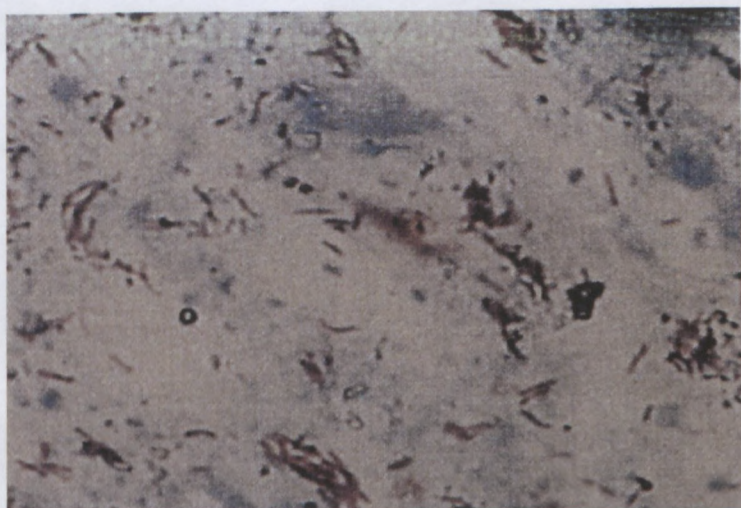# TB AND HIV

COMMUNITY-OUTREACH TRAINING PROJECT IN A HIGHER EDUCATION INSTITUTION

BY

GUINEVERE MARGARETHA ATTILLA LOURENS

TB AND HIV
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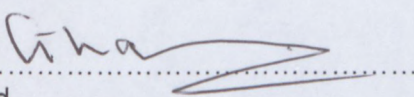*Microscopic TB bacteria (SA.DoH, 1998: 3)*

Thesis submitted in fulfillment of the requirements for the degree

Master of Technology: Nursing

in the Faculty of Health and Wellness Sciences

at the Cape Peninsula University of Technology

Supervisor: Dr. Marina Clarke

Bellville
January 2009

DECLARATION

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

Signed   Date   27/08/2009

ABSTRACT

BACKGROUND

At the request of the South African Department of Health's Western Cape Provincial Tuberculosis Control Directorate, the Cape Peninsula University of Technology, a Higher Education Institution, developed and implemented a Tuberculosis and Human Immunodeficiency Virus community outreach train the trainer project to train community members about Tuberculosis and Human Immunodeficiency Virus.

STUDY AIM

This study aimed to provide a historical overview of the Cape Peninsula University of Technology Tuberculosis and Human Immunodeficiency Virus project and describe the experiences of the trainers involved.

METHODS

A descriptive case study design, using a qualitative approach was applied during this study.

RESULTS

The historical overview of the project showed the need for a broad base of networking, securing funding and a project facilitator from the outset of such a project. This study found that trainers had experienced self-development in terms of knowledge, skills and self confidence and that the training had far reaching effects by spreading Tuberculosis and Human Immunodeficiency Virus information in diverse community settings, despite notable challenges experienced in the community settings.

CONCLUSIONS

Community outreach training projects from a recognized training institution have a positive impact at community level. However, political commitment and development of the course content into a registered learnership are required for sustainability.

DEDICATION

To my husband Louis, and my sons Lodrick and Ruben.

May the time we have lost in the past for this study, bear fruit in our combined futures.

ACKNOWLEDGEMENTS

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GLOSSARY

ABET	Adult Basic Education and Training
AIDS	Acquired Immune Deficiency Syndrome
CPUT	Cape Peninsula University of Technology (Previously known as the Cape Technikon)
DoH	Department of Health
DOT	Directly Observed Therapy
DOTS	Directly Observed Treatment, Short Course
FGD	Focus Group Discussion
HI	History Interview
HIV	Human Immunodeficiency Virus
II	Individual Interview
NGO	Non-governmental Organisation
PI	Pair Interview
SA	South Africa
TB	Tuberculosis
WHO	World Health Organization

CLARIFICATION OF TERMS

CPUT: Cape Peninsula University of Technology is a Higher Education Institution, previously known as the Cape Technikon, prior to its merge with the Peninsula Technikon in 2005.

CPUT TB and HIV project: The project will be referred to in the text as the CPUT TB and HIV project, which encapsulates the full description of a Higher Education Institution based Train the Trainer TB and HIV community outreach project. Initially, the project aimed to train trainers to train DOT workers, but in 2001 with the addition of a HIV module, the project course was referred to as the CPUT TB and HIV project.

PGWC: Provincial Government of the Western Cape, which was previously referred to as the Provincial Administration of the Western Cape (PAWC).

Trainers: In this study a trainer refers to the successful learner participants of the CPUT TB AND HIV project course.

CHAPTER 1

BACKGROUND

1.1   Tuberculosis situation

1.1.1   Global TB

In 1993 the World Health Organization (WHO) declared tuberculosis (TB) a global emergency (SA. DoH, 2005(b)). Despite this, the global TB epidemic is growing larger each year (WHO, 2003(c)). Furthermore, TB is the leading cause of death globally from a curable infectious disease (Dye, 2006: 938).

In March 2000 Ministers of Health from the 22 countries most affected by TB, accounting for 80 % of TB cases met and drew up and signed the Amsterdam Declaration for Accelerated Action against TB and towards TB control (Kironde & Bamford, 2002: 283). These 22 high burden countries are listed in Annexure 1.

Despite all these intensified efforts, the world is far from reaching the global targets for TB Control, which was set in 1991 by the World Health Assembly. These targets were to detect 70 % of all smear-positive cases of TB and to cure at least 85 % of them by 2005. More than 80 % of known TB cases are successfully treated, but only 45 % of TB cases are detected (Dye, 2006: 939). This causes a problem in TB control because one adult with untreated active pulmonary TB can infect a further 10 to 15 other people (Viljoen, 2007).

The more recent Millennium Development Goal, Target 6.C is to have begun to reverse the incidence of malaria and other major diseases, including TB by 2015 (Onyebujah, Rodriguez & Mwaba, 2006: 940).

1.1.2 TB on the African continent

TB was declared an emergency in Africa in 2005 and in the past 15 years, overall rates of TB have doubled in Africa and tripled in high Human Immunodeficiency Virus (HIV) areas. Furthermore Africa has the highest per capita incidence rate of TB in the world, with most of the worst affected countries located in sub-Saharan Africa. Africa is also the only continent where TB rates are increasing, with 1 500 TB deaths every day. Tragically and avoidably, 10 % of these are children (AMREF, 2008).

1.1.3 TB in South Africa

In 2006, South Africa ranked seventh highest by the WHO among the 22 TB high burden countries in the world; and fourth highest in Africa; with an estimated incidence of all TB cases at 940 per 100 000 in the population (WHO, 2008).

In the strategic priorities for the National Health System set by the Department of Health for 2004 – 2009, the TB Control Programme is cited as achieving limited success, given its relationship with Human Immunodeficiency Virus (HIV) infection (SA. DoH, 2003). In South Africa responsibility for health is devolved to provinces among which the quality of TB control varies greatly. TB Treatment success remains low compared with other African countries with a higher prevalence of HIV and with considerably fewer resources (SA. DoH, 2003).

TB case notifications have risen steeply since 1995, most likely linked to the increase in TB associated with the HIV epidemic notification rate. New and relapsed cases have more than doubled from 210 in 1995 to 560 per 100 000 population in 2004 (WHO, 2005).

1.1.4 TB in the Western Cape Province

TB was declared a health emergency in the Western Cape by the minister of Health in 1996. Furthermore, the Western Province continues to have the highest incidence rate of TB in South Africa, despite having the second lowest overall prevalence of HIV (UNAIDS, 2008). HIV and TB together are the number one cause of premature death and account for approximately 22 % of the burden of disease in this Province (Western Cape. DoH, 2008(b)).

A steady increase in TB case finding has been reported in the Western Cape, possibly due to improvement in recording and reporting, although this has also been fuelled by the HIV epidemic. TB case finding nearly doubled from 25 950 in 1995 (SA. DoH, 2004) to 44 502 TB cases registered in the Western Cape by 2004, with a cure rate of 72 %.

The ultimate goal for the TB programme is to cure at least 85 % of smear-positive TB cases. The new smear positive Pulmonary TB cases cure rate as reported, has increased by 2.6 % from 69.3 % in 2005 (Western Cape. DoH, 2008(a)) to 71.9 % in 2006/07, still far from the desired 85 % cure rate (Western Cape. DoH, 2008(b)).

1.1.5   TB treatment adherence – a global challenge

The global burden of TB disease is aggravated by poor adherence to prescribed treatment, and it is estimated that up to half of all TB patients globally do not complete their full course of treatment (Munro, Lewin, Smith, Engel, Fretheim & Volmink, 2007: 3). Treatment compliance is much more complex than merely patients not taking their prescribed TB medication.

The interplay of a number of factors influencing TB treatment adherence needs to be explored fully, involving patients, caregivers and health care providers to find effective strategies towards TB medication adherence and controlling the global TB epidemic (Munro, *et al.*, 2007: 2). This includes factors such as the long six to eight months of treatment, unpleasant side effects, feeling much better after two months; all contributing to non-compliance (Viljoen, 2007).

Table 1.1 lists the standard definitions applied to TB treatment outcomes.

Table 1.1 – Standard definitions of TB treatment outcomes

Treatment Outcome	Definition
Successfully treated	The sum of patients who completed their treatment and were cured
Cured	TB patients who were initially smear-positive and who had a negative sputum smear in the last month of treatment
New smear-positive	Patients who had never had treatment for TB, or had taken anti-TB drugs for less than a month, and had been diagnosed with active pulmonary TB by the treating medical officer
Treatment completed	Patients who completed treatment but did not meet the criteria for cure or failure
Failed	Smear-positive patients who remained smear-positive, or became smear-positive again, at least 5 months after the start of treatment
Interrupted treatment	Patients who did not collect drugs for 2 months or more at any time after registration
Transferred out	Patients who were transferred to another reporting unit and for whom treatment results were unknown
Re-treatment patient	Patient previously treated for TB whose treatment failed, who defaulted or who relapsed
Died	Patient who died during TB treatment, irrespective of the cause

(Source: WHO, 2003(c): 10-11)

1.1.6 Directly Observed Treatment Short Course (DOTS) overview

In 1993, the WHO introduced the Directly Observed Treatment Short course (DOTS) strategy, which gave countries a universal framework towards controlling TB for their National TB programmes (Pope & Chaisson, 2003: 611).

The DOTS strategy ensures that infectious TB patients are identified and cured using standardized drug combinations (SA. DoH, 2000(b): 9).

Linked to the joint WHO targets of identifying 70 % of infectious TB cases and curing 85 % of these (The Pan American Health Organization, 2004), the internationally recommended approach to TB control is DOTS, a cost-effective strategy that could potentially prevent millions of TB cases and deaths.

The DOTS strategy for TB control consists of five key elements:

- Government commitment to TB control activities, with sustainable funding;
- Detection of TB cases through sputum smear quality assured microscopy among people with symptoms;
- Regular and uninterrupted supply of well managed, high-quality anti-TB drugs;
- A standardized 6 to 8 months of strictly supervised treatment (including Direct Observation of drug-Therapy (DOT), and patient support); and
- Reporting systems to monitor treatment progress and programme performance, which are standardized and evaluated and include impact measurement (WHO, 2008).

South Africa adopted the DOTS strategy and began to implement it in 1996 from when National DOTS coverage rose gradually in South Africa, peaking at 100 % in 2003 and then 93 % in 2004 (WHO, 2008).

The South African National Department of Health promotes DOTS as the most effective means of controlling TB as this:

- Prevents Multi-Drug Resistant TB from developing;
- Is highly successful in curing TB patients;
- Makes TB patients non-infectious within approximately 72 hours of starting treatment; and
- Costs less than the TB control strategies previously used (SA. DoH, 2005(a)).

1.1.7 Directly Observed Treatment (DOT) overview

Directly observed Treatment (DOT) is a core component of DOTS and emphasizes the observed supervision of TB treatment to promote treatment completion and aims to reach treatment adherence towards cure (Pope & Chaisson, 2003: 611).

Advantages of DOT include close community monitoring in the social context with some measure of peer pressure encouraging treatment compliance, while DOT has resource implications, which could have disadvantages depending on the setting (Volmink & Garner, 2002).

Studies are conflicting; and seem to vary from country to country; on the effect that DOT has on treatment completion and therefore there is a call for more systematic exploration of all the interventions that are employed by TB programmes (Pope & Chaisson, 2003: 612).

1.2   HIV and AIDS situation

1.2.1   Global HIV and AIDS

The estimated number of people living with HIV in 2007 is 33.2 million (UNAIDS, 2007). Globally it is estimated that every day, over 6 800 become newly infected with HIV and 5 700 persons die from Acquired Immune deficiency Syndrome (AIDS), mostly due to inadequate access to HIV prevention and treatment services, thereby leaving the HIV pandemic as the most serious infectious disease public health challenge, with AIDS remaining a leading cause of mortality worldwide, with an estimated 2.1 million deaths in 2007 (UNAIDS, 2007).

1.2.2   HIV and AIDS on the African continent

Reported HIV cases in Northern and Central Eastern Africa remain low with an estimated 380 000 living with HIV in that region of Africa (UNAIDS, 2007). However, Sub-Saharan Africa is home to over 60 % of the world's population living with HIV (AMREF, 2008).

In 2007 an estimated 22.5 million persons were living with HIV in Sub-Saharan Africa, with HIV also the primary cause of death in this region; forecasting a protracted challenge ahead in HIV treatment for health services (UNAIDS, 2007).

1.2.3   HIV and AIDS in South Africa

HIV represents one of the most serious challenges to health and society in general in South Africa. Since the first reported case was documented in South Africa, the HIV prevalence has escalated at an alarming rate. Estimates of the burden of disease attributable to HIV are derived from HIV surveys conducted each year by the South African Department of Health among antenatal clinical attendees in public health facilities. With an estimated 5.5 million people living with HIV in 2006, South Africa is the country with the largest number of HIV infections in the world (UNAIDS, 2007).

1.2.4 HIV and AIDS in the Western Cape Province

The Western Cape HIV epidemic varies from the other provinces in that it has the second lowest prevalence (16 %) among pregnant women (UNAIDS, 2008) but is at the forefront of Antiretroviral (ARV) role-out.

However, despite the lower prevalence, the Western Cape Department of Health acknowledge that the key challenge for the HIV and AIDS programme remains that the demand for services far exceeds the capacity of the government to provide the required public health sector services. The key challenges are recruiting and retaining appropriately trained human resources and providing the infrastructure to ensure the required services such as ARV treatment, roll-out and treatment adherence (Western Cape. DoH, 2008(b)).

1.3 TB and HIV dual infection situation

1.3.1 Global dual infection (TB and HIV)

TB and HIV are intertwined and TB remains a common cause of illness and a leading cause of mortality in people living with HIV (UNAIDS, 2008). This is due to the fact that HIV reduces the individual's immune system, making them more susceptible to infections such as TB (Lourens, 2001: 25). This reduced immunity results in an increase in TB infection and an increase in progression to active TB disease (Draper, Pienaar, Parker & Rehle, 2007: 25)

Globally, less than 0.5 % countries screened people living with HIV for TB in 2005, but the average for countries that reported screening, was that 12 % of people living with HIV where found to have active TB. Furthermore about 200 000 people living with HIV die from TB every year, most of them in Africa (AMREF, 2008). Completing a particularly vicious cycle, HIV itself has been the single most important factor in the rising incidence of TB in Africa since 1990 and treating co-infected people is hard, as the drug therapies for each are hard to safely combine with the spectrum of side effects (AMREF, 2008).

1.3.2 Duel infection (TB and HIV) on the African continent

Much of the global increase in TB incidence seen since 1980 is attributable to the spread of HIV in Africa which in 2004 was estimated that around 34 % of newly diagnosed adults with TB were infected with HIV (Dye, 2006: 939). In Africa a relatively high proportion of these patients are women aged 15 – 24 years (Dye, 2006: 939).

The new targets set by the Millennium Development Goals, and the 'Stop TB' partnership, to halve the TB prevalence and deaths rates globally by 2015 are much more of a challenge in Africa, due to dual infection with HIV; and numerous other constraints including financial and health sector infrastructure and staffing (Dye, 2006: 939).

1.3.3 Dual infection (TB and HIV) in South Africa

HIV can dramatically fuel the rate of TB infection, because HIV compromises the immune system. In South Africa, more than 16 % of the population are infected with HIV, and 1 000 people die from AIDS-related diseases each day, and two-thirds of those with HIV also suffer from TB, because of their weakened immune systems (AMREF, 2008). In 2004 estimates exceeded the 50 % mark for TB patients living with HIV in South Africa (Dye, 2006: 939).

UNAIDS (2008) views the collaboration between TB and HIV activities as inadequate and calls for data collection of successful projects to maximize opportunities for TB and HIV co-ordination to optimalize access to prevention, treatment, care and support of TB and HIV.

In 1999 the South African Government merged its TB and HIV units to address this dual epidemic in a coordinated way. However, despite all efforts, the DoH (Department of Health) acknowledges that they have not yet turned the tide against TB even though the infection is curable, even in individuals who are HIV-positive (SA. DoH, 2003).

1.4   CPUT TB and HIV project

Cape Peninsula University of Technology (CPUT) is a Higher Education Institution, previously known as the Cape Technikon, prior to its merge with the Peninsula Technikon in 2005.

The backdrop of political commitment required for DOTS and the establishment of a TB control programme in the Western Cape Province, sets the context in which the project described in this study was initiated in April 1999.

The CPUT TB and HIV Project, was a response to the challenges posed by TB case-finding and case-holding and HIV link and in line with the core value of social responsibility of the CPUT, with a community development thrust and responsibility as a tertiary institution to impart knowledge and skills to its communities (Cape Technikon, 2001: 33).

Following the request of Western Cape Provincial DoH TB control in 1998, the CPUT procured funding and collaborated with Provincial Government of the Western Cape and TB Non-governmental Organizations (NGOs) to develop and implement a Train the Trainer TB Community Outreach Project in the Western Cape Province.

The CPUT TB and HIV project developed a dual infection (TB and HIV) module in 2001, prompted by learner participants on the TB course who were grappling with emerging dual infection in the community.

Initially, the project aimed to train trainers to train DOT workers, but in 2001 with the addition of a HIV module, the project course was referred to as the CPUT TB and HIV project.

The project will be referred to in the text as the CPUT TB and HIV project, which encapsulates the full description of a Higher Education Institution based Train the Trainer TB and HIV community outreach project.

In this study a trainer refers to the successful learner participants of the CPUT TB and HIV project course.

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The project course was designed to train trainers on National Qualification Framework (NQF) level two (Grade 10) to transfer their skills in the community with an Adult Basic Education and Training (ABET) approach at NQF level one (Vasuthevan & Viljoen, 2003: 7). This training aimed to equip them with skills to transfer their TB and HIV knowledge.

1.5 Study significance

Initiated by the Western Cape Provincial Health Department's TB Control and on their request, the CPUT collaborated with many public health and NGO TB and HIV role players to implement a train the trainer TB and HIV Community Outreach Project.

This study is a response to the notion that this project may have the potential to be rolled out at another Higher Education Institution in South Africa. However prior to national replication, the situation that gave rise to this project and the process that was followed to develop it required more detailed description.

This project study is therefore necessary and important as it could serve to:

- Inform Higher Education Institutions of what a community outreach train the trainer project of this nature involves;
- Describe the collaboration between the Provincial Public Health sector and a Higher Education Institution; and
- Share lessons learnt.

Furthermore, to meet the new targets set by the Millennium Development Goals and the "Stop TB" partnership new information needs to be generated. One of the research priority areas suggested by WHO is research into programme effectiveness involving assessing the potential to integrate TB care within the community setting to address issues related to problems where there is a lack of manpower and infrastructure (Onyebujah, Rodriguez & Mwaba, 2006: 940).

This study describes the collaboration between Provincial DoH, local authority and NGO TB and HIV programmes. The WHO supports and encourages assessment of models of collaboration in disease endemic settings (Onyebujah, Rodriguez & Mwaba, 2006: 940). This study seeks to contribute to this body of required knowledge (SA. DoH, 2000(a): 6) by describing the CPUT TB and HIV project in a resource and infrastructure-constrained setting.

This study responds to the urgent call for innovation in models of collaboration between programmes in health systems (WHO, 2003(b): 25) and for knowledge about how to implement projects, to accelerate the appropriate response to the global challenge of TB and HIV.

1.6   Study aim

This study aims to describe the CPUT TB and HIV project, describing the development from 1997 and the perceptions of the trainers trained from 01 January 1999 to 28 February 2003.

1.7   Study objectives

The objectives of the study are to:
- Document the historical overview of the project;
- Describe the implementation process of the project; and
- Describe the experiences of the trainers trained by the project.

1.8   Study delineation

This study was conducted in the CPUT and is therefore limited to this one Higher Education Institution setting situated in Cape Town, Western Cape Province.

The study was conducted predominantly within the boundaries of the Western Cape Province in South Africa; with the inclusion of one small group of trainers deployed on farms nationally, representing eight of the nine provinces with the exception of Kwa Zulu Natal.

1.9   Chapter overviews

In Chapter 1 background information and a contextualized backdrop to the project is provided about the study, as well as the study significance, purpose, objectives and delineation.

In Chapter 2 a literature review is presented.

In Chapter 3 the development and implementation of the CPUT TB and HIV project is presented.

In Chapter 4 the research methodology will be discussed.

In Chapter 5 the study results are presented with some level of interpretation.

In Chapter 6 recommendations and concluding remarks are presented.

1.10   Summary

This chapter has served to give a brief background and context to the study describing the scourge of both TB and HIV globally, and in South Africa; as well as the CPUT TB and HIV project and describes the aim and objectives of this study.

The following chapter serves to present the related literature reviewed.

CHAPTER 2
LITERATURE REVIEW

2.1   Introduction

In the previous chapter the background was discussed of global and local TB and HIV situations and of the CPUT TB and HIV project, as well as the aim and objectives of this study. This chapter presents the literature review that was conducted for this study.

In the literature review process a paucity of available published literature was encountered in terms of Higher Education Institution community outreach training programmes. This was substantiated with the assistance of a CPUT senior librarian's search in which no similar published studies could be found and an official database search confirmation was provided which has been kept on record by the researcher.

2.2   TB treatment adherence

TB treatment adherence is one of the major obstacles in addressing the global burden of disease and a systematic review of qualitative research on patient adherence to TB treatment (Munro, *et al.*, 2007: 2) concluded that treatment adherence during the long course (six to eight months) of treatment is influenced by an extensive range of complex factors such as knowledge, attitudes and beliefs about TB treatment as well as illness and wellness; the influence of side effects on treatment adherence; personal characteristics and adherence behavior; family, community and household influences; organisation of treatment and care for TB patients; and the financial burden of TB treatment. Access to health care and fear because of the stigma attached to TB also impacts on health seeking behaviour and treatment adherence (Atkinson, 2003: 6). Other factors include correlation between patient needs and priorities, which are not always met by the Health system, e.g. flexibie, convenient clinic timings; attention and support; and respectful communication (Jaiswal, Singh, Ogden, Porter, Sharma, Sarin, Arora & Jain, 2003: 625).

The perspectives of patients, carers and health care providers have to be considered to understand the barriers and facilitators of TB treatment adherence and therefore the role of qualitative studies are important to understand patient, community carers and health providers experiences in efforts to improve treatment outcome (Munro, *et al.*, 2007: 2).

2.2.1 Directly Observed Treatment Short course (DOTS)

The WHO DOTS strategy was discussed in Chapter 1.

According to Cameron (2000: 5) lessons we learnt from implementing DOTS will be needed as we try to provide Antiretroviral (ARV) drugs for HIV on a wide scale. In order to cope with the increasing numbers of TB patients more resources will have to be put into DOTS and better use will have to be made of community-based health workers (Dudley, Azevedo, Grant, Schoeman, Dikweni & Maher, 2003: S48). The community should ideally be seen as active partners in implementing health services such as DOTS, which need not remain exclusive to formally trained health professionals (Cameron, 2005: 5).

2.2.2 Directly Observed Therapy (DOT)

A review article by Bayer and Wilkinson (1995: 1545) noted that directly observed therapy (DOT) has emerged as the standard of care in the treatment of TB.
It is also noted that by the early 1960's, those concerned with TB control in places as diverse as Hong Kong, Madras (India), and London had concluded that effective treatment required direct supervision of therapy and that only such an approach could interrupt a general tendency on the part of patients to cease taking medication when they no longer felt ill (Bayer & Wilkinson, 1995: 1546).

The Advisory Council for the Elimination of TB in the USA recommended that DOT be considered for all TB patients in localities that do not achieve at least a 90 % treatment completion rate. This recommendation was made in response to the: poor record of assuring that those with TB complete their treatment; challenges of TB in persons dually infected with HIV; and public alarm that surrounded the emergence of Multi drug resistance TB in New York (Bayer & Wilkinson, 1995: 1545).

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The CPUT TB and HIV project was designed for the South African context and to specifically promote community based DOT and therefore to enhance TB treatment compliance by training community members about TB and HIV.

2.3   The dual challenge of TB and HIV

The global burden of TB remains enormous with 8.9 million new cases estimated in 2004, mainly attributed to poor TB control in Southeast Asia, Sub-Saharan Africa and Eastern Europe as well as high rates of co-infection of TB and HIV especially in Sub-Saharan Africa, where 2003 estimates indicated TB incidence of 356 per 100 000 population per year (Dye, 2006: 938) and HIV estimates of 22.5 million people living with HIV in this region (UNAIDS, 2007: 7).

South Africa has gradually moved further up the list of 22 high burdened TB and HIV countries with TB incidence of all cases estimated at 940 per 100 000 population per year in 2006 (WHO, 2008). An estimated 5.5 million people were living with HIV in South Africa in 2006 making it the country with the largest number of HIV infections in the world (UNAIDS, 2007: 3).

In 2000 the South Africa TB Control Initiative set the following objectives in order to enhance TB control:

- Promotion of voluntary counseling and testing for HIV in TB services;
- Providing advocacy and health education materials for TB and HIV;
- Development of generic management guidelines for TB and HIV patients;
- Development of training modules on the management of TB and HIV patients; and
- Creating an inventory for TB and HIV research in the region (Kironde, 2000: 347).

NGOs are seen as important partners in this process of collaboration. The TB Alliance DOTS Support Association (TADSA) was contracted in 2000 by the National TB Control Programme (NTCP) and the Sexually Transmitted Infections, HIV and AIDS Directorate to develop a manual for training TB treatment supporters in community based care for dually infected patients (Kironde, 2000: 347). No published literature of the detailed description or evaluation of this venture could be found.

2.4   The role of the community in combating TB and HIV

The definition of community that will be applied in this study is a group of people bonded together with a common purpose, belonging to a group in the local area/place where they live (Hornby, 2004: 226).

Ferrinho (1994: 92) proposes "educative communication" with the community facilitated by "extension workers" from the community. He argues that health professionals are not always the best communication agents and that health communication is more effective when health teams from a certain population are trained in education, communication and serve as a communication linkage between these health professionals and the population.

To improve the quality of life and people's health, one needs to acknowledge that health cannot be achieved by professional health workers alone and that working with other community supporting institutions e.g. schools, agricultural bodies, etc. is required, otherwise described as intersectoral co-ordination (Ferrinho, 1994: 89).

To meet the Millennium Development Goals previously referred to, which include halting TB and HIV; a broader range of partners is necessary to be involved. This supports the crucial role communities have to play in TB control efforts and TB care. Community contribution projects in health programme activities have shown to be feasible, effective, affordable and cost-effective (Omaswa, 2003: 51). Based on these abovementioned studies, it would appear that intersectoral collaboration at community level seems crucial to control of TB and HIV. A coalition or collaboration is broadly defined by Kagan and Rivera, as cited by Keith (1996), as an effort that unites and empowers individuals and organisations to accomplish collectively what they could not accomplish independently.

The WHO (2000: 4-6) called for universal tolerance and knowledge about HIV and AIDS and this should extend to include TB, because of the stigma surrounding TB and HIV (van Dyk, 2001: 95). Futhermore, psychosocial issues of fear, guilt and shame are associated with HIV and AIDS (Lourens, 2001: 20) which can be directly addressed through educational programmes based on sound knowledge, drawing from medical, social and psychological spheres, and helping to normalise HIV in the communities; granted that such programmes are sustained and supported over time (van Dyk, 2001: 273). Training of community members is viewed as a determinant of success in TB programmes (WHO, 2003(a)).

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2.5   Adult learning in South Africa

Since 1994 in South Africa, a spate of legislation and resultant structures emerged which influenced education, training and development in the health care setting.

The South African Qualifications Act (Act no. 58 of 1995) heralded a new era of enhancement of the quality and standard of education, with the NQF, which seeks to heighten accessibility to education and facilitate the transformation of the South African education system to redress social and educational imbalances (Vasuthevan & Viljoen, 2003: 7).

The South African Qualifications Authority (SAQA) has adopted an eight level framework for the NQF, which are formally recognized. To provide for the recognition of adult learning, four certification levels exist for Adult Basic Education and Training (ABET) learnerships leading to a General Education and training certificate at level one on the NQF (Vasuthevan & Viljoen, 2003: 7). Through ABET people acquire skills that can help build communities and they can use these skills to improve the situation in their own communities (UNISA, 1995: 20).

The proposed National Qualifications Framework Act (Act no. 67 of 2008) still has to be signed into law. This NQF bill proposes that the NQF levels are arranged from one to ten (SAQA(a), 2008).

The Skills Development Act (Act no. 97 of 1998) and the supporting legislation, namely the Skills Development Levies Act (Act no. 9 of 1999) were promulgated to develop and improve the skills of the South African workforce (Vasuthevan & Viljoen, 2003: 28). The two structures that facilitate the objectives of this legislation are the National Skills Authority and the Sector Education and Training Authorities (SETAs), which oversee the implementation of the National Skills Development Strategy and the allocation of funding for education and training through the National Skills Fund (Vasuthevan & Viljoen, 2003: 29).

The five objectives of The National Skills Development Strategy are to:

- Develop a culture of high-quality life-long learning;
- Foster skills development in the formal economy for productivity and employment growth;
- Stimulate and support skills development in small businesses; and
- Promote skills development for employability and sustainable livelihoods through social development and in assisting new entrants into employment (Vasuthevan & Viljoen, 2003: 33).

A brief overview to clarify the South African Education, training and development structures is tabulated below in Table 2.1:

Table 2.1 – S.A education, training and development structures

Concepts and bodies	Explanation
SAQA	South African Qualifications Authority was established through the SAQA Act (No. 58 of 1995) to oversee the development and implementation of the NQF. The authority is made up of members appointed by the Minister of Education and represent South Africa's major stakeholders in education and training.
NQF	The NQF is a national effort to integrate education and training into a unified structure/framework of recognized qualifications. The NQF provides a national set of principles and guidelines to integrate and transform education and training in South Africa.
NQF levels	SAQA has adopted 8 levels on the NQF: Level 1 and below (ABET 1-4) GET (General Education and Training) Level 2 to 4 FET (Further Education and Training) Level 5 to 8 HET (Higher Education and Training)
ABET	Adult Basic Education and Training has four levels on Level 1, which has been put in place to provide for the recognition of adult learning that falls outside the framework.

(Vasuthevan & Viljoen, 2003: 4 – 7)

Table 2.2 – NQF bands and levels

Band	NQF level
HEI (Higher Education Institution)	5 – 8
FET (Further Education Training)	2 – 4
GET (General Education and Training)	1 ABET 1 – 4

(Vasuthevan & Viljoen, 2003: 4 – 7)

The CPUT TB and HIV project course content was pitched at NQF level 1. In a HIV learnership programme developed towards poverty reduction, the importance of adult learning to relate to the huge impact of HIV on communities in South Africa was stressed, as well as developing a holistic approach to the pandemic (Diallo, Lemmer & Pandy, 2004: 168). These authors called for further research into the job market marketability and future employment of adults who completed the adult learnerships.

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2.6   Theoretical framework

This study will be guided by a theoretical approach (Ulin, 2005: 36) to understanding the adoption of change in health innovation, which is Roger's diffusion of innovation theory (Orr, 2003: 1) and has been chosen as a theoretical framework for this study to describe the CPUT TB and HIV project from creation to use (Clarke, 1999).

The adoption of innovation by a health care system is a consequence of multiple factors of which research is one (Sanson-Fisher, 2004: S55).

Roger's diffusion of innovation theory (Orr, 2003: 1) defines diffusion as the process by which an innovation is communicated through certain channels over time among the members of a social system. Furthermore four elements that are present in the diffusion of innovation process which are: (i) Innovation – an idea; (ii) Communication channels – the means by which messages get from one individual to another; (iii) Time innovation-decision process; and the (iv) Social system – a set of interrelated units that are engaged in joint problem solving to accomplish a common goal.

Understanding and utilizing diffusion networks can aid strategy aimed at inducing system wide change and introducing and spreading of innovations.

The CPUT TB and HIV project is seen as an innovation in addressing TB and HIV, and how that innovation was diffused, needs to explored for support of the valuable ideas that may emerge from the study, to be pushed to what is described as the "tipping point" which leads to a domino effect to bring about change in a system (Orr, 2003: 1).

Sanson-Fisher (2004: S55) applied Roger's diffusion model to the adoption of new clinical behaviour by clinicians and health care systems and concluded that diffusion theory can offer some plausible explanation for adoption of clinical activities, but called for research testing this model further in the health care environment.

The ten principles of learning proposed by Downs (1995: 32) were applied to this study to describe the learning experience of trainers. Downs (1995) explores unlocking active learning in adults to affect the ability to change and the point of departure is that all adults have some knowledge onto which can be built.

As the CPUT TB and HIV project course was designed with an adult learning approach, it was considered an appropriate choice to apply Down's ten principles of learning once the experiences of the learners became clear from the data.

The ten principles include learner progress and responsibility for learning, the learning environment, active learning, assessment, reflection and feedback. Klopper (2001: 9) proposes a model of constructivist learning which also views learning as a "dynamic, active and cumulative process of knowledge construction". These principles will be applied during data analysis to the learning experiences of trainers and presented in Chapter 6.

2.7   Summary

The literature review for this study as presented in this chapter covered aspects such as TB treatment adherence strategies and highlighted community involvement in the response to TB and HIV.

Adult learning contextualization in South Africa as it applies to this study, as well as the conceptual frameworks of Roger's Diffusion of Innovation (1995) and Downs (1995) Keys to learning were also described.

The next chapter will describe the history of the CPUT TB and HIV project.

CHAPTER 3
HISTORICAL OVERVIEW

3.1 Introduction

This study aimed to describe the TB and HIV project of the Higher Education Institution, CPUT and the experiences of the trainers of the project.

Specific objectives of the study included documenting the history and the implementation process of the project.

In Chapter one a background was sketched about TB and HIV. In the previous chapter the literature reviewed was presented.

In this chapter a chronological account of the events are presented to provide a historical overview of the CPUT TB and HIV project, leading up to the development and implementation of the project.

3.2 History data collection

A qualitative approach (Ulin, Robinson & Tolley, 2005: 11-12) was used in order to understand the key informants' accounts of the history of the CPUT TB and HIV project.

The key informants included role players from the Provincial Department of Health of the Western Cape TB control directorate, the public local health authorities and relevant staff members from CPUT. Purposive sampling (Brink, 2006 : 133) was used to identify key informants. This involves interviewing what Hallberg (ed.) (2002: 143) describes as significant, informative individuals. She cites Morse (1991) as describing a "good informant as a person with a broad knowledge in the focus of the study, with the ability to reflect and articulate upon his/her experiences." Participants were selected who could unambiguously give the required historical background in either English or Afrikaans as the researcher is proficient in these two languages.

Individuals who had played a strategic role in the history of the project were sampled purposively (Brink, 2006: 133) to be interviewed for this data, as they were able to communicate unambiguously in either English or Afrikaans and they were involved in the development of this project.

Key informants were selected from the:
- Department of Health (DoH), Western Cape Provincial TB Control Programme (one);
- A Rural Local Health Authority in the Western Cape (two); and
- CPUT as a Higher Education Institution (two).

Five unstructured in-depth interviews (Goddard & Melville, 2001: 49) were conducted to construct an overview of the chronological events in the project's history. The purpose of these interviews was to document the history of the project as well as the implementation process.

Interviews were conducted by the researcher and audio-tape recorded after key informants agreed and signed the written informed consent form (Annexure 2) (Mash, 2004).

The researcher made telephonic appointments and traveled to the interview settings of choice of the key informants. Interviews were conducted at a venue, date and time most convenient for the key informant. The researcher made rough notes during the interview with permission of the informants as well as reflective notes directly after the interviews in another venue.

Four informants were interviewed in their workplace office, while one informant had already retired and was interviewed at his retirement home, in a rural area where he had relocated to since retirement.

All tapes and transcripts are stored in the researcher's home office in a locked office cupboard.

All the audio-tape recorded interviews were typed verbatim, forming the data set for this part of the study i.e. the history of the project.

3.2.1 History data collection instrument

Unstructured in-depth interviews were used to collect the required data to describe the history and the implementation process of the CPUT HIV and TB project.

The following questions and probes were developed for the history interviews (HI) (Terreblanche & Durrheim, (ed.) 2004: 127):

The opening question was: 'Please tell me about your experiences of the history of the CPUT TB and HIV project.

The following probes were used to collect specific information if the informants did not provide it using the opening question. The probes were: 'Tell me more about':

- *The role players involved;*
- *The implementation process;*
- *Any challenges experienced; and*
- *Any other comments or recommendations.*

3.2.2 History data analysis

During data analysis a process of qualitative content analysis was used to analyze the transcripts by coding emerging themes (Ulin, Robinson & Tolley, 2005: 144). All the transcripts were read and reread individually by the three researchers who were also involved in a process of triangulation to ensure that the research findings are trustworthy to reflect reality. These three researchers were: the principal researcher, who was also the project manager from 2000 to 2005; the founder of the project, and a member of staff in Applied Sciences Faculty, who had also co-developed the counseling module of the project course.

3.2.3 Triangulation of history data

These three researchers met on numerous occasions to compare and discuss individual coding and confirm themes that emerged and a correct understanding of the project history, as a means of triangulation (Terreblanche & Durrheim, (ed.) 2004: 128) and to ensure trustworthiness of interpretation toward reflecting reality.

3.3   The history of the CPUT TB and HIV project

The five history interviews are summarized and tabulated below.

Table 3.1 – History and project implementation interviews

Interview number	Date	Key informants	Gender	
			Female	Male
1	03 February 2005	Founder of project, CPUT	1	
2	09 February 2005	Senior Marketing, Development and communications officer instrumental in attaining funding for project, CPUT		1
3	23 March 2005	Director of TB Control, DoH		1
4	24 March 2005	Local health authority rural representative in standardized manual task team and facilitator of pilot group	1	
5	24 March 2005	Local health authority management member involved in pilot project	1	

Table 3.1 indicates all the key informants purposively selected for the study. The key informants were readily available at their offices with the exception of one who had retired and was therefore seen at home by the researcher. All the key informants purposively selected for the study agreed to participate.

3.3.1 Emerging themes

Prominent emerging themes from the text were grouped and are summarized below. Emphasis of data given was influenced by the role of the key informant in relation to the project. A chronological table of events was also possible to compile on conclusion of interviews (See Table 3.2). Quotes will be indicated by *HI* (History Interview); interview number; and page number of verbatim transcript.

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Project conceptualization by Provincial Department of Health and CPUT

According to one key informant of the Provincial TB Control Directorate, prior to 1998, DOT training was uncoordinated and lacked credibility and empowerment of trainers. Negotiations began between the TB Control Directorate office and the CPUT in 1997 to initiate the project concept. The notion of linking the course offering to an accredited Higher Education Institution, which would enhance the credibility of the course, and empowerment of the participants, was well supported by the NGO sector and the TB Directorate of Provincial Government of the Western Cape. The TB control directorate manager approached the head of the CPUT nursing department to set the wheels in motion for the conceptualization of the project. The project founder gave the same history about the CPUT initial collaboration with the Western Cape Provincial DoH in conceptualizing the project. The original aim of this project was to train the trainers of DOT workers (*HI 1* pg 1*).

Sustainable funding is a critical factor

According to a key informant interviewed, the need to secure funding at an early stage in project planning was essential so that appointment of a project driver could be done after development work and piloting of course content had been conducted. Having persons dedicated to this process of securing funding was the recommendation by this key informant and the project founder (*HI 1* pg 4 + 6; *HI I 2* pg 1 – 2; *HI 4* pg 3).

Project development

The project founder and the Provincial TB Director emphasized this phase of collaboration to initiate the project and draw together an appropriate group of role players to develop the training manual and course outline for training of trainers of DOT workers, compile training material and print manuals.

Development of a standardized training manual

The process of the development of standardized training manuals by including all relevant TB NGOs and the Provincial Health Department was described as complex and time-driven (*HI 3* pg 3) which lent itself to some underlying conflicts in the role players in the committee of representatives from various NGOs (*HI 4* pg 7). Competition for territory and funding between these role players was highlighted as a possible causative agent for this conflict. A manual from the University of Natal by S Knight was used as a guideline; as were the WHO guidelines for TB Control.

"A lot of rivalry... 'quite a bit of infighting' ...a problem in the development of the course" (HI 2 pg 2-3).

Influential project role players

The key informants identified various role players who were involved in the project; many of whom the key informants felt was very influential. Often involvement was established based on previously established community relationships of the project founder. The grouping of these role players identified by the key informants included:

- The Cape Technikon (now CPUT) (The Nursing Department and the Public Relations Departments);
- The Department of Health, Western Cape Provincial TB Control Directorate;
- The funders want to remain anonymous;
- A local health authority (Winelands District Council and West Coast District Council); and
- A local Health Facility (Malmesbury Hospital).
- The Tuberculosis NGO sector (SANTA, TB Care and TADSA);

The key informants all alluded to the utilization of personal contacts within organisations to mobilize the relevant role players (*HI 1* pg 7; *HI 4* pg 2-3; *HI 5* pg 6).

Higher Education Institution link favourable

The key informants felt that linking the project course to a Higher Education Institution gave credibility and academic accreditation (*HI 3* pg 1-2; *HI 4* pg 4).

"...to have it accredited within the Cape Technikon's structure aimed to get the learner a qualification that they could be proud off" (HI 1 pg 3).

Modular training programme developed

Key informants explained that the training programme was developed into 3 modules covering the areas of:

1) Tuberculosis;
2) Introduction to Basic Counseling principles; and
3) Adult Basic Education Training Principles.

Learners who were trained by this project were to be trained to train others in their communities or organizations; to share health knowledge about identifying the signs of TB and prevention of the illness; client counseling; TB treatment adherence and resources for referral. An entrance requirement to the project programme was Grade 10 school education.

It was felt that the TB and HIV training of trainers must be at a level where people would be able to think critically when questioned in the class situation. In order to ensure this, they had to be suitably trained and therefore able to read documents with the required level of understanding/comprehension; and to sit an examination/assessment of theoretical knowledge. It was concluded that Grade10 should be the basic requirement.

The description of the three modules, as described by key informants follows.

1) The TB module

Key informants indicated that the development of the manual for the TB Module was a collaborative effort between CPUT, the Western Cape Provincial DoH and various TB NGOs. The standardized Provincial training manual was used as a baseline and the NGOs gave input from the manuals they used. The printing of these manuals were sponsored by the local Drakenstein Rotary Club. The directly observed treatment/therapy (DOT) strategy that aims to ensure treatment adherence was included in this module, as well as a module on how to gain entry to a community.

Final individual assessments were conducted by a written test and assessed by the trainer.

Table 3.2 – TB Module training programme outline

Day 1	Day 2	Day 3
▪ TB statistics ▪ TB infection ▪ TB spread ▪ TB symptoms ▪ TB Bacilli ▪ TB diagnosis ▪ Sputum collection ▪ TB prevention	▪ TB medication ▪ TB treatment and side effects ▪ Safe handling of TB medication ▪ Administering TB Medication ▪ Record-keeping of TB medication compliance	▪ The DOT strategy ▪ Patient-centered care ▪ Factors and barriers which determine treatment behaviour ▪ Treatment interruption ▪ Improving adherence ▪ Codes of caring ▪ Steps in community entry models in urban and rural communities ▪ Levels of health care
ASSESSMENT: Written test		

Table 3.2 presents how the TB module was presented over three days; covering the theory about TB and the DOT strategy that the collaborative team of TB NGOs, the DoH and the CPUT staff had felt were important. The theory was presented with the help of an interactive standardized training manual (Provincial Administration Western Cape, 1998), which presented theory and then asked questions overleaf. The manual was later also modularized with learning outcomes for each module. The theory was presented in an experiential way with many group activities and discussions around TB and the implementation of the DOT strategy, with community entry and community based DOT project models explained. The assessment was in the form of a written test.

2) Counseling *module*

Key informants reported that the counseling module was a combined effort between the suitably qualified staff of CPUT and a social worker of TB Care (a TB NGO). It included basic counseling skills such as listening and empathy building. Written assessments concluded this module as well as group work role-plays with peer review of counseling skills facilitated by the project facilitator during the role-plays.

Table 3.3 – Counseling module training programme outline

Day 1	Day 2	Day 3
- Defining counseling - Values clarification - Developing trust and empathy - Listening skills - Qualities of an effective counselor	- Counseling skills e.g. - Using open questions - Reflection - Selective reflection 8 Stage counseling model - Problem solving - Crisis counseling	- Counseling case studies with role-play - Peer review of counseling skills - Referral options
ASSESSMENT: Peer review role plays and a written test		

Table 3.3 indicates the counseling module, which was a very basic introduction to the elementary skills required in a counseling relationship, such as effective listening skills, confidentiality, establishing trust and conveying respect to the client. Many experiential activities were done honing in on listening skills and developing empathy. Role-plays with TB related case studies were a key component of the training. Learners would have to role-play to practice these skills. The problem solving cycle and community referral was also included.

The third day involved a series of role-plays in which the learners were peer reviewed by the fellow learners. Although a counseling theory test was written on the first day of the next module, the focus was on developing basic counseling skills.

3) ABET *(Adult Basic Education and Training) module*

Key informants indicated that the ABET (Adult Basic Education and Training) module was developed at the CPUT by relevant academic staff. Learners were evaluated in the form of an ABET presentation. Learners had to prepare and present a presentation on a relevant TB related topic, which the project facilitator selected from the modular course content and allocated to participants randomly. The rest of the group was the audience. The topic was presented as if to members of their communities and peer reviewed by the group. The project facilitator gave formal written feedback, which was part of the learning event.

Table 3.4 – ABET (Adult Basic Education and Training) module training programme outline

Day 1	Day 2	Day 3
▪ SAQA and NQF overview ▪ ABET theory ▪ Presentation skills ▪ Designing audio-visuals ▪ Developing lesson plans ▪ Preparing for presentation assessment	▪ ABET presentation assessment and peer review	▪ ABET presentation assessment and peer review
ASSESSMENT: Assessment of learner presentation		

Table 3.4 displays the contents of the ABET module. The ABET theory was covered on day one of the ABET module and learners were taught about the formal structures of qualifications in South Africa; the positioning of ABET on the National Qualification Framework; and the ABET principles.

Guidance was also given in terms of presentation skills and how to prepare for a presentation (checklist of requirements, lesson plans, training material and media planning). Learners were randomly allocated a TB related topic from the course and had to each give a 10 to 15 minute presentation, which was assessed by the project facilitator and peer reviewed by fellow learners.

4) Dual *infection: TB and HIV*

At a later stage of the project in 2001, and in an attempt to address the growing requests from participants to be empowered with more knowledge pertaining to dual infection (TB and HIV), a fourth module was developed by the project facilitator. As with the other modules, this module included an experiential learning approach with numerous case studies and group work.

The course was assessed using a written test on the last day of the module, as it was the final module of the project course. Such written assessment was possible due to the entry/nomination requirements for participants of a minimum scholastic exit level of Grade 10 required to attend the course.

Table 3.5 – Dual infection: TB and HIV module training programme outline

Module	Day 1	Day 2	Day 3
Dual Infection HIV and TB	- HIV Theory - HIV Virus - HIV Transmission - HIV Prevention - HIV and pregnancy - The link between STI's and HIV	- HIV infection timeline - Nutritional guidelines - Lifestyle guidelines - The link between TB and HIV - Infection control principles - Side effects of ARV's and TB medication - Dealing with dual infection and common problems	- Impact of HIV on TB Control - Dual infection case studies - The role of the treatment supporter - Community resources for TB and HIV referral
ASSESSMENT: Written test			

Table 3.5 tabulates the contents of the HIV module. A HIV manual was developed by the project facilitator in 2001, focusing on dual (TB and HIV) infection. The manual formed the outline of the three-day course. The manual was reviewed by a provincial accredited HIV training provider to ensure that the key aspects of HIV were covered. The link of HIV and AIDS with TB and Sexually Transmitted Infections (STI) was highlighted, as well as lifestyle guidelines and home based care of people living with HIV.

Building up a network of community resources was also discussed and various resources were included in the manual. The course employed the active learning approach with many case study discussions. The final assessment was a written test on the last day of the module.

Project implementation

Key informants explained that the implementation planning phase was characterized by an initial trial of the training material in a rural setting and then a trial run of the course in the Winelands and West Coast Region, for which a formal process of authorization to offer or to gain access was followed via the Board of the Winelands District Council. Key informants said that the commitment of the Board management was a crucial factor in the authorization and release of Winelands District Council nursing staff to conduct the Training.

The key informant from the local health authority management (*HI* 5) expressed pride in the fact that their staff were asked to do facilitation of training and that releasing of staff for this training would ultimately benefit the community and health service. A close working relationship was also established with the regional West Coast DoH office to provide a training venue and the West Coast District Council to recruit, nominate and select candidates for the trial course.

Project facilitator

Key informants from the Higher Education Institution mentioned that the appointment of a project facilitator was essential (*HI 1* pg 7; *HI 2* pg 2) to drive the project, co-ordinate and facilitate the project course and do community networking and liaison.

Training programme

Key informants indicated that training was offered at various venues made available by the Provincial Health Department, CPUT and NGOs across the Western Cape Province and one in the Eastern Cape, which had National participant representation.

Each training module was offered over a 3 day period between 09:00 and 15:00, interspersed by at least two weeks in between to allow study time in preparation for the written tests which were conducted on the first day of the 2nd, 3rd and 4th module. Feedback on assessments was given to learners on the first day of the next module. Provision was made for re-assessment in some instances.

All written assessment scripts in the TB, counseling and HIV module were moderated by an external moderator. The ABET presentation assessments were periodically moderated by an internal moderator.

Skills development and NQF alignment towards developing a registered learnership

The Skills Development Act (No. 97 of 1998) makes provision for the National Skills Development Strategy, which was developed to enhance the process of relevance skills development in South Africa. Key informants reported that the project was developed with this Act as a strong backdrop to the training milieu of the country, with skills development a crucial factor in the redevelopment plans for South Africa.

The CPUT training programme was aligned to promote skills development for employability and enhanced social development. The course content was pitched at NQF level one (Vasuthevan & Viljoen, 2003: 7). Key informants mentioned that an investigation was done in 2005 into aligning the course content to provisionally selected, existing NQF unit standards, proposing registering a skills programme or offering the modules as core unit standards of an ancillary health learnership, requiring development work.

Most key informants recommended that the current project course be further aligned to NQF unit standards, which would assist in marketing the course as meeting learning needs assisting learners towards a General Education and Training Certificate (GETC) on a learnership programme (*HI 1* pg 10; *HI 2* pg 2; *HI 4* pg 10; *HI I 5* pg 6).

"Get it out as a learnership" (HI 2 pg 12)

Importance of networking

One of the key informants emphasized that after the initial two courses where assistance and coordination was forthcoming from the TB Directorate and Regional assistant directors in the Provincial Department of Health; future courses were orchestrated with the assistance of personal networking and personal contacts in the NGO sector. Another key informant also highlighted this as a challenge in project implementation (*HI 2* pg 3). A network of resources became a critical factor in running the project courses.

"... it was difficult to get the support ... from the government structures of the project to implement, to get groups together.
... it was more my personal contact with people ... that I could get groups together."
(HI 1 pg 7)

Table 3.6 – Historical and implementation overview of CPUT TB and HIV project

Influential Role players	1997	1998	1999	2000	2001	2002	2003	2004	2005
CPUT as Higher Education Institution	CPUT entered into discussions with DoH	CPUT dedicated Senior Public Relations official secured funds and CPUT academic staff participated in training manual development	CPUT appointed first Project manager and ran a pilot course in Malmesbury, as well as 2 other courses in Worcester and Paarl	CPUT appointed the second project manager and ran courses in Southern Cape Karoo, Winelands and Metropole regions	CPUT project manager continued to offer regular courses and HIV/AIDS/TB (Dual Infection) manual written by project manager and revised by ATICC (Aids Training Information and Counseling Centre)	CPUT Applied Sciences Faculty Nursing Department Academic Staff housed the project and project manager continued to offer regular courses	CPUT Applied Sciences Faculty Nursing Department Academic Staff housed the project and project manager continued to offer regular courses	CPUT Applied Sciences Faculty Nursing Department Academic Staff housed the project and project manager continued to offer regular courses	CPUT Applied Sciences Faculty Nursing Department Academic Staff housed the project and project manager continued to offer regular courses as well as conduct research about the project
Provincial Department of Health (DoH)	DoH Provincial TB Control Directorate initiated discussions with CPUT	Links between CPUT, TB Control (Provincial Government of the Western Cape) & NGO Sector established, facilitated by DoH	Local Health authorities authorized pilot courses in their Health Regions held in Malmesbury and Paarl, Western Cape Provincial DoH provided venues and accommodation for courses in Malmesbury and Worcester	DoH TB Control Directorate Southern Cape Karoo Region organizes TB training held in Victoria Bay	Written certificate of support of project, but no active recruitment or selection of participants	Written certificate of support of project, but no active recruitment or selection of participants	Written certificate of support of project, but no active recruitment or selection of participants	Written certificate of support of project, but no active recruitment or selection of participants	No further support verbalized by DoH TB Control of project as another project, PALSA (Practical Approach to Lung Health in South Africa), focusing on health professionals was to be given priority
NGO Sector	NGOs conducting uncoordinated DOTS training	NGOs in the task team developed standardized training manuals	NGO sector nominated participants for training	NGO sector nominated participants for training	NGO sector nominated participants for training	NGO sector nominated participants for training	NGO sector nominated participants for training	NGO sector nominated participants for training	NGO sector nominated participants for training
Private Sector	Private Sector approached for funding by CPUT	Private Sector donated funds	Private Sector donated funds	Private Sector donated funds	Private Sector sponsored HIV/TB manual development	Private Sector donated funds	Private Sector donated funds	Private Sector donated funds	Private Sector donated funds

In Table 3.6 the influential role players in the project's inception and implementation are identified. The CPUT, in which the project was housed, remained actively engaged with the project in the given time The NGO sector remained as a constant key role-player in recruiting, selecting and nominating participants for the project courses; and funding was acquired throughout the time frame from various private sector funders. The Provincial Department of Health who initiated links with the CPUT to establish the project and orchestrated a pilot course in the West Coast in 1999 and a course in the Southern Cape Karoo in 2000, gradually played the role of a written certificate of support, but no training nominations and finally by 2005, when the management had changed at the TB Control Directorate, verbalized no further support of the project. The shaded years indicate the time line of the study.

Table 3.7 – CPUT TB and HIV project history and implementation time line events

1997	1998	1999	2000	2001	2002	2003	2004	2005
Funding Secured	- Funding Secured	- Pilot Course Run	- Termination of 1st Project Manager's Contract	HIV Module developed	4 Module Course Marketed And	First National Course Presented	Initial Research Project Evaluation Proposal	- Project NQF Alignment Investigated
	- Standardized Manual Developed	- Appointment of First Project Manager	- A Second Project Manager Appointed	HIV Module Pilot Course Run	Presented Throughout Western Cape			- Research study of project initiated and Data Collected By Interviews and Focus Groups with trainers
	- Manual Material Piloted		- Need For HIV Module Emerged From Trainers					
			Continuous recruitment and selection of participants to attend project course and conducting of courses.	Continuous recruitment and selection of participants to attend project course and conducting of courses.	Continuous recruitment and selection of participants to attend project course and conducting of courses.	Continuous recruitment and selection of participants to attend project course and conducting of courses.	Continuous recruitment and selection of participants to attend project course and conducting of courses.	Continuous recruitment and selection of participants to attend project course and conducting of courses.

Table 3.7 plots the history and implementation on the same time line continuum as the role players (i.e. 1997 to 2005). The various key project activities are plotted as described by the key informants from the time of getting funding in 1997, developing a TB manual in 1998, and piloting the first course in 1999, through the development of an HIV module in 2001, to the initiation of project research in 2005. The shaded years indicate the time line of the study.

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3.4 Summary

As set out in the study objectives, this chapter has dealt with describing the historical overview of the CPUT TB and HIV Project.

Key informants were all available to participate and the data collected from then was used to describe the four modules of the project's training course and other themes that emerged.

Lessons learnt from the themes that emerged included the need to collaborate extensively with relevant role players, secure funding early on and develop a strong network of resources in the project community setting.

The following chapter will discuss the research methodology pertaining to this study's objective to describe the implementation process of the project and the experiences of the trainers trained by the project.

CHAPTER 4
RESEARCH METHODOLOGY

4.1   Introduction

This study aims to describe the historical overview of the CPUT TB and HIV project (presented in previous chapter) and the experiences of the trainers trained by the community-based TB and HIV training programme.

In the first chapter, the global and local TB and HIV situation was presented. In Chapter 2, a review of relevant published literature was presented. The literature review highlighted the lack of publications abroad and in South Africa in this field of study. In the previous chapter the historical overview of the project was described.

This chapter describes the research methodology applied to this study to establish the experiences of the trainers who attended the CPUT TB and HIV project course.

4.2.   Literature review

The methodology included a literature review, which confirmed limited published information in this study field. This literature review is presented in Chapter 2.

The literature revealed that community education and involvement could possibly assist health professionals to render health care at community level (Omaswa, 2003: 51).

The theoretical framework of Roger's diffusion of innovation (Clarke, 1999) was selected to describe the CPUT TB and HIV project as an innovation to mobilize community education and involvement.

Furthermore the 10 principles of learning proposed by Downs (1995: 32) also guided the data analysis of this study in the description of the adult trainers' experiences.

4.3   Research design

A descriptive case study (Burns & Grove, 2001: 604) design, using a qualitative approach (Ulin, Robinson & Tolley, 2005: 38) was used for this study.

The case study design involves an intensive exploration of a single unit of study; such as an institution and therefore was selected as most suited to exploring this Higher Education Institution project (Brink, 2006: 110). Furthermore, case studies are good sources of descriptive information, as required for this study (Burns & Grove, 2001: 255). Case study methodology was an appropriate choice for a project description, as it allows for a multi method approach to data collection (Terreblanche & Durrheim, (ed.) 2004: 217) which included focus group discussions, individual and pair interviews (Downs & Adrian, 2004: 76-77 & 213).

4.4   Delineation of the study

This case study included only one Higher Education Institution in one department (i.e. nursing) in the Cape Peninsula University of Technology.

4.5   Study population

The total study population included all 174 trainers of the CPUT TB and HIV project who were trained in the period 01 January 1999 to 28 February 2003.

All trainers who had participated in the project 01 January 1999 to 28 February 2003, predominantly in the Western Cape. Singular participants in Eastern and Northern Cape, Limpopo Province and Gauteng were included who were part of a National Community Health Worker project predominantly training farm community health workers.

4.6   Study sample

Convenient sampling, which refers to taking trainers based on their availability (Terreblanche & Durrheim, (ed.) 2004: 380), was used for all (N = 174) trainers trained by the CPUT TB and HIV project within the given period: (01 January 1999 to 28 February 2003). These trainers were contacted by the researcher to request their participation in the study.

Study participants were those trainers who were available to attend the Focus Group Discussions (FGD) or interviews. Trainers would exclude themselves from participation by not responding to the invitation of the researcher, failing to arrive, or if they were untraceable due to lack of updated contact details.

Some trainers were untraceable due to having moved or changed contact details. Interviews were set up in the geographical location of the trainers in a place and at a time that suited them. In total 53/174 (30 %) of the target population were included in this study sample.

4.7   Ethical considerations

The ethical approach of this study was guided by the principles of respect for self determination (autonomy); privacy, anonymity and confidentiality; fair treatment (justice); and protection from discomfort and harm (beneficence) (Burns & Grove, 2001: 220).

Ethical approval for the study was granted by the Research Ethics Committee of the Faculty of Applied Sciences of the then Cape Technikon, now Cape Peninsula University of Technology, on the 19th of July 2004.

The researcher did not identify that this study posed any visible harm to the study participants and the researcher was not aware of any possible risks.

Confidentiality of information rested with the researcher and was enhanced by not using participant names during data analysis (where participants introduced themselves it was not typed on verbatim data sets) and data presentation. Only the researcher would be in a position to trace the information to a particular person, thereby enhancing anonymity.

Verbatim focus group discussion and interview transcripts and audio-tapes are securely stored by locking it away at the home office of the principal researcher.

4.7.1 Access to study participants

Study participants were contacted personally by the researcher or via the NGO or local health authority that they worked for in order to obtain permission for them to attend focus group discussions or interviews. In these cases usually a faxed official letter from CPUT was required to gain consent to access contact during work hours. An example of such a fax is attached (Annexure 3).

4.7.2 Informed consent

Informed consent is defined by Terreblanche & Durrheim, (ed.) (2004: 479) as; "The process of seeking the explicit and uncoerced agreement from a subject to participate in a research project, based on their full understanding of the procedures involved and their likely effects."

Participants were asked to give written informed consent (Hallberg, (ed.) 2002: 61) before starting focus group discussions and interviews. Confidentiality and anonymity during data collection was ensured verbally before the start of the focus group discussion or interview. This informed consent was documented in a signed consent form (See Annexure 2 and 4) as well as audio-taped. Participants were also requested to maintain confidentiality about information shared during focus group discussion or interview sessions.

At the start of each focus group discussion or interview; the data collection process was explained to participants to explain their voluntary participation; and that they would be encouraged not to identify themselves during the focus group discussion or interview, which would be tape-recorded. This verbal informed consent explanation was also audio-taped. All data collection was undertaken by researcher to ensure consistency during data collection.

Hallberg (ed.) (2002: 119) states that when interviews are used for research their use must be based on confidence and trust between the researcher and the person providing the information. To facilitate this, the participants were asked whether they will allow the data originating from their participation to be used for research purposes. If they gave their

voluntary permission, they were informed that their identity would be protected (Hallberg, (ed.) 2002: 119). Should they have wanted to withdraw their consent they were asked to feel free to stop participation but to stay in the room until the end of the interview. They were assured that should they withdraw at any time, they would not be victimised in any way.

A copy of the informed consent form was given to study participants with the researcher's details (See Annexure 2 and 4). The researcher is proficient in English and Afrikaans and data collection was offered in either of these languages based on the choice of the study participants.

4.8   Data collection tool

The data collection tool was an extensively peer reviewed opening question and some probes. The opening question was peer reviewed by three researchers prior to the first focus group discussion. An open question was developed to encourage study participants to share their experiences of the course. The study supervisor was present for the first FGD; which served to pilot the question and the probes; and at some subsequent interviews. The opening question was: *"How did you experience the CPUT TB and HIV Train the trainer project?"*

4.9   Probes developed and used in study to collect data

Probes are prompting or clarification questions that encourage participants to elaborate on the topic, for example: "Tell me more about....". Probes enhance rapport in that they indicate to the participant that the researcher is truly interested in understanding his/her experience (Brink, 2006: 152). Probes were designed for the focus group discussions or interviews for this purpose to find out more specifically how trainers experienced their application of course materials and whether they wanted to make recommendations to enhance the course.

Probes developed were:
"Tell us more about your experience in application of the course?" and *"Do you have any recommendations for the project?"*

Clarification questions were used to clarify content and details presented in data collection sessions (Ritchie & Lewis, (ed.) 2003: 164).

4.10   Pilot study

The data collection was initiated with a pilot focus group facilitated by the study supervisor and the researcher to test the validity and reliability of the data collection tool's open question and probes (Hallberg, (ed.) 2002: 147) and to ensure that the researcher was skilled enough to conduct future interviews. Informed consent was obtained and documented in a consent form and the focus group discussion was tape-recorded and transcribed.

The opening question, *"How did you experience the CPUT TB and HIV Train the trainer project?"* was well understood and elicited the experiences of the study participants of the project. Validity was confirmed as the posed question answered the question to reflect reality (Hallberg, (ed.) 2002: 147). The question was not changed and this focus group discussion became part of the study sample and data set.

4.11   Data collection

Data was collected using unstructured focus group discussions, in-depth pair interviews or individual interviews to reflect the experiences of trainers trained by the CPUT TB and HIV project (Ritchie & Lewis, (ed) 2003).

Trainers were contacted by the researcher telephonically and arrangements were made to meet at a time and place suitable to all involved. Appropriate venues were booked, mostly at the nearest clinic. All arrangements were made to suit the study participants, telephonically and sometimes confirmed in writing with a fax.

The number of trainers who arrived for the data collection session determined what method of data collection would be used i.e. if only one study participant could be traced or responded to the invitation, an individual interview (II) was done; if two people responded, a pair interview (PI) was done; and a group response allowed for a focus group discussion. Table 4.2 gives a summary of the venues and data collection methods.

Data was collected during five focus group discussions, six in-depth pair and eleven individual interviews (Ritchie & Lewis, (ed) 2003) conducted by the researcher during 2004 and 2005. In total 53 trainers where enrolled into the study as study participants.

4.11.1 **Focus Group Discussions**

Data collected during focus group discussions, using open-ended questions and probes was audio-taped, after obtaining the informed consent of participants, and tape recordings were transcribed verbatim.

The researcher had to travel great distances to interview study participants, which were regarded as a 'find' (Terreblanche & Durrheim, (ed.) (2002: 380).

4.11.2 **In-depth interviews as data collection method**

However, due to the geographical location of study participants, in sparsely populated areas focus groups were not always possible with only one or two participants and therefore pair or individual interviews had to be used. Brink (2006: 151) states that unstructured interviews will produce more in-depth information on the participant's beliefs and attitudes than can be obtained through any other data-gathering procedure and it was therefore deemed to be a suitable alternative.

Although it was explained to participants that they could withdraw at any stage without any form of victimization and that participation was voluntary (Brink, 2006: 35), none of the study participants elected to leave the process once the explanation had been given.

Study participants differed with regard to scholastic levels (between Grade 10 and 12) and fluency in English. Where necessary focus group discussions or interviews were conducted in Afrikaans by the researcher who is fully bilingual in these two languages (i.e. English and Afrikaans).

Table 4.1 – Summary of data collection process by place, venue and method

Place	Venue	Data collection method
Bredasdorp	▪ Training room	FGD
Cape Town	▪ CPUT training venue ▪ CPUT seminar rooms ▪ CPUT office	FGD FGDs (two) II
Ceres	▪ Hospital office	PI
Darling	▪ Clinic office	II
De Doorns	▪ Farmer's office	II
George	▪ Clinic office	II
Grabouw	▪ Apple factory kitchen	II
Langkloof	▪ Restaurant	II
Mossel Bay	▪ Home	II
Moreesburg	▪ Regional offices	II
Oudtshoorn	▪ Clinic office ▪ Clinic tea room	II PI
Piketberg	▪ Clinic Office	PI
Plettenberg Bay	▪ Clinic Office	PI
Plumstead	▪ NGO training venue	FGD
Port Elizabeth	▪ Trainers home	II
Riversdale	▪ Home	PI
Uniondale	▪ Health facility office	II
Wellington	▪ Social work private practice offices	PI

Key:
Focus Group Discussions   FGD
Individual Interview   II
Pair Interview   PI

Table 4.1 summarises where the data was collected and the data collection methods used. Although it was originally planned to collect data in focus group discussions, it soon became evident that this was only feasible in the urban, Metropole area around Cape Town where many trainers lived in close proximity; and had access to transport to reach accessible central venues.

In the semi-rural and rural areas of the Winelands, Overberg, Eastern and Southern Cape and West Coast, trainers were spread far apart geographically and only pair interviews and individual interviews were feasible.

4.12   Study participation

In Table 4.2 a summary is given of the trainers who participated in the study. All trainers were contacted and had a chance to give their view. In the end 53/174 (30 %) were included in the sample. The trainers in the Metropole were more accessible and it was easy for them to attend the focus group discussions as the venue is near the Cape Town train station.

Groups that were particularly difficult to access were the South African National Defence Force (SANDF) and the Correctional Services. In the SANDF many had been deployed to remote military bases and even into Africa and others had left the service.

In the correctional services group several had made career changes and some had gone overseas to pursue a more lucrative nursing career, while others had left to go into the private or public health employment sector and were difficult to contact.

The Cape Women's Forum group, which was spread out in a wide national geographical area and of the national trainers, all of whom were nurses, some had moved into other nursing employment areas. However, two who were still actively involved in TB training were interviewed, as well as two who were then employed at a clinic and a private practice.

Table 4.2 – Trainers who participated in study by year, region and number

Year	Course	Successful trainers .... n (%)	Study participants .... n (%)
1999	West Coast (Malmesbury)	16 (9)	4 (2)
	Metropole (Cape Town)	17 (10)	2 (1)
	Winelands (Paarl)	6 (3)	2 (1)
2000	Southern Cape (Victoria Bay)	15 (9)	8 (5)
	Metropole (Bellville)	14 (8)	5 (3)
	Metropole (Bellville)	8 (5)	3 (2)
	Metropole (Cape Town)	14 (8)	5 (3)
2001	Overberg (Worcester)	14 (8)	3 (2)
	Metropole (Cape Town) Correctional Services	8 (5)	3 (2)
	SANDF (South African National Defense Force) (Wynberg)	14 (8)	2 (1)
		12 (7)	1 (1)
2002	Cape Women's Forum (Stellenbosch)	5 (3)	2 (1)
	Air force (Bredasdorp)	11 (6)	8 (5)
	Metropole (Cape Town)	12 (7)	3 (2)
2003 (February)	Cape Women's Forum (Jeffreys Bay)	8 (5)	2 (1)
	TOTAL	**N = 174 (100 %)**	**n = 53 (30)**

Table 4.2 depicts training groups represented and a breakdown of study participation.

A more detailed summary of the data collection methods with the geographical location, gender breakdown and participant numbers follows in tables 4.3, 4.4 and 4.5.

4.12.1 Focus Group Discussions

Table 4.3 – Focus Group Discussion by dates, participants, gender and place

Focus Group Discussion number	Date	Number of participants	Gender		Place of Focus Group Discussion
			F	M	
1	12 August 2004	6	6		Cape Town
2	4 November 2004	5	5		Cape Town
3	10 November 2004	6	5	1	Plumstead
4	28 July 2005	5	4	1	Cape Town
5	17 August 2005	8	6	2	Bredasdorp
	Total participants	30	26 (87 %)	4 (13 %)	

Table 4.3 gives an outline of the focus group discussions and the courses represented.

Trainers in the Cape Metropole were easier to get in focus group discussions. Most of the Metropole trainers' data was collected in this way using focus group discussions. The Airforce group was also easily accessible in a focus group discussion, because they are all situated on an Airforce base, although they are in a rural location. The only potential study participants who could not attend were on leave and away on training.

4.12.2 Pair Interviews

Table 4.4 – Pair Interviews by date, participants, gender and place

Pair Interview number	Date	Number of participants	Gender		Place interviewed
			F	M	
1	4 December 2004	2	2		Wellington office
2	29 June 2005	2	1	1	Ceres Hospital office
3	11 July 2005	2	1	1	Oudtshoorn Clinic office
4	14 July 2005	2	2		Plettenberg Bay Clinic office
5	15 July 2005	2	2		Riversdale Home
6	16 July 2005	2	2		Piketberg Clinic office
	Total Participants	12	9 (75%)	3 (25%)	

Table 4.4 displays the pair interviews details. The pair interviews were a suitable alternative to Focus Group Discussions, in towns where at least two trainers could be traced and accepted the invitation to participate.

In two of the Pair Interviews the researcher had to pick up one of the two and transport them to a central location to conduct the pair interview.

A convenient place for these Pair Interviews were the local clinic offices, where the trainers were well known and it was easy to request private office space.

4.12.3 Individual Interviews

Table 4.5 – Individual Interviews by date, gender and place

Individual Interview number	Date	Gender		Place interviewed
		F	M	
1	19 May 2005	1		Grabouw
2	15 June 2005	1		De Doorns
3	12 July 2005	1		George
4	12 July 2005	1		George
5	13 July 2005	1		Mossel Bay
6	15 July 2005	1		Port Elizabeth
7	9 September 2005	1		Uniondale
8	12 September 2005	1		Oudtshoorn
9	16 September 2005	1		Moreesburg
10	16 September 2005	1		Darling
11	4 October 2005	1		Cape Town
		11	0	
	Total participants	(100%)		

Table 4.5 tabulates the individual interviews details, which were used in areas where only one person had been trained or elected to participate in the study.

This set of interviews led the researcher to travel the furthest distances to conduct these interviews, as in the case of a trainer who still had the same contact details, but had relocated to Port Elizabeth (a ± 800 km distance away from the Cape Town researcher base).

4.13 Data management

After audiotape recorded verbal and written informed consent was obtained, the focus group discussions and interviews were tape-recorded and transcribed verbatim by an approved transcribing agency.

Once transcriptions were completed, it was necessary for the researcher to review these transcriptions (Ulin & Tolley, 2005 : 126) in terms of spelling and accuracy of transcription to get the data ready for analysis. Transcripted tapes were relistened to by the researcher, to ensure that transcripts were accurate verbatim reflections of interviews. Sekaran (1984: 205) states that especially when data comes from interviews and open-ended questions, data quality should be checked for clarification to prevent confusion and misinterpretation when the coding starts; leading to categorization errors.

All tapes have been locked away in a secure home office by the researcher and will be kept in a safe place for at least two years after completion of the study. After verbatim transcription of these tapes, transcripts were stored in a locked office cupboard that only the researcher has access to and are also available to the other two researchers on request to ensure confidentially. These transcriptions will be managed as confidential throughout.

4.14   Data analysis

Collected data was analysed using a qualitative content analysis approach to analyze and interpret collected data (Brink, 2006: 170) to identify and link emerging themes. The qualitative content analysis approach (Goddard & Mellville, 2001: 9) was used to analyze and interpret the data using the verbatim transcripts as data sets. Further analysis involved extrapolating themes from the text (Hallberg, (ed.) 2002: 144).

The qualitative data analysis steps followed were reading and rereading by three researchers, coding, developing themes, and some interpreting, using triangulation to enable agreement of what study participants were saying in order to reflect reality to reduce and display/present results (Proske, 2007). Interview transcripts (data sets) were therefore read and reread and coded for emerging themes and reconciled by the three researchers (Ulin, Robinson & Tolley, 2005: 147). After the three researchers read and reread the transcripts individually and separately and made notes adjacent to the text concurrently, numerous data analysing triangulation group sessions were held to ensure accuracy in interpretation and analysis of the data sets (Ritchie & Lewis, (ed) 2003: 276).

The triangulation strategy was adopted for this study design for analysis and interpretation of data to ensure that it is trustworthy and reflects reality, which concerns validity in the study and contributes to research vigour (Hallberg, (ed.) 2002:147).

Triangulation includes the combined use of two or more data sources and investigators as selected for this study. More specifically data triangulation was adopted by collecting the data from multiple sources i.e. various study participants. The data sources provided an opportunity to examine how the project was experienced by different individuals in different settings (Burns & Groves, 2001: 239).

Furthermore investigator triangulation, as described by Burns and Groves (2001: 239) was achieved by involving the principal researcher (nursing), the supervisor (public health) and an additional researcher (social worker) with diverse research training backgrounds in a prominent way in data analysis.

Data was then grouped in a thematic cut and paste method with some level of interpretation using triangulation, and quotes were selected from the verbatim typed transcripts to substantiate the theme interpretation (Pope, Ziebland & Mays, 2000: 114).

This links to the suitability of the qualitative method which uses descriptions and explanations of uniquely human phenomena to generate knowledge from the reflections/perceptions of reality (Hallberg, (ed.) 2002: 54). The verbatim quotes are the reflections of reality in the minds of the study participants and would be used to substantiate interpretation.

4.15   Summary

The design of this study was a descriptive case study design using a qualitative approach to explore the experiences of trainers in a Higher Education Institution: TB and HIV community outreach project. Study participants were all project trainers trained within a given time frame.

This chapter described the research methodology. It also gave an overview of the data collection procedures used in this study; and how data was analysed and managed using a qualitative content analysis approach.

The next chapter will present the findings of this study.

CHAPTER 5
RESULTS

5.1   Introduction

This study aimed to describe the CPUT TB and HIV project.

Chapter 1 gave an overview of the global and local TB and HIV situation. Chapter 2 presented the literature reviewed for this study. Chapter 3 presented the history of the project and in the previous chapter the research methodology was discussed.

This chapter will present the results of the study.

5.2   Data presentation

Data is presented in the themes that emerged during data analysis using content analysis from the data collected. Data collected during: (i) Focus Group Discussions (FGD); (ii) Pair Interviews (PI); and (iii) Individual Interviews (II) will be presented using descriptions. Each theme is described with some level of interpretation. Quotes will be presented to substantiate the emerging themes with the source of the data, page number and line number listed in brackets.

For the purposes of reporting the results accurately, some quotes have been translated from Afrikaans to English by the researcher.

5.3   Emerging themes

5.3.1   *Experiences of the training*

5.3.1.1   *Knowledge and skills development*

Trainers felt that the project had expanded their knowledge of TB and that they became clear about the symptoms of TB and that their knowledge was more detailed (FGD 1); while some trainers who were already in the TB field, and were perhaps a bit older also described how their knowledge was expanded (FGD 1; FGD 5) and how myths about TB and HIV where cleared up (FGD 5).

"It broadened my knowledge of TB tremendously" (PI 2 pg 3 ln 15-17) (Translated from Afrikaans)

For many trainers the training was memorable and valuable and of particular importance to them was that they had developed ABET methodology and training skills.

"Each of us have the knowledge that cannot be taken away" (FGD 5 pg 17 ln 25) (Translated from Afrikaans)

Counselling and communication skills was another area where trainers felt they expanded their skills and were more clear in how to approach the client in caring communication.

"A big part of the course was how to talk to the patient, how to convey things, what to teach, how to give support..." (PI 1 pg 3 ln 6-9) (Translated from Afrikaans)

5.3.1.2   *"Unlocking the keys to learning"*

Trainers described how ABET methodology enhanced learning and knowledge acquisition by the experiential approach on the course.

"I found it very useful in terms of the knowledge we got, but also the way in which it was delivered with all the exercises, activities, it was a fun way of learning" (FGD 3 pg 2 ln 16-18)

ABET methodology was well remembered by trainers and applied in the community when they did training, using some of the ideas gleaned on the course, as well as enabled them to adapt the content presentation for appropriate application in their community, ensuring that content was modified to the level of community participants, and thereby contextualising application.

"There was lots of useful, very creative ideas that came out of there and the knowledge was also very good, I'm not just saying that because it was fun, but we've learned a lot as well... like the ice breaker, the introductions, we still use your exercise..." (FGD 3 pg 5 ln 20-24)

"I use exactly the same thing that I learnt. I just modified it... so that I can bring it to the patient, but I changed nothing." (FGD 1 pg 13 ln 12-14)

Trainers indicated that the practical assessment of an ABET presentation was an important learning experience for them. The ABET presentation the trainers had to do on the course taught them about how to plan and prepare for a presentation. They mentioned the lesson plan and ABET checklist provided on the ABET module as helpful tools in the implementation (see Annexure 5, 6 and 7).

"When you give a presentation you know how to communicate..." (FGD 5)

For them it facilitated the ease with which they were able to transfer these skills in the community.

"The course was presented in a simple way that it was not difficult to come back and train DOTS in the community" (PI 4 pg 2 ln 13-18) (Translated from Afrikaans)

5.3.1.3   *Stigma awareness and empathy development*

Trainers became more aware of the existence of stigma towards TB and HIV, their role in prevention of stigmatisation and the need to be supportive of TB and HIV clients due to stigmatisation. They also explored the fear to come for TB and HIV treatment in the community due to stigmatisation as well as the link between HIV and TB, which potentiates the stigma. Becoming aware of the stigma surrounding TB and HIV was viewed as important to the trainers in developing empathy for clients in the community.

"Actually understanding how they feel by being labelled because they have TB... it was like a secret if you have TB" (FGD 1)

By gaining knowledge of TB and HIV, trainers described a sense of seeing TB and HIV from the client's perspective which gave them understanding, insight and empathy, especially when they had a better understanding of the side effects of the medication, how TB clients are treated at clinics and how important the caring relationship is towards the TB clients.

"I was able to actually experience myself almost as a patient... that gave me a lot of insight then into the lives of patients" (FGD 1 pg 2 In 10-15)

"...the course has sort of brought me closer to the clients out there..." (FGD 1 pg 6 In 19-21)

5.3.1.4 *Self confidence and self development*

The training instilled a sense of personal pride and confidence for many trainers, which they could harness to reach out in their community and do presentations/public speaking.

"It gave you a platform of self confidence to talk here... if I am asked to talk in front of people I will gladly do it without hassles or hesitation" (PI 2 pg 4 In 20-22 and pg 9 In 22-24) (Translated from Afrikaans)

Linked to the sense of personal pride was a sense of altruism in the perceived involvement in the 'bigger picture' of the fight against TB.

A translated quotation from a research participant which was unfortunately said after the tape recorder was off was: "I feel TB is very important to address and every day I share what I have learnt about it on this course and even though I am currently working with babies who get BCG to prevent TB, one day when TB is eradicated as much as polio, I can say that I played a part in that." (PI 2)

Trainers described the training intervention as a process of "self discovery" and that they had developed the "power" and self esteem to train *(PI 4)*, which also broadened their horizons in terms of their marketability and career labels and ultimately influenced professional development.

"When I was invited to this course I thought 'what am I as a social worker going to do with this' and now as I think back, I wonder what I would have done without it" (PI 1 pg 13 ln 18-25) (Translated from Afrikaans)

Figure 5.1   **Diagrammatic representation of experiences of the training**

Knowledge about TB and HIV, counselling skills and ABET methodology skills

ABET Methodology Unlocking the keys to learning

Stigma Awareness and Empathy development

Self Confidence Building and Self development
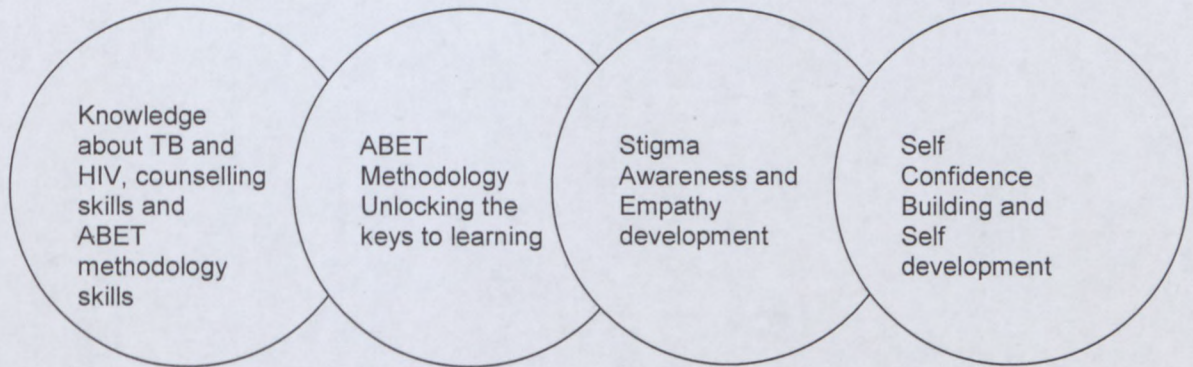
Themes that emerged from the experiences of the training are summarized in this diagrammatic representation (Figure 5.1) and included 1) Knowledge and skill acquisition in TB, HIV, Counselling and ABET; 2) Memorable ABET methodology which assisted understanding and learning of course content; 3) Development of awareness of the stigma surrounding TB and HIV, which lead to greater empathy for clients with these diseases; and 4) A sense of self development and confidence, following course completion and skill acquisition.

5.3.2   *The ripple effect of the training*

5.3.2.1   *Far reaching ripples of training*

The ripple effect of the training could be described as far reaching. The training was implemented in a multitude of settings, both rural and urban and far beyond the original project focus on the DOTS strategy and DOT training. The following are, amongst others, activities that trainers described as their implementation of the project:

- 14 DOTS worker groups trained in the Southern Cape Karoo Region (II 4, 5 and 8);
- 300 DOTS supporters trained on Garden Route (PI 4);
- A door to door TB campaign in an urban informal settlement (FGD 3);
- Developing an HIV project on farms across the province (PI 1);
- Domestic application by sharing knowledge with school children (FGD 5);
- Informing youth groups about TB (II 9);
- Multiple farm workers trained about TB on apple farms (II 1);
- Presenting a TB slot on an ongoing HIV NGO HIV and AIDS training course (FGD 3);
- Prison warden TB training (FGD 1);
- Some trainers described opportunities that arose or doors that opened for them as a result of having the training;
- TB awareness campaign reaching 300 people in Ceres (PI 3);
- TB day at rural school with a TB poster competition (II 2);
- TB integrated into the life skills programme of a homeless shelter (FGD 1);
- TB Radio outreach campaign (FGD 1);
- TB training of 12 groups in remote rural region (II 3);
- Training TB patients in a TB hospital about TB and three became community treatment supporters (FGD 1);
- Training one to two groups of pre-release prisoners per week about TB (II 7); and
- Xhosa DOTS supporters trained on farms by Xhosa speaking trainer (PI 2).

5.3.2.2   *Ripples in trainers lives*

An important feature of the ripple effect described by the trainers was the effect it had on many of them in their personal capacity, in terms of making them more marketable for employment in the NGO sector in particular. Some trainers gained employment on TB and HIV related projects and felt that their CPUT TB and HIV certificate had played a role in their appointment. Other trainers had enjoyed renewed status/promotion in their organisation subsequent to completing the training.

"Lots of doors opened for me personally" (FGD 1 pg 10 ln 13-14)

"We got promotions… … our certificates… on our CV's… I believe it played a role…" (PI 2 pg 9 ln 12-18)

"I am more equipped to market myself" (PI 1) (Translated from Afrikaans)

5.3.2.3   *Ripples in relationships with health sector*

Trainers felt that their relationships developed or improved with formal health and that they felt more free to contact the local clinic. A trainer in the homeless sector highlighted their new relationship with the local clinic.

"After I did the course, … we could phone the clinic and say listen… we can administer medication" (FGD 1 pg 5 ln 19-20)

Figure 5.2   **Diagrammatic representation of the ripple effect of the training**
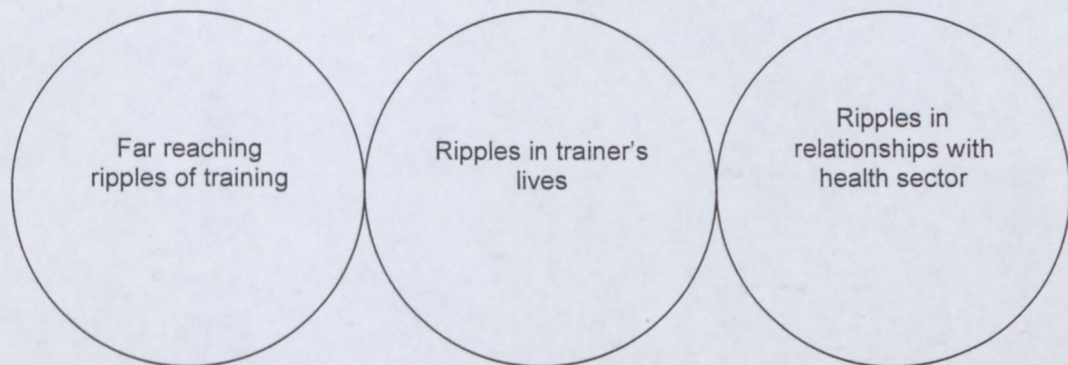
Diagrammatically represented in Figure 5.2 is the extensive ripple effect of the training that was described with multiple areas of implementation and many role players facilitating this process.

5.3.3 *Challenges*

Challenges were faced in application and the trainers described the following challenges in implementation of the training in their communities.

5.3.3.1   *Funding challenges*

Funding posed a challenge to many trainers, most of whom lived and/or worked in resource constrained settings. Specific mention was made of funding for stationery and copying of manuals (II 2 and II 5).

The socio economic conditions in the community limited resources for training and the non remuneration of DOT supporters was described as a challenge causing some unemployed trainers rather opting for gainful employment than continuing with training (II 5).

When NGO funding dried up it created major challenges. This was mentioned with particular reference to rural areas as a challenge. To continue with training, they had to raise own funds for refreshments and course prizes (PI 4).

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5.3.3.2   *Recognition and utilization challenges*

Trainers felt under utilized as a community resource and that formal health did not recognise their potential to train about TB and HIV (II 5 and II 8) and despite offering their services at the clinic, they were not taken up on the offer (FGD 1).

"I don't believe the clinic knows, that we have done the course, but we have people living around us with TB… maybe our names should be put up there" (FGD 5 pg 5 ln 21-23) (Translated from Afrikaans)

5.3.3.3   *Competition with NGOs in community*

Trainers described a competitiveness amongst NGOs, which posed a challenge to their ability to freely implement training in their communities.

This was raised in particular in urban areas, such as the Metropole Region where the issue was raised of NGOs being in competition for 'territory' and that training in a prison led to conflict with another NGO (FGD 1).

5.3.3.4   *Lack of employer commitment*

Some trainers were not readily released by their employer to train in the community (FGD 5 and 2), which frustrated them and hindered their ability to apply what they had learnt.

"I think the government should give us time during working hours because it (TB) is a serious problem" (FGD 5 pg 5 ln 23-24) (Translated from Afrikaans)

One group of trainers from a rural military base seemed to have had challenges within their hierarchy to be introduced to formal health and given official time to train in the community, implying that trainers in a hierarchical, controlled environment seemed to have had a reduced ripple effect.

Figure 5.3   **Diagrammatic representation of challenges**

Funding challenges	Recognition and utilization challenges in community	NGO competitiveness	Lack of employer commitment
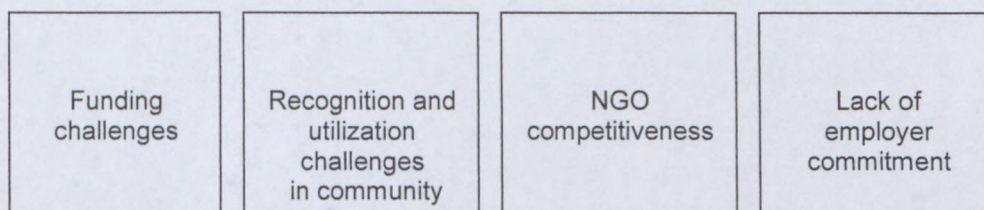
Blocked here in Figure 5.3 is how a diagrammatic grouping of themes that emerged from the trainers challenges in application of the course would look and included funding constraints (personal and with the organisations trainers were linked to); a lack of recognition for trainers and despite having had the training where not utilized in their community setting and a lack of commitment by trainer employers to release them to do training.

5.3.4   *Suggestions made by trainers*

5.3.4.1   *Refresher course and theory updates*

The need for a follow-up refresher course was a constant theme and most trainers felt it was important with particular reference to the latest TB regime, dual infection (TB and HIV) guidelines, more information about Multi-Drug Resistant TB (II 1, 2, 3, 4, 5 and 6), Sexual Transmitted Infections, HIV, ARV's, TB in children, home based care networking skills (II 1, 2, 3, 4, 5 and 6) and the issue of HIV orphans (PI 1).

5.3.4.2   *Refocus on DOT*

Trainers felt that the DOT strategy had lost impetus in the rural areas and that rural access to training and re-emphasis of DOT in the community would help to curb TB (II10 and PI 2).

"DOTS should be the arm of the clinic... nothing is being done... I would like to see DOTS workers coming into their own right..." (PI 2 pg 11-12 ln 23-24)

5.3.4.3   *Caring for the community carer*

Trainers raised a need for caring for the caregiver in the community and spoke about the trainers need for respite, or emotional ventilation, sharing ideas with trainers or even to network and have peer review sessions, or supervision (PI 5, FGD 1, 2)

"Someone to take care of the caregiver… it's almost as if you become overburdened, that you need a release cap" (FGD 1 pg 21 In 8-20)

Figure 5.4   **Diagrammatic representation of trainer's suggestions**
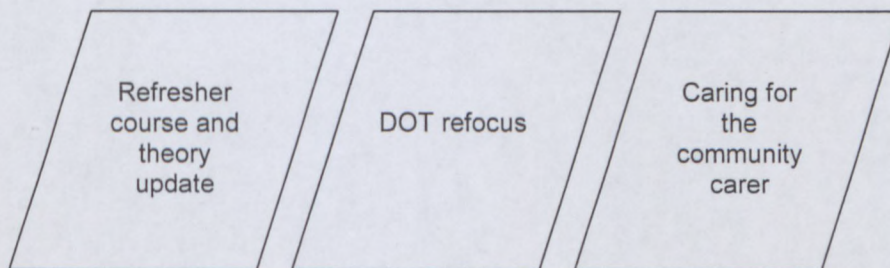
This diagram (Figure 5.4) represents themes that emerged from the data on the way forward / suggestions for the project made by the trainers included a need for new TB and HIV theory, re-emphasis of treatment supervision and raised the needs of community health workers for respite.

5.4   Summary

The focus group discussions, pair and individual interviews from which the data for this study was collected allowed the voices of the trainers to become audible in describing their experiences of the project.

The data shows that even though the project intervention had a strong TB DOT focus, the ripple effect of the TB and HIV training was far reaching in terms of application, but also highlighted the personal benefits of acquiring the training and the subsequent value it added to client care.

The challenges of training application were presented; as well as recommendations made by the trainers for the future of this project.

The next chapter will discuss the results of this study; making concluding remarks and recommendations.

CHAPTER 6
DISCUSSION

6.1   Introduction

This study aimed to describe the CPUT TB and HIV protect.

Chapter 1 gave an overview of the global and local TB and HIV situation. Chapter 2 presented the literature reviewed for this study. Chapter 3 presented the history of the project. Chapter 4 presented the study methodology and the previous chapter presented the findings of the study.

In this chapter, the results will be discussed and concluding remarks will be made.

6.2   Further study limitations

As this is a qualitative study the aim was not to seek generalisability or representivity (Terreblance & Durrheim, (ed.) 2004: 63).

This study included one Higher Education Institution and predominantly one Province in South Africa; therefore these results cannot be generalized. However this data can form a basis to conduct further similar studies.

As the researcher was involved in the project there was a possibility of bias during data collection; analysis; and interpretation (Burns & Grove, 2001: 226). Keeping this in mind, bias was managed by the study supervisor and another researcher being involved in a prominent way, especially during data analysis.

6.3   Treatment adherence

A qualitative study in Wellington in the Western Cape, concluded that patients should be part of a team or social TB club with support from family and an educated community to optimise TB treatment adherence (Portwig, 2006: 17).

Trainers described their role in living amongst those infected with TB and HIV. They described scenarios where they supported TB and HIV patients during TB treatment; refered people with TB symptoms in their communities to the local clinics; explained HIV and TB and the importance of treatment compliance in schools and churches and other social settings; and established a TB treatment supervision and life skills programme in a night shelter, thereby enhancing the notion that community education can contribute positively to TB treatment.

Some of the themes that emerged from the trainers experiences are closely linked to factors such as the knowledge expansion described by trainers pertaining to the disease; the treatment and it's side effects; the shift to empathy and patient centredness, as well as their confirmation of the financial challenges. These factors referred to by the trainers are echoed by another study conducted by Munro in 2007. Factors proposed by Munro et al. (2007: 233) likely to improve TB treatment adherence include:

"1) Increasing the visibility of TB programmes in the community, which may increase knowledge and improve attitudes towards TB; 2) Provide more information about the disease and treatment to patients and communities; 3) Provide more information about the effects of medication to reduce the risk of patients becoming nonadherent when experiencing treatment side effects; 4) Increase the patient centredness of interactions between providers and clients; 5) Address "structural" and "personal" factors, for example through micro-financing and other empowerment initiatives."

6.4   Principles of learning

The ten principles of learning (Downs, 1995) linked well to the course outline that was described in the history interviews, as well as to the descriptions of the trainers experience of the training. Each principle is linked to data that emerged about the course provided by the trainers (See Table 6.1).

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Table 6.1 – Principles of learning (Downs, 1995) linked with experience of trainers

Principles of learning	Trainers experience
Learners need to know where they are going and have a sense of progress towards their objectives	At the beginning of each training module session an overview of the course, the module and what each module would entail was explained.
The learning environment has to be one of trust, respect, openness and acceptance of differences.	Ground rules were set by the trainers themselves at the start of each course to set the tone for mutual respect.
Being aware of and owning the responsibility for learning lies with the learner. Others can only give information, support and provide feedback.	The adult learning approach was applied by the facilitator who provided information, support and feedback: learners were encouraged to take responsibility for their own learning.
Learners need to participate actively in the learning process.	Active experiential learning involved learners in pair discussions, group discussions and problem solving using case studies and scenarios.
Learning should be related to and use the learner's experience and knowledge.	The pre-knowledge of the adult learners about TB, HIV, counseling and ABET was used as building blocks for course learning.
Learning is not only a basic capability but also a group of skills which can be developed/learned.	Training was presented to vary ways of learning e.g. ABET and counseling skills practice and feedback, games for memorising facts, problem based discussion..
Facts, concepts and skills are learned in different ways.	The methodology was varied and trainers recalled many of the activities that aided their learning, which included role plays, icebreakers, quizzes, crosswords, case studies, group discussion and lecturing.
Getting ideas wrong can be a valuable aid to developing understanding.	The assessments provided a formal way of learning by error, and answer sets (memorandums) were discussed in detail after each test. TB, HIV and counseling case studies were provided for group work and a great deal of learning/understanding came from getting ideas wrong.
For learning to be processed and assimilated, time must be alowed for reflection.	The course structure allowed for reflection. Overnight homework was given and about 2 weeks interspersed the 4 modules, giving trainers an opportunity to reflect and process what they had learnt and discuss in classes.
Effective learning depends on realistic, objective and constructive feedback.	Assessment was planned for each module and learners received structured feedback on theory tests for the TB, HIV, counseling and ABET modules, as well as peer feedback on their counseling skills.

6.5   Adult learning

The NQF is a means to transforming the education and training in South Africa with an integrated national framing, with easier access for learners and enabling learners to develop potential and support the South African social and economic development of the country as a whole (Vasuthevan & Viljoen, 2003: 5).

Both in the history interviews and trainer focus groups and interviews the link of this course to a Higher Education Institution was viewed favourably; as well as the notion of aligning the course to the NQF unit standards to make up a registered learnership. A learnership would equip trainers with a qualification that would assist them in becoming employable, thereby contributing to capacity building and social and economic development of the country.

6.6   Skills development

Trainers in this study described a level of self development and professional development that occured after completion of the course. Many linked their new employment or career direction to the training received during this project.

6.7   Self-esteem

Successful trainers of the CPUT TB and HIV project described a sense of self esteem and self pride after the training intervention, which facilitated their preparedness to conduct training in the community.

Similar results in a qualitative study conducted in Haiti, revealed a perception of "positive self-definition" by community health workers after their general training, as community links between clients and health centres, towards treatment adherence and health service utilization (Mukherjee & Eustache, 2007: S73).

Based on data collected during this study, it became clear that trainers developed self pride and this propelled them toward taking initiative to train others in their community settings. Clarke (2005: 53) describes this in a TB lay health worker study as a process of LHW's "coming into their own... and continuing to be agents of change... where they live and work".

6.8   Dual TB and HIV infection

Trainers reflected on their struggle to deal with dual infection (TB and HIV) in the community and how "burnt out" it made them feel. Their suggestions included respite for community caregivers, as well as the need for knowledge updates about HIV and ARVs.

Collaboration between TB and HIV programmes have beome paramount in South Africa. Innovative strategies for linking NGOs, as important partners, in community based care and the general health service need to be employed to manage the two epidemics (Kironde, 2000: 347).

6.9   **Stigma**

The stigma and silence around TB and HIV emerged as a theme from the text and trainers noted that the knowledge about TB and HIV and the awareness about the stigma they learnt about on the course enhanced their empathy development.

Similarly another study conducted in the Western Cape (Koopman, 2004: 13) concluded that educating communities about HIV was key in developing understanding and empathy for patients.

6.10   **The CPUT TB and HIV project as an innovation applied to Roger's diffusion of innovation theory**

Factors that influenced the implementation of the training in the community; described by trainers as either challenges to implementation or facilitators of the project innovation, are applied to Roger's diffusion of innovation theory (Orr, 2003).

In Orr (2003), Rogers defines the diffusion process as "the spread of a new idea from its source of creation to its ultimate users or adopter", within society as a group process.

6.10.1 **The diffusion**

According to Rogers as cited by Orr (2003), there are five elements of a new community project that will each partly determine whether diffusion of a new project will occur: relative advantage, compatibility, complexity, trialability and observability.

6.10.1.1 *Relative advantage*

Rogers in Clarke (1999) defines "relative advantage" as the degree to which an innovation is perceived as better than the idea it supercedes.

Research may provide information on the cost-effectiveness and potential benefit to patients of implementing a new project approach to control TB and HIV. However, the empirical data may be less important than the role player's perception of whether the innovation will be advantageous. Decisions about implementing a project are driven not only by patient's best interests, but also by the interplay between the interests of the patient, the professional person / other project role players and the health care system. For example, if a proposed change alters the balance of power between or within professional groups in a "negative" way, the innovation may not be implemented. Greenhalgh, Robert, Macfarlane, Bate & Kyriakidou (2004: 595), in a systematic review of the diffusion if innovation in service organisations, noted that power balances affected system readiness for adopting an innovation.

Themes emerged from the history and trainer data that reflected the power struggles between different NGOs and health care providers during project development and implementation. Resistance to the trainers and their community training was also described by trainers from some professional staff in clinic settings.

However, if the recommended project increases the status of adopting role players and brings in more recognition for individuals or the organisation, the innovation may be readily adopted. This was reflected in the history data, where a local health authority embraced the project implementation and expressed professional pride in being involved. Expanding the territory of NGO involvement in TB and HIV by implementing the project in an area was also a positive facilitator of project adoption.

6.10.1.2   *Compatibility*

"Compatibility" is a measure of the degree to which an innovation is perceived as being compatible with existing values, past experiences, and the needs of potential adopters (Orr, 2003). To increase the probability of adoption of an innovation, it must address an issue that health professionals or other role players perceive to be a problem (Clarke, 1999).

Potentially life threatening illnesses such as TB and HIV with a high profile globally are likely areas for adoption. Trainers described the scourge of TB and HIV in their communities and their concern about it, which propelled them towards implementing the training. History data indicated a commitment at Provincial Public Health and Higher Education Institution level towards fighting these two diseases by the creation and implementation of this innovative TB and HIV project. Greenhalgh *et al.* (2004: 607) note that tension for change is an element of system readiness and if role players perceive the current situation to be intolerable, a potential innovation is assimilated more readily.

6.10.1.3   *Complexity*

"Complexity" is a measure of the degree to which an innovation is perceived as difficult to understand and use. A TB and HIV community training programme of this nature is therefore more likely to be adopted if it is simple and well defined.

The keys to unlocking learning and understanding, would appear to have been the adult education approach, described by the trainers as assisting their retention of the TB and HIV knowledge; and that the ABET methodology was well understood and easy to apply in community training about TB and HIV. It seems as if the CPUT TB and HIV project course equipped trainers with the training skills to achieve change.

6.10.1.4   *Trialability*

Rogers as cited by Orr (2003) defines "trialability" as the degree to which the innovation may be trialled and modified to suit a particular circumstance. The course material presentation was modified and applied in jails, homeless shelters, schools, churches, farms, the TB and HIV NGO sector.

The ability that the trainers had to adapt/modify their presentation of the content in various settings made the implementation logistically possible.

6.10.1.5   *Observability*

"Observability" is the degree to which the results of the innovation are visible to others. "Visibility" of an innovation stimulates discussion amongst role players and information is requested about it as they do not want to be left behind (Orr, 2003). The visibility of this project's innovation was the large numbers of community based DOT workers trained (approximately 500), especially in the rural and semi-rural areas of implementation. Although the adoption of the project was minimal in the Provincial DoH, in the NGO sector it took off and interest was sustained by enquiry and participation from a broad base of NGOs and other role players representing the TB and HIV sector, as well as the homeless, the correctional services, military settings, agricultural projects, etc.

Watts (2007) argues that trends in public opinion are not driven only by a few influencial individuals, but by large numbers of ordinary people reaching and influencing others. The trainers could be regarded as 'ordinary people' reaching out in their communities and influencing others about TB and HIV.

6.10.2 **Communication style**

Sanson-Fisher (2004: S55) suggests that the most effective communication strategy for an innovation is face-to-face exchange. It provides an opportunity to tailor information to recipients and allows the advocate of the change to explore and, if necessary, modify the reasons why the project should be implemented. Interpersonal communication is usually more effective when there is a high degree of professional resemblance between the individual attempting to introduce the innovation and the recipient. In his study Sanson-Fisher (2004: S55) speculates that clinical audits undertaken by medical practitioners are more likely to lead to adoption of a new practice than those performed by allied health staff.

Taking cognisance of this speculation (Sanson-Fisher, 2004), it seems that projects such as the CPUT TB and HIV project be offered and linked to a recognised registered institution. The individuals introducing the training project content were in a training milieu and the link with an accredited Higher Education Institution was important to both history key informants and trainer study participants. Many of the trainers were linked to either a health professional setting or a NGO that focussed on community training. It could be that this resemblance to the course facilitator at the Higher Education Institution may have facilitated the innovation implementation.

6.10.3 **The decision process**

The diffusion mode of Rogers postulates five steps in the decision making process or commitment to its adoption namely:

- Trainers acquired knowledge about TB and HIV and the proposed change in approach;
- Trainers were persuaded about the advantages of the project innovation;
- The trainers engaged in activities that will lead to a choice about adopting or rejecting the innovation (e.g. reading, the homework given on the course, attending the courses, communicating with other trainers who had experience in the field);
- The innovation is incorporated into the daily activity of the trainers when they implement it in the community; and
- The trainer reinforcement about the innovation decision (e.g. discussion and comparison with peers) (Clarke, 1999: 1).

The latter was a theme that emerged as a need for trainers to have more reinforcement by opportunities to meet with other trainers and review each other's work, especially those who were working in more remote areas.

6.10.4 **The social context**

Sanson-Fisher (2004 : S56) cites the social systems most likely to respond easily and quickly to innovation are ones that have a culture of creativity and innovation, a relatively flat hierarchical system, and strong leadership that is committed to effecting change. This was evident from data collected from trainers in some of the NGO and even local health authority settings where implementation of the training went without serious challenges and was far reaching. The NGO sector tends to be less

hierarchical and with leadership committed to a particular cause. Local health authorities at the time were also flatter in hierarchy. In contrast, the health care system has a hierarchical model, with separate organisational structures and is often bureaucratic, which could hinder rapid change. The support from Provincial DoH dwindled towards the end of the project and trainers who were interviewed from very hierarchical settings such as the airforce and military bases where less able to implement their training. Greenhalgh *et al.* (2004: 588) refers to this as structural determinants of organisational innovativeness or the use of new ideas.

6.10.5 Diffusion for change

In order to bring about change, Roger's theory proposes that change agents must target a wider group of opinion leaders to achieve the trickle down effect of an innovation (Sanson-Fisher, 2004). This wider group can be linked to the extensive spectrum of role players described as important by the trainers to implement the CPUT TB and HIV project training innovation (See Figure 6.1).

6.10.5.1 *Role players in the ripple effect*

Role players that were described by the trainers in the 'ripple effect' of the training are grouped in groups (See Figure 6.1). These role players were described as key elements in the implementation of the training. Groups have been formed by the researcher by arranging similar role players grouped in the (i) health area, (ii) key community organizations, (iii) agricultural role players which emerged from rural areas where the training was implemented, and (iv) various employers of the trainers, who often determined the ability of trainers to implement the training and the (v) Higher Education Institution which had strong links with the health role players and community organizations which recruited, selected and nominated the trainers for the training course, which the Higher Education Institution presented and set the ripple effect in motion. Health services alone cannot manage to reduce TB and HIV – there must be collaboration with other partners and stakeholders (SA. DoH, 2001: 60).

Figure 6.1 : Groups of role players described by trainers in the ripple effect

Community organisation group

- Church
- Non Profit Organisations
- Social Workers
- TB and HIV Non Governmental Organisations (NGOs)
- TB NGO Area Managers
- Welfare Organisations

Higher Education Institution

Health group

- Clinic
- Community Health Workers
- Day Hospital
- Local Health Authorities
- Local Health Committees
- Provincial Department of Health
- Provincial TB Control
- TB Sister at clinic

Role players in the ripple effect

Agricultural group

- Department of Agriculture
- Farm workers
- Farmers

Employer group
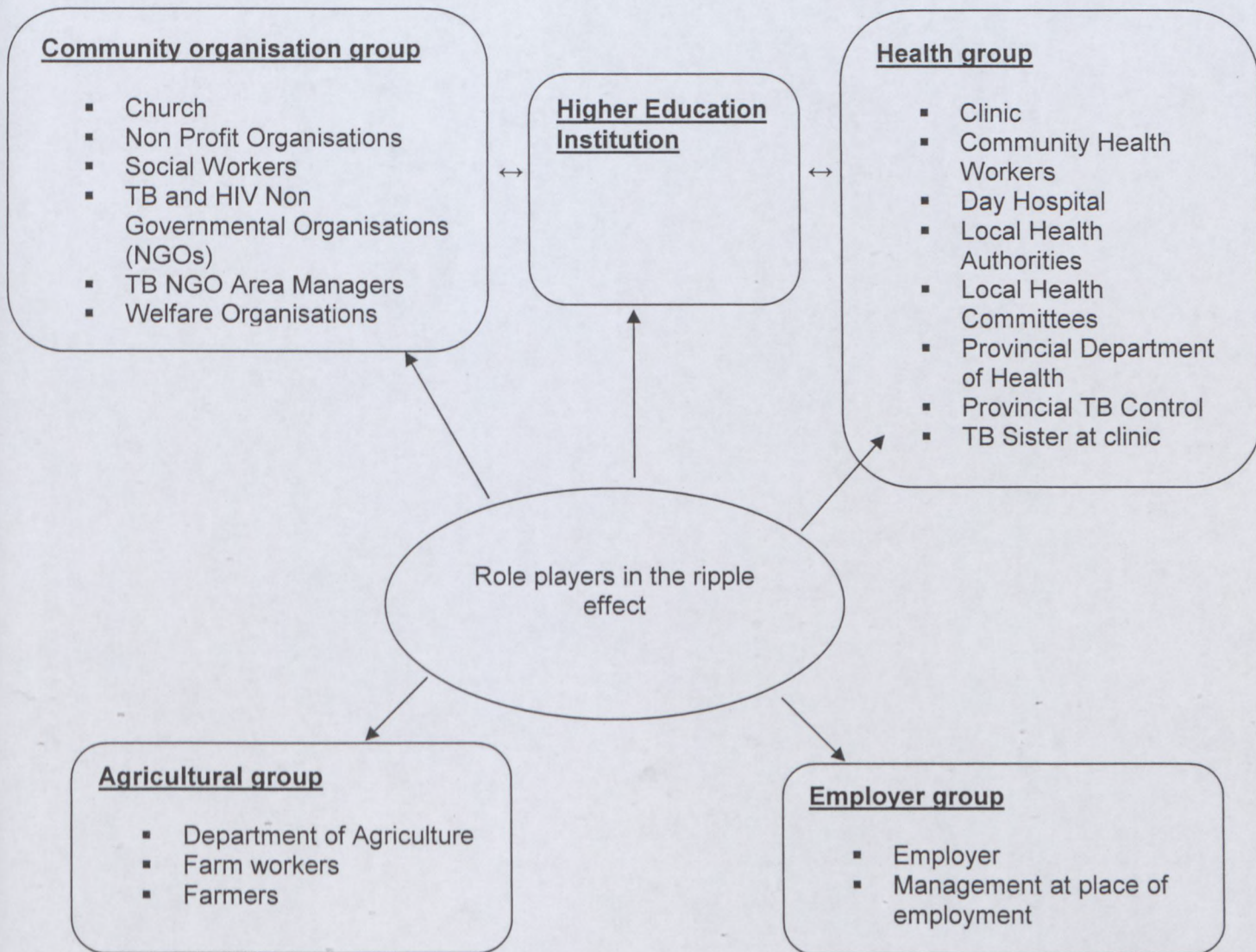
- Employer
- Management at place of employment

Figure 6.1 depicts the key role players described by the trainers in the 'ripple effect' of the training.

6.10.5.2   *Health group key role players*

The role of the nurse has been described as key in a Multi-Drug Resistant TB study undertaken in a community in Peru (Palacios, Guerra, Llaro, Chalco, Sapag & Furin, 2003: 343). Clinic nurses have been described as one of the key role players by the trainers and in the ripple effect of the training, relationships with the clinic were viewed to have improved after the training intervention. Palacios, *et al.* (2003: 343) recommends that this leadership role which nurses play in managing a complex disease such as Multi-Drug Resistant TB be harnessed in the co-ordination and supervision of community health workers involved in community TB and HIV activities.

This would also strengthen the linkages between community health extension workers, formal health and the community (Ferrinho, 1994 : 93).

6.10.6 **Summary of adoption of innovation of CPUT TB and HIV project**

Table 6.2 breaks down the adoption process as suggested by Rogers (Orr, 2003) that the individual trainer would take cognitively from the first awareness to the final adoption of the project.

Table 6.2 – **Roger's five stages of adoption of innovation theory linked to the project**

Stage of adoption of innovation: Rogers	Cognitive process: Project
Awareness: Exposure to the course material about TB and HIV	Knowlegde aquisition about TB and HIV
Interest: Becomes interested in the new training course and seeks further information by completing all the modules successfully	Forming an attitude toward the innovation
Evaluation: Cognitive application to present and future situation in the community and decides whether or not to try it	Decide to adopt or reject the course content
Trial: Makes full use of the training skills acquired at the training	Implementation of TB and HIV training in the community
Adoption: Decides to continue the use of the TB and HIV training in the community	Confirm decision to adopt innovation (i.e. TB and HIV Community training)

6.11 Mobilizing the role of the community in TB and HIV management

Trainers raised challenges in their implementation of course application in the community pertaining to a lack of recognition of their potential to do TB and HIV training. Many felt that their potential was underutilized and that they were not mobilized as a community resource as presented in Chapter 5.

A study in Malawi (Zacharia, Teck, Buhendwa, Labana, Chinji, Humblet & Harries, 2005: 167) found that although communities can play a vital role in reducing the burden of TB and HIV, community resources in most settings are under-utilized with a lack of clarity about their potential role. The trainers, as a potential community resource, noted this underutilization.

It is put forward by Zachariah *et al.* (2005: 174) and concurred on by the findings of this study that especially in Sub-Saharan Africa, where shortages of human resources in the health sector are evident, that health planners should embrace the role that communities can play in the fight against TB and HIV.

Individuals who are trained about TB and HIV, and fit the mould of a community health worker, could be harnassed as a very under-utilized human resource and give momentum to the community contribution in the fight against these two diseases.

6.12 Chronic disease management

TB treatment is administered over a long term period, especially in Multi-drug Resistance TB where treatment can take years; it is therefore useful to examine models for management of chronic diseases in primary care.

Such a model as proposed by Bodenheimer, Wagner & Grumbach (2002: 1776) describes three overlapping 'galaxies' as the domain of chronic care namely i) The entire community; ii) The health care system and iii) The provider organization (e.g. a small clinic). As TB is now viewed as a chronic condition (Bodenheimer *et al.*, 2002: 1176), the CPUT's TB and HIV project appears to draw on these three 'galaxies' if it is to be adopted and implemented.

In this chronic care model (Bodenheimer *et al.*, 2002: 1776) six essential elements are identified: i) Community resources and policies; ii) Health care organization; iii) Self-management support; iv) Delivery system design; v) Decision support and vi) Clinical information systems.

In this model it is proposed that to improve chronic care, provider organizations need linkages with community-based resources. The CPUT's TB and HIV project aimed to be such a resource to ultimately improve TB care.

The CPUT TB and HIV project facilitated the linkages with community-based organizations. Training was provided to community members to empower them to train others in their own community. Community entry, community projects and community networking was included in the TB module content. Networking within the community is encouraged to optimize access to resources. The project worked in conjunction with provincial and local TB control programmes.

6.13 Concluding remarks

The history of the study revealed that a need was identified by the Provincial Government of the Western Cape at Head Office level to develop a training course on TB. The Higher Education Institution CPUT was approached and were open to facilitating the course development by collaborating with the TB NGO sector and provincial TB control programme.

However, the support and buy in at Regional level of the Provincial Department of Health proved to play a pivotal role in the adoption of the project. The competitiveness amongst TB NGO also posed a threat to project implementation. Buy in and adoption of community outreach projects depend largely on political commitment and support, not only from National Health level, but also at Regional level and local health authority level.

Furthermore it is observed that it would be imperative that health service management support and recognize trainers to have the desired effect towards TB and HIV control. However, the highest level of political commitment is called for. Formal commitment from National level is required with written agreement of support for an innovation such as this project.

It appears that the CPUT TB and HIV project did meet an expressed need of Provincial Government's health department and certainly had an empowering effect on the trainers, as well as a ripple effect in the communities they were in.

Important in the results, in the South African context, where skills development is on the forefront, that trainers felt they were more marketable and employable once they had successfully completed their training and were more competent. The Higher Education Institution link of the project course was viewed as favorable.

However, new legislation to be promulgated in 2009 (i.e. The National Qualifications Framework Act no. 67, 2008) makes provision for new framework levels in which the NQF is to be organized as a series of learning achievement arranged in order form one to ten (SAQA(a), 2008). Higher Education Institutions can then only offer qualifications on NQF levels five to ten and therefore this project's course this will have to be offered as a learnership. This would require a further investigation to establish whether it is needed, if needed then at what NQF level, and whether accredited training providers could offer it as learnership. As this study indicated it would provide some level of status to the training if linked to an appropriately registered training institution as opposed to a short course offered by different NGOs. This would also lead to the course being standardized and learners getting their valid certification.

This course could serve to form part of a General Education and Training Certificate (GETC), possibly linked to an NQF aligned learnership in the field of Health Sciences and Social Services and subfield of promotive health and developmental services, such as that of ancillary health care (SAQA(b), 2008). The appropriate level to offer such a course is therefore not at HEI (NQF five to ten) or initially at FET (NQF two to five), but at GETC NQF level one, ABET level four. An Ancillary Health learnership on NQF level one, ABET level four would be a prerequisite to do a learnerhsip on NQF level two. The presentation skills and facilitation of adult learning events required for this course could be linked to an Ancillary Health learnership on NQF level two and would thereby provide career pathing for learners.

The Expanded Public Works programme launched by the State of the Nation address in February 2003 by former SA President, Thabo Mbeki, makes provision for learnership acceleration (SA. Government, 2004). The domain of social development earmarked as home community based care learnerships in partnership with the Health and Welfare Sector Education Authority would be the most appropriate link.

Finally, it is noted that this course added much value to the participants for themselves, as well as them becoming informed to assist community members with correct knowledge or accurate facts about TB, HIV and AIDS. This innovation seemed to have had an empowering effect on the trainers, especially in the rural setting. Health services in rural settings could consider embracing the personal benefit of projects of this nature in addressing TB and HIV.

6.14 Recommendations

Based on this study it is recommended that:

- Policy be developed, within a strategic framework to decrease the burden of TB and HIV, to include and address community collaboration and training, as well as the recognition of those trained and commitment to community projects.
- Political support at National level be obtained before any registered community training be entered into;
- The course structure and learning approaches could inform similar training programmes as part of community outreach projects;
- This courses' content be used to develop a unit standard per module towards a learnership and/or inclusion in the Ancillary Health Care Certificate on NQF level one (ABET level four); and
- The offering of these unit standards be linked to a General Education and Training registered training provider to provide it with the necessary institutional recognition.
- Further research be conducted evaluating TB and HIV collaborative community training projects to develop innovations which can be adopted to mobilize communities in TB and HIV management.

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2006 HIV / TB
For 22 TB High Burden Countries

TB is one of the biggest infectious killers of people living with HIV, leading to up to half of all HIV-related deaths in some places. People living with HIV are up to 50 times more likely to develop active TB in their lifetime than HIV negative people.

We can start saving lives NOW through collaborative HIV-TB programmes, strengthening health systems and the research and development of new ways to prevent, diagnose and treat TB among people living with HIV.

This report card shows the 2006 UNAIDS estimated prevalence of HIV in the 22 TB high burden countries. It highlights the deadly synergy between the two conditions, and the opportunity to save the lives of people living with HIV in these countries using standardized, effective and free TB treatments.

TB High Burden Countries	in thousands	in millions
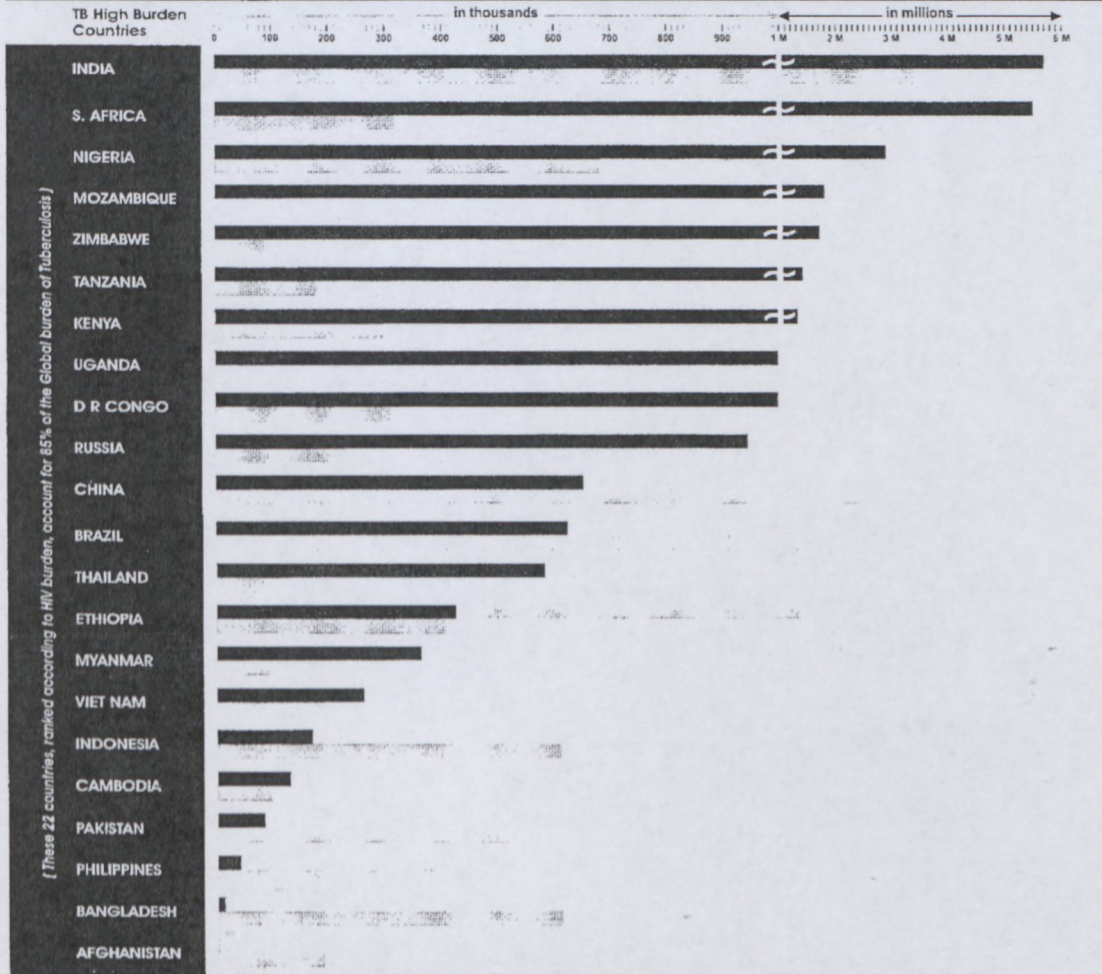
(These 22 countries, ranked according to HIV burden, account for 85% of the Global burden of Tuberculosis)

- INDIA
- S. AFRICA
- NIGERIA
- MOZAMBIQUE
- ZIMBABWE
- TANZANIA
- KENYA
- UGANDA
- D R CONGO
- RUSSIA
- CHINA
- BRAZIL
- THAILAND
- ETHIOPIA
- MYANMAR
- VIET NAM
- INDONESIA
- CAMBODIA
- PAKISTAN
- PHILIPPINES
- BANGLADESH
- AFGHANISTAN

Legend

Estimated number of people living with HIV/AIDS
Data from: 2006 Report on the Global AIDS Epidemic / UNAIDS
http://www.unaids.org/en/HIV_data/2006GlobalReport/default.asp

★ HIV estimates for Ethiopia have been given as a range by UNAIDS, unlike the other countries where there is a single figure, with a confidence interval

Global HEALTH Advocates
Avocats pour LA SANTE dans le Monde
www.ghadvocates.org

H&D
www.hdnet.org

RESULTS
www.results.org

AIDS WATCH
www.aidscarewatch.org

Informed Consent

Title of Research Study:
TB AND HIV COMMUNIT-OUTREACH TRAINING PROJECT IN A HIGHER EDUCATION INSTITUTION

Principal Investigator: Guin Lourens
Cape Technikon

Introduction and Purpose:

The Cape Technikon asked Mrs. Guin Lourens to conduct research to describe the TB AND HIV outreach project.

You are being asked to take part in this research study because your knowledge on these issues is very important for the purposes of this research project, as you have been a participant on one of these courses.

Procedure:

If you take part in this study, you will be asked to answer basic questions in **an interview**, of approximately 1 hour, on your experiences regarding the project courses.

Benefits:

There may be no direct benefit to you; however, information from this study may benefit other tertiary institutions considering such an outreach project.

Risks:

There are no known risks at this time to participation in this study.

Voluntary participation/Withdrawal:

Taking part in this study is voluntary. You may choose not to take part in this study, or if you decide to take part, you can change your mind later and withdraw from the study.

Costs

There will be no costs to you for participation in this research study.

Compensation:

You will not be paid to participate in this study.

Confidentiality:

All information collected during the course of this study will be kept confidential to the extent permitted by law.

Information from this study may be published, but your identity will be kept confidential in any publications, to limit the possibility of individuals being recognizable. The results of this study will be used for research purposes only.

Questions:

If you have any questions in the future, you may contact Mrs. Guin Lourens or one of her associates.

`Consent to Participate in this Research Project:

To voluntarily agree to take part in this study, you must sign on the line below. If you choose to take part in this study, you may withdraw at any time. You are not giving up any of your legal rights by signing this form. Your signature below indicates that you have read, or had read to you, this entire consent form, including the risk and benefits, and have had all your questions answered. You will be given a copy of this consent form.

....
Signature of Study Subject   Date

....
Printed Name of Study Subject   Date

....
Signature of Witness (if applicable)   Date

....
Signature of Investigator/Designee Obtaining informed consent   Date

Guin Lourens
Cape Technikon
(021) 460-3197

FACSIMILE

Date:	Ref no:
To:	Fax no:
Att:	
CC:	
From:	Tel. no:
No. of pages:	CC internal:

RE:FOCUS GROUP DISCUSSION

YOU ARE INVITED TO ATTEND A FOCUS GROUP
DISCUSSION REGARDING THE TB/HIV DOTS
TRAIN THE TRAINER PROJECT EVALUATION OF
THE CAPE TECHNIKON.
YOUR INPUT WILL BE HIGHLY VALUED AND
BE TREATED WITH ANONIMITY AND
CONFIDENTIALITY.

DATE:THURSDAY **12 AUGUST 2004**
TIME:9H30 FOR **10H00**
VENUE: ROOM 3.1,APPLIED SCIENCES,
CAPE TECHNIKON
*Tea will be served

Please confirm your attendance with
Sanet van Rooyen at PH:460 3218

Thanking you
Guin Lourens
Project Co-ordinator
PH:460 3197/082 7791726

PO Box 652 Cape Town 8000
Keizersgracht Road, Zonnebloem
Telephone 27 21 460 3911
Facsimile 27 21 461 7564
e-mail postmaster@ctech.ac.za
Web site www.ctech.ac.za

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Informed Consent

Title of Research Study:
TB AND HIV COMMUNIT-OUTREACH TRAINING PROJECT IN A HIGHER EDUCATION INSTITUTION

Principal Investigator: Guin Lourens
Cape Technikon

Introduction and Purpose:

The Cape Technikon asked Mrs. Guin Lourens to conduct research to describe the TB AND HIV outreach project.

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Procedure:

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Benefits:

There may be no direct benefit to you; however, information from this study may benefit other tertiary institutions considering such an outreach project.

Risks:

There are no known risks at this time to participation in this study.

Voluntary participation/Withdrawal:

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Costs:

There will be no costs to you for participation in this research study.

Compensation:

You will not be paid to participate in this study.

Confidentiality:

All information collected during the course of this study will be kept confidential to the extent permitted by law.

Information from this study may be published, but your identity will be kept confidential in any publications, to limit the possibility of individuals being recognizable. The results of this study will be used for research purposes only.

Questions:

If you have any questions in the future, you may contact Mrs. Guin Lourens or one of her associates.

Consent to Participate in this Research Project:

To voluntarily agree to take part in this study, you must sign on the line below. If you choose to take part in this study, you may withdraw at any time. You are not giving up any of your legal rights by signing this form. Your signature below indicates that you have read, or had read to you, this entire consent form, including the risk and benefits, and have had all your questions answered. You will be given a copy of this consent form.

....
Signature of Study Subject   Date

....
Printed Name of Study Subject   Date

....
Signature of Witness (if applicable)   Date

....
Signature of Investigator Designee Obtaining informed consent   Date

Guin Lourens
Cape Technikon
(021) 460-3197

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Checklist for Presentations (Developed for CPUT TB and HIV project ABET module)

Audio Visual Aids

- ❖ Video machine
- ❖ Video
- ❖ Overhead projector
- ❖ Transparencies
- ❖ Pointer
- ❖ Slide projector
- ❖ Flipchart board
- ❖ Flipchart paper
- ❖ Posters

STATIONERY

- ❖ Prestik
- ❖ Name stickers
- ❖ Khoki's
- ❖ Pen/paper for participants
- ❖ Large paper sheets for group work
- ❖ Scissors
- ❖ Coloured paper
- ❖ Stapler

REFRESHMENTS

- ❖ Kettle/urn
- ❖ Cups
- ❖ Teaspoons
- ❖ Dishcloth
- ❖ Coffee/tea/sugar/milk
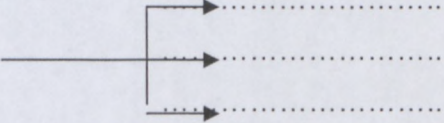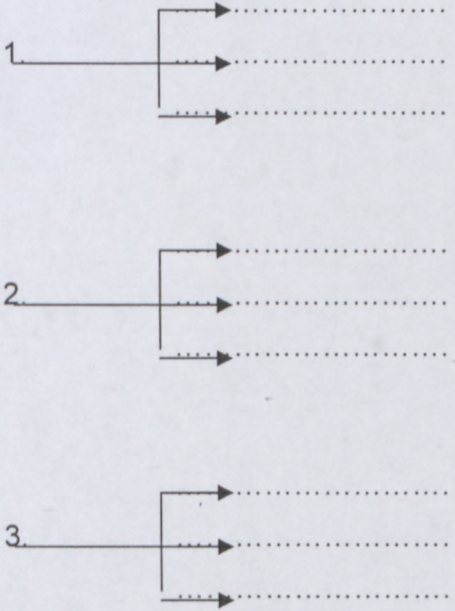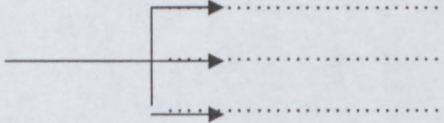- ❖ Biscuits
- ❖ Sweets
- ❖ Water jug

OTHER

- ❖ Training material file
- ❖ Lesson plans
- ❖ Demonstration articles (tablets, tools, X-rays)
- ❖ Equipment for group activities (e.g. board games, dice, puzzles, objects)
- ❖ Manuals
- ❖ Course notes

Lesson Plan 1 Framework (Developed for CPUT TB and HIV project ABET module)

STAGES	GROUP SIZE	PURPOSE	TIME
1. Introduction	Whole class	Say hello, Introduce the lesson topic, Explain the discussion task, Explain assessment procedure	10 minutes
2. Individual work	Learners alone	Work on task	10 minutes
3. Pair work (Optional stage)	Learners in 2s	Begin to share ideas, so shy learners join in	10 minutes
4. Small group work	Groups of 4 to 6	Learners do the basic work on the task Prepare group report	20 minutes 5 minutes
5. Report back	Whole class	Bring ideas from the groups back to the whole class	25 minutes
6. General discussion	Whole class	Build on the discussion in the groups and draw out general learning points	35 minutes
7. Summarise	Whole class	Summarise major/critical facts	5 minutes

Lesson Plan 2 Framework (Developed for CPUT TB and HIV project ABET module)

OBJECTIVES: 1.......................................

2. ....   MEDIA ....

3. ....

4. ....

TIME NEEDED	SECTION	MAIN POINTS	EXPLANATION/ MOTIVATION	RESOURCES
	INTRODUCTION	→.............. →.............. →..............	....
	"BODY"	1.— →.............. →.............. →..............	....
		2.— →.............. →.............. →..............	....
		3.— →.............. →.............. →..............	....
	CLOSE	→.............. →.............. →..............	....