.

The researcher expected that the success in reaching one of the learner outcomes, "learners know what is expected of them" and "peer assistant learning takes place" depends on the successful application of the other one. The management level obviously felt the same when they rated the mentioned outcomes the same. The researcher recommends further investigation with regard to the role, which the peer assistant or the teacher assistant plays in the support of the teaching and learning process.

The literature review revealed the experience that multi-grade practices are successful in various countries. The multi-grade practices as observed in the Rishi valley programme in India and the Escuela Nueva Programme in Colombia and Venezuela are examples of such practices. The researcher believes that whilst traditional mono-grade methodologies are found not to be applicable for the multi-grade context the opposite should be investigated i.e. if there are specific methodologies for the multi-grade context.

The researcher observed a variance of 19% between the expectation of the management level structure and the experience of the school level structure with regard to the intended outcome, "*demonstration schools have been selected and demonstration lessons have been developed.*" Although the school level structure experienced the impact of the intervention the best with regard to the grouping of learners and the improvement of the teaching style of the teachers, they experienced the demonstration schools as less successful with regard to the intended outcome "*solutions for the everyday problems were experienced.*" The researcher expected that the demonstration school would serve a more sustainable purpose and recommends further investigation in this regard.

5.2.7 Final word

The promise made by the Congress of the People (1955:3) “The doors of learning and culture shall be opened” has not yet become a reality for the poor deprived learners and communities in the rural areas of South Africa. The challenge of creating opportunities for them, which will provide the tools that will enable them to face the challenges of the future and the global world, place a big responsibility on the approaches multi-grade teachers will follow in the future.

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APPENDIX/APPENDICES

APPENDIX A: REQUEST FOR PERMISSION TO CONDUCT RESEARCH IN SCHOOLS IN THE WESTERN CAPE EDUCATION DEPARTMENT

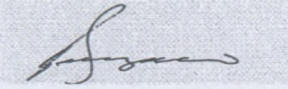
Navrae
Enquiries
Im ibuzo
Telephone
Ifoni
Faks
Fax
Ifeksi

Dr RS Cornelissen
021 - 467-2286
021 - 425-7445



Wes-Kaap Onderwysdepartement
Western Cape Education Department
ISebe leM fundo leNtshona Koloni

APPLICATION TO CONDUCT RESEARCH IN PUBLIC SCHOOLS WITHIN THE WESTERN CAPE

Applicant details	
Title:	Mr Surnam Boonzaaier
First name(s)	Petrus Johannes Visser
Gender:	Male
Name of organisation (directorate if WCED):	WCED
Contact person:	Jannie Beukes
Address:	6 Hospital Street Paarl Private bag X3026
Postal code:	7620
Telephone number:	218601205
Cell number:	833038404
Fax number:	218711107
E-mail address:	pboonzaaier@pgwc.gov.za
Name of institution:	WCED: West Coast Winelands EMDC
Student number:	206220626
Degree/ Diploma:	Ded
Supervisor's name:	Dr. J. Joubert
Tel no of supervisor:	764855333
Year of registration:	2006
Year of completion:	2007
Specialisation:	Multigrade Teaching
Faculty:	Education:CPUT
Title of research:	Multigrade rural school intervention in the West Coast Winelands EMDC: A Case Study
Research question:	What do multigrade teachers perceive to be successes and challenges of the multigrade rural school intervention project?
Respondents:	See attached theoretical framework
Name(s) of education institution (See attached school list)	
Research period in education institutions	6 weeks
Start date:	13-Aug-07
End date:	21-Sep-07
Signature:	
Date:	6 August 2007

FOR OFFICIAL USE ONLY

Date approved: _____ Approved by: _____
Reference number: _____

APPENDIX B: PERMISSION TO CONDUCT RESEARCH IN SCHOOLS IN THE WESTERN CAPE EDUCATION DEPARTMENT

Navrae
Enquiries
Imibuzo
Telefoon
Telephone
Ifoni
Faks
Fax
Ifeksi
Verwysing
Reference
Isalathiso

Dr RS Cornelissen

(021) 467-2286

(021) -425-7445



Wes-Kaap Onderwysdepartement

Western Cape Education Department

ISebe leMfundo leNtshona Koloni

Dear Mr Boonzaaier

Before research can be approved the following must be provided:

1. Concise description of the research project/proposal.
2. If questionnaires/interviews/tests are to be used in the investigation, copies of such questionnaires/structured questions/test questions to be provided.
3. A letter from your supervisor/project head must accompany the application stating that you are registered at a tertiary institution (for students only).
4. The names of the departmental institutions (schools) where the research will be conducted.
5. Who are the Respondents (i.e. learners, parents, educators, etc.)?
6. The period during which the research will be conducted.
7. No research can be conducted during the fourth term (October - December) as schools are preparing and finalizing syllabi for examinations.
8. Complete the Research Application Form (attached with letter).

The above information can be faxed or e-mailed. If further assistance is needed, please e-mail (rcornelissen@pgwc.gov.za).

Yours in Education

Signed: Ronald S. Cornelissen

for HEAD:EDUCATION

DATE: 25ⁿ July 2007

KAAPSTAD 8000 GRAND CENTRAL TOWERS, LOWER PARLIAMENT STREET,
PRIVATE BAG X9114, CAPE TOWN 8000

WEB: <http://wced.wcape.gov.za>

INBELSENTRUM/CALL CENTRE

INDIENSNEMING- EN SALARISNAVRAE/EMPLOYMENT AND SALARY QUERIES
S0861 92 33 22 VEILIGE SKOLE/SAFE SCHOOLS 9 0800 45

APPENDIX C: REQUEST FOR PERMISSION TO CONDUCT RESEARCH IN THE WEST COAST WINELANDS EMDC

Faculty of Education
Cape Peninsula University of Technology
Wellington Campus

The Director
West Coast Winelands EMDC
PO Box
Paarl

Dear Sir

APPLICATION TO CONDUCT RESEARCH ON MULTIGRADE SCHOOLS (FARM SCHOOLS)

I hereby request for permission to conduct research on teachers in rural primary schools with multigrade classrooms in the West Coast Winelands EMDC which were part of the 2002 to 2006 Multigrade Rural School Intervention Project and which were involved in the 2002 to 2006 annual systemic literacy and numeracy tests. They will be requested to fill in a qualitative close-ended questionnaire which will determine what they perceived as successes and challenges for their curriculum related professional development as a result of the Multigrade Rural School Intervention project in rural primary schools with multigrade classrooms in the West Coast Winelands EMDC.

A class room observation instrument will be utilised to identify the impact the Multigrade Rural School Intervention had on multigrade rural schools. The observation will be conducted according to the guidelines for sampling, Cohen, Manion, Morrison (2000) to a random selection of eight teachers who were involved in the Multigrade Intervention Project.

A qualitative close-ended questionnaire will be done with a randomly selected sample of eight officials and four service providers, who were involved in the multi-grade rural school intervention project. It will determine the perception and understanding that regional education support staff have developed in terms of multigrade teaching.

Interviews will be done with people on Provincial Management Level which will focus on the reasons, perceived outcomes and the success experience, which these people had in terms of the implementation of the Multi-grade Rural School Intervention.

The purpose of this research is directed towards a doctoral study which focuses on the observation and understanding of participants behaviour, actions and experience within the context of the Multigrade Rural School Intervention Project, which was implemented in the West Coast Winelands Education District in the Western Cape Province, South Africa during 2002 until 2005. In this way value can be added in terms of the extension of existing views and perceptions with special reference to this multigrade intervention strategy for INSET and professional development.

Thirty two multigrade rural schools will be selected from nine circuits. The director is selected by virtue of his position in the following population group:

Director: 1

EMDC Officials: 8

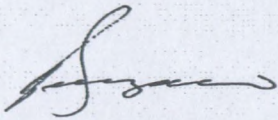
Educators: 32

Total number of respondents = 41

The population group is comprised of three categories of people. Nine interviews will be conducted and thirty two questionnaires will be sending to schools for responds. The names of the respondents of the schools selected will not be reflected in the thesis. Their anonymity will be guaranteed. The study will be done according to the attached conditions of approval of research as stated by the directorate research Western Cape Education Department

This study's success relies on your co-operation and permission.

Yours truly



P.J.V. Boonzaaier

CANDIDATE

15 August 2007



Dr J. Joubert

PROMOTOR

15 August 2007

APPENDIX D: REQUEST TO SCHOOLS TO FILL IN QUESTIONNAIRE A AND B

Faculty of Education
Cape Peninsula University of Technology
Wellington Campus

The School Principal

Dear Mr/e

REQUEST FOR FILLING IN TWO QUESTIONNAIRES ON THE MULTIGRADE INTERVENTION PROJECT

Your school is selected to form part of a research process which relates to the multigrade intervention project completed between 2002 and 2006 in the West Coast Winelands District. It will be appreciated if you can request a teacher teaching in a class with grade 3 learners and a teacher teaching in a class with grade 6 learners to fill in the attached Section A and Section B questionnaires.

The purpose of this research is directed towards a doctoral study which focuses on the observation and understanding of participators behaviour, actions and experience within the context of the Multigrade Rural School Intervention Project, which was implemented in the West Coast Winelands Education District in the Western Cape Province, South Africa during 2002 until 2006. In this way value can be added in terms of the extension of existing views and perceptions with special reference to this multigrade intervention strategy for INSET and professional development.

The names of the respondents of the schools selected will not be reflected in the thesis. Their anonymity will be guaranteed. The study will be done according to the conditions of approval of research as stated by the directorate research Western Cape Education Department.

For inquiries you can contact the researcher at the following: 0218601205 or 0833038404 or 0224821677 or fax 0218711107 or pboonzaaier@pgwc.gov.za.

As this study's success relies on your co-operation and permission it will be appreciated if you can collect and send back the filled in questionnaires for the attention of:

Postal Address: **Mr. P.J.V. Boonzaaier, 6 Hospital Street, Private Bag X3026, Paarl, 7620**

Or

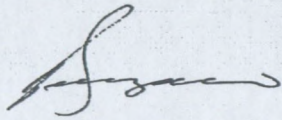
Fax address: **0218711107**

by

Friday 31st August 2007.

Be assured that you're your participating in this survey will be valued highly.


Yours truly



P.J.V. Boonzaaier

CANDIDATE

15 August 2007



Dr J. Joubert

PROMOTOR

15 August 2007

APPENDIX E: REQUEST TO SCHOOLS TO GRANT PERMISSION FOR CLASSROOM OBSERVATION AND INTERVIEW

Faculty of Education
Cape Peninsula University of Technology
Wellington Campus

The School Principal

Dear Mr/Ms

REQUEST FOR CLASSROOM OBSERVATION

Your school is selected to form part of a research process which relates to the multigrade intervention project completed between 2002 and 2006 in the West Coast Winelands District. It will be appreciated if you can request a teacher teaching in a class with grade 3 learners and a teacher teaching in a class with grade 6 learners to be available for a classroom observation and an interview on

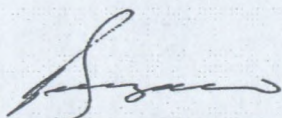
The purpose of this research is directed towards a doctoral study which focuses on the observation and understanding of participants behaviour, actions and experience within the context of the Multigrade Rural School Intervention Project, which was implemented in the West Coast Winelands Education District in the Western Cape Province, South Africa during 2002 until 2006. In this way value can be added in terms of the extension of existing views and perceptions with special reference to this multigrade intervention strategy for INSET and professional development.

The names of the respondents selected will not be reflected in the thesis. Their anonymity will be guaranteed. The study will be done according to the conditions of approval of research as stated by the directorate research Western Cape Education Department.

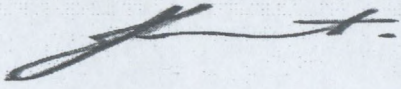
For inquiries you can contact me at the following: 0218601205 or 0833038404 or 0224821677 or fax 0218711107 or pboonzaaier@pgwc.gov.za.

Be assured that you're your participating in this survey will be valued highly.

Yours truly



P.J.V. Boonzaaier
CANDIDATE
15 August 2007



Dr J. Joubert

PROMOTOR

15 August 2007

APPENDIX F: QUESTIONNAIRE FOR MULTI-GRADE TEACHERS WHO TEACHES IN RURAL SCHOOLS IN THE WEST COAST WINELANDS EMDC AND WHO TOOK PART IN THE MULTI-GRADE INTERVENTION AND WERE PART OF THE 2002 TO 2006 ANNUAL LITERACY AND NUMERACY DIAGNOSTIC TESTS

To determine what teachers perceived as successes and challenges for their curriculum related professional development because of the Multigrade Rural School Intervention

SECTION A: DEMOGRAPHIC DATA

BACKGROUND																										
1. Date of Birth:																										
Year of birth	19....	4	4	4	4	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	7	7	7
		0	2	5	8	0	1	2	3	4	6	7	8	9	0	1	2	3	4	5	7	8	9	1	2	8
Ages		6	6	6	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	3	3	3	3	3
		7	5	2	9	7	6	5	4	3	1	0	9	8	7	6	5	4	3	1	0	9	8	6	5	1
Foundation Phase	N=29	0	1	0	2	1	1	1	3	2	0	1	4	1	2	2	1	2	1	1	0	1	1	0	1	0
Intermediate phase	N=32	1	0	1	0	3	0	2	1	2	1	1	2	3	2	0	2	1	0	2	3	0	2	1	1	1
Total Responses	N= 61	1	1	1	2	4	1	3	4	4	1	2	6	4	4	2	3	3	1	3	3	1	3	1	2	1
2. Years Teaching Experience:																										
		1-5 years		1-5 years		6-10 years		10-15 years		16-20 years		20- 25 years		25 – years												
Foundation Phase	N=33	X		0		0		7		5		10		11												
Intermediate phase	N=32	X		1		0		20		4		5		12												
Total Responses	N=65	x		1		0		27		9		15		13												
2.1 Recent School:																										
2.1.1 Multigrade Experience:																										
	Indicate years teaching experience in combined classes	Gr 2 & 3	Gr 1 & 2	Gr 2 & 3	Gr 1 to 3	Gr 3 & 4	Gr 4 & 5	Gr 5 & 6	Gr 4 to 6																	
Foundation Phase	N=32	5	41,5	90	140	49,5	9,5	2	0																	
Intermediate phase	N=31	5	1	0	2	15	15	39,5	248,5																	
Total Responses	N=63	5	42,5	90	142	74,5	24,5	41,5	248,5																	
2.2 Previous Schools:																										
2.2.1 Mono Grade Experience:																										
	Indicate years teaching experience per grade	Gr 3	Gr 1	Gr 2	Gr 3	Gr 4	Gr 5	Gr 6																		
Foundation Phase	N=28	2	64	105	93	37	11	16																		
Intermediate phase	N=22	2	0	0	3	16	33	134																		
Total Responses	N=50	2	64	105	96	53	44	150																		

2.2.2		Multigrade Experience:								
Indicate years teaching experience in combined classes		Gr 3 & 4	Gr 1 & 2	Gr 2 & 3	Gr 1 to 3	Gr 3 & 4	Gr 4 & 5	Gr 5 & 6	Gr 4 to 6	
Foundation Phase	N=8	7	13,5	7	23,5	5	5	0	2	
Intermediate phase	N=11	7	4	0	13	0	6	18	42	
Total		7	17,5	7	36,5	5	11	18	44	
3.		Qualifications:								
3.1		Tertiary:								
Indicate the qualification/s which you obtained		Degree	Education			Degrees				
		BA	Diploma	Other	BA	Hon	Bed	Med	Ded	
Foundation Phase	N=33	X	33	2	6	0	5	0	0	
Intermediate phase	N=33	X	33	10	15	4	15	0	0	
Total Responses	N=66	X	66	12	21	4	20	0	0	
		Other	Other Tertiary Qualifications not mentioned							
Foundation Phase	N=0	BSc	0	0	0	0	0	0	0	
Intermediate phase	N=0		0	0	0	0	0	0	0	
Total Responses	N=0		0	0	0	0	0	0	0	
4.		Courses:								
4.1		Type of MGI related course and year attended								
COURSES		CTI	CTI			CPUT				
Indicate the year in which you have completed the tabled courses		NUM	Numeracy	Literacy	Management	MGI	ACE	Other		
Foundation Phase	N=29	2003	2001=1 2003=5 2004=2 2006=3 2007=1	2003=3 2004=2 2006=3 2007=1	2001=1 2003=1 2006=2	2001=2 2002=2 2003=7 2004=5 2005=2	2002=1 2003=1	2002=1 2003=1 2004=1 2005=1		
Intermediate phase	N=22	2003	2003=1 2005=2 2007=2	2003=2 2004=1 2007=1	2003=1 2006=2	2001=3 2002=1 2003=8 2004=4 2005=2	2002=1 2003=1 2007=2	0		
Total Responses	N=51	2003	2001=1 2003=6 2004=2 2005=2 2006=3 2007=3	2003=5 2004=3 2006=2020 07=2	2001=1 2003=2 2006=4	2001=5 2002=5 2003=15 2004=9 2005=4	2002=2 2003=2 2007=2	2002=1 2003=1 2004=1 2005=1		

4.2		Time spend on course/s												
Indicate the number of days or months (Reponses in months)		FP: N=	14	7	3	16	5	1						
		IP: N=	5	4	4	24	8	0						
		Total: N=	19	11	7	40	13	1						
Foundation Phase		5 Days	4,8	0,5	0,3	2,5	72,5	0						
Intermediate phase		5 Days	0,3	0,5	0,4	1,7	28,6	0						
Total Responses		5 Days	5,1	1	0,7	4,2	101,1	0						
4.3		Content of course												
Describe content of course														
Foundation Phase	N=30	Number concept	Planning	1	Learning outcomes	1	Curriculum management	1	Classroom organisation	2	Write Lang uage	1	All learning areas	1
			Assessment	1	Demonstration	1	Reading	1	Classroom management	2	Dissipline	4		
			Learning outcomes	4	All learning areas	1	Classroom management	1	Dissipline	4				
			Mental maths Theory	1	Reading	1	Classroom management	1	Multi-grade education	2				
			LO1-LO5 (numbers, patterns, measurement, form, data)	2	Writing Learning programmes	1	Classroom management	1	Computer	1				
			New approach to Numeracy	1	Do and learn	3	Classroom management	1	Computer	1				
			Number concept	1	Total language approach	1	Classroom management	1	Computer	1				
Total Responses			16	10	3	19	2	1						
Intermediate phase	N=14	Number concept	Knowledge Skills	1	Reading	2	Curriculum management	1	Classroom organisation	1				
			Assessment instruments	1	Do and learn	1	Curriculum management	1	Classroom management	1				
			Plannning	1				Dissipline	1					
			Mental maths	1				Planning	1					
			Number concept	1				Computer training	4					
								Literacy, numeracy	2					
								Methodology	1					
								Mental maths	2					
								Principal manager of curriculum	1					
								Reading	1					
Total Responses		Number concept	5	3	1	15								

5.		Academic information												
		Literacy and Numeracy diagnostic test results												
Indicate your class's average percentage for the years indicated	Total: N=	2002		2002		2003		2004		2005		2006		
		Gr3		Gr 3		Gr 6		Gr 3		Gr 6		Gr 3		
		Lit	Lit	Num	Lit	Num	Lit	Num	Lit	Num	Lit	Num	Lit	Num
Total Responses		28,3	8,3	7,2	28,3	6,3	21,4	17,5	42	7,8	48,6	31,9		
5.2		Number of learners progressed												
Indicate the numbers per year and grade with regard to the grade you are responsible for	Total Response	2002		2002		2003		2004		2005		2006		
		Gr3		Gr 3		Gr 6		Gr 3		Gr 6		Gr 3		
		N=26		N=24		N=30		N=28		N=31				
		Number enrolled in the beginning of the year		Number enrolled in the beginning of the year		Number enrolled in the beginning of the year		Number enrolled in the beginning of the year		Number enrolled in the - of the year		Number enrolled in the beginning of the year		
		27	310	396	468	328	444							
		Number progressed		Number progressed		Number progressed		Number progressed		Number progressed		Number progressed		
		23	274	341	420	291	383							
6.		Participation in multigrade intervention												
6.1		1 st Pilot Wellington schools 2001	2 nd Pilot Piketberg schools 2001	1 st Implementation cycle August 2002	2 nd Implementation cycle October 2002	3 rd Implementation cycle January 2003	4 th Implementation cycle April 2003	5 th Implementation cycle July 2003	6 th Implementation cycle October 2003	7 th Implementation cycle January 2004	8 th Implementation cycle April 2004	9 th Implementation cycle January 2005	10 th Implementation cycle January 2006	
Foundation Phase	N=34	1	3	2	6	3	3	5	3	4	3	0	1	
Intermediate Phase	N=33	2	3	3	3	5	1	5	2	5	4	0	0	
Total Responses	N=67	3	6	5	9	8	4	10	5	9	7	0	1	

7.	Role Players:											
7.1	Teacher:											
	Indicate the position	Computer at home		Distance between educator's home and school			Teacher's means of transport		Indicate if you have a PC at home		Indicate if you have access to internet	
		Yes	No	5>	10>	20>	own	other	Yes	No	Yes	No
Total Responses	N=65		X	11	21	32	51	12	39	26	34	30
7.2	Are you the principal?										Yes	No
Total Responses	N=65									24		
7.3	Learners:											
	Indicate the exact numbers	Bus	Number of Learners in the class	Number of learners previously in Gr R	Number of learners' parents academic background where applicable			Number of learners' parents involved in ABET	Number of learners travelling by bus			
					<7	<12	<Tertiary					
Total Responses	N=65	12	1543	367	948	146	5	15	1113			
7.4	Farm Owner:											
	Indicate with "X"	Infra structure		Maintaining Physical infra structure		Are involved in Governing Body decisions						
		Yes	No	Yes	No	Yes	No					
Total Responses	N=65	X		21	28	9	43					
7.5	Parents:											
	Indicte with "X"	Parents are involved in the making of teaching resources		Learner homework tasks expect parent participation		Parents are involved in the making of teaching resources		Parents are involved in class activities eg, story telling, reading etc.		Parents are involved in mending and beautifying the classroom environment		
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
Total Responses	N=65	x		47	19	4	57	4	60	24	42	

On behalf of the researcher, thank you so much for participating in this survey.

APPENDIX G: QUESTIONNAIRE FOR MULTI-GRADE TEACHERS WHO TEACHES IN RURAL SCHOOLS IN THE WEST COAST WINELANDS EMDC AND WHO TOOK PART IN THE MULTI-GRADE INTERVENTION AND WERE PART OF THE 2002 TO 2006 ANNUAL LITERACY AND NUMERACY DIAGNOSTIC TESTS

SECTION B: IMPLEMENTATION OF MGI

1 = Do not agree

2 = Agree partially

3 = Agree

4 = Agree totally

To determine what teachers perceived as successes and challenges for their curriculum related professional development because of the Multigrade Rural School Intervention project

1. Project Management outcomes:			1	2	3	4	
1.1	Progressive Curricula for grade R-7 in reading, writing and mental maths are available						
1.1.1	The learning programmes provided by MGI were adequate to the context of the multigrade class you are responsible for	Foundation Phase	N=30	6	9	13	2
		Intermediate Phase	N=29	7	8	14	0
Total Responses			N=59	13	17	27	2
1.1.2	The progression table for reading, writing and mental maths developed by MGI helped you to pace your learning programme for reading	Foundation Phase	N=31	2	7	19	3
		Intermediate Phase	N=29	1	8	19	1
Total Responses			N=60	3	15	38	4
1.1.3	The progression table for reading, writing and mental maths developed by MGI helped you to pace your learning programme for writing	Foundation Phase	N=30	2	8	17	3
		Intermediate Phase	N=29	1	10	18	0
Total Responses			N=59	3	18	35	3
1.1.4	The progression table for reading, writing and mental maths developed by MGI helped you to pace your learning programme for mental maths	Foundation Phase	N=28	1	4	21	2
		Intermediate Phase	N=29	1	4	21	3
Total Responses			N=57	2	8	42	5
1.1.5	The preliminary year plan developed by MGI helped you to pace your teaching programme for the year	Foundation Phase	N=29	3	7	17	2
		Intermediate Phase	N=29	2	12	13	2
Total Responses			N=58	5	19	30	4

1.2	Demonstration schools have been selected and demonstration lessons have been developed						
1.2.1	The demonstration schools which were selected by MGI gave you solutions to the every day problems you experience	Foundation Phase	N=29	3	10	16	0
		Intermediate Phase	N=30	5	16	8	1
Total Responses			N=59	8	26	24	1
1.2.2	The demonstration lessons as provided by the MGRSI enabled you to improve your teaching style.	Foundation Phase	N=29	1	5	22	1
		Intermediate Phase	N=29	3	9	16	2
Total Responses			N=58	4	14	38	3
1.2.3	The demonstration of organisation and management of the classroom helped you to cope better with the different groupings	Foundation Phase	N=30	1	9	17	3
		Intermediate Phase	N=30	3	9	16	2
Total Responses			N=60	4	18	33	5
1.3	Videos have been developed and are used in pilot schools						
1.3.1	The Videos developed by MGI benefited you in your teaching methodology	Foundation Phase	N=27	6	6	14	1
		Intermediate Phase	N=29	4	10	14	1
Total Responses			N=56	10	16	28	2
1.3.2	The Videos developed by MGI support you to organise and manage your class better	Foundation Phase	N=26	5	5	15	1
		Intermediate Phase	N=30	3	11	16	0
Total Responses			N=56	8	16	31	1
1.3.3	The Videos developed by MGI support you to improve the reading skills of learners	Foundation Phase	N=26	6	4	15	1
		Intermediate Phase	N=30	3	10	17	0
Total Responses			N=56	9	14	32	1
1.3.4	The Videos developed by MGI support you to improve the writing skills of learners	Foundation Phase	N=25	6	7	12	0
		Intermediate Phase	N=29	4	16	9	0
Total Responses			N=54	10	23	21	0
1.3.5	The Videos developed by MGI support you to improve the mental math skills of learners	Foundation Phase	N=26	5	3	17	1
		Intermediate Phase	N=29	4	8	15	2
Total Responses			N=55	9	11	32	3
1.4	Appropriate Standardised tests in reading, writing and mental maths have been constructed and validated						
1.4.1	The standardised tests in reading, writing and Mental Maths support you in the improvement of the reading results	Foundation Phase	N=31	2	8	19	2
		Intermediate Phase	N=29	2	9	15	3
Total Responses			N=60	4	17	34	5

1.4.2	The standardised tests in reading, writing and Mental Maths support you in the improvement of the numeracy results	Foundation Phase	N=31	1	11	17	2
		Intermediate Phase	N=29	1	12	14	2
Total Responses			N=60	2	23	31	4
1.4.3	The standardised tests in reading, writing and Mental Maths support you in the improvement of the writing skills of the learners	Foundation Phase	N=31	2	9	18	2
		Intermediate Phase	N=27	2	12	12	1
Total Responses			N=58	4	21	28	3
1.5	New hardware and software has been delivered						
1.5.1	The supplement of a computer with internet access to your school supported you in broadening your resources	Foundation Phase	N=29	4	8	12	5
		Intermediate Phase	N=30	4	6	13	7
Total Responses			N=59	8	14	25	13
1.6	Online training and support to EMDCs and other role players has been provided by the MGI and communication within and between clusters and other role players in the intervention is occurring						
1.6.1	On-line support provided to you by the MGI helped you in the improvement of your teaching methodology	Foundation Phase	N=29	6	4	17	2
		Intermediate Phase	N=29	2	9	18	0
Total Responses			N=58	8	13	35	2
1.6.2	Access to the internet helped you to communicate with your cluster members in order to learn and share from each other	Foundation Phase	N=29	9	5	13	2
		Intermediate Phase	N=29	4	10	13	2
Total Responses			N=58	13	15	26	4
2.	Cluster level outcomes						
2.1	Capacitating of Officials and Key teachers to provide sustainable support to schools and teachers						
2.1.1	Officials who visited you were knowledgeable, informed and competent with regard to multigrade teaching during MGI	Foundation Phase	N=31	3	7	17	4
		Intermediate Phase	N=27	4	3	15	5
Total Responses			N=58	7	10	32	9
2.1.2	The frequency of visits by officials improved as the MGI continues	Foundation Phase	N=31	7	6	17	1
		Intermediate Phase	N=29	5	15	9	0
Total Responses			N=60	12	21	26	1
2.1.3	The frequency of visits by officials stayed the same after the MGI	Foundation Phase	N=28	7	12	8	1
		Intermediate Phase	N=29	8	13	8	0
Total Responses			N=57	15	25	16	1

2.2	Ongoing support by multifunctional teams						
2.2.1	Sufficient support was provided by Circuit managers during the MGI	Foundation Phase	N=29	4	5	16	4
		Intermediate Phase	N=28	2	6	16	4
Total Responses			N=57	6	11	32	8
2.2.2	Sufficient support was provided by the Curriculum advisors during the MGI	Foundation Phase	N=31	4	11	13	3
		Intermediate Phase	N=29	6	13	10	0
Total Responses			N=60	10	24	23	3
2.2.3	Sufficient support was provided by the learning support advisors during the MGI	Foundation Phase	N=30	5	8	14	3
		Intermediate Phase	N=28	5	7	14	2
Total Responses			N=56	10	15	28	5
2.3	Motivating feedback to and support for teachers during the MGI						
2.3.1	Where support was provided it was experienced as motivational during the MGI	Foundation Phase	N=29	2	4	19	4
		Intermediate Phase	N=30	3	7	19	1
Total Responses			N=59	5	11	38	5
3.	School level outcome						
3.1	School Principals have the required knowledge and skills to effectively manage multigrade schools						
3.1.1	The MGI provided the principal with adequate knowledge and skills to effectively manage the multigrade context	Foundation Phase	N=27	2	5	19	1
		Intermediate Phase	N=31	3	4	21	3
Total Responses			N=58	5	9	40	4
3.2.	Teacher level outcomes						
3.2.1.	Teachers have adequate knowledge, skills and motivation to implement multigrade teaching in the classroom						
3.2.1.1	After the MGI your computer knowledge are of such a standard that you can effectively communicate to your cluster members in order to share difficulties and good practices	Foundation Phase	N=29	7	9	13	0
		Intermediate Phase	N=31	1	13	15	2
Total Responses			N=60	8	22	28	2
3.2.1.2	After the MGI you are able to do effective year planning for reading	Foundation Phase	N=28	0	9	19	0
		Intermediate Phase	N=31	2	10	19	0
Total Responses			N=59	2	19	38	0
3.2.1.3	After the MGI you are able to do effective year planning for writing	Foundation Phase	N=29	0	11	18	0
		Intermediate Phase	N=31	2	11	18	0
Total Responses			N=60	2	22	36	0

3.2.1.4	After the MGI you are able to do effective year planning for mental maths	Foundation Phase	N=29	0	9	20	0
		Intermediate Phase	N=30	0	10	19	1
Total Responses			N=59	0	19	39	1
3.2.1.5	After the MGI you are skilled in time and lesson programme planning	Foundation Phase	N=28	0	9	18	1
		Intermediate Phase	N=31	1	15	13	2
Total Responses			N=59	1	24	31	3
3.2.1.6	After the MGI you able to teach and manage the multigrade class adequately	Foundation Phase	N=29	1	8	18	2
		Intermediate Phase	N=31	3	10	16	2
Total Responses			N=60	4	18	34	4
3.2.1.7	After the MGI you have adequate knowledge of child development and learning during planning and presentation	Foundation Phase	N=20	0	4	21	4
		Intermediate Phase	N=30	0	7	20	3
Total Responses			N=50	0	11	41	7
3.2.1.8	After the MGI you are able to group learners effectively and apply co-operative group tasks effectively	Foundation Phase	N=29	1	5	19	4
		Intermediate Phase	N=31	0	11	18	2
Total Responses			N=60	1	16	37	6
3.2.1.9	After the MGI you are able to use a range of appropriate teaching and learning strategies effectively	Foundation Phase	N=29	1	4	22	2
		Intermediate Phase	N=31	1	8	21	1
Total Responses			N=60	2	12	43	3
3.2.1.10	After the MGI you are able to conduct the assessment, evaluation and reporting of learner progress effectively	Foundation Phase	N=29	1	6	20	2
		Intermediate Phase	N=31	3	9	16	3
Total Responses			N=60	4	15	36	5
3.3	Learner level outcomes						
3.3.1	Teachers implement new skills and abilities to enhance and improve learner participation and performance in reading, writing and mathematics in a multigrade classroom setting						
3.3.1.1	After the MGI time is effectively spent on learning	Foundation Phase	N=30	0	4	23	3
		Intermediate Phase	N=29	0	10	17	2
Total Responses			N=59	0	14	40	5
3.3.1.2	After the MGI learners knew what is expected of them	Foundation Phase	N=29	1	4	23	1
		Intermediate Phase	N=28	1	11	16	0
Total Responses			N=57	2	15	39	1
3.3.1.3	After the MGI peer-assistant learning takes place	Foundation Phase	N=30	0	7	21	2
		Intermediate Phase	N=30	0	10	19	1
Total Responses			N=60	0	17	40	3
3.3.1.4	After the MGI assignments are part of learning in the multigrade class	Foundation Phase	N=30	0	3	24	3
		Intermediate Phase	N=30	0	8	20	2
Total Responses			N=60	0	11	24	5
3.3.1.5	After the MGI repetition and revision is	Foundation Phase	N=29	0	2	24	3

	part of learning in the multigrade class	Intermediate Phase	N=29	0	7	21	1
Total Responses			N=58	0	9	45	4
3.3.1.6	After the MGI learners learn/work in learning centres that support/facilitate self-study	Foundation Phase	N=30	6	9	15	0
		Intermediate Phase	N=29	4	13	12	0
			N=59	10	22	27	0
4.1.7	After the MGI learners performance in reading improved	Foundation Phase	N=29	2	4	20	3
		Intermediate Phase	N=30	1	10	16	3
Total Responses			N=59	3	14	36	6
3.3.1.8	After the MGI learners performance in writing improved	Foundation Phase	N=28	2	7	17	2
		Intermediate Phase	N=30	1	14	14	1
Total Responses			N=58	3	21	31	3
3.3.1.9	After the MGI learners performance in mental mathematics improved	Foundation Phase	N=29	1	9	15	4
		Intermediate Phase	N=31	0	17	13	1
Total Responses			N=60	1	26	28	5

On behalf of the researcher, thank you so much for participating in this survey.

APPENDIX H: CLASSROOM OBSERVATION QUESTIONNAIRE FOR TEACHERS WHO TEACH IN MULTI-GRADE SCHOOLS IN THE WEST COAST WINELANDS EMDC

To identify the impact of the Multigrade Rural School Intervention on the multigrade rural schools

SECTION D: THE IMPACT OF MGI

INSTRUCTIONS

FOR EACH OF THE FOLLOWING QUESTIONS:

- A: Sit quietly and observe the lesson/s for at least 10 minutes – try not to interfere in the flow of the lessons
- B: Go through schedule carefully and assess your answer against what you see in the class. The rating scale is as follows:
 - 1. **Not at all** – there is no evidence of anything to do with MGI though teaching is happening in a basic fashion
 - 2. **Attempted** – there is some evidence of attempts at Multi grade teaching as teacher is clearly trying but either is fairly new at this or does not really have a good understanding of the process
 - 3. **Present** – this is a well run Multi grade classroom where the teacher is doing a satisfactory job according to the prescribed processes
 - 4. **Excellent** – This is a vibrant, dynamic learning classroom where Multi grade teaching drives the learning process beyond the expectations of the project incorporating the outcomes of the broader curriculum.
- C: Make any notes in pen on the reverse of the sheet on aspects you might want to ask about in the interview
- D: Make a note of any ways that the lesson might vary from the expected and ask the teacher about the strategy in the interview
- E: Remember at all times that you are assessing the impact of the project not the teachers per se

QUESTION 1
EVALUATION OF CLASSROOM MANAGEMENT AND ORGANISATION

1 = Do not agree

2 = Agree partially

3 = Agree

4 = Agree totally

1.	Arrangement of physical environment	Value Judgment					
		1	2	3	4		
	Are there visual boundaries to demarcate areas of activities for 1.1 Individual activities	Foundation Phase	N= 9	0	1	4	4
		Intermediate Phase	N= 7	1	1	2	3
	Total Responses		N=16	1	2	6	7
	1.2 Peer tutoring	Foundation Phase	N= 9	5	0	1	3
		Intermediate Phase	N= 7	5	0	1	1
	Total Responses		N=16	10	0	2	4
	1.3 Group activities	Foundation Phase	N= 9	1	3	3	2
		Intermediate Phase	N= 7	2	3	1	1
	Total Responses		N=16	3	6	4	3
	1.4 Class activities	Foundation Phase	N= 9	0	0	5	4
		Intermediate Phase	N= 7	1	1	2	3
	Total Responses		N=16	1	1	7	7
	1.5 Learning centre for self-learning activities	Foundation Phase	N= 9	0	3	4	2
		Intermediate Phase	N= 7	1	2	2	2
	Total Responses		N=16	1	5	6	4
2.	Organization for classroom management						
	2.1 Are the noise levels well managed	Foundation Phase	N= 9	0	1	3	5
		Intermediate Phase	N= 7	1	0	2	4
	Total Responses		N=16	1	1	5	9
	2.2 Are teachers resources visible and used	Foundation Phase	N= 9	0	3	1	5
		Intermediate Phase	N= 7	0	2	3	2
	Total Responses		N=16	0	5	4	7
	2.3 Are learners' resources evenly distributed and used	Foundation Phase	N= 9	0	1	4	4
		Intermediate Phase	N= 7	1	2	3	1
	Total Responses		N=16	1	3	7	5
	2.4 Are resources physically accessible to learners, e.g: 100 books, MST kits	Foundation Phase	N= 9	0	2	4	3
		Intermediate Phase	N= 7	2	2	2	1
	Total Responses		N=16	2	4	6	4
	2.5 Is the classroom differentiated in some way – (in interview, probe for curriculum related answer if only receive a procedural answer here)	Foundation Phase	N= 9	0	3	2	4
		Intermediate Phase	N= 7	2	4	0	1
	Total Responses		N=16	2	7	2	5
3.	Instructions						
	3.1 Instructions – correctly positioned on walls, clearly formulated, feasible and visibly understood	Foundation Phase	N= 9	0	2	3	4
		Intermediate Phase	N= 7	2	2	2	1
	Total Responses		N=16	2	4	5	5
4.	Signs of independent and co-operative learning						
	4.1 Are some learners in groups and others working on their own	Foundation Phase	N= 9	1	3	2	3
		Intermediate Phase	N= 7	5	1	0	1
	Total Responses		N=16	6	4	2	4

QUESTION 2**EVALUATION OF PEER TUTOR PROGRAMMES**

1.	Formal and planned teaching	Value Judgment					
		1	2	3	4		
1.1	is a lesson planning sheet used and does it flow	Foundation Phase	N= 9	2	1	1	5
		Intermediate Phase	N= 7	4	0	2	1
Total Responses			N=16	6	1	3	6
1.2	do tutors have specific materials / resources	Foundation Phase	N= 9	4	1	2	2
		Intermediate Phase	N= 7	4	2	1	0
Total Responses			N=16	8	3	3	2
1.3	does monitoring / continuous assessment take place	Foundation Phase	N= 9	2	3	1	3
		Intermediate Phase	N= 7	2	3	1	1
Total Responses			N=16	4	6	2	4
1.4	does tutor offer reward or praise for completed work	Foundation Phase	N= 9	4	1	4	0
		Intermediate Phase	N= 7	6	1	0	0
Total Responses			N=16	10	2	4	0
2.	Active engagement and learning						
2.1	does the tutor know the topic	Foundation Phase	N= 9	3	3	2	1
		Intermediate Phase	N= 7	3	3	1	0
Total Responses			N=16	6	6	3	1
2.2	does the tutor show patience, understanding and empathy	Foundation Phase	N= 9	3	2	3	1
		Intermediate Phase	N= 7	4	2	1	0
Total Responses			N=16	7	4	4	1
2.3	do learners identify with and understand each other	Foundation Phase	N= 9	3	2	2	2
		Intermediate Phase	N= 7	4	2	1	0
Total Responses			N=16	7	4	3	2
2.4	is there co-operation and support in class	Foundation Phase	N= 9	2	2	3	2
		Intermediate Phase	N= 7	3	3	1	0
Total Responses			N=16	5	5	4	2
2.5	is there any evidence of understanding	Foundation Phase	N= 9	2	2	3	2
		Intermediate Phase	N= 7	2	3	2	0
Total Responses			N=16	4	5	5	2

QUESTION 3**EVALUATION OF MENTAL MATHS**

1.	Outcomes	Value Judgment					
		1	2	3	4		
1.1	are outcomes clearly presented	Foundation Phase	N= 9	0	1	5	3
		Intermediate Phase	N= 7	4	0	2	1
Total Responses			N=16	4	1	7	4
2.	Rapid section						
2.1	is there a good tempo	Foundation Phase	N= 9	0	1	2	6
		Intermediate Phase	N= 7	4	1	1	1
Total Responses			N=16	4	2	3	7
2.2	do all learners participate	Foundation Phase	N= 9	0	1	2	6
		Intermediate Phase	N= 7	4	1	1	1
Total Responses			N=16	4	2	3	7
2.3	are instructions clear and questions well handled	Foundation Phase	N= 9	0	1	3	5
		Intermediate Phase	N= 7	4	1	1	1
Total Responses			N=16	4	2	4	6

3. Thinking						
3.1 are thinking strategies addressed (= x - +)	Foundation Phase	N= 9	0	1	3	5
	Intermediate Phase	N= 7	4	1	1	1
Total Responses		N=16	4	2	4	6
3.2 are questions clear and focused	Foundation Phase	N= 9	0	1	2	6
	Intermediate Phase	N= 7	4	1	1	1
Total Responses		N=16	4	2	3	7
3.3 are learners challenged and actively involved	Foundation Phase	N= 9	0	1	1	7
	Intermediate Phase	N= 7	5	1	1	0
Total Responses		N=16	5	2	2	7
4. Application in a context						
4.1 is the work relevant (work done at learner's level)	Foundation Phase	N= 9	0	1	3	5
	Intermediate Phase	N= 7	5	1	1	0
Total Responses		N=16	5	2	4	5
5. Reflection						
5.1 is there meaningful reflection	Foundation Phase	N= 9	0	0	5	4
	Intermediate Phase	N= 7	4	1	2	0
Total Responses		N=16	4	1	7	4
5.2 is there evidence of assessment and corrective feedback	Foundation Phase	N= 9	0	0	4	5
	Intermediate Phase	N= 7	4	2	0	1
Total Responses		N=16	4	2	4	6
6. General						
6.1 are rules adhered to (no shouting of answers – u-formation, etc.)	Foundation Phase	N= 9	0	1	2	6
	Intermediate Phase	N= 7	4	0	2	1
Total Responses		N=16	4	1	4	7
6.2 is the teacher facilitating, well prepared, organised	Foundation Phase	N= 9	0	0	4	5
	Intermediate Phase	N= 7	4	1	1	1
Total Responses		N=16	4	1	5	6
6.3 is apparatus (beads, number lines, etc.) used effectively	Foundation Phase	N= 9	1	1	3	4
	Intermediate Phase	N= 7	5	0	1	1
Total Responses		N=16	6	1	4	5

QUESTION 4

EVALUATION OF READING PACKAGE (“DO AND LEARN”) (This package is aimed at struggling learners only)

1.	The package	Value Judgment					
		1	2	3	4		
	1.1 are the outcomes for the lesson clear	Foundation Phase	N= 9	1	1	3	4
		Intermediate Phase	N= 7	3	1	3	0
	Total Responses		N=16	4	2	6	4
2.	Video						
	2.1 does the teacher use discussion / demonstration / teaching of a series of perceptual exercises with some of the learners	Foundation Phase	N= 9	3	0	4	2
		Intermediate Phase	N= 7	5	0	1	1
	Total Responses		N=16	8	0	5	3
3.	First and second workbook for learners						
	3.1 are learners actively involved in the reading OR language lesson presented	Foundation Phase	N= 9	0	2	3	4
		Intermediate Phase	N= 7	2	2	2	1
	Total Responses		N=16	2	4	5	5

4.	Manual for teachers						
	4.1 is there evidence that the manual has been used to prepare lessons wrt techniques and strategies	Foundation Phase	N= 9	1	4	3	1
		Intermediate Phase	N= 7	6	1	0	0
	Total Responses		N=16	7	5	3	1
5.	General						
	5.1 is there evidence of active reading/writing	Foundation Phase	N= 9	0	1	4	4
		Intermediate Phase	N= 7	1	4	0	2
	Total Responses		N=16	1	5	4	6
	5.2 is there evidence of independent reading	Foundation Phase	N= 9	1	2	3	3
		Intermediate Phase	N= 7	2	4	0	1
	Total Responses		N=16	3	6	3	4
	5.3 is there evidence of assessment and corrective feedback	Foundation Phase	N= 9	0	1	5	3
		Intermediate Phase	N= 7	1	2	2	2
	Total Responses		N=16	1	3	7	5

|

APPENDIX I: TEACHER LEVEL INTERVIEWS

1. Utilization of learning centres

1.1 Different kinds of learning centres

Foundation phase: *Two learning stations are used for reading and maths. An extra classroom is available to serve as a learning centre. A reading and science centre is established. One learner who is very strong has access to TV and computers.*

Intermediate phase: *I have a learning centre for books. Previously (2005) implemented a maths and reading corner and resource corner. I did away with it because negativity amongst the staff was experienced. The intervention was not seen as practicable in the main stream classes.*

1.2 Resources available in learning centres

Foundation phase: *The reading table has also brochures on it. The centre is used for the collection and availability of a variety of resources like papers, magazines etc. as learners do not have access to similar resources at their homes and the parents' literacy level is very low and cannot provide any aid. The reading centre is combined with the local municipal library and linked to the context of running classroom activities. The 100 books are kept in the centre. The 100 books are in the school library. The MST kit is kept in the office and teachers have to sign for it. The MST kits are used when applicable and it is shared with another teacher. I make use of the MST kit once a week or as the need occur. I use the MST kit as a resource and as part of my lesson planning.*

Intermediate phase: *The resources in the learning centre are used as an aid for lesson presentation. Reading books are made available during the reading period. Learners are aloud and encouraged to take books home to read it. Learners have to tell what they have learned the next day. A book report is written if books are finished. The mathematical kits are used when integrated with lessons. The MST kit is utilized as part of the learning programme and as a basis for differentiation.*

1.3 Purpose of learning centres

Foundation phase: *While I am working on the carpet the stronger ones will work in the learning centres. When learners have completed their tasks they can choose to read or do some mathematics in the learning centre. The learning centre is also used to address needs identified during the lesson. Learners are send to the learner centre to do repetition and consolidation work. Different resources for the strengthening of knowledge and skills are available for learners who are struggling. Advanced exercises are available in the learning centre for stronger learners. Learners make their own books using own topics and read*

books when they are finished with activities. A table is set to serve the purpose of the lesson for example the utilization of the MST kits because of the lack of space.

Intermediate phase: When finished with tasks the learners will fetch a book. A half hour is allocated for reading at end of the day. The learning centre is used during the first half hour of the day. I intend to make a maths corner as well as a corner for the other learning areas. Shortage of space makes it difficult to make provision for additional workspace. The learning centre can serve as a mean where completed work are consolidated and to empower learners more with relation to new insights and knowledge.

2. Basis for differentiation

2.1 Criteria for grouping

Foundation phase: Differentiation takes place according to the progression and the needs of the learners. Groupings change according to how learners progress. Differentiation is based according to the observation of how tasks are completed by learners. Learners are arranged in competency groups within their grades.

Intermediate phase: Differentiation takes place when back lock is identified and the activities will be adapted towards that level. Learners are paired as grade 5 and grade 6 pairs. Strong grade 5 and 6 learners do the monitoring if the work is understood well. Differentiation takes place in grade groups considering the levels of difficulty.

2.2 Differentiation strategies

Foundation phase: Stronger learners support slow learners and are briefed on how to support their peers. While working on the carpet the tutors have a supporting role. The tutors are rotated in terms of their strengths. Poor grade 3's work with stronger grade 2's. Grade 3 learners support grade 1 learners when finished with their activities. The teacher assistant is helping with one on one consolidation. Intervention learners are supported in the afternoons by grade 1 teacher in numeracy and literacy. True differentiation takes place in the afternoons involving the stronger learners in the process.

Repetition and consolidation take place on the Mondays of previous week's work. The planning for the week is done according to the needs that are identified during these sessions. I work with the whole group and differentiate in terms of activities. I choose to work with two grades then I can work more focused. I focus stronger on grade 1's. I put weaker learners with stronger learners. I allow myself to render individual attention to learners as far as possible. I also provide challenges to stronger learners.

The use of resources plays a major role in a differentiation strategy. Activities are structured according to different grade levels and individual abilities I develop my own resources. Differentiation is also addressed during contact sessions on the carpet. An extra book for consolidation is used to do repeating exercises. Activity cards are adapted towards the level of learners.

Intermediate phase: *The grade 6 learners support grade 5 learners. The same activity sheet is given to both groups. It is not expected from grade 5's to answer all the questions.*

The class is arranged with the intention that the stronger peers will support the weaker ones. Extra support is rendered in the afternoons. I work with a smaller group, who needs extra support, on the carpet when necessary. Questions are not set with the intention to differentiate. Learners who are behind get fewer amount of work than other learners because they work slower. Then they have more time to complete and experience success. Differentiate especially in mathematics. In mathematics provision is made for difficulty levels according to the different grade groups. Continue assessment determine the amount of extra support.

3. Learner movement between learning centres

Foundation phase: *When learners are finished with their work they move on their own to the learning centre or on the request of the teacher. This is not part of my planning and takes place according to the situation. The teacher assistant is of assistance in the learning centre. During the literacy half hour the teacher read from a news paper and learners can take books from the centre. Learners are utilizing the centre a lot and they love it. Learners have the opportunity and freedom to make use of the centres. If they do not have anything to do they have to read.*

Intermediate phase: *Tutor learners hand out the reading books during the half hour reading period. It is not necessary to move around because additional and follow up activities are given at the learners' desks. Learning centres are incorporated in the lesson plan and used as a support to learners who are behind. Learners move to the learning centre in their own time.*

4. Teacher support to peer tutors

4.1 What do peer tutors do?

Foundation phase: *Peer tutors help me after school with remedial follow-up. While I am working with a group of learners in the afternoon the peer tutor helps on an individual basis. I use peer tutors previously, it was then useful. Stronger learners are utilized as needs appear*

in reading and mathematical tasks. The strong grade 3 group help the weaker grade 3 and grade 2's. They read for those learners and help them with the recognition of words and the spelling of words. Learners learn the best from other learners. I only utilize peer tutors informally. The teacher assistant took over this function and support learners through playing activities linked to the games which they are playing in the community. The teacher assistant plays a consolidation role.

Intermediate phase: *I combine stronger learners with weaker learners. Peer tutors help to enlighten the work load of the teacher. The leader takes responsibility for what happens in the group and take the lead for the completion of the set task. The stronger one in the group takes the lead regardless the grade the learner is in. Peer tutors help others when their work is completed. Peer tutors are supporting maths per row and outside the class with reading. Two tutors are chosen on their strength in literacy and numeracy. They support in terms of learners who need more repetitive support. Learners learn some times better from the peer tutor as from the teacher because the peer tutor is communicating on the level of the learner. The peer tutor supports the teacher to support learners who needs extra support.*

4.2 How are peer tutors supported?

Foundation phase: *Peer tutors are prepared in terms of the aid they have to provide. I explain to them the previous day what will be expected from them for example the using of the number line and beats, words on sight, syllables, recognition of sound, apparatus available and motorial exercises.*

Intermediate phase: *Role descriptions are communicated before an exercise. Learners are numbered and the numbers are linked to role play. The teachers support tutors during the support sessions.*

5. The role of the manuals in planning and teaching

5.1 Accessibility of the manual

Foundation phase: *I did not receive any manual. The manual is available in the class. I work on methods which I can remember from my training as a teacher. I received only a part of the guideline. I received the mental maths part and the do and learn series. The manual is at home.*

Intermediate phase: *The manual is in the office. I am not aware of the manual, therefore it is not implemented.*

5.2 The value of the manual

Foundation phase:

The do and learn package are used for learners who need more support. The Mental Maths and the Do and Learn packages help for the learning process. Do and learn helps learners a lot in the association of words and pictures. It is good for learners' conceptualization of new concepts. Learners read easier and understand maths easier. The classroom management guidelines are followed with regard to the classroom environment and group methods used. It helped with the organization and the lay out of the classrooms. The strategies for numeracy were helpful for the structuring of numeracy lessons. Self directed learning is useful. Learners know that they have to carry on with other available activities when they are finished with a given activity. When the activities are practical the opportunity for working in pairs work the best in reading and mathematical activities. Time games and sentence building is an example of this. I use this for the weak learners on a daily basis. The guidelines as described in the manuals are implemented like learning centres, mental maths centres and learning strategies. I use the manual as needed. I use lessons as indicated on the CD's. I use the manual when preparing for lessons. I do not use the manual frequently. The MGRSI actually confirmed that the methods I used were correct. I only did some of the tasks during the training for MGRSI. It is difficult to implement because of the big numbers of learners. I am not using the manual.

Intermediate phase: *The maths exercises like the circle method and mental maths are valuable. The structured way in which the mental maths is described is helpful in terms of how it is planned and structured. Classroom organization and the utilization of group work are helpful. The advantage of group work is seen as fewer work to be marked. One task is done per group. Learners can learn from each other. Working with the beats is useful and make understanding better as it is more concrete. Problems are experienced with regard to clear guidelines for addressing the learning outcomes. I used it as guideline in the beginning. I still use some of the aspects as part of the teaching and learning strategies followed. Lesson planning is done according to the manual. I make use of it two or three times in a term. I use the information as it is relevant. I use it where applicable and not frequently.*

6. Reward for peer tutors and teachers

6.1 Reward for learners

Foundation phase: *No reward is given. Sweets, stars, learners clapping hands and recognition are ways in which peer tutors are rewarded.*

Intermediate phase: *I give them sweets. I use to give them a packet of chips and chocolate previously but not so frequently any more. Tutors should be changed regularly.*

6.2 Reward for multi-grade teacher

Foundation phase: *There is a need for rewarding multi-grade teachers because they have to plan more for two grades with regard to the amount of material and activities which have to be worked out. This is double the work of a teacher teaching in the mono-grade. It will not be fair to reward a multi-grade teacher differently because all teachers work with different groups. The progress of learners is enough reward. A certificate of recognition for implementing the intervention strategies should be considered. Acknowledgement and positive feedback from officials will be appreciated. Increasing the wages will improve what teacher is doing. An extra remuneration for travel assistance will be welcomed.*

Intermediate phase: *The reward for the teacher is to have the opportunity to work with the learners. The reaction of the learners is the teacher's award. Small acknowledgements from learners are rewarding. Better results are an expectation for the energy which is put in. The reward lies in the opportunity to make a difference. A reward will be welcomed in the form of recognition from officials. Technical support in the form of computers and training how to apply it will be appreciated. Integrated standardized resources and programmes are needed. A letter of thanks and acknowledgement will be welcomed. Officials do not accommodate multi-grade teaching in their approach and are mono-grade focussed. Multigrade schools are far away from towns and travel assistance will be welcomed.*

7. Impact on the teaching of numeracy and literacy

Foundation phase: *The project had an influence on the methodology of teaching for more than one grade. The project gave me a new vision in how difficult situations can be handled. The rotating of learners between three different work stations is an improvement. The work stations are found valuable. The number of learners is too many to implement the learning centre. It stressed the value of individual approach. Integration strategies helped in the planning of programmes. Learners work more on their own. Learners learn by doing, playing and games. Teachers can work more focused. The value of group work is noticed. I find the "do and learn package" as a valuable tool to support learners who experience difficulties. Strategies for learning "Do and learn" bring back the word concepts and texts. An exercise where learners tell about what they have drawn can be integrating with a language lesson. Reading with comprehension became important. The project brought in story telling by learners. Learners read more. The mental maths exercise helps to identify further learning and teaching needs and to consolidate skills and concepts. The mental maths and beats bring the learning and teaching back to the basics. The beats helped a lot in the development of number concepts. The beats, mental maths helped learners to understand number concepts better. Mental maths is done according to guidelines and therefore a more structured approach is followed. I became more aware of the reading and maths problems*

which are experienced. The do and learn package and the mental maths approach helped a lot when the diagnostic test results were followed up.

I did not complete the intervention. I was already trained in a teacher college. The perception was set at the training that I do not need the training because I was seen as already advantaged. "You are an advantaged" I already applied the strategies in the class.

Intermediate phase: *I learned that learners need individual attention, that learning has to be concrete and implementation must be practical. The project informed teachers about group work and that learners could learn from each other. The stronger learners' input is seen as valuable and their feedback in terms of the problem experienced is valuable. The example lessons received, helped to organise the planning. The reading, which is reflected in oral and written work, results in more opportunities for reading. The do and learn is accepted positively. My reading techniques have changed. I identify difficult words before hand and encourage learners to use dictionaries as well. More emphasis is put upon comprehension. Mental maths helped a lot and is done a half hour before formal teaching. The project had no impact on my teaching.*

8. General comments on project

8.1 Needs of multigrade teachers

Foundation phase: *The link between Grade R and Foundation phase has to be addressed. Bursaries must be available for multi-grade teachers to attend ACE courses. We need more support with regard to the implementation of the life skills programme. I would like to know more about how to improve individual support and the differentiated approach for learners in different grades in one class. More support is needed on mental maths especially shapes and data base. Future interventions have to provide strategies how to work with a big number of learners. Thirty five learners will be more manageable. More space will be appreciated to be able to implement all the aspects of multigrade. Time available is too little to give enough support to learners. I do not want to work in more than 2 grades. I need more training for self directed learning. One standardised programme for Multi-grade is a need. I will appreciate ready made resources. I believe that the provision of technology soft ware and computer programmes will enlighten my work load. If preparation can be minimized it will make the work of the teacher easier. The absence of a computer/ telcom line and IT support for learners must be solved. The support of officials has to be in terms of multi-grade needs and not in terms of mono grade and they must be trained well in this regard. I learned a lot about computer literacy. The planning together and sharing within cluster is found to be enriching. This offers standardization opportunities. Expenses of the multi-grade teacher are big because of the travelling expenses. Administration is too much.*

Intermediate phase: Support for the integration of learning areas with focus on language and maths is needed. Pre prepared work schedules, lesson plans and resources will help a lot to make the life of the multi-grade teacher easier. The lack of specialized knowledge and skills in other learning areas presented in the multi-grade context is a problem. I will prefer to be trained again especially in coping with the different learning areas and the bridging between grade 3 and 4. The multi-grade methods can be used in the mono-grade classes as well. The expectations for the multi-grade teacher are the same as for the Mono-grade teacher. All teachers must be part of a project like the MGRSI. A pre developed integrated approach is suggested. Lead teachers must play a bigger role and have to support for longer periods in schools. At least two times a term follow up support is needed. Teacher assistance in all the multi-grade classes will help a lot.

8.2 Parent and farm owner involvement

Foundation phase: Greater parent involvement will be appreciated. The further education of parents is a great need. Guidelines should be communicated how to skill parents to render extra support to learners. No support from parents and from farm owners are experienced. The long distances which learners have to walk to get to school are a huge challenge. On a rainy day only a few learners pitch up for school.

Intermediate phase: More opportunities have to be created for farm learners. The value of role models must be considered. Opportunities must be created on farms to accommodate job wise and money wise learners according to the training they received. The environment of the school differs from the environment at home. Hostels will be a solution or longer school hours. A uniformed value system will then be established. Life will be easier if learners can listen better. Maybe the solution lies in doing or approach things differently.

APPENDIX J: REQUEST TO SUPPORT LEVEL STRUCTURE TO FILL IN QUESTIONNAIRE E AND TO GRANT AN INTERVIEW

Faculty of Education
Cape Peninsula University of Technology
Wellington Campus

The MGRSI Support structure

Dear Mr/Me

REQUEST FOR INTERVIEW

It will be appreciated if you can fill in the attached questionnaire, which is directed towards district support structures who were involved in the multigrade intervention project in the West Coast Winelands EMDC during 2002 and 2006. This will be followed up by a request to you to grant me permission to conduct an interview of about 45 minutes. The filled in questionnaire will be collected at the interview.

The purpose of this research is directed towards a doctoral study which focuses on the observation and understanding of participators behaviour, actions and experience within the context of the Multigrade Rural School Intervention Project, which was implemented in the West Coast Winelands Education District in the Western Cape Province, South Africa during 2002 until 2006. In this way value can be added in terms of the extension of existing views and perceptions with special reference to this multigrade intervention strategy for INSET and professional development.

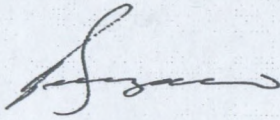
The names of the respondents selected will not be reflected in the thesis. Their anonymity will be guaranteed. The study will be done according to the conditions of approval of research as stated by the directorate research Western Cape Education Department.

To enable you to prepare for the interview and assemble the records (if available), I attach herewith the focus of the interview.

For inquiries you can contact me at the following: 0218601205 or 0833038404 or 0224821677 or fax 0218711107 or pboonzaaier@pgwc.gov.za.

Be assured that you're your participating in this survey will be valued highly.

Yours truly



P.J.V. Boonzaaier

CANDIDATE

19 September 2007



Dr J. Joubert

PROMOTOR

19 September 2007

APPENDIX K: QUESTIONNAIRE FOR SUPPORT LEVEL STRUCTURE FOR THOSE INVOLVED IN THE MULTI-GRADE MANAGEMENT IN THE WEST COAST WINELANDS EMDC

**QUESTIONNAIRE FOR ROLEPLAYERS
WHO
WERE DIRECTLY INVOLVED IN THE MULTIGRADE INTERVENTION PROJECT
IN
THE WEST COAST WINELANDS EMDC**

To focus on the reasons, perceived outcomes and the success experience, which these people had in terms of the implementation of the Multi-grade Rural School Intervention Project

SECTION E: IMPLEMENTATION OF MGI

DATE OF PROVIDING THE DATA:.....

1.	Position in the support structure	Project Manager	Circuit manager	Curriculum Advisor	Learning support Advisor	Service providers	IT support
1.1	What was your relation with the WCED at the time the MGI was implemented in 2002?	0	2	2	2	2	2
1.2	What was your relation with the WCED when the MGI ended in 2005?	1	2	2	2	0	0
2.	Component and activities that constitute the structure of the MGI						
2.1	Indicate with "X" in which phase/phases you were involved	The preparatory work		The training components		The ongoing support	

2.	The preparatory work (1-10)					
2	Indicate with "X" which of the following preparation activities formed according to your opinion part of the MGI preparatory work?	A Clear goal for the intervention exist	Involvement of education authorities	A start-up meeting of a teacher's participatory governance group	Co-operative development by pilot school teachers of an overall plan for administration, curriculum, training and community involvement	Design of a decentralised co-ordination and administrative framework for the project
		8	8	6	7	4
		Formation of an oversight committee of supervisors, administrators, teachers and MGI co-ordinator	Selection of pilot schools against identified criteria	Formation of teachers circles with nearby schools to meet regularly to share classroom experiences etc.	Creation of resource centres where teachers produce independent learning guides and receive professional assistance	The setting up of model schools which could model the intended foci of the intervention
		6	7	5	4	6
2.	The training components (1-8)					
3	Indicate with "X" which of the following training components formed according to your opinion part of the MGI training strategy?	Production of Teacher training modules – a multigrade trainers resource pack	A training film which consists basic principles behind Multigrade teaching	Validation of teacher support manuals in teacher training sessions	Design, testing and production of learner self-instructional curricular workbooks	
		8	7	5	2	
		Development of bilingual and mother-tongue materials	Training takes place in relay groups	Teachers have the opportunity to observe classroom practices in model schools	Information dissemination through various media, including instructional and informational videos	
		4	6	5	7	

2.	The ongoing support (1-8)					
6	Indicate with "X" which of the ongoing support strategies formed according to your opinion part of the MGI training strategy?	Development of partnerships with school communities	Ongoing formative evaluations	Teachers were skilled to track the progress of learners frequently	The learning process is broken up into smaller units – a set of milestones	
		5	5	4	5	
		Teachers were skilled to manage learners to work at their own pace	Teachers are equipped to divide their classes according to the teacher's role and the learners autonomy in a particular cognitive task	The teacher are skilled in facilitating the diverse tasks and activities on different levels in the multigrade class	Documentation of intervention activities	
		7	7	6	5	
2.	Intervention foci (1-5)					
7	Indicate with "X" which of the following foci formed according to your opinion part of the MGI training strategy?	Classroom management Techniques	Instructional Strategies	Planning from curriculum	Instructional materials	Involvement of the community in the school programme
		8	8	8	8	4

APPENDIX L: SUPPORT LEVELSTRUCTURE INTERVIEWS

1. Role as part from multifunctional team

1.1 Circuit manager

1st respondent: *I was part of a team which consists out of lead teachers, coming from schools that were part of the initial pilot training and a learning support advisor. The circuit manager had done three sessions of theoretical training involving six to eight schools at a time while the lead teachers demonstrated with practical examples. Although the learning support advisors were part of the support group they did not have any training. My perceived role was to lead the schools to what was meant by multi-grade education.*

2nd respondent: *The role of the circuit manager was very clear. It was not only an institutional management and governance function. It was also about curriculum planning. My maths background enabled me to support the mental maths. I received multi-grade training and supported every facet of the school.*

1.2 Programme manager

My role started as a co-ordinator of the logistics. I had to certify teachers, co-ordinate the programmes of delivery and seeing to it that teachers implement what they have learned. I also tried do get the EMDC more involved. My perceived role was to make sure that the MGRSI was effective and to put in place a system of sustainability.

1.3 Learning support advisors

1st respondent: *My core role in the team was to support teachers from a specialised field focus. The multi-grade setup is very much the same as working with learners with barriers for learning and who are on different levels of development.*

2nd respondent: *I did not understand the role. I, by coincidence, became involved in one of the pilot schools. Although I was not asked to be involved I wanted to be engaged in the MGRSI process. Those who were willing got involved. I became part of the mental maths training in two circuits and then trained as a trainer. The do and learn training was done by the inventor of the programme. It was difficult to find master teachers. The timeframes for training were too short.*

1.4 Curriculum advisors

1st respondent: *I understood my role clearly. I had to support the schools and worked with the circuit manager and monitor the implementation of the 12 strategies like classroom management and mental maths.*

2nd respondent: *The brief did not match the practice. The understanding at first was to support the programme. The theory was not communicated at the start. It was vital that the research findings were shared with the support team before hand. The expected role was to support and monitor. It should be a physical taking by the hand of teachers and the strengthening of the new concepts in a variety of contexts.*

1.5 ICT advisor

My responsibility was to design, develop and implement the ICT component of the intervention. This ensured that teachers could use the computers, supplied by the WCED, at the schools. The intention was that they would be used for class administration and preparation, the acquisition of information and peer support, thus mitigating the effects of distance. The implementation responsibility was later passed on to the project office owing to pressure of work in the Curriculum Development Directorate of the WCED. I served on the MGI executive committee until its dissolution.

2. Perceived stumbling blocks

2.1 Circuit manager

1st respondent: *Some stumbling blocks could be that the circuit manager and the curriculum advisors were not part and parcel of the teacher training. Attending the training was not compulsory for officials and consequently did not have an understanding on what the training was about. The curriculum advisors for instance did not have any knowledge of the block time table implemented in the multi-grade schools. No material was available in English for the participating Xhosa schools and could not for instance answer the questionnaire which was in Afrikaans. The fact that all the circuit managers were not involved resulted in no support. Interventions in the future have to ensure that training for circuit managers has to be compulsory. The attitude of the teacher played a role in the success of the multi-grade. When making teachers lead teachers and give them some responsibilities they made a mind change and felt good about themselves and feel in command in what they doing.*

2nd respondent: *Sustainable support could not happen because of a heavy programme and variety of tasks. Too much time passed before a next visit to a school. The working of the networks relied on continuous support. The moment the support was not rendered the networks did not work so well.*

2.2 Programme manager

I did not experience any stumbling blocks. I experienced full co-operation from all role players. The curriculum advisors now demonstrate a better understanding for the multi-grade

situation. The positive impact was that successes could be shared which guide teachers in aspects they lacked in.

2.3 Learning support advisors

1st respondent: Follow up support could not be as regularly as it should have been because of the lack of sufficient support staff, other core functions which they had to attend to as well and the far distances between schools. I completed a course as mentor but was never able to implement it because the communication system with schools never came right. As a result we did not immediately know what problems they experienced. Cluster meetings were far because the schools are far. The space between initial support and the follow-up support was too far apart to make any significant difference. A few meetings were conducted by the circuit manager but it was also too far apart to make a difference. When the programme manager took over the support faded.

2nd respondent: My own specialist programme was a stumbling block. The training dates clashed with the advisors' programme dates. There was not much co-ordination by the EMDC in terms of date management. Too few of the service point staff was available for support. The others only attended partially. The teachers did not implement as expected. They were not sufficiently trained to implement. The teachers were trained over three days. One day for mental maths ½ a day for do and learn. The classroom management part was part of the general training. The application became fewer after certification. The mental maths went on in a sense. The do and learn are used as expected. Too much emphasis was placed on mental maths and do and learn and too little time spend on classroom management, planning and organisation. The available resources made implementation easier.

2.4 Curriculum advisors

1st respondent: I was part of the intervention in 2002 and did not attend multi-grade meetings because of other obligations and the distances to travel. I was not involved in certification. I would wish to be part of the project until the end because of my own involvement in schools. More background information should have helped me in my own development to support these schools as they are still part of the area which I still support.

2nd respondent: Time was a stumbling block. A once of visit at a school is not sufficient. Quality and ample time spend at a school and an educator is essential. Re-enforcement should take place through practice and follow-up support. Too many schools make it difficult to support it intensively. It makes follow-up difficult and has a direct influence on the sustainability of the project. The follow-up was not frequently done and therefore reflection could not be done sufficiently.

2.5 ICT advisor

Because of the pressure of work in the Curriculum Development Directorate I was not being actively involved in implementation after the initial phases. I cannot give a definitive answer regarding teachers who were trained later. However, teachers with whom I did have contact certainly benefited a great deal because they now had the skills to use their school computers for administration, sharing information, planning and support with peers and acquiring information from the Web.

3. Consideration of prior knowledge

3.1 Circuit manager

1st respondent: The teachers had very little prior knowledge of multi-grade education. They only have experience to work in multi-grade classes. They knew that they could not address the curriculum outcomes in the same way that other schools do. It is expected from them to make a mind shift focusing on a learner centred approach and not a teacher centred approach. Learners have to take responsibility for their own learning.

2nd respondent: Planning together helped teachers to utilise their prior knowledge. They knew how to plan together. Multi-grade knowledge which existed was the knowledge which they received because of their experience in the multi-grade class. Classroom management, peer tutors for example were new knowledge and skills for them.

3.2 Programme manager

Teachers did not have any prior knowledge of teaching in a multi-grade class. The only prior knowledge which was considered was the knowledge which teachers got from their training as teachers. They were diverse groups of teachers. The prior knowledge served as a baseline. Classroom organisation as a concept was unpacked until it is adapted to suite the multi-grade challenge.

3.4 Learning support advisors

1st respondent: Although the training was well structured some of the educators were lost because they did not have the background of learning- and remedial support to barriers of learning like auditory perception and did not understand the different concepts related to it. Their previous knowledge about teaching did not provide them with sufficient background to understand the theoretical concepts. Teachers did not understand what was meant by proper classroom management and could not apply it themselves. The support team had to support them physically in this regard. They were not able to structure the curriculum according to the policy and the needs of the multi-grade class. Although the training addressed the structuring

of the curriculum the teachers did not have the in depth knowledge of the curriculum to do it themselves and need on hand support on concepts like integration and planning.

2nd respondent: The prior knowledge in terms of the understanding of mental maths was taken in consideration. Self directed learning and the peer tutors were a new thing. There prior knowledge with regard to classroom organisation was considered in the presentation of classroom management strategies.

3.5 Curriculum advisors

1st respondent: Teachers had the back ground knowledge to teach learners to read but the do and learn strategy added value to their understanding of learning to read through association. Mental maths was demonstrated with beats and teachers learned how to make number concepts more understandable for learners with the aid of more concrete support. Previous results and methods and how to improve it were discussed before new approaches were introduced.

2nd respondent: The model was a one size fits all approach and little space for variation was observed. Some schools have four grades in a class and others two grades in a class. A well planned base line assessment should have been done. Teachers were approached by a pre prepared theoretical framework that did not address the real needs and unique challenges of individual teachers and schools.

3.6 ICT advisor

Commendably, the processes and content of the intervention were constantly monitored and changed to fit realities on the ground as they became apparent. Steps were also taken to give further support to teachers who continued to struggle with implementing the substance of the training. I was very much aware of this at the beginning of the intervention, where we sent ICT officials to schools in the event of technical difficulties as well as to develop teacher capacity. More important were the report back sessions held from time to time, where actual classroom experiences were related. These led to further visits from the project manager or other WCED officials to demonstrate techniques and encourage teachers. Mental Maths and teaching of reading are good examples. I cannot, however, speak for the later stages of the intervention.

4 The demonstration strategy

4.1 Circuit manager

1st respondent: I think this was a vital part of the training. Although the demonstration was on video the practical demonstration by lead teachers worked the best. The set up of the programme was excellent. It should have worked in all cases but not all people are interested

in changing. Principles liked classroom management, co-operative learning, classroom climate conducive for learning, tutor learning, mental maths, reading strategies and the importance of learners able to read and the set up of the classroom. Demonstrations were done at a specific school where problems were experienced. Lead teachers did follow up training. Central venues were used as well. Teachers do not have any excuses they only have to change their mindset.

2nd respondent: The video was there to start the discussion on multi-grade. The key teachers played a major role. They demonstrated through the rearrangement of the furniture and classroom practice and supported with the planning. The mental maths and do and learn were demonstrated in classes with learners. Demonstrations in group context were also done to mono-grade school teachers. The key teachers made a big impact on the multi-grade strategy. Substitutes were available for these key teachers to visit the schools.

4.2 Programme manager

After a theoretical training was done the teachers went back to the classroom and applied what they have learned. The training was followed by a demonstration by one of the facilitators. Teachers got opportunities to reflect on their experiences and what they have learned new

4.3 Learning support advisors

1st respondent: The support teams demonstrated how to use the learning support materials supplied to them. The teacher could observe how it could be done and how learners react. The understanding is that the teachers will understand better and be able to implement.

2nd respondent: Videos were made at the pilot school which was used in the training of mental maths. Learners were used as demonstration in do and learn and mental maths. The MGRSI co-ordinator also demonstrated the mental maths. Master teachers supported the teachers in their arrangement of their classes. After the training teachers implemented what they have learned. They were supported by the master teachers. The certification followed the training and follow-up support done. Cluster meetings were used to share practices.

4.4 Curriculum advisors

1st respondent: The do and learn was demonstrated to pre school learners at a central venue. The mental maths was demonstrated in the same way. Officials and facilitators went back to monitor if it was implemented. The application formed part of the accredited course teachers had to do. Completing the course would mean that they could study further. There were demonstration sessions at schools and in clusters. These demonstrations are seen important as it enable teachers to observe and discuss which is better than to hear it

theoretical. The beats and the do and learn packages should have made a big impact if implemented.

2nd respondent: It was a good thing to demonstrate what was expected. The theoretical concepts have to be demonstrated and the way how the outcomes have to be achieved. Opportunities were given to practice the concepts in groups. Each individual has an own way of doing things. As multi-grade teachers have a vast experience of multi-grade teaching they should have been given the opportunity to share practices and experiences in the contexts of their own schools and demonstrate what worked for them as individuals on a frequent basis to strengthen the sustainability.

4.5 ICT advisor

A very common complaint of many WCED teachers required to implement curriculum and class management changes has been that they needed curriculum advisers or others to show them in their own classrooms how to go about making the changes required. This lack of confidence and capacity to visualise no doubt stemmed in part from deficient preset teacher training. The demonstration strategy of the intervention was thus a vital component, strengthened by the key teachers' time spent in new teachers' classrooms.

5 Activities to be supported in the multigrade class

5.1 Circuit manager

1st respondent: Classroom management and the classroom climate that goes with it should have high priority. It cannot be expected that planning will be in place immediately. It has to be supported and adapted continuously as it improves. Teachers need more knowledge and skills how to plan considering their own situation. Teachers have to adapt their teaching methods according to the needs of the learners. This needs effort and the right attitude. If something is not working the support must be focussed and be brought in line with the problem experienced. Following this way sustainability will be guaranteed. The circuit plan will enhance the process. All officials who are involved in supporting the literacy and numeracy strategy must be trained in the multi-grade approach. Teachers have to understand and implement new concepts like learning and teaching styles which were not part of any basic teacher training before

2nd respondent: Classroom management and the reorganisation of the school should have high priority. The classroom should be friendlier for the learner. The change of the environment will motivate teachers as well as learners to enjoy what they busy with. The utilisation of the computer makes it easier for the teacher to communicate with other teachers and other sources. The learning areas do not all get the attention it should. In the

intermediate phase the curriculum should be adapted into three learning programmes like in the Foundation phase.

5.2 Programme manager

The mental maths has to be applied correctly. Peer tutoring will take a big load from the teacher and enable the teacher to do remedial support. The peer tutor should be more involved in consolidation work. This learner will be expected to demonstrate the outcomes of a specific area which other learners experienced problems with but has to have good communication skills to explain. The learners must take responsible for their own learning. Create a classroom that accommodates the expectations of a multi-grade teaching and learning process. Allocate space for reading, exercising maths, homework, research and for fetching things to do. It has to cater for slow and fast learners. The impact should be learners who are comfortable with themselves, who can explain, communicate and who is not shy. Teacher has to feel at ease to work with different grades. If the multi-grade strategy is applied in all the classes the impact will be seen in positive diagnostic and systemic test results.

5.3 Learning support advisors

1st respondent: *Teachers must be well prepared when they step into the classroom. They must be able to work with groups, having work stations, be aware of learners' development levels and having a good observation strategy. The setup of the classroom must be inviting and has to support quality teaching. Classroom management should be in place. Children must know what is expected of them. This will result in exiting and motivating teachers and quality teaching will take place that will end up in better results.*

2nd respondent: *Management, organisation and planning must receive high priority. Self directed learning, peer tutoring, differentiation and intervention strategies specific according to the needs of the multi-grade class should receive more attention. Interventions do not take place because the teacher do not no the stepping stones.*

5.4 Curriculum advisors

1st respondent: *The planning should be thorough. It must be differentiated for the different grades and for the different levels of learners within grades. The importance of teaching the skills of reading and counting must be realized. Teachers must work slower with learners and concentrate more on consolidation of basic skills. Life skills can be done as one programme for all three grades. Encourage teachers to differentiation in grade context with regard to the depth of questions asked. Support schools in cluster context.*

2nd respondent: *An integrated approach within all learning areas in trying to consolidate the teaching of the assessment standards should be followed. This has to be done within the*

framework of what the policy allows. This will give the necessary attention to reading, writing and arithmetic because it supports the rest. Multigrade schools should consider implementing the three learning programmes as in the foundation phase. Practical and implemental differentiation techniques should be followed. Most of these schools have learners with learning disabilities. A focus on job related activities should be considered. Prepare the learners for future job and education possibilities.

5.5 ICT advisor

Sound classroom management and administration are the processes which allow all the other teaching and learning practices to take place. Good group-work must be in place, with the groups varied to suit circumstances and promote learning opportunities. Once the above are in place, the numeracy (especially mental maths) and literacy strategies of the intervention must be fully understood and implemented by teachers. As has been shown in many of the multi-grade schools, learner achievement in the basics can soar if all of the above are being implemented in a school. The task of making all eight learning areas available to children is, however, extremely difficult in these schools because of the heavy teacher workload. Personally, I am still convinced that the curriculum needs officially sanctioned adaptation for multigrade schools. This is particularly urgent for schools where a large proportion of children suffer from learning, cognitive or behavioural difficulties.

APPENDIX M: REQUEST TO MANAGEMENT STRUCTURE TO FILL IN QUESTIONNAIRE E AND TO GRANT AN INTERVIEW

Faculty of Education
Cape Peninsula University of Technology
Wellington Campus

The Chief Director/Director
West Coast Winelands EMDC

Dear Mr.Ms

REQUEST FOR INTERVIEW

It will be appreciated if you can fill in the attached questionnaire which is directed towards provincial management structures who were involved in the multigrade intervention project in the West Coast Winelands EMDC during 2002 and 2006. This will be followed up by a request to you to grant me permission to conduct an interview of about 45 minutes. The filled in questionnaire will be collected at the interview.

The purpose of this research is directed towards a doctoral study which focuses on the observation and understanding of participators behaviour, actions and experience within the context of the Multigrade Rural School Intervention Project, which was implemented in the West Coast Winelands Education District in the Western Cape Province, South Africa during 2002 until 2006. In this way value can be added in terms of the extension of existing views and perceptions with special reference to this multigrade intervention strategy for INSET and professional development.

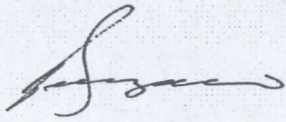
The names of the respondents selected will not be reflected in the thesis. Their anonymity will be guaranteed. The study will be done according to the conditions of approval of research as stated by the directorate research Western Cape Education Department.

To enable you to prepare for the interview and assemble the records (if available), I attach herewith the focus of the interview.

For inquiries you can contact me at the following: 0218601205 or 0833038404 or 0224821677 or fax 0218711107 or pboonzaaier@pgwc.gov.za.

Be assured that you're your participating in this survey will be valued highly.

Yours truly



P.J.V. Boonzaaier

CANDIDATE

19 September 2007



Dr J. Joubert

PROMOTOR

19 September 2007

APPENDIX N: QUESTIONNAIRE FOR THOSE IN THE PROVINCIAL MANAGEMENT STRUCTURE WHO WERE INVOLVED IN THE MULTI-GRADE MANAGEMENT IN THE WEST COAST WINELANDS EMDC

To clarify the reason for the Multigrade Rural School Intervention Project and the perceived outcomes and the success experience these people had

SECTION C: IMPLEMENTATION OF MGI

1.	Position in the WCED						Chief director	Director	Senior Manager	Support staff
1.1	What was your position in the WCED at the time the MGI was implemented in 2002?						0	3	0	0
1.2	What was your position in the department when the MGI ended in 2005?						1	2	0	0
2.	Reason for MGI									
2.1	Please rate what you perceive as the main reasons for the implementation of the MGI (1-7)									
	Social background of learners in the multigrade class	The diversity experienced in the multigrade class	The lack of resources in multigrade classrooms	The lack of sufficient teacher training for the multigrade context	The lack of sufficient teacher support to manage the multigrade class effectively	Lack of community involvement in the learning and teaching process in the multigrade classroom	Lack of implementation of government policy relating to multigrade education			
	8	6	11	4	6	12	14			
2.2	Do you agree that all of the above mentioned variables have an impact on the poor literacy and numeracy performance which learners in multigrade classes demonstrate								Yes	No
									3	0
2.3	If no please indicate other reasons you want to add.									
3.	Outcome of the MGI									
3.1	Please rate what you expected to be the most successful in the MGI									
3.1.1	Project Level outcomes (1-6)									
	Progressive curricula for gr R-7 in reading, writing and mental maths	Development of demonstration lessons	The development and utilisation of support videos	Appropriate standardised tests	New software and electronic material to support MG schools	Online support for EMDC's and MG schools				
	7	12	10	12	11	7				
3.1.2	Cluster Level outcomes (1-3)									
	Officials who are knowledgeable, informed and competent with regard to MG teaching		Ongoing support by Multifunctional teams			Motivating feedback to and support for teachers				
	6		5			8				

3.1.3	School level outcomes (1-10)										
	School principals have the required knowledge and skills to effectively manage multigrade schools	Effective online communication between teachers in clusters	Teachers are able to do effective year planning for reading writing and mental Maths	Teachers are skilled in time and lesson planning	Teachers implement learning programmes for reading, writing and mental maths	Teachers have adequate knowledge of child development and learning	Teachers have adequate teaching and management skills	Teachers are skilled in group formation and the design of co-operative group tasks	Teachers use a range of appropriate teaching and learning strategies affectively	Teachers have sufficient knowledge and skills to conduct the assessment and reporting of learner progress	
	15	19	19	18	15	24	17	17	15	18	
3.1.4	Classroom level outcomes (learners) (1-7)										
	Learners spend effective time on learning (time on task)	Learners know what is expected of them (they know what the outcomes should be)	Peer-assisted learning takes place	Assignments, repetition and revision are part of learning in a multigrade class	Learners learn/work in learning centres that support/facilitate self study	Educational environment	Improved learner performance in reading, writing and mental mathematics				
	12	13	13	16	14	11	11				
3.2	Do you agree that if all the above mentioned outcomes been reached the poor literacy and numeracy performance of learners in multigrade classes will improve									Yes	No
	If no please indicate other outcomes you want to add.									3	0

APPENDIX O: MANAGEMENT LEVEL INTERVIEWS

1. Scheduled implementation cycle

Respondent 1: *When we undertake projects of this nature and scale in the future we should first do a pilot. Take in account the lessons learned form the pilot when the role out is done. A project like the multi-grade is so vast that if it is not piloted there is no room to rectify what you could have done better.*

Respondent 2: *Yes it contributes but the problem is that the department did not adjust their own programs accordingly in order to accommodate the implementation cycles. The information sessions with curriculum advisors focussed only on generic issues and never touched on the uniqueness of multi-grade teaching.*

Respondent 3: *There is no further cycles left. We are now upgrading the levels of teachers by taking them on an ACE course. The implementation cycles were supposed to be completed over three years but it kept on expanding to four years to five years. This shows that something is wrong with the design of the cycles. It therefore has to be a learning curve for all of us and we have to build it into our future planning so that we do not make the same mistakes. The reason for this expansion was that schools are not static because of movement and ability of teachers. The schools which were added from a metro pole district also lead towards the expansion of the project which was not foreseeable when the original planning was done. Teachers who were trained in the use of ICT should also be done differently in the future. The laptops which were used for that purpose had to be circulated amongst teachers who got trained. When the training was finished and shifted to another part they were left high and dry without the ICT material. Whilst the project was driven centrally EMDCs did not take ownership of the project and did not mainstreaming it.*

2. Involvement of departmental stakeholders

Respondent 1: *It contributed where it was noted that departmental stakeholders were involved. The level of involvement must be taken in consideration. Some were more involved than others. One of the set goals was to secure sustainability. We did not do enough to sustain quality education in multi-grade. Where some stakeholders were deeply involved some were nothing more than observers. It is reflected in reports received where some officials will report with a direct focus on the multi-grade nature of a school whilst others would not even mention that it is a multi-grade school. Officials who represented the EMDC and the pillar at meetings where the different EMDCs met were also the people who took the lead in the field. Those who did not attend were not briefed in the different pillars about the*

outcomes of these meetings and could not apply what was discussed and decided in these meetings. That determines whether people were involved in the project or not.

Respondent 2: Yes, because the different stakeholders which consisted people from the curriculum, learning support and institutional management and governance sectors brought their particular expertise to the table. The people who came in as programme managers into the districts brought in their knowledge of project management to the project. The support was characterised by the multi-facet and different angles people came from. The role of the curriculum section from HO must also be recognised who was able to provide support from the technical side relating to the on-line support and e-learning and seeing to the adherence to policy.

Respondent 3: The Higher education institutions were involvement in the certification of the teachers. The project created a big avenue for involvement of a particular university which is a leading university in multi-grade education in South Africa. The coordination which was centrally done where the directors of the EMDCs, curriculum representatives, learning support representatives and IMG representatives from head office met on a monthly basis was "foreign" as where the same groupings did not meet in EMDCs as such. Different people learn to work together to realise the objectives of the MGRSI but the "foreignness" of the central co-ordination created that problem of the lack of ownership at district level.

3. Lessons to be learned

Respondent 1: Focussed involvement in multi-grade teaching should be part and parcel of the work plan of each and every official in the office. Multi-grade teaching should be a standing item on the agenda of all management meetings. There should be quarterly reflection meetings with the multi-grade schools. There should be separate reports for multi-grade schools and these reports should form the basis for all new planning. This would have an influence on the sustainability of the project.

Respondent 2: In terms of project management approach one could plan fairly into the future because the ten to twelve different stages were well set up. This enables one to plan according to the resources needed. Monthly reflection meetings on different levels helped to inform the management team about the progress of the implementation as well as the utilization of the resources. The risks for mismanagement of resources or the complete failure of the project was eliminated. The exit strategy leads to the evaluation by outsiders at the end of the project from which many lessons could be learned. The people who were evaluating the project were the same people who collected and interpret the data. There were not clear indications what could be done differently or even better in the project. We learned that the consultation with the service provider should be much clearer and specific in terms of the outcomes you want to be evaluated.

Respondent 3: *It was good to have a project manager. The extend in which more than half of your budget for the project is utilized for the up keep of the project management office defeats the whole purpose. The project is not gaining expertise because it is dependent on this one person. There is no experience flowing from this person to the other people so that the expertise stays in the organisation. Flowing from this the project manager must be from within the WCED and not an outsider because that person comes with the knowledge and leaves with the knowledge. Not more than 50% of the budget should go for salaries and the upkeep of an office. I think what worried me from the very beginning was the premise on which the success of the multi-grade was based. From the very beginning it was set by the project manager that if a, b, c and d happen if the EMDCs buy in and if curriculum does that multi-grade would have been a success. There was a statement found in the early documents of the multi-grade which stated certain conditions. These statements bothered me from the beginning because everything hinges on those ifs or conditions and if those conditions are not met no one can blame any one for any failure if there is a failure. No project should stand on certain conditions. Any future project therefore must make certain that all the conditions are met before it starts. This project did not make provision for taking responsibility by any one because it is based on certain conditions. If the cycles go on and on it only secure salaries and has no influence on the sustainability of the project. It was a project at the start and later became an intervention which was supposed to get at a particular point and then withdraw and things should go on smoothly.*

4. Strengths and weaknesses

Respondent 1:

Strengths: *The whole programme was very structured. The first document outlined the implementation of the whole programme. It indicated where the programme would start and where you would be at a specific stage and where it will end. It also indicated how many schools you would start with and would be added at a certain stage and how many schools would be left to conclude the programme. The schools were well prepared. The advocacy was well done. There were meetings. Some of the circuit managers did brilliant work and played a crucial role. Baseline assessments were done through workshops with schools. The members of management were involved in the project. The project was lead by a person which was in a position of a director. The most crucial part of the programme was the delivery of the curriculum. The chief Curriculum advisors were involved form the beginning. These people lead the project from the beginning to end.*

Weaknesses: *Not all officials were equally informed about the project. There knowledge was not on the same level. Therefore their contribution towards the success of the project also was not on the same level. Not all schools committed themselves to the project. Some*

schools never applied new knowledge and nothing changed at the school. Not all schools committed themselves to the project. All schools indicate interest on the online course and a number of teachers never completed the course.

Respondent 2:

Strengths: *It empowered the teachers in their knowledge of E-learning and electronic research. It led to camaraderie amongst all multi-grade teachers across the province. It helped teachers to organise their classrooms more effectively and to improve their teaching strategies in a multi-grade class. The project approach moulded us to think in terms of the project and achieving what we wanted to within the set time limit.*

Weakness: *The lack of the availability of computers and electronic connectivity was a problem. We could not really muster cohesiveness amongst all the staff of district office to work on the project. The project was mainly driven by the programme managers in the district instead of where every body adjusted their programmes to accommodate our multi-grade schools. We could not shift the mindsets of curriculum advisors to see to it that schools need special support in terms of the specific challenge that multi-grade teachers experience. : The project was terminated because of budget constraints and not because there was not merit in it.*

Respondent 3:

Strengths: *The stance was that teachers will be empowered and that gave them the leeway to do what they can do in the classrooms. The project taught us that teachers can't work across more than one phase. The use of lead teachers was a big strength as they came from the same situation. It was worthwhile to spend money on their substitutions. The discussion clusters were also a strength.*

Weaknesses: *The project did not focus on all learning areas and the full National Curriculum Statement. Teachers were only "schooled" on two learning areas. Integration should have been built in. This brought about a clash of interests when curriculum advisors visited the multi-grade class asking about other learning areas. ICT equipment should be available to everybody and not on loan. Follow-up, reflection and revisits were not built into the programme.*

5. The contribution of the logical model

Respondent 1: *The project was a success. We might have failed in some instances or did not meet the requirements for the desired goals. Everybody involved in the project could see the bigger picture right from the start. Planning was not done in bits and pieces. The model was based on available international experience which include valuable literature from overseas countries and exposure to international personalities and shared with all stakeholders. One of the most visible failures was where we could not change the attitudes of*

teachers and their classroom practices. That did not mean that the school as a whole did not go forward. Whilst we succeeded to increase the pass rate of learners in the diagnostic tests in some schools there were either no improvement or a decrease in the pass rates. Where are we now? Where are the schools now? And why are they here? Where do we want to take our schools? And what needs to be done to get them there? The benefit of the bigger picture is that you cannot because of unforeseen circumstances deviate from your programme on an ad hoc basis. You will understand what has to happen and know what must change if you want to reach the ideal state.

Respondent 2: *The model was understood by all stakeholders and as such contributed to the success of the project. The objectives which were set were clear and could be followed and reported on by everybody. The model did not provide proper planning for re visiting of teachers where the programme was previously rolled out and could not ensure the enforcement of knowledge.*

Respondent 3: *I would like to see answers on how to make interventions sustainable, how do we built in a factor that does not make multi-grade teachers dependant on outside help in order to mediate the group work in their classes, making learning strategies like co-operative learning part of the multi-grade teaching method, mediating problems which are experienced, mediating multiple intelligence also in the mono-grade classes. I am concerned about the appointment of teachers and principals at farm schools who are coming from the town and who are in many instances a foreigner who do not care about the learners and the community or what happened outside the official hours. I am also concerned about the lack of hope that some officials show. The teacher must have high expectations for the learners. The uplifting of rural communities and not only of the learners must be a priority.*

Shaye, S. (12 October 2007): *"If you don't have hope you don't have any commitment to uplift the learners and the communities."*

