

THE INFLUENCE OF A HOLISTIC FITNESS
PROGRAMME ON THE DEVELOPMENT OF
POSITIVE ATTITUDES IN LEARNERS AT A
MULTI-GRADE SCHOOL

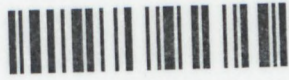
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*THE INFLUENCE OF A HOLISTIC FITNESS
PROGRAMME ON THE DEVELOPMENT OF
POSITIVE ATTITUDES IN LEARNERS AT A
MULTI-GRADE SCHOOL*

GEORGE FREDERICK JOUBERT

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**CO-SUPERVISORS: PROF R CHETTY
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NOVEMBER 2010

DECLARATION

I, the undersigned, hereby declare that the work contained in this thesis is my own, original work and has not previously, in its entirety or partially, been submitted at any university for obtaining a degree.

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ABSTRACT

“An abundance of research has proven the positive correlation between participation in programs of physical activity and higher levels of physical self-esteem and global self-concept.”(Kologiannis, 2006: 1).

This research investigates the influence of a 12 week holistic fitness programme on learner attitudes in three multi-grade schools in the Wellington area of the Western Cape. A sample of 38 (N= 21 males and N=17 females), grade 4 multi-grade learners participated in the study.

The study also tests whether an evaluation model as applied in this research:

- a) Can give insight into how to develop a fitness programme and assist to refine and improve such a program;
- b) Assists, through evaluation and attitudinal evaluation questionnaires to identify the various components of a fitness programme that can be modified to optimise the outcomes of the programme.

It was found that the structure provided by the holistic fitness programme encouraged in significant positive attitudes toward all seven sub-domains of the CATPA inventory. It is concluded that the participation in a structured fitness programme is confidently associated with the development of more positive attitudes.

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CHAPTER 1

SETTING THE PROBLEM

The surroundings we are raised in have an indefinite influence on our way of thinking and the way we present and see ourselves. The social impact that a multi-grade environment has on the attitudes of people are enormous. It is a complicated area for study, because there are so many variables that affect the multi-grade environment. The following research is aimed at adding to knowledge about the multi-grade environment, and the influence on behavioural changes through the participation in a holistic fitness programme.

1.1 Multi-grade environment

1.1.1 Education

Multi-grade teaching is a worldwide phenomenon. According to Benveniste and McEwan, (2000:33) multi-grade teaching is most of the time, synonymous with schooling found in poor, rural, and farm environments 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, multi-grade teaching arises through necessity rather than choice (Joubert, 2004:54; Little, 2005:6). It therefore requires consideration of quality improvement interventions that take into account the special needs particular to schools in rural communities.

South Africa, as the rest of Africa, is committed not only to provide education for all, but also to ensure that what it provides is of the best quality that the country can afford. Multi-grade teaching is a reality and a major challenge in South Africa. Insufficient policy for the management and funding of rural schools are currently similar to the principles and formulas of those in urban schools. So too, curriculum and pedagogies of rural schooling are planned to be the same as those found in rural settings (Joubert, 2006:3).

This should not be the case as multi-grade schools are functioning in a different context agrees that rural education has to provide the means to enable generations to break out of the recurring cycle of unskilled labour and resultant poverty. Therefore, the investment in the skills of multi-grade teaching should be seen as contributing to the goal of basic quality for all.

At this moment, there are few research findings available about multi-grade education in South Africa. These schools can be regarded as “forgotten” schools as little research has been done on their specific problems. This fact underlines the relevancy of this project. There prevails a total lack of interest in and almost “ignorance” of their needs. In a democracy like ours, it is inappropriate to exclude certain groups, especially individuals from poverty-stricken areas.

Multi-grade is most prevalent in the context of the primary school environment in rural areas. Poverty-stricken communities, low incidence of government support for learning and training, minimal teaching resources, minimal space and basic tables and chairs and writing materials, very limited access to feeding schemes and virtually no transport, characterise these areas.

According to the United Nations (*United Nations*, 2008:4) the majority of the population in less urbanised regions (regardless of the emphasis given to urbanisation) will continue to be rural and the absolute numbers of rural people will not change significantly for the next 20 years.

The United Nations further state, that urbanisation trends cannot be an excuse for not addressing rural people's fundamental needs and rights, as well as education and training. This is especially the case in Sub-Saharan Africa where, in 2002, 70.6 percent of the population was rural. The rural population of Sub-Saharan Africa will continue to be primarily rural. In 2015, it will be 60.2 percent and in 2030, 54.8 percent (United Nations, 2008:4).

1.1.2 Poverty

Children living in poverty are those who experience deprivation of the material, spiritual, and emotional resources needed to survive, develop and thrive, leaving them unable to enjoy their rights, achieve their full potential or participate as full and equal members of society (UNICEF 2004:1, 2005:8).

Child poverty differs from adult poverty in that it has different causes and effects, and the impact of poverty during childhood has permanent effects on children (CHIP, 2004:1; UNDP, 2004:1).

Poverty influences the development of all children. Therefore learners from low income households in an impoverished learning environment area are double at risk (WCRSS, 2005:3).

1.1.3 Attitudes

The development of positive attitudes is part of the cognitive development process. Positive attitudes involve deliberation and judgement, as well as criteria provided by a value system, in order to act based on such decisions. Learners require opportunities through home and school experiences to improve those positive attitudes, particularly in contexts where social pressures around them require such decisions.

Children from poor families are also at greater risk for experiencing behavioural or emotional problems such as antisocial behaviour (Aber *et al*, 1997:463-483; Miech *et al*, 1999:1096-1131; Takeuchi, Williams, & Adair, 1991), as well as internalising behaviour problems, such as depression (McLeod & Shanahan, 1996:207-220; Miech *et al*, 1999:1096-1131). Similarly, poor children show difficulties with aspects of social competence including self-regulation and impulsivity (Takeuchi *et al*, 1991: 1031-1041), as well as abilities associated with social-emotional competence (Eisenberg *et al*, 1996: 141-162).

Ramey *et al* (1992: 454-465) found that they could significantly increase emotional and cognitive achievement of poor children compared to untreated controls. Divided into two groups (one control group), the children who were exposed to the enriched environment scored significantly higher on every cognitive, emotional and social post-test, even as much as 16 years later (Wasik *et al*.1990: 1682-1696).

1.2 Problem statement

The multi-grade environment within the South African education context is very complex and demanding. More than 30 percent of all primary schools in South Africa are in a multi-grade environment, estimated to be 7 000 out of 21 000 schools (CMGE, Baseline study, 2009:5).

Children, who are exposed poor socio economic living environments, have difficulty to acquire positive attitudes. These children are part of a culture where they are dependent on themselves for physical and emotional needs. Montgomery, Kiely and Pappas (1996:1401-1405) state that socio economic considerations, especially poverty, clearly have a negative influence on the holistic development of a child. The research problem is evident from the context of the study and the literature review will elucidate it further: Children from deprived backgrounds, coupled with a deprived learning environment, have negative socio-emotive attitudes.

1.3 Significance of the study

If learners from disadvantaged, multi-grade schools wish to survive in today's knowledge-based society, a positive attitude towards their schoolwork, parents and teachers, fellow classmates, society and themselves is imperative. Research on interventions that could influence attitudes positively is therefore relevant and should be of great value to both teachers and educational planners.

What should be understood is this: Attitudes involve what people think about, feel about, and how they would like to behave toward an attitude or object. Behaviour is not only determined by what people would like to do, but also by what they have usually done, that is, habits, and by the expected consequences of the behaviour (Triandis, 1971: 14).

The interest in this subject originated from extended exposure to and participation in athletics. It was found that learners from farm schools, at first glance, possessed phenomenal potential, but quietly disappeared out of the system, never having reached any worthwhile levels of achievement. In the course of graduate and post-graduate Human Movement Science studies, a strong emphasis was placed on the importance of fitness awareness as an integral objective of any movement activity. Structure and ownership regarding the intervention programme may be developed through active participation, which creates a structured and functional environment where learners can improve physically, emotionally and spiritually.

1.4 Research question

The following research question was developed for the investigation:

1. Are the attitudes of Grade 4 learners in multi-grade schools improved by active participation in a holistic fitness programme?

1.5 Methodology

This research is based on an intervention programme within the three multi-grade schools in the Wellington district. The programme includes the Children's attitudes towards physical activity (CAPTA) test and the Fitness Test Battery (FTB).

The programme was administered to 38 children (N= 21 males and N=17 females). All grade four learners from the three sample schools took part and completed the same test.

The researcher intends to generate both quantitative and qualitative data to address the problem of the study adequately.

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 Tellis (1997b:3) namely, construct validity, internal validity, external validity and reliability.

1.6 Limitations

1. The sample used was not chosen at random. All grade four learners from the three multi-grade schools in the Wellington district were used.
2. The lack of proper facilities (*i.e.* flat running area and gravel roads) at all three schools meant that the scores of the 50-meter dash, and the 1600m were not reliable.
3. The weather restricted some learners to participate in the whole duration of the intervention programme. Some learners needed to walk more than 5 kilometres in the rain to school, on wet muddy roads crossing rivers in the process.

4. The fact that some children have not eaten before participating in a physical activity is a factor that affects the scores of the FTB.

1.7 Terminology

1.7.1 Multi-grade education

Multi-grade education is, 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 (Benveniste and McEwan, 2000:33).

1.7.2 Attitudes

Attitudes are commonly defined as an individual's favourable or unfavourable evaluation of an attitude object or target behaviour (Ajzen, 1991:179-211).

1.7.3 Poverty

Poverty is a chronic; mind/body condition exacerbated by the negative, synergistic effects of multiple, adverse, economic risk factors (Joubert, 2006:5).

1.7.4 Holistic fitness

"Fitness is a total concept" (Conradie, 2003:37). This is why reference is made to holistic fitness, which includes particular aspects of fitness, such as specific physical fitness. From this it may be concluded that holistic fitness has to encompass the intellectual, as well as the emotional, social, spiritual and physical aspects.

1.8 Conclusion

Considerable research has been done on the influence of fitness on the attitude of children. The majority of research in this broad and active area of study indicates that fitness has a positive influence on the attitude of active learners. Kologiannis (2006:1) refers to the abundance of research that has demonstrated the positive correlation between participation in programmes of physical activity and higher levels of physical self-esteem and global self-concept.

Differentiated fitness programmes and/or multi-faceted programmes are important when addressing the needs of any South African school. Multi-faceted programmes have, because of their composition, the ability to bring stability in the lives of thousands of learners. These programmes not only have the potential to improve the fitness of the learners, but also their self-image. Sylva Cox (2000:21) is of the opinion that with the aid of multi-faceted programmes, later school failures could be prevented.

CHAPTER 2

LITERATURE REVIEW

The literature review provides a background of relevant literature pertaining to the study regarding the influence of a holistic fitness programme on the development of positive attitudes. With reference to the literature, it is essential to take into consideration the context in which the study took place. According to Juvane (Commonwealth Education, 2006:10) it is ironic that while multi-grade classes could be the answer to educate rural people in many African countries, most governments focus on the improvement of conventional schools.

2.1 Holistic fitness programme

Conradie (2003:37) set the classic approach referring to the point of view that usually, fitness is associated with sport achievement, resulting in the meaning of fitness being given a purely “physical” connotation. This one-sided view does not see fitness as an encompassing and human quality.

Physical fitness is defined as a set of attributes that people have or achieve that relates to the ability to perform physical activity (Pate *et al.*, 1995: 402). Pate further states that physical fitness is any bodily activity produced by skeletal muscles that result in energy expenditure. These definitions contribute to the lack of understanding when addressing the importance of fitness with reference to physical fitness in the National Curriculum Statement (NCS).

Fitness is an important aspect, which is not clearly addressed by the NCS. The focus of the South African approach to fitness is directly connected to achievement, instead of to mass participation and the development of a healthy lifestyle.

Prof. Tim Noakes, refers to the promotion of wellness as follows: "*the ethos of our school system and indeed our society is one that, wrongly, emphasises competition in sport and winning rather than participation for the sake of wellness and general physical fitness*" (Yutar, 2005:1).

The parallel idea between the findings of Yutar (2005:1) and Conradie (2003:37) who both state that a Holistic fitness approach needs to be followed rather than an achievement driven system. This approach includes the academic and social improvement, emotional balance and the development of a positive self-concept.

Behavioural domain is the broad term for the cluster of behaviours that relate to initiating and sustaining skill practice and fitness activity. These behaviours can be accessed directly by observation or inferred from various scales. When using observation, the observer records incidents where participant's try harder, concentrate more, persist longer, pay more attention, perform better, and choose to practice longer, and join or drop out of sporting activities (Roberts, 1992:6).

Numerous studies pertaining to the enhancement of motor skills and self-esteem among young children focus on the improvement of motor skills through physical activity, and the relationship there-of to self-esteem (Corbin, 2002; Rose & Larkin, 2002; James & Collier, 2004; Miyahara & Wafer, 2004). According to Bunker (1991: 467-471), there is a dynamic interaction between motor skill competency and self-esteem in the young child (2 to 10 years), and the results of several studies support this statement (Thomas, 1999:1-9; Miyahara, 2004: 281-301; Rose & Larkin, 2004: 127-141). No studies could be found pertaining to the self-esteem of primary learners within the multi-grade context in South Africa, and no studies could be found on the effect of physical activity on the self-esteem of pre-primary learners directly affected by the multi grade context in South Africa.

These movement activities aims to encourage children to play and in so doing to expend their energy in an efficient way. In this way health awareness is promoted and ensured in the long term. It is contended that the absence of movement activities results in the learners experiencing a backlog in their development of positive attitudes. Even more concerning is the fact that, according to Miyahara and Wafer (2004:281-300), children who live in low-income communities, are not exposed to specialised assessment and intervention.

2.1.1 National Curriculum Statement (NCS) reference to fitness

The National Curriculum Statement is the guideline by which learners in South Africa are prepared for the future. The Learning Area of Life Orientation provides teachers with learning outcomes through which the learners' physical and spiritual development have to take place within the school context. However, no clear guidelines as to how this has to happen is given in the NCS. This problem has stimulated the need for the present research (Nel, 2003:2).

Learning Outcome 4 of the Learning Area, Life Orientation, refers to it as: Physical development and movement. (National Education Department, 2002:3), but the important skills that should be achieved through this are omitted. In addition, reference is made in the Assessment guidelines for Life Orientation to practical participation in sport. This reference encourages physical development as one of the most important forms through which the learners' practical participation should occur (National Education Department, 2002:9). This is the only specific reference to a fitness programme in the above-mentioned document, which clearly shows that this very important concept of fitness is insufficiently addressed.

2.1.2 General motor ability

Fundamental motor skills are movements that have exact visible patterns.

They include:

- Loco-motor skills such as running, jumping, hopping, galloping, rolling, leaping and dodging;
- Manipulative skills such as throwing, catching, kicking, striking and trapping; and
- Stability skills such as balance, twisting, turning and bending.

A fundamental motor skill involves the principal elements of a specific movement. It does not highlight the combining of a selection of fundamental motor skills into multi-faceted skills. Each fundamental motor skill is measured in relative seclusion from the others. Fundamental motor skills are part of a movement continuum that begins before birth and continues throughout life. The exposure to movement experiences learns fundamental motor skills that will be refined through rehearsal, instruction and modelling (The Australian Council for Health, 2009:4).

Numerous studies pertaining to the development of motor skills and self-esteem among young children focus on the improvement of motor skills through physical activity (PA), and the relationship there-of to self-esteem (Corbin, 2002:128-145). According to Bunker (1991:467-471) there is an active interaction between motor skill competency and self-esteem in the young child (2 to 10 years), and the results of numerous studies support this statement (Thomas, 1999:1-9; Miyahara & Wafer 2004:281-301; Rose & Larkin, 2004:127-141).

Table 1: The distinct differences between General Motor Ability (GMA) tests

| | | | | |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Fitness-Programme | Bruininks-Osersky Test of Motor Proficiency 2 (Horvat <i>et al.</i> , 2007:92) (BOT-2) | Charlop-Atwell test Battery (Nel, 2002: 46) (CAT) | Learner Evaluation Battery (Nel, 2003: 1) (FTB) | FITNESS GRAM (Morrow <i>et al.</i> , 2005 :288-295) |
| Purpose | The BOT-2 test is an individual administrated norm-referenced test that assesses motor functioning. | The test battery is designed to measure the motor ability of children. | Enhancement of the total fitness state of the youth. | The FITNESSGRAM is a physical fitness battery that includes health-related criterion-referenced standards. |
| Level and Gender | Children and adults from 4 to 21 years of age. | Children from primary schools aged 6 – 13, Gr. 1 – Gr. 7 | Children from 8 to 18 years of age. | Children from 5 to 17+ years of age. |
| Scope of the GMA test | <ol style="list-style-type: none"> 1. fine motor precision 2. fine motor integration 3. manual dexterity 4. bilateral coordination 5. balance 6. running speed 7. agility 8. strength 9. upper-limb coordination | <ol style="list-style-type: none"> 1. Half turn 2. Linear forward movement 3. One leg jump 4. Toe Stand 5. Pre-historical Animal movement. 6. Star jumps | <ol style="list-style-type: none"> 1. Chin ups 2. Standing long jump 3. 50m dash 4. 2400m jog 5. Push ups 6. Abdominal curls 7. Suppleness 8. Hand wall toss 9. Rope skipping 10. Motor skill | PACER Skin-folds Curl-ups Trunk lift Push-ups |

2.2 Attitudes

Attitudes are commonly defined as an individual's favourable or unfavourable evaluation of an attitude object or target behaviour (Ajzen, 1991:179-211).

Much research (Kologiannis, 2006:1, Taylor & Manning, 1975:4; Low & Edwards, 1993:5) has been done on the influence of fitness on the positive attitude of children. The majority of researchers in this broad and active area of study agree that fitness has a positive influence on the attitude of active learners.

Kologiannis (2006:1) asserts that the profusion of research has proven the positive correlation between participation in physical activity programmes and higher levels of physical self-esteem systems according to the global self-concept.

Intentions to be physically active are related to attitudes about physical activity and social normative influences. Attitudes are comprised of beliefs about the outcomes of physical activity (e.g., "Aerobics will help me reduce body fat") and the value or importance attached to such beliefs (e.g., "I want to lose some fat"). Social norms are associated with the beliefs of important others, such as family members, and the degree to which one wishes to comply with such individuals. Physical activity is not always personally controllable hence the importance of increasing feelings of control in predicting intentions and actions (Vanden Auweele *et al*, 1999: 23).

2.2.1 Components of behaviours/attitudes

According to Martens (1975:128) a child's attitudes relate to three unified components of behaviour:

- Attitudes are a cognitive component that is conceptualised as a person's belief, ideas, or factual knowledge of some object or person.
- The affective component that is the person's evaluation of, liking of, or emotional response to some object or person.
- And is a behavioural component that consists of the person's behavioural intention toward an object or person.

And for this reason attitudes are developed through direct experience and interpersonal communication (Vanden Auweele *et al*, 1999: 11).

Favourable conditions that tend to promote the development of positive attitude are (a) equal-status relationships, (b) a social and instructional climate that requires frequent contact, (c) cooperative rather than competitive or individual activities, (d) contracts that are pleasant and rewarding, (e) modelling of positive attitudes by teacher and significant others, and (f) scientifically planned and applied persuasion (Sherrill, 1998: 226).

These conditions do pose the question, whether there is a line to be drawn between the favourable conditions and the support and services provided to people with a lack of positive attitudes. This statement is confirmed by Sherrill (2004:253) when she states that attitudes result in how individuals are taught and accepted, as well as the available support and services that are made accessible to them. Attitudes indicate one tendency to either approach or avoid the situation.

Cox (2000:21) is of the opinion that with the aid of multi-faceted programmes, later school failures could be prevented. Differentiated fitness programmes and/or multi-faceted programmes are imperative in addressing the needs of any South African school. Multi-faceted programmes have, because of their composition, the ability to bring stability in the lives of thousands of learners. These programmes not only improve the fitness of the learners, but at the same time also their attitudes.

2.2.2 Measuring attitudes

The key to the adaptation of behaviours towards people, who, in essence are different, is attitudes. This is the fundamental nature of adapted physical activity, integration, and inclusion. Attitude is derived from the Latin word *aptitude* (meaning "fitness," "faculty"), which in turn, comes from the word *aptus* (meaning, "fit," "apt," "suited"). This derivation suggests that attitudes and behaviours are related. The attitude-behaviour relationship can be conceptualised as a continuous circle with change occurring in both directions (Sherrill, 1998:225).

Smith and Biddle (2008:168) identified that central to attitude research is a valid and reliable measurement. They further point out that attitudes are often viewed as multidimensional, referring to the affective (emotional), functional (behavioural), and the instrumental (cognitive) aspects. In physical activity, young people are likely to account for enjoying certain sports or active pastimes, and more likely to reflect their emotional attitudes. The broader scale of children might have the belief that these pastimes have an active benefit to them, such as socialising and developing skills, and these are cognitive attitudes. The forming of action plans to engage in these pastimes display a behavioural aspect of their attitudes.

2.2.3 Attitude theories

2.2.3.1 The theory of reasoned action

The main aim of the theory is to explain intentional behaviours, and it is assumed that the theoretical components are universal across all behaviours of this type (Smith & Biddle, 2008:169).

Meta-analyses of studies adopting the theory of reasoned action in the physical activity setting, support the major premises of the theory (Hagger *et al.*, 2002:3-32; Symons-Downs & Hausenblas, 2005:76-97). To recapitulate the meta-analytic conclusions within these studies, the intentions have a strong connection with physical activity behaviour. For this reason, attitudes have a strong relationship with intentions, with a lesser role towards subjective norms (Hagger *et al.*, 2002:3-32).

2.2.3.2 The theory of planned behaviour

The major premises of this theory were very similar to those of the theory of reasoned action. However, the theory of planned behaviour included perceived behavioural control as an additional construct affecting intentions and behaviour when an individual has limited personal control over behaviour (Smith & Biddle, 2008:170-171).

The theory of planned behaviour holds that only specific attitudes toward the behaviour in query can be expected to forecast that behaviour. In addition to measuring attitudes toward the behaviour, the subjective norms need to be measured as well. The beliefs about how people care about their behaviour will view the behaviour in question.

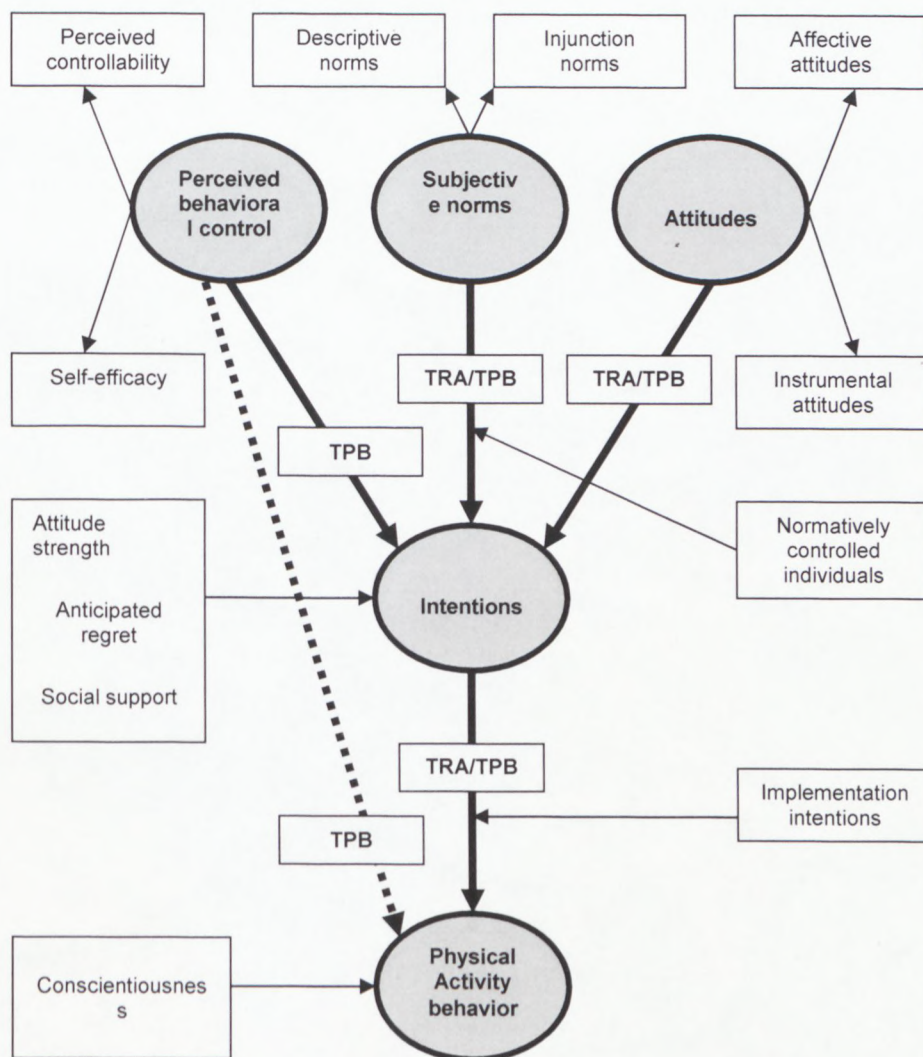


Figure 1: Extended version of the theory of planned behaviour. Note that the original theory of reasoned action (TRA) and the theory of planned behaviour (TPB) appear in bold with relationship labelled (Smith & Biddle 2008:170).

According to *Figure 1*, Smith and Biddle (2008:170) describes the variable of perceived behavioural control, which directly influences intentions (attitudes) and physical activity behaviour, this change needs to be acknowledged as the essence of behavioural control in children.

The anticipated correlation between the theories of planned behaviour is reported in *Figure 3* (paths bolded and labelled TPB). The direct effect of perceived behavioural control is represented by the broken arrow in the diagram, because it reflects a sway that is dependent on the degree of actual control an individual has over behaviour.

2.2.4 Attitudinal measurement programmes

Attitudes are predispositions to actions, so their proper development is important to the total development of the individual. They are acquired concurrently with activity and often have tremendous influence on performance. Not every person can be a championship performer, but each person can develop a favourable attitude toward activity. The table below illustrates differences between attitudinal measurement programmes.

Table 2: The contrasting differences between attitudinal measurement programmes

| | Physical Self-Perception Profile (Morrow <i>et al.</i> , 2005 :359-360) (PSPP) | Children's Attitudes Towards Integrated Physical Education- Revised Inventory (Horvat <i>et al.</i> , 2007:182) (CAIPE-R) | Toulmin Elementary Physical Education Attitude Scale (Barrow <i>et al.</i> , 1989:265-267) (TEPEAS) | Children's Attitudes Towards Physical Activity (Barrow <i>et al.</i> , 1989:270-273) (CATPA) |
|-------------------------|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Purpose | The theory that attitudes towards physical activity are modifiable by participation in physical activity. | To determine attitudes of children without disabilities in physical education as well as towards modifications to sports typically played in general physical education. | To measure expressed attitudes of elementary school children towards the physical education program. | To assess the meanings that physical activity has on elementary, middle and high school age students. |
| Level and Gender | Research on populations including male and female college students, middle age adults and overweight adults. | The only reference that is made regarding gender is of children, and that includes, boys and girls. | The scale is appropriate for boys and girls in grades four, five, and six. Analysis of variance showed no difference in scores by gender or by grade. | The CATPA inventory is suitable to use for boys and girls from fourth grade through high school. |

| | | | | |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Uses | The PSPP has been used a great deal since its development to investigate relationships between how people feel about their physical self and numerous physical activity outcome measures as well as mental health measures. | Each item on the CAIPE-R can also be analyzed to determine if the majority of children in the class disagree with a specific part about inclusion or a specific modification. | To measure status of attitude toward program. To evaluate changes in attitudes about the program. | The inventory can be used in both school and out-of-school settings in which attitudinal dispositions towards the seven sub-domains would be of interest. |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|

2.2.4.1 CATPA – Children’s Attitudes Toward Physical Activity (See appendix B)

Clearly, an important issue, which must be addressed in the examination of the relationship between attitude and physical activity behaviour, is the identification of an appropriate behavioural measure (McKenzie *et al*, 1991:141-151).

The CAPTA inventory provides a measure of an evaluative predisposition toward the attitude object physical activity. More specifically, the inventory assesses the perceived instrumental value held for six subsets or dimensions: Physical activity as:

1. a social experience;
2. health and fitness;
3. the pursuit of vertigo;
4. an aesthetic experience;
5. catharsis; and
6. an ascetic experience.

Attitudes for each sub-domain are quantified through use of a 7-point semantic differential scale for each of eight bipolar adjectives (*good-bad, of no use-useful, not pleasant-pleasant, bitter-sweet, nice-awful, happy-sad, dirty-clean, and steady-nervous.*) Scores with a possible range of 8 to 56 are thus derived for each of the six sub domains (Haggart *et al*, 1997: 3-32).

The inventory uses statements, where children are asked to indicate how they feel. There are five word pairs per statement, one negative and one positive word in each, and the scale for each pair goes from one to five, with five representing the positive word in the pair.

2.3 Multi-Grade Education

Benveniste and McEwan (2000:33) referred to 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 sketch for the demonstration of the different contexts of the concept multi-grade teaching. They are:

- Schools in areas of low population concentration which are widely spotted and inaccessible with low enrolments and possibly only one or two teachers accountable for all grades;
- Schools that include a group 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 deteriorating and where there was in the past mono-graded teaching;
- Schools in areas of population growth and school development, where enrolments in the expanding upper grades stay small and teacher numbers few;
- Schools in areas where parents send off their learners to more accepted schools within realistic travel distance, leading to a drop in the possible population of learners and teachers in the less popular school;

- Schools in which the figure of learners admitted to a class exceeds official norms on class dimension, necessitating the mixture of some learners from one class grade with learners from another grade;
- Transportable schools in which one or more teachers move with nomadic and pastoralist learners spanning a broad range of ages and grades;
- Schools in which teacher absence is high and additional teacher actions are unsuccessful or absent;
- Schools in which the official number of teachers deployed is adequate to support mono-grade teaching, but where the concrete number deployed is less; and
- Schools, in which learners are prearranged, for pedagogic reasons, in multi-grade rather than mono-grade groups, and often as part of a more universal curriculum and pedagogic improvement of the education system.

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. However, despite the high prevalence and persistence of multi-grade schools, government education systems continue to be organised according to a monogrammed norm. This norm needs to be challenged because curriculum needs to be developed according to the differentiation within specific school contexts.

Materials developed with the needs of mono-grade teaching in mind place a heavy burden on multi-grade teachers who are expected to adapt these materials to their own needs. The term multi-grade teaching is not universal, but the practice is widespread. Multi-grade teaching (MGT) refers to settings where the teacher is responsible for teaching children of different grade levels at the same time. Many terms are found in the literature to describe multi-grade settings (Joubert, 2006:1).

National curriculum content, teaching and learning materials and activities taught at schools are frequently geared for mono-grade classes. The result of untrained and inappropriately trained teachers, as well as lack of appropriate teaching and learning materials, is that children in multi-grade classrooms spend much of their time learning material they already know.

While the world is becoming increasingly urbanised, multi-grade schools will remain a reality for many years to come. Adequately meeting the needs of children in multi-grade classrooms will be essential for the achievement of quality education for all.

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.

An article published by Potgieter (2010:4) regarding the state of multi-grade schools in the Western Cape states that teachers are in most cases not qualified or capable to provide quality education to learners. Potgieter (2010:4) further states that multi-grade schools can account for 30 percent of all primary schools in South Africa, with an estimate of more than 3 million children located in these schools. Multi-grade is most prevalent in the context of the primary school environment in rural areas. These areas are populated by poverty-stricken communities, low incidence of government support for learning and training.

Table 3: The distribution of learners, teachers and schools in South Africa according to comparative statistics (Report of Ministerial Committee on Rural Education, 2005:84; 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 4*, are of significant importance in the contextualisation of the rural education challenge, which is very important in South Africa.

Table 4: Farm schools learners per province: 1996-2000 (Report of Ministerial Committee on Rural Education, 2005:84).

| PROVINCES | 1996 | 2000 | % Increase/Decrease 1996-2000 |
|------------------|-------------|-------------|--------------------------------------|
| Eastern Cape | 50307 | 18333 | -64 |
| Free State | 104268 | 56618 | -46 |
| Gauteng | 25297 | 12576 | -50 |
| Kwazulu-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 2002, public schools on private commercial farms, actually declined by 4 percent. They constitute 13 percent of all state funded schools and provide education to 3 percent of learners in the public school system. Farm schools actually appear to have been declining since 1994 as shown by *Table 4*.

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. Joubert's (2006:3), view regarding the South African MGC is supported by Juvane (Commonwealth Education, 2008:4). He summarises the problem by stating that the South African community at large need to ensure that Education for all (EFA) includes all rural people.

2.4 Poverty

Learners in remote rural areas across South Africa experience many barriers to participate in school. Emerging Voices (2005:64) refers 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
- Learner's patterns of schooling are not gender-neutral and are exacerbated in the case of learners with special needs.

Potgieter (2010:4) states that socio economic considerations such as the lack of parental interest in education, poverty, poor nutrition and the differences between home and school culture disable learners to develop in a holistic manner.

Poverty is a coagulation factor within the education scenario. Smith and Biddle (2008:461-463) refers to the following key socio-environmental factors that influence the physical activity levels of children: (a) social norms (b) social-cultural factors (c) socio-economic factors (d) crime and safety. They (Smith and Biddle 2008:462) state that low-income groups are also reported to have higher levels of physical inactivity, regardless of ethnicity.

According to Burchi and De Muro (2007:4) the majority of people in rural areas is poor and illiterate and is engaged in subsistence agriculture. Burchi and Muro (2007:4) further states that as illiterates, these people are excluded from the knowledge that would enhance their capacity and productivity to improve their livelihoods and citizenship. In ethnic communities populated by groups with a low socio-economic status, access to and availability of facilities and resources play a large role in the amount of vigorous and recreational physical activity that occurs (Sallis *et al.*, 2000:963-975).

Poverty cannot be seen as a separate entity with regards to the multi-grade context of South African schools. The Farming and Agricultural organisation of the United Nation the FAO (2007:1) describes the poverty menace model as follow: "the most people in rural areas work in agriculture, and in the most cases for low rates of compensation.

The access to services that government provide are generally inappropriate and of poor quality". Hemson, Meyer and Maphunye (2004:3) agree with this statement when they state that it is an unfortunate reality that these are the schools from the most neglected part of the education system.

In most cases these schools are located in isolated, low-income rural areas, and have untrained, illiterate teachers. A fundamental question arises from this text and that is how to promote rural development with such contradictory objectives? And how to avoid creating new forms of dependency for rural people (children), while also releasing pressure and unlocking opportunities for them?

Hemson *et al* (2004:3) and the FAO (2007:1) agree that poverty has a strong grip on rural areas and that poverty has an enormous influence on the global spectrum of development. Agriculture and poverty have a very strong connection in the literature and it can be compared with the Wake Country School System (WCRSS, 1999:20). The WCRSS alleges that while an investigation of poverty in American schools was done, schools with above-average poverty rates the poverty level of the school influences the development of all children, including those from more advanced families. Low-income students at high-poverty schools experience a double risk.

Easton, Golightly and Oyston (1999:151) report that, this may easily be applied to most rural schools. The poor results of the systemic tests throughout South Africa underline this statement.

The wider social structure of citizens sees people from rural areas as inferior to people who live in urban areas. Acker and Gasperini (2009:4) states that rural people are an overlooked majority of the world's poor population, because of the prevailing western and industrial models of development that give more priority to the urban industrial and services sectors as the engine of national economic development.

The FAO (2006:1) describes the problems this western model faces by focussing on education leaders who deal with rural development programmes. They state that the greatest challenge in serving rural populations is providing ready access to quality education and training for all age groups, at all levels of the education system. Senior government representatives from 11 African countries reiterated the need to address the gross inequities that marginalise rural people, and in particular access to education by girls and women, working children, people in inaccessible and remote areas, nomadic and pastoral communities, ethnic minorities, the disabled, refugees and displaced persons (FAO, 2006:1).

What should be understood is that attitudes involve what children think about, feel about, and how they would like to act toward an attitude entity. Behaviour is not only determined by what people would like to do, but also by what they have more often than not done, and that is, habits, and by the expected consequences of the actions (Triandis, 1971:14).

2.5 Summary

The unequal access to quality-differentiated education is one of the major inequalities affecting the rural poor. However, the rural nature of these challenges is often overlooked.

Attitudes can change (Taylor & Manning, 1975; Louw & Edwards, 1993). The approach, to how and whether it needs to be changed is a question that needs to be carefully examined.

It is argued that poverty hits children the hardest. It creates an environment that is damaging to children's development – mental, physical, emotional and spiritual. The well-being of children is a key yardstick for measuring national development. Indeed, the one of the most important criterion for gauging the integrity of society – or the international community, for that matter – is the way it treats children, particularly the poorest and most vulnerable ones.

The best start in life is critical in children's' first few years, not only to their survival, but also to their physical, intellectual and emotional development. So these deprivations greatly hamper children's ability to achieve their full potential, contributing to a society's cycle of endless poverty and development.

CHAPTER 3

METHODOLOGY

3.1 Introduction

The methodology is based on an interpretive research framework. Specific emphasis is given to the evaluation of the experiences and attitudes of the learners. By focussing on the interpretations and experiences within the specific context and background of the multi-grade learners, the value of an interpretive framework is underlined.

Henning *et al* (2004:21) refers to interpretive research as an attempt to understand the phenomena:

- Through the meaning that people assign to them
- In their day-to-day working environment; and
- From the standpoint of their unique contexts and backgrounds.

This statement by Henning is critical to the specific context in which the study is done, i.e. a multi-grade school, which is described at length in the literature review.

It is imperative that this study follows clear and well-structured methods to analyse and to interpret the observations and progress of participants' behaviour, test-scores, and experience within the context of the holistic fitness programme. Therefore is it important that careful recording and evaluation of the process of implementation and the experience of all concerned is done.

The methodology needed to be designed to understand how other people see their own experiences. Ethnographic research will be used to determine these experiences. According to Spradley (1979:3), ethnography is the work of describing a culture. The goal of ethnographic research is to be aware of another way of life from the local point of view.

3.2 Research question

1.) Are the attitudes of Grade 4 learners in multi-grade schools improved by active participation in a holistic fitness programme?

3.3 Key instruments

The following data collection methods will be used:

| Method | Description |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Observation | Observation: The focus falls on the observation from within the dynamics of the situation, as well as the changing of personalities. This links with the interpretative research framework. By staying in a situation over a long period the researcher is also able to see how events evolve over time, catching the dynamics of situations, the people, personalities, contexts, resources, roles, etc (Cohen <i>et al.</i> ,2005:311). |
| Attitudinal evaluation questionnaires. | The implementation of a pre- and post-attitudinal evaluation test by every learner. |

- CATPA Questionnaire

Purpose: To assess the meanings that physical activity has on elementary, middle, and high school age students (Barrow *et al.*, 1989: 270).

Fitness evaluation and intervention programme

The implementation of a holistic fitness programme over a 12 - week period of intervention, a pre and post-fitness evaluation test, of each learner.

- Fitness Test Battery (Dr J.A.P Nel – 2003:5)

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. By comparing the comments of all the respondents, the validity and reliability of the data may be determined. By means of data source triangulation it may be determined to what degree the respondents agree regarding the validity and reliability of the criteria and this could aid the researcher in identifying the strengths and weaknesses of the criteria (Tellis, 1997b:2).

3.4 Sampling

The sample was designed to meet the following criteria:

- a) Learners have to be in Grade 4;
- b) No age limits are excluded; and
- c) Learners must attend a multi-grade school in the Wellington area.
(Western Cape, South Africa).

The criteria enforced the administrator to choose all three multi-grade schools in the Wellington district area, because their socio - economic positions are similar and one multi-grade school lack significant sample numbers.

Every school was allocated a testing date. The dates were flexible, because the testing would take place in the middle of winter in Wellington. As a result the total number of subjects in this study was 38 children (N= 21 males and N=17 females), all of whom were in grade 4 and attended one of the three multi-grade schools in the Wellington area. There were 10 learners (N = 5 males and N = 5 females) from School 1, 12 learners (N = 6 males and N = 6 females) from School 2 and 16 learners (N = 10 males and N = 6 females) from School 3.

3.5 Identification of test batteries

Table 5: Sequence of the tests and the dates when the test were conducted

| Pre-Test - Date: | Holistic Fitness | Attitudinal evaluation |
|--------------------------|----------------------------------|-------------------------------|
| 1.) 22 - 23 June 2009 | evaluation | 1.) School 1 |
| 2.) 23 - 24 June 2009 | 1.) School 1, 2 | 2.) School 2 |
| 3.) 24 - 25 June 2009 | 2.) School 1,3 3.) School 2,3 | 3.) School 3 |
| | | |
| Post-Test - Date: | Holistic Fitness | Attitudinal evaluation |
| 1.) 6 – 7 October 2009 | evaluation | 1.) School 1 |
| 2.) 7 – 8 October 2009 | 1.) School 1,2 | 2.) School 2 |
| 3.) 8 – 9 October 2009 | 2.) School 1,3 3.) School 2,3 | 3.) School 3 |

A twelve-week fitness intervention programme occurred during the 3rd semester of 2009 from 20 July 2009 until 23 September 2009.

The nature of the programme was to define whether a fitness-based programme development and evaluation model, provides a practical approach to understanding the how and the why of a given programme, thereby providing insight into how to develop, refine, and improve it. This intervention programme model helps to identify the various components of a programme in order to determine, through evaluation and attitudinal evaluation questionnaires; the basis for decisions about whether and how to modify the programme for further research.

3.5.1 Identification of the Attitudinal Test Battery (ATB)

- CATPA – Children’s attitudes towards physical activity. (Refer to Appendix B) *To assess the meanings that physical activity has on elementary, middle, and high school age students* (Barrow et al., 1989: 270).

- The CATPA inventory includes the following eight sub-domain's of physical activity for participants to express their attitudes:
 1. Social Growth - taking part in physical activities that give you a chance to meet new people.
 2. Social Continuation - taking part in physical activities that give you a chance to be with your friend.
 3. Health/Fitness: for value - taking part in physical activities to benefit your health-
 4. Health/Fitness: for enjoyment - taking part in physical activities to get your body in better condition.
 5. Vertigo - taking part in exciting physical activities that could be dangerous because, you move very fast and must change direction quickly.
 6. Aesthetic - taking part in physical activities that have beautiful and graceful movement.
 7. Catharsis – taking part in physical activities that reduce stress to get away from problems you might have.
 8. Ascetic - taking part in physical activities that have long and hard practices requiring you to give up other things (Barrow *et al.*, 1989: 272).

- Attitudes for each sub domain are quantified through use of a 7-point semantic differential scale for each of the eight bipolar adjectives (good-bad, of no use-useful, not pleasant-pleasant, bitter-sweet, nice-awful, happy-sad, dirty-clean, steady - nervous). Scores with a possible range of 8 to 56 are thus derived for each of the 8 sub-domains.

3.5.2 Identification of a Fitness Test Battery

The following criteria were identified for the use of the fitness test battery:

- The FTB must cover all motor components;
- The FTB needs to be standardised;
- The FTB must be appropriate for Grade 4 learners from a multi-grade school;
- The FTB must be flexible towards the environment of the different schools.

The following outcomes applicable for a Fitness Test Battery:

- Improvement of general fitness status.
- The active interest in physical development and state of children.
- Motivation to improve physical fitness.
- Motivation towards a physical active lifestyle.
- Encourage learners to follow their own fitness program.
- To construct an awareness of the value of physical fitness.
- Encourage learners who struggle with academic orientation.
- Measurement to track learners' personal advancement.
- Acceptance of personal status.

Fitness Test Battery (Nel, J. A. P., 2003:8)

(Refer to Appendix A)

The following physical and motor abilities were included in the Fitness Test Battery (Pre and Post-testing):

1. Height: The body height of each learner was assessed by measuring the distance from the ground to the highest point (vertex) on the head with the use of a measuring tape mounted to a wall, accurate to 0.1cm. Learners were instructed to remove their shoes on this test item.

2. Body mass: The body mass of each learner was measured with the use of a scale. Learners were instructed to remove their shoes for this item.

3. Pull-ups: Learners were instructed to position their hands shoulder width apart. They had to grasp a horizontal bar, positioned in an in stretched hang. The learners' arms need to bend until their chin touches the bar. While in the hanging position, the body must be stationary. No swinging or kicking actions were allowed. The test administrator counts the amount of times the learner's chin touches the bar.

4. Standing long-jump: Learners were instructed to stand with their feet a few centimetres apart with their toes behind the stepping board. Both feet must stay in contact with the floor during the preliminary swings. The jump must be executed with a two-foot take –off. The learner then jump forward as far as possible, landing on both feet. The distance gets measured from the nearest centimetre from the stepping board to the back of the foot or other body part closest to the stepping board. The better of two attempts were recorded.

5. The 50 Meter Dash: Due to the nature of the facilities within these schools the 50 Meter Dash took place on a gravel road close to each of the three schools. The distance was measured with a measuring tape. One student participates at a time while using a standing start. Time is measured to one tenth of a second. The better of the two attempts were recorded.

6. The 1.6 km run: Due to the nature of the facilities within these schools the 1.6 km run took place on a gravel road close to each of the three schools. The time was measured in minutes to the nearest second. All the pupils participate at once in this exercise. Only one attempt is allowed.

7. Push-ups: The amount of push-ups a student achieved in 60 seconds was recorded. Each attempt needed to be accompanied by a straight back, the student's head lifts up while looking straight ahead with outstretched arms. Arms should be shoulder length apart. The test administrator lies flat on his stomach, square with the pupil, his arm stretched with his fist under the pupil's chest.

The student's body must be kept straight and knees may not touch the ground. Arms bend fully, until the student's chest touches the test administrator's fist. Each complete extension is counted. Only one attempt is allowed.

8. Sit-ups: The amount of sit-ups a student achieved in 60 seconds was recorded. The student needs to be on his back with his arms crossed over his chest, with his right hand on his left shoulder and his left hand on his right shoulder. The elbows need to be flat against the chest. The test administrator holds the student's legs just below his knees, with the student's feet between his thighs. The student's upper legs need to be square with his lower legs - parallel to the exercise matt. The student must curl forward until his elbows touches his thighs. The student leans back onto the matt; with his shoulder blades touching the matt before he can start the next attempt. The test administrator only counts the attempts where the elbows touched the thighs. The student's hands are not allowed to move from the shoulders. The student is allowed to pull their knees forward. The elbows are not allowed to be brought forward. The pelvis is not allowed to move from the matt. Only one attempt is allowed.

9. Flexibility: Use a balancing bench. Make a mark at the bench in line with the outside edge of the foot of the bench. Place a long ruler with the 15 centimetre mark on the above mark. The other end of the ruler runs down the bench in a straight line. The student sits flat on the floor facing the end of the bench, his heels against and vertical with the foot of the bench. The student leans forward as far as he possibly can with both hands stretched on either side of the ruler. The student holds the furthest position for two seconds, no bouncing or rebounding movements are allowed. The better of two attempts is taken. Distance is taken to the nearest centimetre.

10. Hand Wall Toss: Use a smooth wall. Draw a line two metres from the wall. The student stands facing the wall with a tennis ball in his dominating hand. Feet must be behind the line. Extra balls are placed next to his dominating foot.

On count, the ball is thrown under arm towards the wall, and caught directly with the other hand. The ball is thrown at the wall by the hand that caught it in the same manner, and caught with the other hand. A different ball gets used if the ball is not caught. The ball must be thrown underarm. The ball may not be pushed against the body. The student may not step over the line. The amount of successful catches in 30 seconds gets noted. The test administrator counts the number of successful catches. The paramount of two attempts gets noted.

11. Rope skipping: Amount in 60 seconds gets noted. The student needs to stay in one place, feet together and without a rebound while skipping. The test administrator keeps count of the successful number of skips.

12. Throwing test: A hula-hoop is placed vertically alongside a wall. The student stands 10 metres away from the wall. A tennis ball gets used. The student gets 10 chances to throw the ball directly into a hula-hoop. A over arm action gets used. Test administrator counts the amount of successful attempts.

3.6 Procedures

3.6.1 Test Administration

Upon arrival at each school, the test administrator reported to the main office to meet the principal. The principal showed the test administrator to the grade 4 class of all three respective schools. The testing area was examined by the test administrator on a previous visit to the respective schools, to make sure that all the needed equipment and facilities will be sufficient. The test administrator went to the testing area as designed by the test official on a previous visit. The test administrator brought all the equipment needed for the testing, and used the same equipment for each testing session. The testing area at each school was divided into nine stations, with the selected test items at each station.

Because the number of participants at the three respective schools is relatively small, all subjects at each school were tested as a single group. The test administrator was responsible for completing the evaluation sheets (Refer to Appendix A) to make sure that the correct data would be entered onto the respective evaluation sheets. Before the testing commenced, all the children took part in a full warm-up exercise that consisted of a basic warm-up jog and a full stretch.

Before each test commenced, the test administrator demonstrated the test, and allowed time for questions and for clarifying any misunderstandings that could have occur during the demonstration. If participants showed any sign of confusion about the performance of a skill, additional demonstration and instruction were provided. Subjects were allowed to repeat trials when misunderstandings were apparent.

All nine tests were completed before the learners went into the classroom to complete the attitudinal evaluation inventory (CATPA).

The CATPA involved the following procedure: A CATPA questionnaire was put on every desk in the classroom, together with a pencil and rubber. The test administrator gave clear instructions on how to fill in the questionnaire; this enabled the test administrator to standardise proceedings at all three schools.

The fact that the whole contact group of 38 children were Afrikaans speaking, while inventory was in English, was a significant constraint. The test administrator carefully explained each question to the children, taking into consideration the children's background, to make sure they understand and can fill in the questionnaire correctly.

3.6.2 Variations in Testing

Due to certain factors outside the control of the test officer, variables could not be kept 100% constant.

3.6.2.1 Fitness Test Battery: Pre-Test

- At the first school where the testing took place, it was not possible to complete the 1600-meter run and the motor skill tests due to undesirable weather conditions (i.e. rain). That forced the test officer to schedule a second test date when the test could be administered.
- At the second school where the testing took place, it was not possible to complete the 1600-meter run, the motor skill tests and the 50-meter run due to undesirable weather conditions (i.e. rain). That forced the test officer to schedule a second test date when the test could be administered.
- At the third school where the testing took place, it was not possible to complete the 1600-meter run due to undesirable weather conditions (i.e. rain). That forced the test officer to schedule a second test date when the test could be administered.
- On all 3 initial testing days a number of children were absent. That, together with the undesirable weather conditions, forced the test officer to re-schedule a second test date.
- For the assessment of the pull-up test, different pull-up bars were used. At school one and three, the test officer used the jungle gym to conduct the pull-up testing. At school 2, a pull-up bar was constructed from a steel pipe with the same diameter as that of the jungle gym. It was placed at the same height as the jungle gym pull-up bar.

- Due to undesirable weather conditions (i.e. rain), the order of the tests was changed. The bad weather conditions enabled some learners to have more rest before and after the completion of certain test.

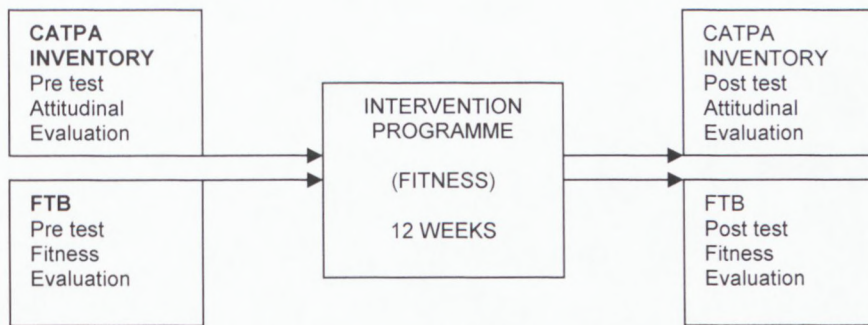
3.6.2.2 Fitness test Battery: Post-Test

- On all three days of the post-test a number of children were absent from the three schools. This forced the test administrator to re-schedule a second post-test date.
- The feeding scheme at School 1 didn't function on the day that the post-testing took place. For some of these children this is their only meal for the day. The lack of a meal could have affected the test results and this factor needs to be taken into consideration in the interpretation of the results.
- Due to construction at School 2 the motor skill test and hand-wall toss was conducted on different surfaces, namely gravel in the pre-test and cement in the post-test.

3.7 Data analysis

Descriptive data regarding learners' attitudinal changes and their involvement in physical activity were shown through the calculating of means and standard deviations.

Figure 2: Difference between the implementation period of the CATPA inventory, FTB and intervention programme



The purpose of the study was to determine what would be the influence of a holistic fitness programme on the development of positive values for a Gr.4 learner in a multi-grade class.

The data from the CATPA inventory was processed according to the scales provided with the inventory.

Observation sheets (see Appendix E) were updated daily in each of the following fields.

Fitness evaluation

- School 1 – male & female
- School 2 – male & female
- School 3 – male & female

Attitudinal evaluation

- School 1 – male & female
- School 2 – male & female
- School 3 – male & female

3.8 Ethics

A permission letter, (Appendix D) was obtained from the Western Cape Education Department (WCED), approving the research to be conducted in the three multi-grade schools in the Wellington area. Before the permission was granted from the WCED, the principal of each school was approached and asked to allow the grade four classes to become active participants in the study. The privacy of the learners and the confidentiality of the research were guaranteed. The learners were assured that all information collected during the research will be treated as confidential. All 39 students completed a waiver and an indemnity form (See appendix C).

CHAPTER 4

RESULTS AND DISCUSSIONS

This study was conducted in the Wellington district. It included 39 grade 4 students from all three multi-grade schools. One of the students did not complete the post-testing (CATPA inventory and fitness evaluation) and was therefore excluded from the data analysis. The following section presents the results of the CATPA Questionnaire (Children's Attitudes Towards Physical Activity).

4.1 Differences between scores of the pre- and post-test on the CATPA inventory

The table and figure below summarise the results for the pre- and post-tests on the CATPA inventory.

Table 6: Scores on the CATPA inventory: Pre- and post-test

| Variable | N | Minimum | Maximum | Mean | | Std. Deviation | Variance |
|----------------------------|----|-----------|-----------|-----------|------------|----------------|-----------|
| | | Statistic | Statistic | Statistic | Std. Error | Statistic | Statistic |
| Social growth1 | 38 | 1 | 5 | 3.24 | .133 | .82 | .67 |
| Continue social relations1 | 38 | 1 | 5 | 3.45 | .154 | .95 | .90 |
| Health and fitness1 | 38 | 1 | 5 | 3.45 | .172 | 1.05 | 1.11 |
| Vertigo1 | 38 | 1 | 5 | 3.21 | .147 | .90 | .81 |
| Aesthetic 1 | 38 | 1 | 5 | 3.53 | .159 | .97 | .95 |
| Catharsis 1 | 38 | 1 | 5 | 3.47 | .140 | .86 | .74 |
| Ascetic1 | 38 | 1 | 5 | 3.61 | .187 | 1.15 | 1.32 |
| Total1 | 38 | 17 | 32 | 23.92 | .717 | 4.42 | 19.53 |
| Social growth2 | 38 | 1 | 5 | 3.58 | .158 | .97 | .95 |
| Continue social relations2 | 38 | 2 | 5 | 4.00 | .125 | .77 | .59 |
| Health and fitness2 | 38 | 2 | 5 | 4.11 | .135 | .83 | .69 |
| Vertigo2 | 38 | 1 | 5 | 4.16 | .149 | .91 | .83 |
| Aesthetic2 | 38 | 2 | 5 | 4.29 | .146 | .89 | .80 |
| Catharsis2 | 38 | 1 | 5 | 4.16 | .149 | .91 | .83 |
| Ascetic2 | 38 | 2 | 5 | 4.16 | .144 | .88 | .78 |
| Total2 | 38 | 22 | 35 | 28.37 | .526 | 3.24 | 10.50 |
| Difference | 38 | -5 | 3 | 4.45 | .797 | 4.91 | 24.14 |

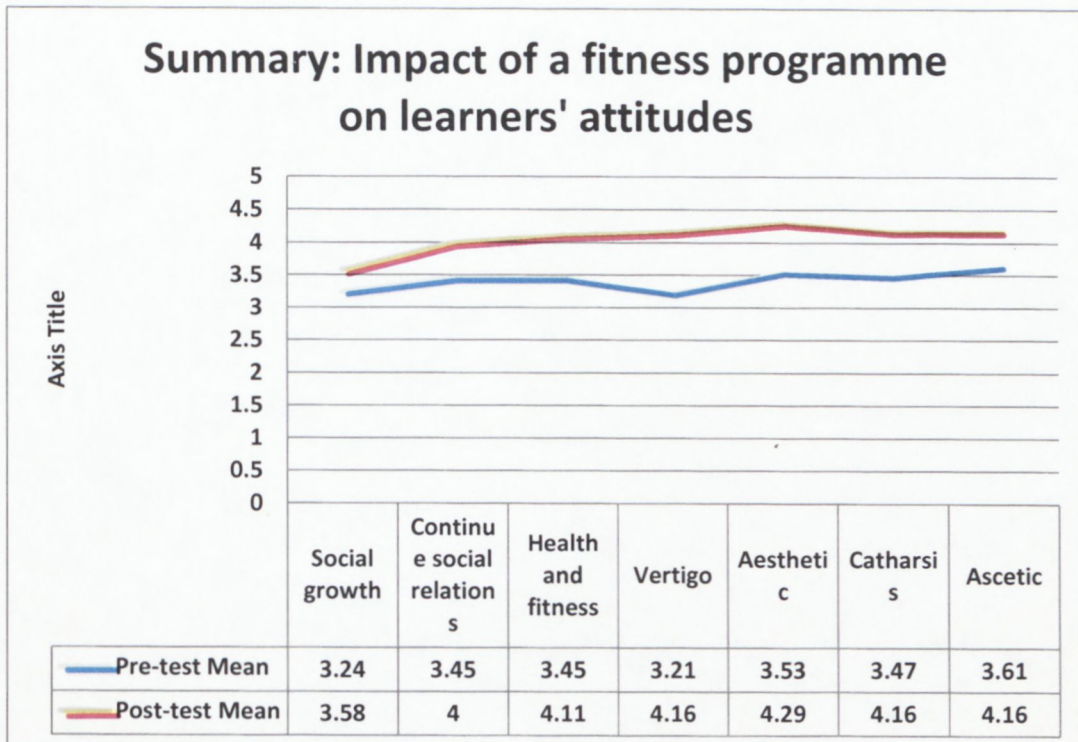


Figure 3: Impact of fitness programme on learners' attitudes per sub-domain

The data indicates an improvement of a total mean score ($M= 4.45$, $SD=4.91$) over the seven sub-domains.

2.1.1 Difference per sub-domain: Social growth

The data in *Table 6* reveals that the post-test mean scores for the sub-domain 'social growth' ($M=3.58$, $SD=.97$) were considerably higher than the pre-test mean scores ($M=3.25$, $SD=.82$).

Tables 7 and 8 give the data for the pre-test and the post-test respectively.

Table 7: Social growth: Pre-test

| Statement | | Frequency(F) | Percent(P) | Valid Percent | Cumulative Percent |
|-------------------------------------------------------------------------------|----------------------|--------------|------------|---------------|--------------------|
| Taking part in physical activities which give you a chance to meet new people | | | | | |
| Valid | Very bad | 1 | 2.6 | 2.6 | 2.6 |
| | Kind of bad | 3 | 7.9 | 7.9 | 10.5 |
| | Neither good nor bad | 23 | 60.5 | 60.5 | 71.1 |
| | Kind of good | 8 | 21.1 | 21.1 | 92.1 |
| | Very good | 3 | 7.9 | 7.9 | 100.0 |
| | Total | 38 | 100.0 | 100.0 | |

Table 8: Social growth: Post-test

| | | Frequency(F) | Percent(P) | Valid Percent | Cumulative Percent |
|-------|----------------------|--------------|------------|---------------|--------------------|
| Valid | Very bad | 1 | 2.6 | 2.6 | 2.6 |
| | Kind of bad | 1 | 2.6 | 2.6 | 5.3 |
| | Neither good nor bad | 20 | 52.6 | 52.6 | 57.9 |
| | Kind of good | 7 | 18.4 | 18.4 | 76.3 |
| | Very good | 9 | 23.7 | 23.7 | 100.0 |
| | Total | 38 | 100.0 | 100.0 | |

Figure 4 shows that the distribution shifted in the post-test towards "very good".

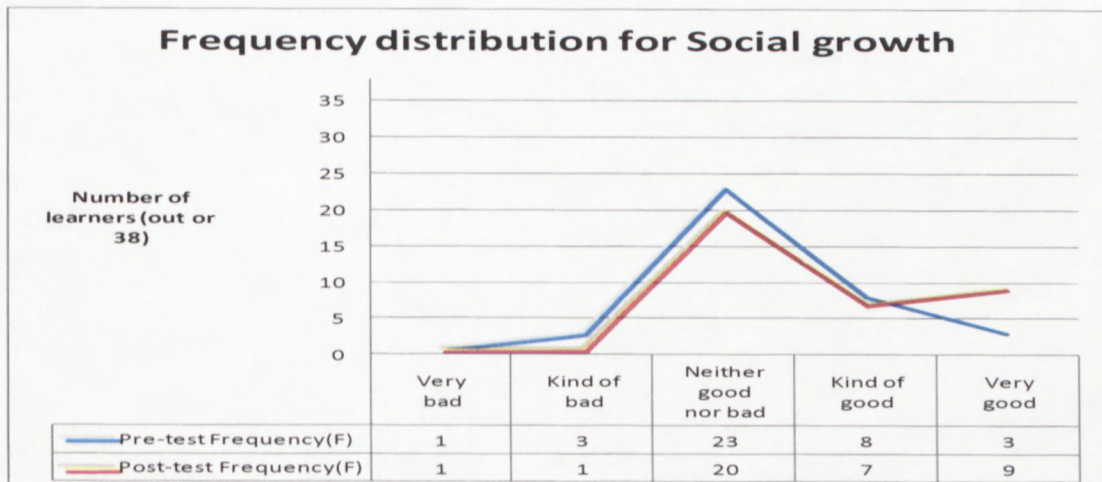


Figure 4: Differences in the frequency distribution for the pre-test and post-test – social growth

The result is even more evident when scores are aggregated into three categories: "bad", "neutral" and "good" as *Figure 5* illustrates:

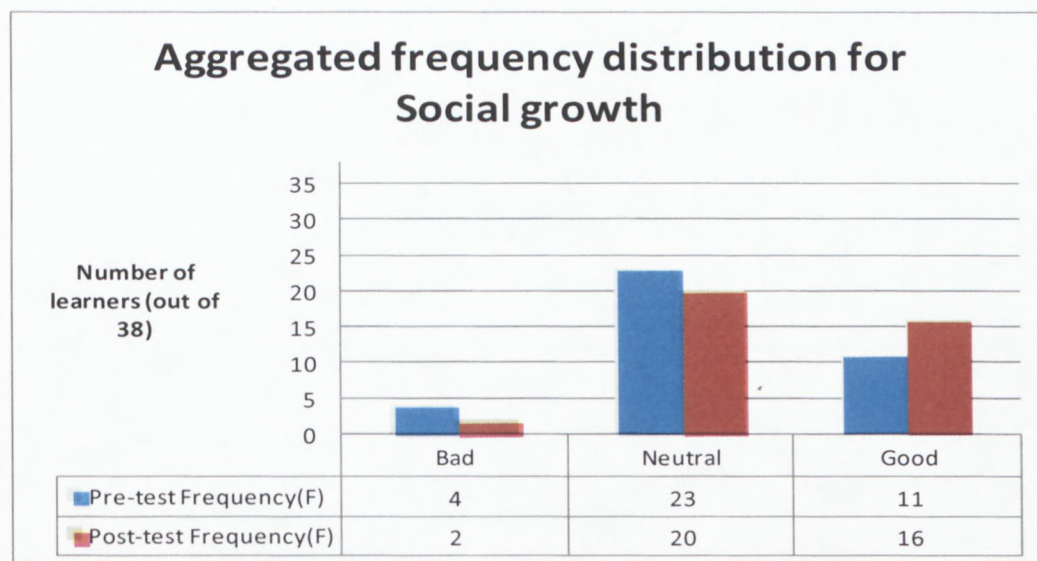


Figure 5: Comparison of aggregated frequency distribution for pre- and post-tests – social growth

It is apparent that the group's attitudes have improved through a positive curve. The active participation in a holistic fitness programme gave these learners the chance to meet new friends and it added to the main idea of the sub-domain which is taking part in physical activities gives you a chance to meet new people. The data collected through the observation sheets revealed that learners had responded and communicated better towards fellow classmates and the test-administrator.

4.1.2 Differences per sub-domain: Continue social relations

The data in *Table 6* illustrate that the post testing mean scores ($M=4.00$, $SD=.77$) were higher than the pre testing mean scores ($M=3.45$, $SD=.95$) from the sub-domain, continue social relation.

Table 9 gives the data for the pre and the post test respectively.

Table 9: Continue social relations: Pre test and post-test

| Statement Taking part in physical activities which give you a chance to be with your friends | | Frequency(F) | Percent(P) | Valid Percent | Cumulative Percent |
|-------------------------------------------------------------------------------------------------------|----------------------|--------------|------------|---------------|-----------------------|
| Valid | Very bad | 1 | 2.6 | 2.6 | 2.6 |
| | Kind of bad | 3 | 7.9 | 7.9 | 10.5 |
| | Neither good nor bad | 18 | 47.4 | 47.4 | 57.9 |
| | Kind of good | 10 | 26.3 | 26.3 | 84.2 |
| | Very good | 6 | 15.8 | 15.8 | 100.0 |
| | Total | 38 | 100.0 | 100.0 | |

| | | Frequency(F) | Percent(P) | Valid Percent | Cumulative Percent |
|-------|----------------------|--------------|------------|---------------|-----------------------|
| Valid | Kind of bad | 2 | 5.3 | 5.3 | 5.3 |
| | Neither good nor bad | 5 | 13.2 | 13.2 | 18.4 |
| | Kind of good | 22 | 57.9 | 57.9 | 76.3 |
| | Very good | 9 | 23.7 | 23.7 | 100.0 |
| | Total | 38 | 100.0 | 100.0 | |

Figure 6 shows that the distribution shifted in the post-test towards “very good”.

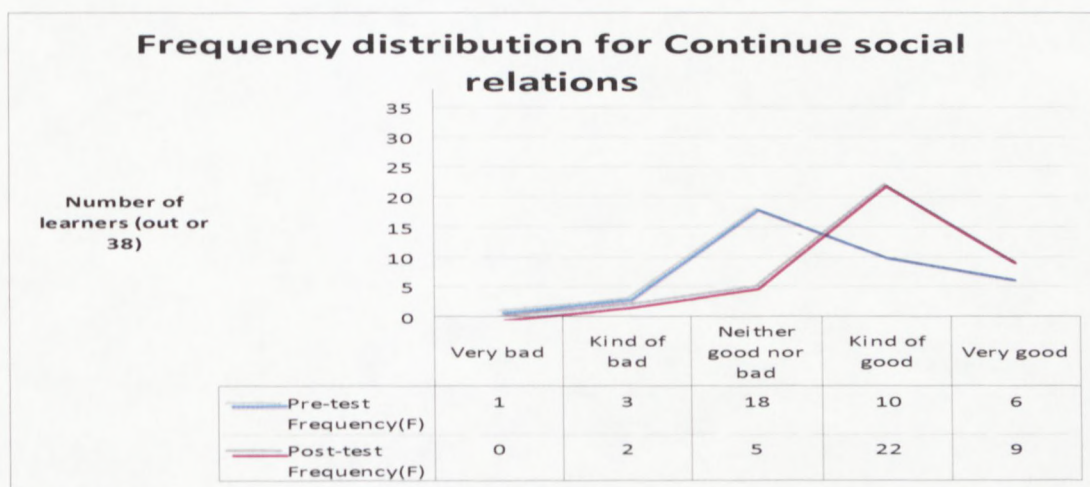


Figure 6: Differences in the frequency distribution for the pre-test and post-test – continue social relations.

The result is even more evident when scores are aggregated into three categories: "bad", "neutral" and "good" as *Figure 7* illustrates:

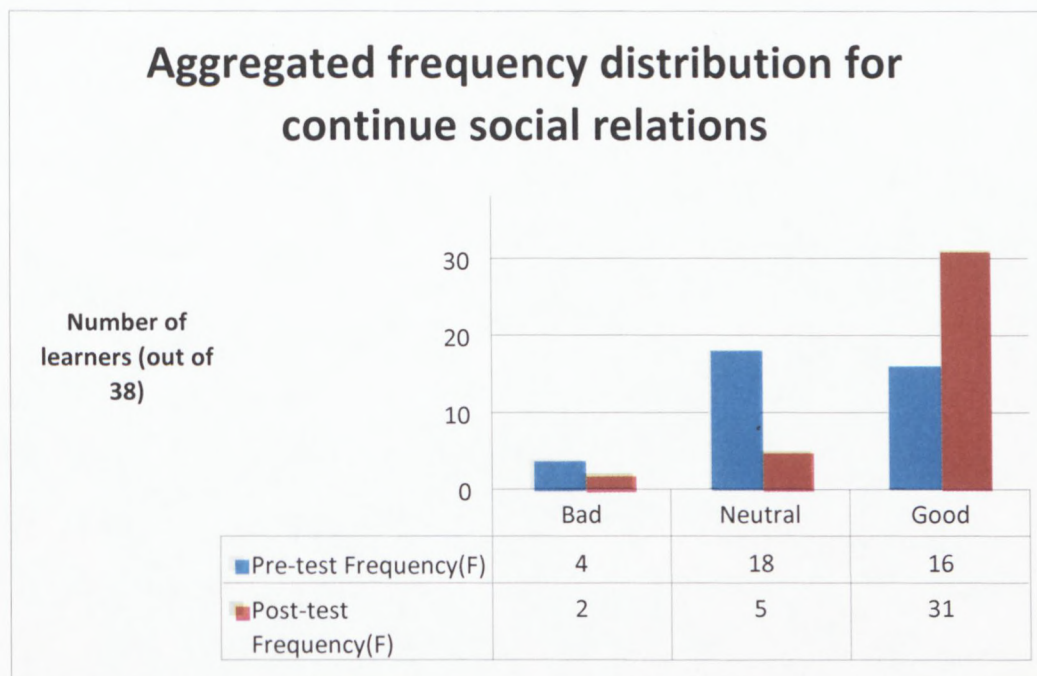


Figure 7: Comparison of aggregated frequency distribution for pre- and post-tests – continue social relations.

It is apparent that the group's attitudes show an improvement, in terms of frequency distribution and in terms of aggregated frequency. A holistic fitness programme gave the learners the opportunity to take part in physical activities and it also gave them the chance to spend positive time with their friends

4.1.3 Differences per sub-domain: Health and fitness

The mean scores ($M=4.11$, $SD=.83$) obtained in post testing were increasingly higher than the pre testing mean scores ($M=3.45$, $SD=1.05$) indicated in *Table 6* for the sub-domain, health and fitness.

Tables 10 and *11* give the data for the pre-test and the post-test respectively.

Table 10: Health and fitness: Pre test

| Statement Taking part in physical activities to make your health better and to get your body in better condition | | Frequency(F) | Percent(P) | Valid Percent | Cumulative Percent |
|---------------------------------------------------------------------------------------------------------------------------|----------------------|--------------|------------|---------------|-----------------------|
| Valid | Very bad | 2 | 5.3 | 5.3 | 5.3 |
| | Kind of bad | 1 | 2.6 | 2.6 | 7.9 |
| | Neither good nor bad | 22 | 57.9 | 57.9 | 65.8 |
| | Kind of good | 4 | 10.5 | 10.5 | 76.3 |
| | Very good | 9 | 23.7 | 23.7 | 100.0 |
| | Total | 38 | 100.0 | 100.0 | |

Table 11: Health and fitness: Post test

| | | Frequency(F) | Percent(P) | Valid Percent | Cumulative Percent |
|-------|----------------------|--------------|------------|---------------|-----------------------|
| Valid | Kind of bad | 1 | 2.6 | 2.6 | 2.6 |
| | Neither good nor bad | 8 | 21.1 | 21.1 | 23.7 |
| | Kind of good | 15 | 39.5 | 39.5 | 63.2 |
| | Very good | 14 | 36.8 | 36.8 | 100.0 |
| | Total | 38 | 100.0 | 100.0 | |

Figure 8 shows that the distribution shifted in the post-test towards “very good”.

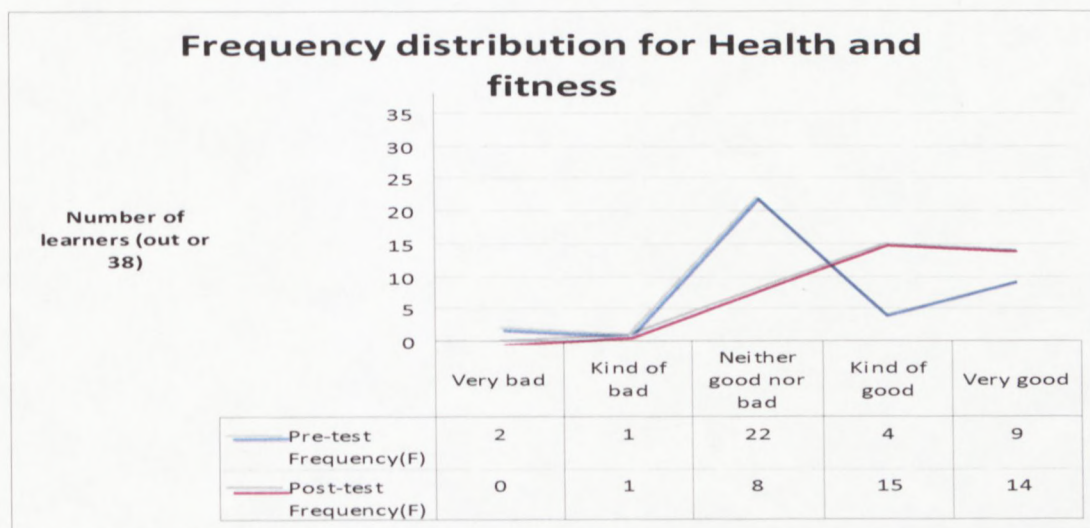


Figure 8: Differences in the frequency distribution for the pre-test and post-test – health and fitness.

The result is even more evident when scores are aggregated into three categories: "bad", "neutral" and "good" as *Figure 9* illustrates:

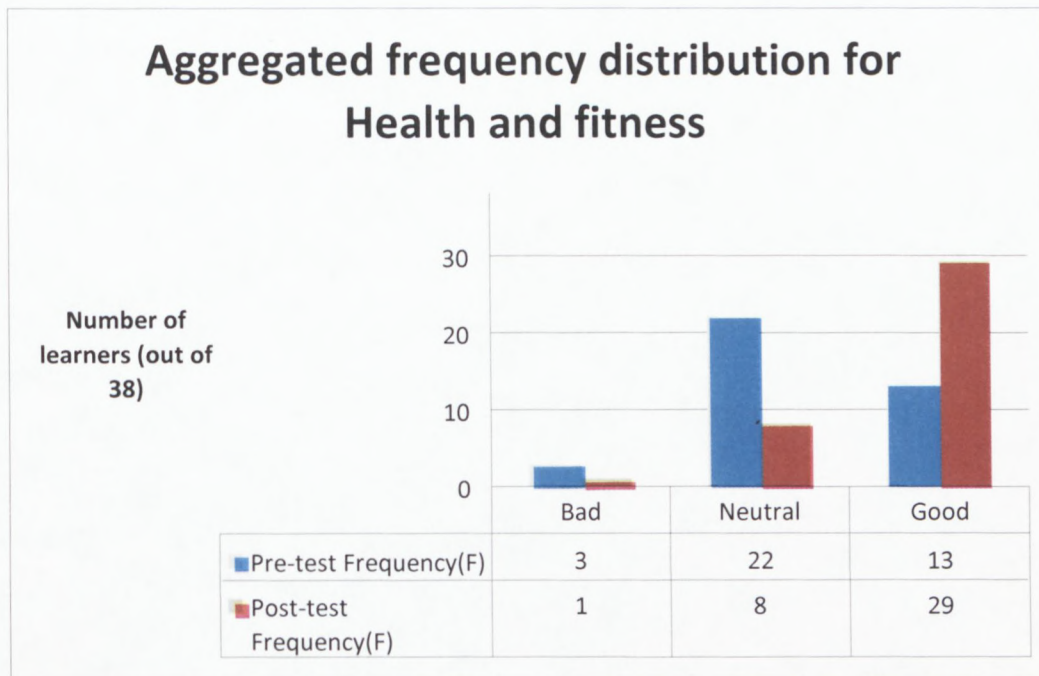


Figure 9: Comparison of aggregated frequency distribution for pre- and post-tests – health and fitness.

After observing the post testing scores from sub-domain health and fitness the indications was evident that a large segment of the control group attitudes have improved. The active participation in a holistic fitness programme gave these learners the chance to improve their health and get their body in a better condition.

No data were documented in the observation sheets regarding sub-domain health and fitness.

4.1.4 Differences per sub-domain: Vertigo

The post testing mean scores ($M=4.16$, $SD=.91$) from *Table 6* for the sub-domain, vertigo were much higher than the mean scores ($M=3.21$, $SD=.90$) pre testing. After observing the post testing scores of the sub-domain, Vertigo, the indications was apparent that a considerable fragment of the control group attitudes have improved.

Tables 12 and 13 give the data for the pre-test and the post-test respectively.

Table 12: Vertigo: Pre test

| Statement Taking part in physical activities that could be dangerous because you move very fast and must change direction quickly | | Frequency(F) | Percent(P) | Valid Percent | Cumulative Percent |
|--------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------|------------|---------------|--------------------|
| Valid | Very bad | 2 | 5.3 | 5.3 | 5.3 |
| | Kind of bad | 3 | 7.9 | 7.9 | 13.2 |
| | Neither good nor bad | 21 | 55.3 | 55.3 | 68.4 |
| | Kind of good | 9 | 23.7 | 23.7 | 92.1 |
| | Very good | 3 | 7.9 | 7.9 | 100.0 |
| | Total | 38 | 100.0 | 100.0 | |

Table 13: Vertigo: Post test

| | | Frequency(F) | Percent(P) | Valid Percent | Cumulative Percent |
|-------|----------------------|--------------|------------|---------------|--------------------|
| Valid | Very bad | 1 | 2.6 | 2.6 | 2.6 |
| | Neither good nor bad | 7 | 18.4 | 18.4 | 21.1 |
| | Kind of good | 14 | 36.8 | 36.8 | 57.9 |
| | Very good | 16 | 42.1 | 42.1 | 100.0 |
| | Total | 38 | 100.0 | 100.0 | |

Figure 10 shows that the distribution shifted in the post-test towards “very good”.

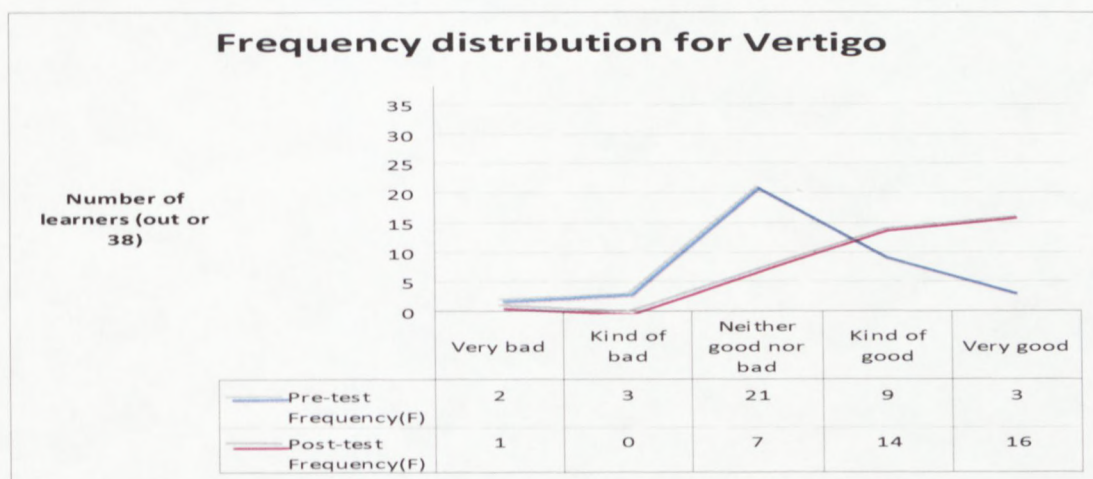


Figure 10: Differences in the frequency distribution for the pre-test and post-test – vertigo.

The result is even more evident when scores are aggregated into three categories: "bad", "neutral" and "good" as *Figure 11* illustrates:

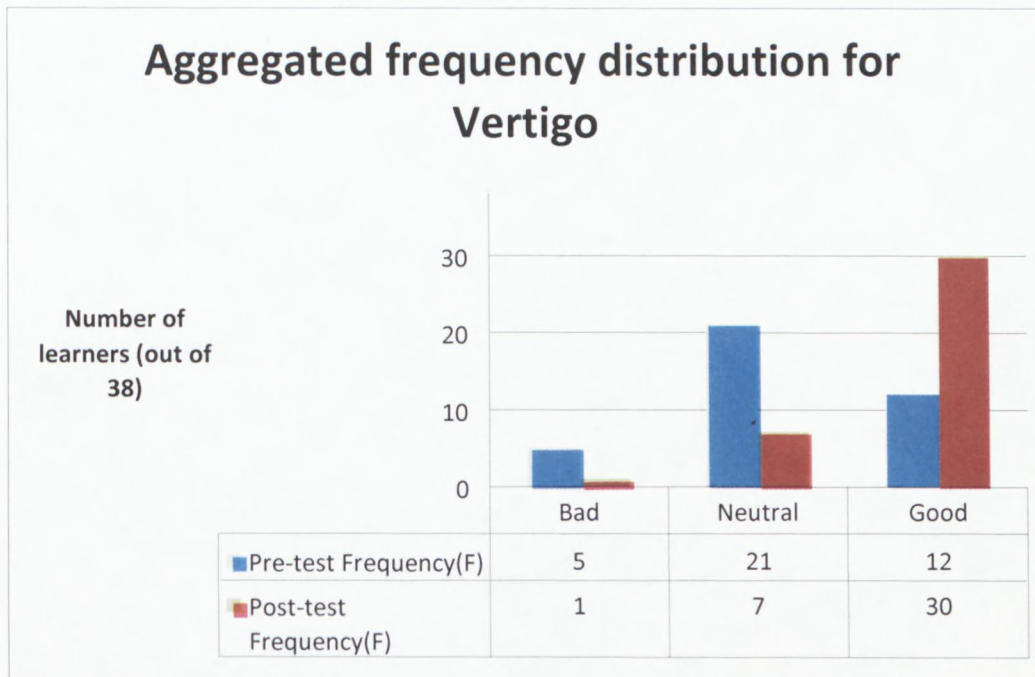


Figure 11: Comparison of aggregated frequency distribution for pre- and post-tests – vertigo.

The active participation in a holistic fitness programme exposed these learners to exiting physical activities that could potentially be dangerous, because the movement is very fast and direction needs to be changed quickly.

No data were documented in the observation sheets regarding Vertigo. The only mention of Vertigo was that some learners found the thrill of speed improvement very gratifying.

4.1.5 Differences per sub-domain: Aesthetic

The mean scores ($M=4.29$, $SD=.89$) post testing from the sub-domain aesthetic, were a great deal higher than the pre testing mean scores ($M=3.53$, $SD=.97$) found in *Table 6*.

Tables 14 and 15 give the data for the pre-test and the post-test respectively.

Table 14: Aesthetic: Pre test

| Statement | | Frequency(F) | Percent(P) | Valid Percent | Cumulative Percent |
|--------------------------------------------------------------------------------|----------------------|--------------|------------|---------------|--------------------|
| Taking part in physical activities which have beautiful and graceful movements | | | | | |
| Valid | Very bad | 2 | 5.3 | 5.3 | 5.3 |
| | Neither good nor bad | 19 | 50.0 | 50.0 | 55.3 |
| | Kind of good | 10 | 26.3 | 26.3 | 81.6 |
| | Very good | 7 | 18.4 | 18.4 | 100.0 |
| | Total | 38 | 100.0 | 100.0 | |

Table 15: Aesthetic: Post test

| | | Frequency(F) | Percent(P) | Valid Percent | Cumulative Percent |
|-------|----------------------|--------------|------------|---------------|--------------------|
| Valid | Kind of bad | 1 | 2.6 | 2.6 | 2.6 |
| | Neither good nor bad | 8 | 21.1 | 21.1 | 23.7 |
| | Kind of good | 8 | 21.1 | 21.1 | 44.7 |
| | Very good | 21 | 55.3 | 55.3 | 100.0 |
| | Total | 38 | 100.0 | 100.0 | |

The active participation in a holistic fitness programme gave these learners the opportunity to become aware of beautiful and graceful movements while taking part in physical activity.

The examination of observation sheets indicated that learners mentioned and expressed on separate occasions their awareness of graceful movements. The data further indicates that learners on several occasions were less impressed when movements were not beautiful and graceful.

Figure 12 shows that the distribution shifted in the post-test towards “very good”.

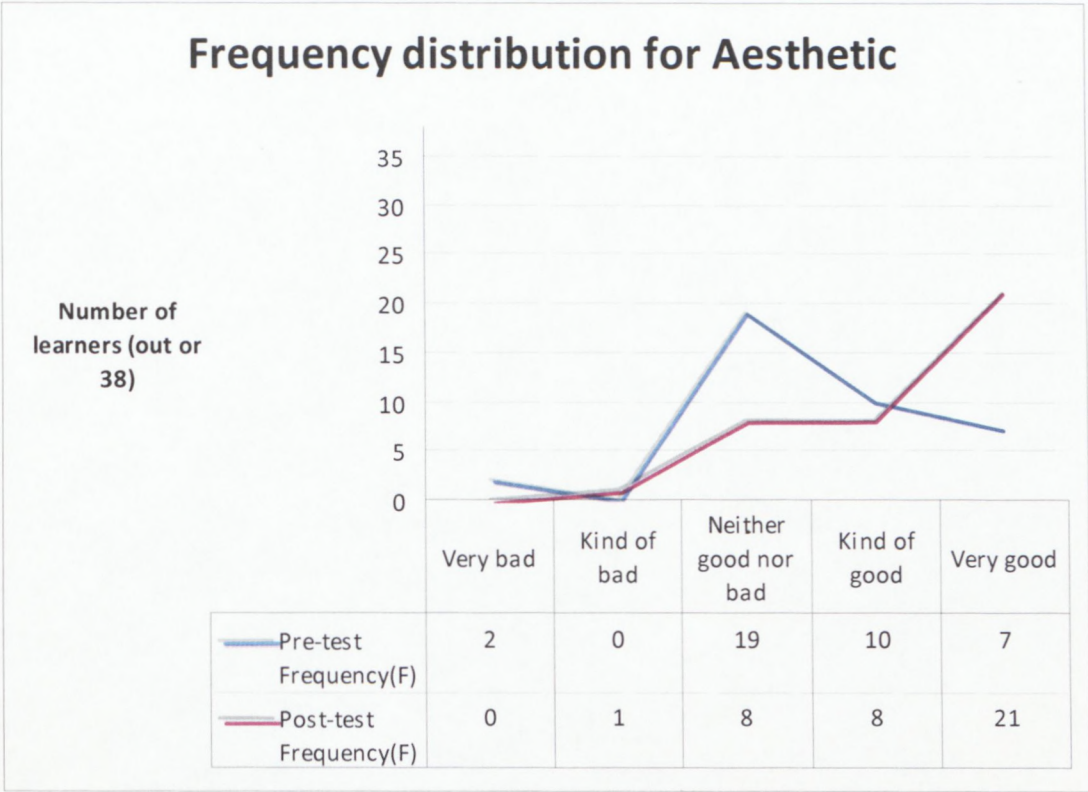


Figure 12: Differences in the frequency distribution for the pre-test and post-test – aesthetic.

The result is even more evident when scores are aggregated into three categories: "bad", "neutral" and "good" as *Figure 13* illustrates:

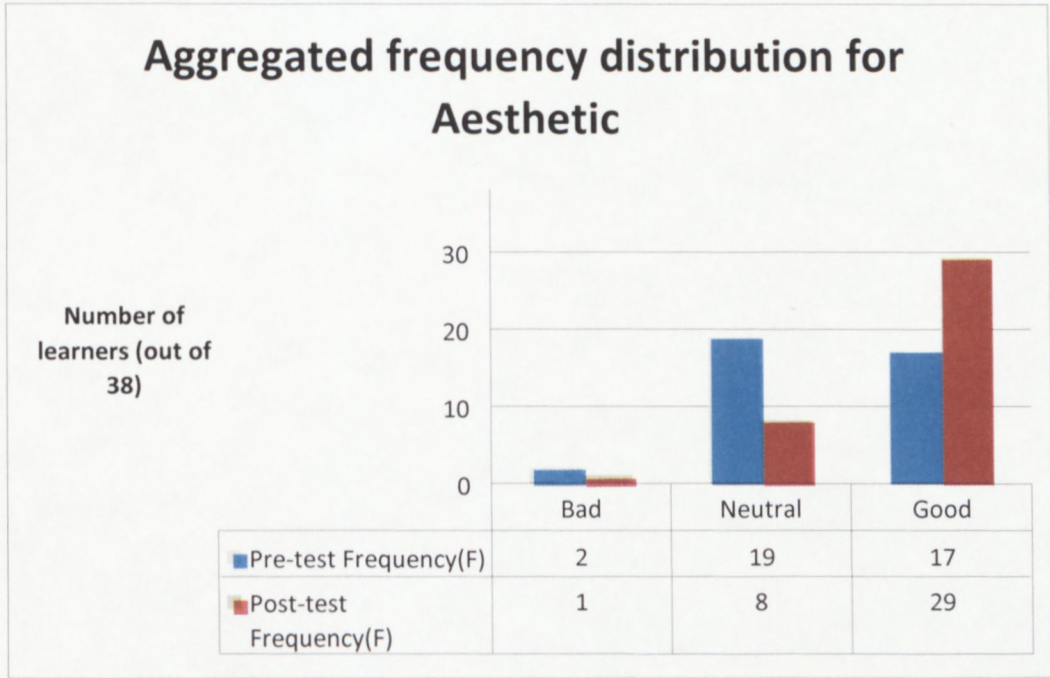


Figure 13: Comparison of aggregated frequency distribution for pre- and post-tests – aesthetic.

4.1.6 Differences per sub-domain: Catharsis

The data obtained in *Table 6* reveals that the post testing mean scores (M=4.16, SD=.91) were higher than the pre testing mean scores (M=3.47, SD=.86).

Tables 16 and *17* give the data for the pre-test and the post-test respectively

Table 16: Catharsis: Pre test

| Statement Taking part in physical activities to reduce stress or to get away from problems you might have. | | Frequency(F) | Percent(P) | Valid Percent | Cumulative Percent |
|---------------------------------------------------------------------------------------------------------------------|----------------------|--------------|------------|---------------|-----------------------|
| Valid | Very bad | 1 | 2.6 | 2.6 | 2.6 |
| | Kind of bad | 2 | 5.3 | 5.3 | 7.9 |
| | Neither good nor bad | 17 | 44.7 | 44.7 | 52.6 |
| | Kind of good | 14 | 36.8 | 36.8 | 89.5 |
| | Very good | 4 | 10.5 | 10.5 | 100.0 |
| | Total | 38 | 100.0 | 100.0 | |

Table 17: Catharsis: Post test

| | | Frequency(F) | Percent(P) | Valid Percent | Cumulative Percent |
|-------|----------------------|--------------|------------|---------------|-----------------------|
| Valid | Very bad | 1 | 2.6 | 2.6 | 2.6 |
| | Neither good nor bad | 7 | 18.4 | 18.4 | 21.1 |
| | Kind of good | 14 | 36.8 | 36.8 | 57.9 |
| | Very good | 16 | 42.1 | 42.1 | 100.0 |
| | Total | 38 | 100.0 | 100.0 | |

Figure 14 shows that the distribution shifted in the post-test towards “very good”.

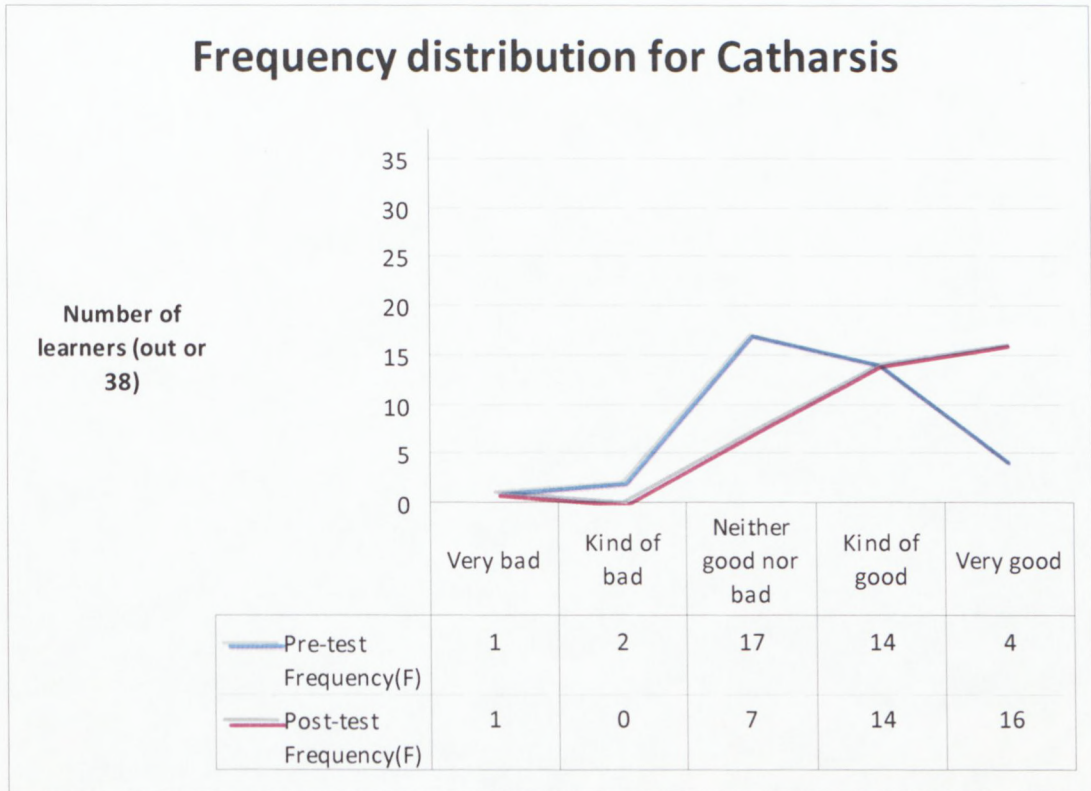


Figure 14: Differences in the frequency distribution for the pre-test and post-test – catharsis.

The result is even more evident when scores are aggregated into three categories: "bad", "neutral" and "good" as *Figure 17* illustrates:

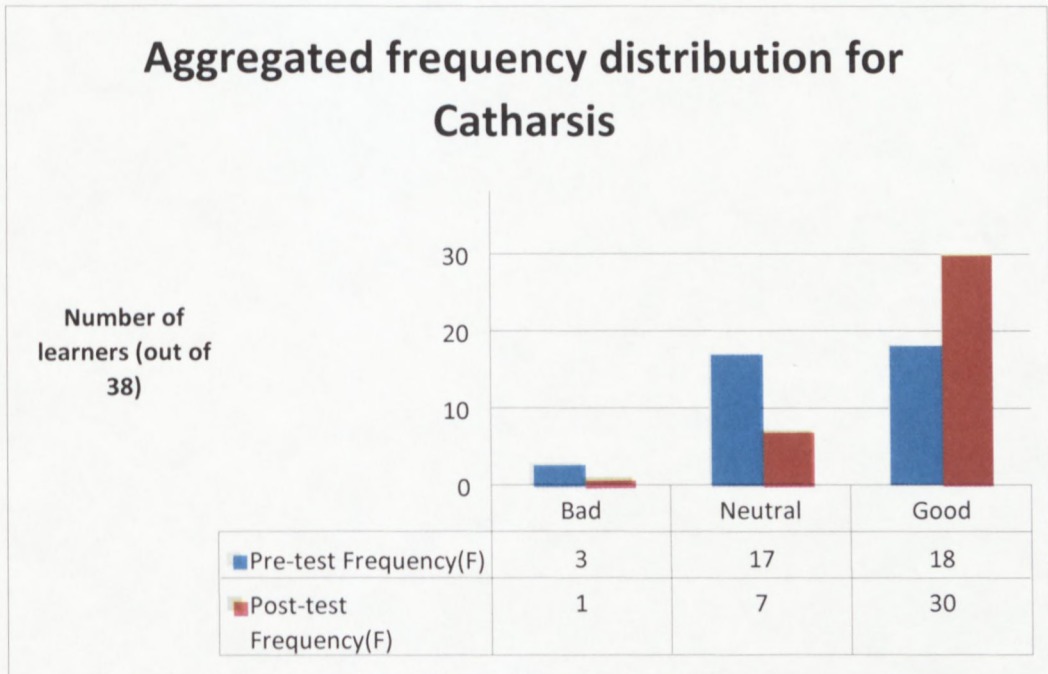


Figure 15: Comparison of aggregated frequency distribution for pre- and post-tests – catharsis.

Observation sheets showed that learners engaged in several conversations with the test-administrator about their socio-economic circumstances. The improvement of aesthetic attitudes indicates that learners' attitudes are influenced a great deal by their living environment.

4.1.7 Differences per sub-domain: Ascetic

The pre testing mean scores (M=4.16, SD=.88) were higher than the post testing mean scores (M=3.61, SD=1.15) found in *Table 6*.

Tables 18 and 19 give the data for the pre-test and the post-test respectively

Table 18: Ascetic: Pre test

| | | Frequency(F) | Percent(P) | Valid Percent | Cumulative Percent |
|-------|----------------------|--------------|------------|---------------|--------------------|
| Valid | Very bad | 1 | 2.6 | 2.6 | 2.6 |
| | Kind of bad | 5 | 13.2 | 13.2 | 15.8 |
| | Neither good nor bad | 14 | 36.8 | 36.8 | 52.6 |
| | Kind of good | 6 | 15.8 | 15.8 | 68.4 |
| | Very good | 12 | 31.6 | 31.6 | 100.0 |
| | Total | 38 | 100.0 | 100.0 | |

Table 19: Ascetic: Post test

| | | Frequency(F) | Percent(P) | Valid Percent | Cumulative Percent |
|-------|----------------------|--------------|------------|---------------|--------------------|
| Valid | Kind of bad | 1 | 2.6 | 2.6 | 2.6 |
| | Neither good nor bad | 9 | 23.7 | 23.7 | 26.3 |
| | Kind of good | 11 | 28.9 | 28.9 | 55.3 |
| | Very good | 17 | 44.7 | 44.7 | 100.0 |
| | Total | 38 | 100.0 | 100.0 | |

Figure 16 shows that the distribution shifted in the post-test towards “very good”.

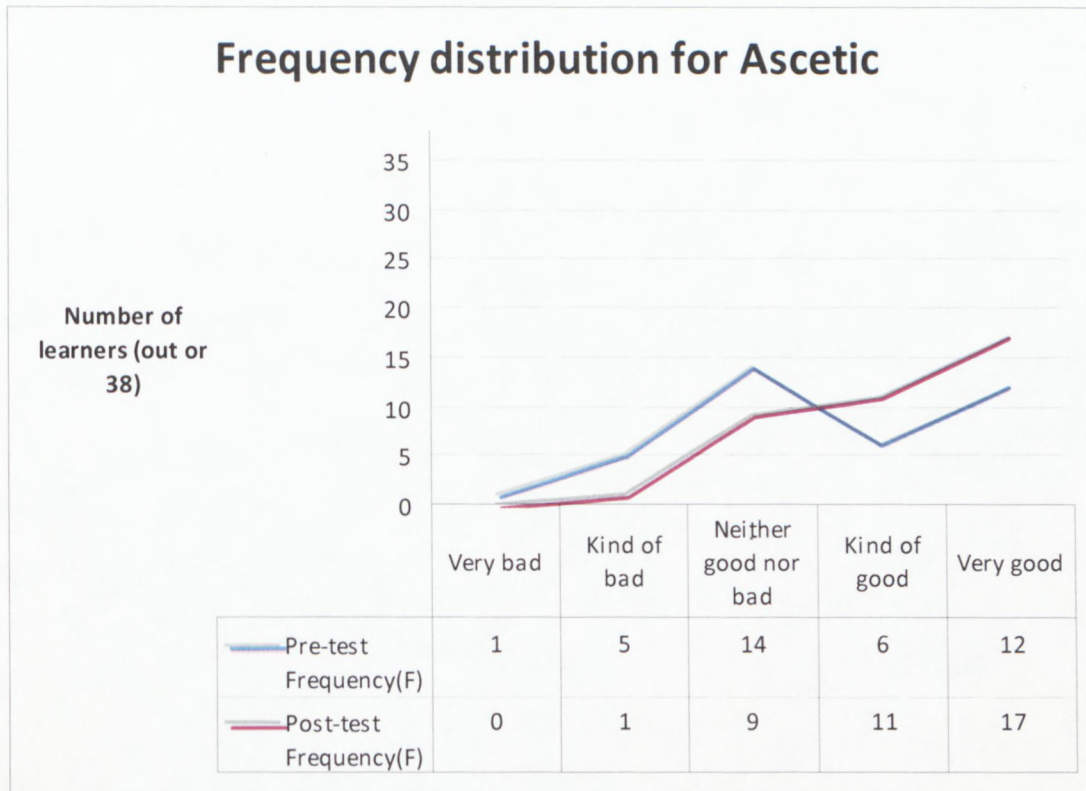


Figure16: Differences in the frequency distribution for the pre-test and post-test – ascetic.

The result is even more evident when scores are aggregated into three categories: "bad", "neutral" and "good" as *Figure 17* illustrates:

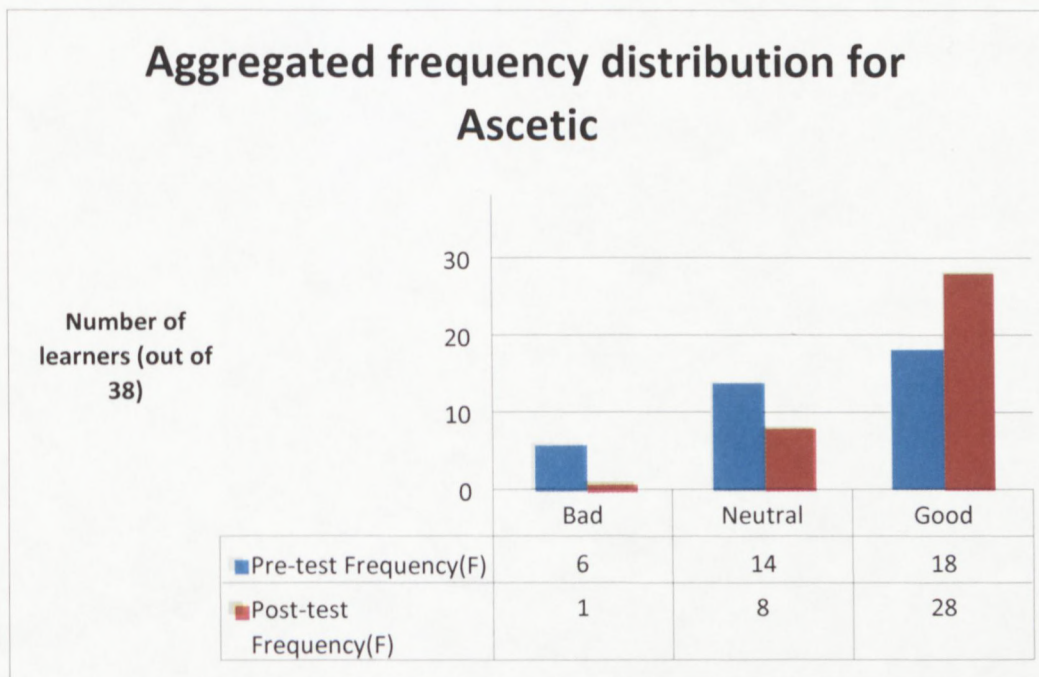


Figure 17: Comparison of aggregated frequency distribution for pre- and post-tests – ascetic.

The data obtained from the observation sheets showed a clear improvement of ascetic attitudes. As the learners improved physically, they enjoyed the long and hard training aspect of the intervention programme more.

4.2 Differences between total CATPA scores

The post testing differences in *Table 20* indicated that 65.8% (P=65.8) of the learners (N=38) improved on their pre testing total scores. There were three (N=3) learners, 7.9% of the group (P=7.9), whose scores stayed exactly the same as in the pre-test. The highest maximum statistic was 13 points difference according to the CATPA inventory scoring table. *Table 19* further indicates that five learners (N=5, P=15.8) had a negative curve regarding the pre to post transition. The biggest negative difference between the pre-test and the post-test was -5 points. *Figure 17* indicates the frequency of attitudes shift between all the sub-domains of the CATPA inventory. The above mentioned indicates a significant upwards curve in attitudes throughout the entire measurement.

Table 20: CATPA: Difference in results.

| | | Frequency(F) | Percent | Valid Percent | Cumulative Percent |
|-------|----|--------------|---------|---------------|--------------------|
| Valid | -5 | 1 | 2.6 | 2.6 | 2.6 |
| | -3 | 1 | 2.6 | 2.6 | 5.3 |
| | -2 | 2 | 5.3 | 5.3 | 10.5 |
| | -1 | 2 | 5.3 | 5.3 | 15.8 |
| | 0 | 3 | 7.9 | 7.9 | 23.7 |
| | 1 | 4 | 10.5 | 10.5 | 34.2 |
| | 2 | 4 | 10.5 | 10.5 | 44.7 |
| | 3 | 1 | 2.6 | 2.6 | 47.4 |
| | 4 | 4 | 10.5 | 10.5 | 57.9 |
| | 6 | 2 | 5.3 | 5.3 | 63.2 |
| | 7 | 1 | 2.6 | 2.6 | 65.8 |
| | 8 | 1 | 2.6 | 2.6 | 68.4 |
| | 9 | 4 | 10.5 | 10.5 | 78.9 |
| | 10 | 3 | 7.9 | 7.9 | 86.8 |
| 11 | 2 | 5.3 | 5.3 | 92.1 | |
| 12 | 2 | 5.3 | 5.3 | 97.4 | |

| | | | | | |
|-------|----|----|-------|-------|-------|
| | 13 | 1 | 2.6 | 2.6 | 100.0 |
| Total | | 38 | 100.0 | 100.0 | |

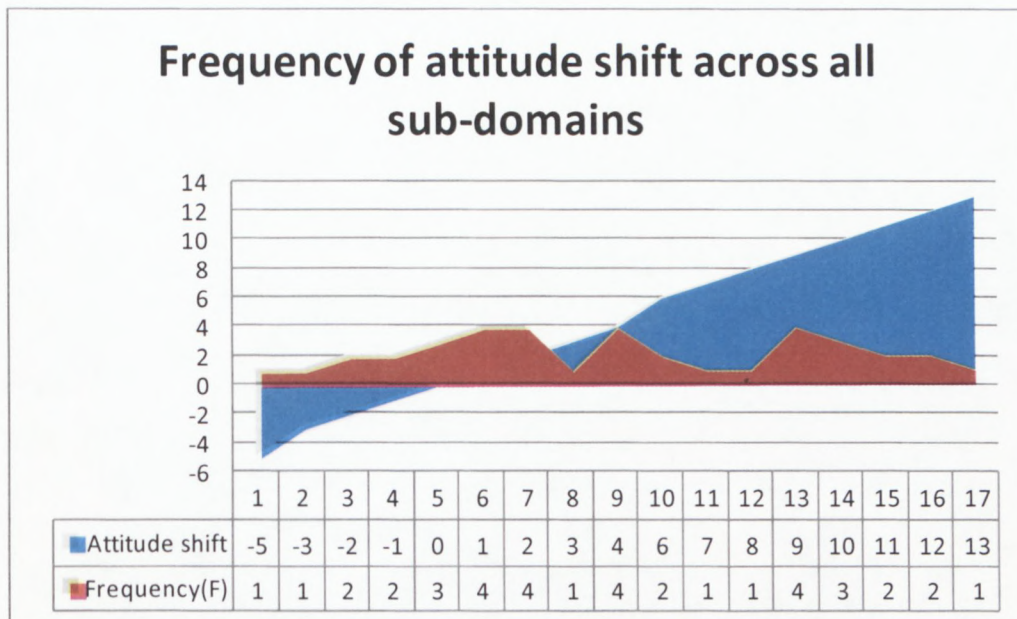


Figure 18: Frequency per type of attitude shift across all sub-domains

4.3 Differences that emerged during fitness evaluation

The data revealed in *Table 21* indicates that an improvement from pre to post testing mean scores was recorded for all tested fields. The data in *Table 21* indicates that the largest increase in mean scores was found in:

- The 50 m, pre-test (M=9.31, SD=.96) and post-test (M=8.94, SD=.88);
- 1600 m, pre-test (M=9.29, SD=1.47) and post-test (M=9.17, SD=1.47);
- and
- Standing long jump, pre-test (M=128.95, SD=17.58) and post-test (M=135.37, SD=17.19)

The lowest difference in mean scores were found in the hand wall toss, pre test (M=12.87, SD=7.96) and post-test (M=14.03, SD=8.33).

The mean scores for weight improved from pre test (M=31.57, SD=7.31) to (M=31.75, SD= 6.79) post test and a small increase in height from pre test (M=1.37, SD=.08) to (M=1.38, SD=.08) post test.

The data received from the observation sheets for the total time period of the intervention programme indicates that learner attitudes towards fellow classmates, test-administrator and teachers improved when there is looked at the frequency of mentioning within the timeline of the observation sheets. The observation indicated that on several occasions learners showed positive attitudes towards classmates for example, learners started to ask their classmates to use a their implement rather than taken it without asking. On more than one occasion a learner made personal excuse towards the test administrator and teachers for being absent from a session.

Observation also indicated that learners became more punctual. When the intervention programme started, learners took a lot of time to get ready to start the session. Progressively learners started to arrive on time and encourage other classmates to be ready on time.

Table 21: Descriptive statistics from FTB (Fitness Test Battery): Pre and post testing.

| | N | Minimum | Maximum | Mean | | Std. Deviation | Variance |
|-------------------------|-----------|-----------|-----------|-----------|------------|----------------|-----------|
| | Statistic | Statistic | Statistic | Statistic | Std. Error | Statistic | Statistic |
| Weight1 | 38 | 20 | 52 | 31.57 | 1.19 | 7.31 | 53.42 |
| Weight2 | 38 | 20 | 50 | 31.75 | 1.10 | 6.79 | 46.04 |
| Height1 | 38 | 1 | 2 | 1.37 | .013 | .08 | .01 |
| Height2 | 38 | 1 | 2 | 1.38 | .013 | .08 | .01 |
| Pre Chin ups | 38 | 0 | 9 | 1.82 | .39 | 2.44 | 5.99 |
| Pre Standing long jump | 38 | 105 | 168 | 128.95 | 2.85 | 17.58 | 309.07 |
| Pre 50 m | 38 | 8 | 11 | 9.31 | .15 | .96 | .9 |
| Pre 1600 m | 38 | 6.95 | 12.33 | 9.29 | .24 | 1.50 | 2.26 |
| Pre Push ups | 38 | 7 | 38 | 20.71 | 1.20 | 7.43 | 55.23 |
| Pre Abdominal curls | 38 | 8 | 47 | 24.42 | 1.54 | 9.54 | 91.06 |
| Pre Suppleness | 38 | 0 | 20 | 12.00 | .76 | 4.71 | 22.21 |
| Pre Hand wall toss | 38 | 0 | 26 | 12.87 | 1.29 | 7.96 | 63.36 |
| Pre Rope skipping | 38 | 5 | 106 | 48.42 | 4.54 | 28.01 | 784.57 |
| Pre Motor skill | 38 | 0 | 7 | 1.47 | .26 | 1.65 | 2.74 |
| Post Chin ups | 38 | 0 | 9 | 2.32 | .46 | 2.83 | 8.06 |
| Post Standing long jump | 38 | 110 | 170 | 135.37 | 2.78 | 17.19 | 295.48 |
| Post 50 m | 38 | 8 | 11 | 8.94 | .14 | .87 | .77 |
| Post 1600 m | 38 | 6.85 | 12.16 | 9.16 | .23 | 1.47 | 2.17 |

| | | | | | | | |
|----------------------|----|----|-----|-------|------|-------|--------|
| Post Push ups | 38 | 6 | 40 | 22.95 | 1.27 | 7.87 | 62.05 |
| Post Abdominal curls | 38 | 7 | 47 | 26.95 | 1.59 | 9.80 | 96.15 |
| Post Suppleness | 38 | 1 | 21 | 13.16 | .70 | 4.35 | 19.00 |
| Post Hand wall toss | 38 | 0 | 26 | 14.03 | 1.35 | 8.32 | 69.32 |
| Post Rope skipping | 38 | 10 | 115 | 53.18 | 4.68 | 28.85 | 832.64 |
| Post Motor skill | 38 | 0 | 8 | 2.42 | .37 | 2.33 | 5.44 |

4.4 Statistical significance of the study

If the p – value on a test is less than or equal to 0.05 then the result is seen to be statistically significant. Meaning that there is a 5 % chance or less that the result is pure due to chance.

The data in *Table 22* revealed that the only sub-domain contained in the CATPA inventory with a p – value above 0.05 were social growth (p=.091). Statistical significant results were found in the following sub-domains, continue social relations (p=.006), health and fitness (p=.004), vertigo (p=.000), aesthetic (p=.000), catharsis (p=.002) and ascetic (p=.019).

Table 22: The p –value results from the CATPA inventory.

| | | Paired Differences | | | | | t | df | p-value |
|--------|------------------------------------------------------------|--------------------|----------------|-----------------|-------------------------------------------|-------|--------|----|---------|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | | Lower | Upper | | | |
| Pair 1 | Social growth1 – Social growth2 | -.342 | 1.214 | .197 | -.741 | .057 | -1.737 | 37 | .091 |
| Pair 2 | Continue social relations1 – Continue social relations2 | -.553 | 1.155 | .187 | -.932 | -.173 | -2.948 | 37 | .006 |
| Pair 3 | Health and fitness1 – Health and fitness2 | -.658 | 1.300 | .211 | -1.085 | -.231 | -3.119 | 37 | .004 |
| Pair 4 | Vertigo1 – Vertigo2 | -.947 | 1.335 | .216 | -1.386 | -.509 | -4.376 | 37 | .000 |
| Pair 5 | Aesthetic1 - Aesthetic | -.763 | 1.195 | .194 | -1.156 | -.370 | -3.936 | 37 | .000 |
| Pair 6 | Catharsis1 – Catharsis2 | -.684 | 1.254 | .203 | -1.096 | -.272 | -3.363 | 37 | .002 |
| Pair 7 | Ascetic1 – Ascetic2 | -.553 | 1.389 | .225 | -1.009 | -.096 | -2.452 | 37 | .019 |

Table 23: The p – value results from the FTB.

| | | t-value | df | p-value |
|---------|--------------------------------------------------|---------|----|---------|
| Pair 1 | Weight2 - Weight1 | 0.942 | 37 | .352 |
| Pair 2 | Height2 - Height1 | 7.220 | 37 | .000 |
| Pair 3 | Post Chin-ups - Pre Chin-ups | 3.867 | 37 | .000 |
| Pair 4 | Post Standing long jump - Pre Standing long jump | 9.675 | 37 | .000 |
| Pair 5 | Post 50 m - Pre 50 m | -6.894 | 37 | .000 |
| Pair 6 | Post 1600 m - Pre 1600 m | -3.505 | 37 | .001 |
| Pair 7 | Post Push-ups - Pre Push ups | 4.611 | 37 | .000 |
| Pair 8 | Post Abdominal curls - Pre Abdominal curls | 3.800 | 37 | .001 |
| Pair 9 | Post Suppleness - Pre Suppleness | 2.637 | 37 | .012 |
| Pair 10 | Post Hand wall toss - Pre Hand wall toss | 2.832 | 37 | .007 |
| Pair 11 | Post Rope skipping - Pre Rope skipping | 5.892 | 37 | .000 |
| Pair 12 | Post Motor ability - Pre Motor ability | 2.982 | 37 | .005 |
| Pair 13 | Totaa2 – Total1 | 5.579 | 37 | .000 |

The data in *Table 23* showed that the only tested field within the FTB with a p – value above 0.05 were weight ($p=0.352$). Thus indicated that the p- value for weight was above 0.05 and could not be referred to as statistically significant.

Due to the socio economic circumstances described in the literature review, the assumption can be made that definite weight differences could occur due to the lack of a balanced diet daily. Furthermore the lack of a balanced meal prior to the day of testing is a definite variable in the test results. Statistical significant results were found in all other mentioned fields in *Table 23*. The p – value for height ($p=.000$), chin-ups ($p=.000$), standing long jump ($p=.000$), 50 m ($p=.000$), 1600 m ($p=.001$), push-ups ($p=.000$), abdominal curls ($p=.001$), suppleness ($p=.012$), hand wall toss ($p=.007$), rope skipping ($p=.000$) and motor ability ($p=.005$) all showed statistical significant results.

4.5 Conclusion

Attitudes serve as the motivating factor to condition a learner's orientation to learn and to improve the use of skills and knowledge which have been learned. One can assume that parent's attitudes, encouragement and role-modelling determine the attitudes of their children. In the Wellington multi-grade context, many parents do not regard physical activity as a part of learning; activities, therefore they do not value their children to engage in structured physical play or exercising. Children need to develop as total human beings. Gaspar and Holland (2007:2) states that *material resources include income, food, access to education or health services, protection from health risks, such as, for example, those associated with hard physical work. Spiritual resources include stimuli, meaningfulness, expectations, role models and peer relationships. Emotional resources include love, trust, a feeling of acceptance and inclusion, and the absence of abusive situations.* The scope for further research within the diverse field of multi-grade education needs to understand the context and challenges that these learners face to develop as total human beings.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusions

This section describes a number of conclusions that follow from the administration of the CATPA inventory (Barrow *et al.*, 1989:270) to grade 4 learners from a multi-grade school environment.

5.1.1 General conclusions

1. Learners' attitude toward physical activity may be influenced by the structured nature of the activities to which they are exposed.
2. Lack of opportunities, competitive nature, and dismissal of the structured physical education classes may do more harm than good in regard to the attitudinal changes through the active participation in a structured fitness programme.

Conclusions regarding the testing of learners attitudes

Despite the socio-economic context of the learners, it was revealing to see the amount of enthusiasm with which these children participated.

The success of the testing sessions depended heavily on the amount of assistance provided by the teacher involved with the class.

The successful administration of the CATPA inventory was particularly difficult when taken in consideration that some learners were suffering from FAS (Foetal Alcohol Syndrome). According to Portman (1995:445-453), children with high motor skill levels tend to demonstrate more positive attitudes toward physical activity, while children with low motor skill levels would have less positive attitudes.

While completing the CATPA inventory the learners found it difficult to differentiate between sub-domains. The test administrator found difficulty in the explanation and demonstration of the inventory.

The results in this study indicated that the relationship between a structured fitness programme and positive attitudes are not consistent with existing literature (Portman, 2003:150-160). Based on reason the participation in a structured fitness programmes might be one of the key factors why the results related positively to learners attitudes toward social growth, continue social relations, health and fitness, thrill but involving some risk, beauty in movement, release of tension, long and hard training.

From the statistically significant improvement in the total CATPA score, the cautious conclusion can be made that the learners' active participation in a holistic fitness intervention programme had a positive effect on the attitudes of this group. On the basis of this conclusion and also judging by the positive reception of the programme by the teachers in the school, the programme seems to had beneficial outcomes.

Children are likely to become more positive toward physical activity if they are in a learning environment that makes them comfortable and self-assured (Hagger, *et al.*, 2002). Furthermore, it seems that providing learners with more chances to participate in a structured programme might contribute to learners' positive attitudes toward physical activity, although more research is needed to explore this further.

5.1.2 Conclusions regarding the testing of learners' fitness

Several challenges were experienced in conducting the fitness tests:

The Fitness Test Battery and the CATPA inventory were tested in the middle of winter. The continuing rain and absence of learners due to the weather conditions made it difficult to successfully negotiate the FTB and intervention programme. The learners who were absent from the FTB pre- and post- test were given a chance the next available day to complete the tests.

The success of the testing sessions depends heavily on the amount of assistance provided by the teacher involved with the class.

Due to the lack of facilities, the test administrator had to make some adjustments so that the FTB could be completed correctly. The following adjustments were made:

- ◆ A pull up bar was constructed at one of the schools, at the other two schools the jungle gym was used to conduct the testing of the pull ups.
- ◆ The 1600 m test had to be run on gravel roads with quite a steep gradient at one of the schools.
- ◆ The inadequate timing from the government food scheme made the organisation and timing of each session very demanding.

The test administrator found it beneficial to be fully set up 10 minutes prior to the start of each testing session and programme session. The school setup was rather disorganised. As a result, learners not participating in the programme interfered, disturbed the flow of the programme and the testing sessions. Although it was positive to observe how interested these learners were, it made it difficult to organize each test.

The most common physical activity that these learners do in their daily life is walking and running. Homes are usually very far from school. Therefore, walking and running between school and their home becomes their daily exercise and is consequently their most frequent physical activity.

It is apparent that most children from this type of rural, deprived environment have a limited amount of physical activities to select from. They also have low accessibility to sport facilities and sport resources.

5.2 Recommendations

Based on the findings of this descriptive study, the following recommendations for future research are offered:

1. Future investigation should re-evaluate the validity of the FTB, and try to establish test reliability. This is supported by Seidl, Reid and Montgomery (1987:114), who documented that determining a reliability estimate for the selected measures should become fundamental to all research studies.
2. The effective execution of a structured fitness programme for further research needs to require the formation of mechanisms for regular supervision, monitoring and support. It requires more support structures that need to be in place and the classification of minimum values and benchmarks against which a learner's performance could be assessed.
3. Before conducting the pre testing of a FTB or CATPA inventory, a survey should be conducted to find out the full range of participation in physical activity. By providing a structured contour for learners, the amount of learning opportunities, social, emotional and physical development needs would be addressed. Quality structured programs can allow children to follow their own interests and learn in different ways.

4. Further study is needed to find the factors which contribute significantly to the learners' participation in a holistic physical activity programme. If programmes are to be effective, holistic fitness programmes need to have a continuous evaluation component built into the design, so that the programme success is based on clear measurable goals.
5. Further research needs to be done on disorganisation within the school environment and the effects it have on the holistic development on learners' attitudes.
6. The acknowledgement from the National Department of Education that the curriculum does not suit children in a multi-grade classroom is imperative to the enhancement of the multi-grade milieu within the South African education system. According to this acknowledgement the curriculum needs to be constructed according to the pedagogies of a specific environment.
7. Educators need to be empowered through annual teacher programmes specific for physical education.
8. Re-introduce specialist Physical education teachers to ensure the holistic development of children in a multi-grade school.

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Appendix A

| EVALUERINGTELKAART | | | | | | EVALUATION SCORE SHEET | | | | | |
|----------------------------------|------------------------------|------------------------------------------------|----------------------------------------------------------------|------------|-----------------------|------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------|-----------------------------------------------------|---------------------------------------------|---------------------------------------------------------------|
| Seuns 11 jaar Male 11 years | | Naam/Name | | Datum/Date | | St./Std | Skool/School | | | | |
| Toets/Test | | | | 1 | 2 | Algemene kommentaar/ General comments: | | | | | |
| Persentasie/Percentage | | | | | | | | | | | |
| Massa/Mass | | | | | | | | | | | |
| Lengte/Height | | | | | | | | | | | |
| Beamte/Official | | | | | | | | | | | |
| Standaard Standard | Persentiel Percentile | Keno- op- trek- ke Chin ups | Staan dever- spring Stand- ing long jump | 50 m | 1 6 0 0 m | Op- sto- te Pus h ups | Maa- g- krul- le Abd- o- min- al curl s | Le- nig- heid Sup- ple- ness | Hand- muur gooi Hand- wall- toss | Tou- spring Rope skip- ping | Moto- riese vaar- dig- heid Motor skill |
| Uitstekend | 100 | 15 | 213 | 7,0 | 5:10 | 49 | 69 | 30 | 34 | 149 | 10 |
| | 95 | 9 | 196 | 7,5 | 5:31 | 40 | 58 | 26 | 29 | 106 | |
| Excellent | 90 | 8 | 185 | 7,8 | 6:03 | 36 | 53 | 23 | 26 | 100 | 9 |
| | 85 | 7 | 181 | 8,0 | 6:21 | 33 | 49 | | 24 | 91 | |
| Baie Goed Very Good | 80 | 6 | 179 | 8,1 | 6:32 | 31 | 47 | 22 | 23 | 86 | 8 |
| | 75 | 5 | 175 | 8,3 | 6:43 | 30 | 46 | 21 | 22 | 81 | |
| Goed Good | 70 | | 173 | 8,4 | 6:51 | 28 | 45 | | 21 | 78 | 7 |
| | 65 | 4 | 170 | 8,5 | 6:57 | 26 | 44 | 20 | 20 | 75 | |
| Redelik goed Reasonably good | 60 | | 169 | 8,6 | 7:05 | 25 | 43 | | 19 | 71 | 6 |
| | 55 | 3 | 166 | 8,7 | 7:15 | 23 | 40 | 19 | 18 | 68 | |
| Gemiddeld Average | 50 | | 163 | 8,8 | 7:22 | 22 | 39 | 18 | 17 | 63 | 5 |
| | 45 | | 160 | 8,9 | 7:31 | 21 | 37 | 17 | 16 | 60 | |
| | 40 | 2 | 157 | 9,0 | 7:42 | 19 | 35 | 16 | 15 | 57 | 4 |
| Onder gemiddeld Below average | 35 | | 155 | 9,1 | 7:55 | 18 | 34 | 15 | 14 | 52 | |
| | 30 | | 151 | 9,3 | 8:12 | 17 | 32 | 13 | 13 | 47 | 3 |
| Swak Weak | 25 | 1 | 149 | 9,4 | 8:28 | 15 | 28 | 12 | 12 | 42 | |
| | 20 | | 145 | 9,6 | 8:51 | 13 | 26 | 11 | 10 | 39 | 2 |
| Baie swak Very weak | 15 | | 140 | 9,8 | 9:26 | 11 | 23 | 10 | 9 | 35 | |

EVALUERINGTELKAART

EVALUATION SCORE SHEET

| Dogters 11 jaar Female 11 years | | Naam/Name | | | Datum/Date | | St./Std | | Skool/School | | |
|------------------------------------|--------------------------|--------------------------|--------------------------------------------|------|-----------------------|----------------------------------------|-------------------------------------|-----------------------------|----------------------------------|------------------------------|-----------------------------------------|
| Toets/Test | | | | 1 | 2 | Algemene kommentaar/ General comments: | | | | | |
| Persentasie/Percentage | | | | | | | | | | | |
| Massa/Mass | | | | | | | | | | | |
| Lengte/Height | | | | | | | | | | | |
| Beamte/Official | | | | | | | | | | | |
| Standaard Standard | Persentiel Percentile | Kenop-treкке Chin ups | Staan de-ver-spring Stand-ing long jump | 50 m | 1 6 0 0 m | Op-sto-te Pus h ups | Maa-g-krul-le Abd o-min al curls | Le-nig-heid Sup-ple-ness | Hand-muur gooi Hand-wall-toss | Tou-spring Rope skip-ping | Moto-riese vaar-dig-heid Motor skill |
| Uitstekend | 100 | 6 | 181 | 7,8 | 6:03 | 36 | 49 | 30 | 34 | 129 | 10 |
| | 95 | | 168 | 8,3 | 6:24 | 27 | 38 | 26 | 29 | 86 | |
| Excellent | 90 | 5 | 157 | 8,6 | 6:56 | 23 | 33 | 23 | 26 | 80 | 9 |
| | 85 | | 153 | 8,7 | 7:24 | 20 | 29 | | 24 | 71 | |
| Baie Goed Very Good | 80 | 4 | 151 | 8,8 | 7:35 | 18 | 27 | 22 | 23 | 66 | 8 |
| | 75 | | 147 | 8,9 | 7:46 | 16 | 26 | 21 | 22 | 62 | |
| Goed Good | 70 | | 145 | 9,0 | 7:54 | 15 | 25 | | 21 | 63 | 7 |
| | 65 | | 142 | 9,1 | 8:00 | 13 | 24 | 20 | 20 | 60 | |
| Redelik goed Reasonably good | 60 | | 141 | 9,2 | 8:08 | 12 | 23 | | 19 | 57 | 6 |
| | 55 | 3 | 138 | 9,3 | 8:18 | 11 | 20 | 19 | 18 | 53 | |
| Gemiddeld Average | 50 | | 135 | 9,4 | 8:25 | 9 | 19 | 18 | 17 | 50 | 5 |
| | 45 | | 132 | 9,5 | 8:34 | 7 | 17 | 17 | 16 | 45 | |
| | 40 | | 129 | 9,6 | 8:45 | 6 | 15 | 16 | 15 | 42 | 4 |
| Onder gemiddeld Below average | 35 | 2 | 127 | 9,8 | 8:59 | 5 | 14 | 15 | 14 | 39 | |
| | 30 | | 124 | 9,9 | 9:06 | 4 | 12 | 14 | 13 | 36 | 3 |
| Swak Weak | 25 | | 122 | 10,0 | 9:22 | 3 | 8 | 13 | 12 | 31 | |
| | 20 | 1 | 118 | 10,1 | 9:38 | 2 | 6 | 12 | 10 | 27 | 2 |
| Baie swak Very weak | 15 | | 113 | 10,2 | 10:01 | 1 | 3 | 10 | 9 | 22 | |
| | 10 | * | * | * | * | * | * | * | * | * | 1 |

- 1.) goed _____ : _____ : _____ : _____ : _____ sleg
good bad
- 2.) nie van toepassing _____ : _____ : _____ : _____ : _____ toepaslik
useless usefull
- 3.) nie aangenaam _____ : _____ : _____ : _____ : _____ aangenaam
not pleasant pleasant
- 4.) fantasties _____ : _____ : _____ : _____ : _____ aaklig
awesome awful
- 5.) gelukkig _____ : _____ : _____ : _____ : _____ hartseer
happy sad

PHYSICAL ACTIVITY FOR HEALTH AND FITNESS

Taking part in physical activities to make your health better and to get your body in better condition

FISIEKE AKTIWITEIT VIR GESONDHEID EN FIKSHEID

Deelname aan fisieke aktiwiteite veroorsaak dat jou gesondheid verbeter en dat jou liggaam se kondisie verbeter

Always think about the idea in the Box.

Dink healtyd aan die idee in die bo – staande boks.

If you do not understand this idea, mark here with a X and go to the next question.
As jy nie vraag verstaan nie, merk hier met 'n X en gaan na die volgende vraag.

- 1.) goed _____ : _____ : _____ : _____ : _____ sleg
good bad
- 2.) nie van toepassing _____ : _____ : _____ : _____ : _____ toepaslik
useless usefull
- 3.) nie aangenaam _____ : _____ : _____ : _____ : _____ aangenaam
not pleasant pleasant
- 4.) fantasties _____ : _____ : _____ : _____ : _____ aaklig
awesome awful
- 5.) gelukkig _____ : _____ : _____ : _____ : _____ hartseer
happy sad

4.) fantasties _____ : _____ : _____ : _____ : _____ aaklig
 awesome _____ : _____ : _____ : _____ : _____ awful

5.) gelukkig _____ : _____ : _____ : _____ : _____ hartseer
 happy _____ : _____ : _____ : _____ : _____ sad

SLEUTEL/KEY

1.) goed _____ : _____ : _____ : _____ : _____ sleg
 good 5 4 3 2 1 bad

2.) nie van toepassing _____ : _____ : _____ : _____ : _____ toepaslik
 useless 1 2 3 4 5 useful

3.) nie aangenaam _____ : _____ : _____ : _____ : _____ aangenaam
 not pleasant 1 2 3 4 5 pleasant

4.) fantasties _____ : _____ : _____ : _____ : _____ aaklig
 awesome 5 4 3 2 1 awful

5.) gelukkig _____ : _____ : _____ : _____ : _____ hartseer
 happy 5 4 3 2 1 sad

Scoring Table for CAPTA Instrument

| Score by Word | Range of Scores by Idea of Sub-domain | Interpretation |
|---------------|---------------------------------------|----------------------|
| 5 | 23 – 25 | Very good |
| 4 | 18 – 22 | Kind of good |
| 3 | 13 – 17 | Neither good nor bad |
| 2 | 8 – 12 | Kind of bad |
| 1 | 5 – 7 | Very bad |

Appendix C



WAIVER AND INDEMNITY- Participation in Fitness Program

I, the undersigned, hereby waive any claim of whatsoever nature, including any claim for consequential loss, damage, injury, disablement, or death, which but for this waiver I may have against the Cape Peninsula University of Technology (CPUT); and I hereby indemnify and hold the CPUT harmless against any claims that may be instituted against it for any loss or damage to any property of any nature, owned by whomsoever, as may from time to time be on any premises, any injury, disablement or death caused to anyone whomsoever, whether it is occasioned by an act, omission or negligence (gross or otherwise) of any employee or office holder of the CPUT or anyone else for whose action the CPUT can be held liable in terms of the law.

Dated at Wellington on this day of 2009.

STUDENT NAME:

SIGNATURE:

GUARDIAN:

SIGNATURE:

ID NUMBER:

AS WITNESS:

1.

2.

Appendix D

Navrae
Enquiries
Imibuzo
Telephone
Telefoon
Ifoni
Faks
Fax
Ifeksi
Verwysing
Reference
Isalathiso

Dr. RS Cornelissen

(021) 467-2286

(021) 425-7445

20090529-0020



Wes-Kaap Onderwysdepartement

Western Cape Education Department

Ishe leMfundo leNtshona Koloni

Mr George Joubert
1 Black Prince Street
WELLINGTON,
7655

Dear Mr. G. Joubert:

RESEARCH PROPOSAL: THE INFLUENCE OF A HOLISTIC FITNESS PROGRAMME ON THE DEVELOPMENT OF POSITIVE ATTITUDES IN LEARNERS IN A MULTIGRADE SCHOOL.

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.
5. The Study is to be conducted from **1st June 2009 to 30th September 2009**
6. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December).
7. Should you wish to extend the period of your survey, please contact Dr R. Cornelissen at the contact numbers above quoting the reference number.
8. A photocopy of this letter is submitted to the principal where the intended research is to be conducted
9. Your research will be limited to the list of schools as forwarded to the Western Cape Education Department.
10. A brief summary of the content, findings and recommendations is provided to the Director: Research Services.
11. The Department receives a copy of the completed report/dissertation/thesis addressed to:

**The Director: Research Services,
Western Cape Education Department
Private Bag X9114,
CAPE TOWN,
8000**

We wish you success in your research.

Kind regards.

Signed: Ronald S. Cornelissen
for: **HEAD: EDUCATION**
DATE: 1st June 2009

MELD ASSEHLIUF VERWYSINGSNOMMERS IN ALLE KORRESPONDENSIE / PLEASE QUOTE REFERENCE NUMBERS IN ALL CORRESPONDENCE / NCEDA
UBHALI, IINGOMBOLO ZESALATHISO KUYO YONKE IMBABELWANO

GRAND CENTRAL TOWERS, LAER-PARLEMENSTRAAT, PRIVAATSAK X9114, KAAPSTAD 8000
GRAND CENTRAL TOWERS, LOWER PARLIAMENT STREET, PRIVATE BAG X9114, CAPE TOWN 8000

WEB: <http://wced.wcape.gov.za>

INBESANTRUM / CALL CENTRE

INDIENSINEMING EN SALARISNAVRAE/EMPLOYMENT AND SALARY QUERIES ☎0861 92 33 22
VEILIGE SKOLE/SAKE SCHOOLS ☎0800 45 46 47

Appendix E

Cape Peninsula University of Technology

Student: Sors Joubert

Topic: The influence of a holistic fitness programme on the development of positive attitudes in learners at a multi-grade school

Observation sheet

School:

Date:

| Number | Name | Attitudinal observation | Physical observation |
|--------|------|-------------------------|----------------------|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| 11 | | | |

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