EVALUATING THE IMPLEMENTATION OF HIV AND AIDS EDUCATION IN SCHOOLS IN THE UMHLATHUZE DISTRICT

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Evaluating the implementation of HIV and AIDS education in schools in the Umhlathuze district

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DEDICATION

This study is dedicated to our God Almighty, my family's Mzimela and Bhengu; and especially to the memories of my late parents Mr. Fortune Sikelela Bhengu and Mrs. Gertrude Kesta Bhengu who would have been happy to be alive and witness this achievement.

DECLARATION

I, **Adelaide Misiwe Mzimela**, hereby declare that this study titled '*Evaluating the implementation of HIV and AIDS education in schools in the Umhlathuze district'* is my work and has not been previously submitted for a degree purpose to any university. Sources used have been acknowledged in text and referenced in full.

AM Mzimela

December 2016

Signature_____

ABSTRACT

Implementing HIV and AIDS education in schools has for some time faced challenges in South Africa. Although much has been achieved in terms of policy, the implementation thereof has remained questionable. Monitoring and evaluation has the ability to determine the achievement of policy or program implementation, and therefore offer insights into necessary reforms. The main aim of the study was to assess the quality of the implementation of HIV and AIDS education in schools and determine the facilitators and barriers to the implementation and whether the teachers' levels of HIV and AIDS knowledge influenced the quality of the implementation.

The study utilised the elements of both the Contextual Interaction Theory (CIT) and the Monitoring and evaluation framework as the conceptual framework. Data about the implementation of HIV and AIDS education in schools were collected using both the positivism and interpretivism paradigms. Life-Skills and Life Orientation teaching teachers from both primary and secondary schools were selected using a systematic procedure of selecting every fifth school from an alphabetical list of schools in the Umhlathuze district. Teachers completed questionnaires that had been piloted with 25 Life-Orientation teaching teachers in a workshop, and the Life-Skills and Life Orientation subject advisors participated in the in-depth interviews.

The quantitative data was analysed using SPSS version 22 and recorded interviews were transcribed, coded and analysed using thematic analysis. The results showed that 82.7% teachers teaching Life-Skills and Life Orientation implemented HIV and AIDS education, although not to satisfactory standards. Teacher characteristics that influenced quality implementation were time, confidence, support, capability, comfort, and knowing the contents of HIV and AIDS policy. The study further revealed that whilst teachers had an overall 'above average' knowledge of HIV and AIDS, they had serious knowledge gaps. The reported barriers to implementation included lack of appropriate knowledge, lack of support and resources, no provision for content, Life Orientation subject overload and lack of monitoring.

Based on these findings recommendations were made on how the Department of Basic Education (DBE) may structure the HIV and AIDS education as a separate subject with succinct content for different levels and strengthen the monitoring of the implementation. The study also came up with the framework for the monitoring of the implementation of HIV and AIDS education in schools that schools and district offices could utilise.

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LIST OF ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
ART	Anti-retroviral Treatment
CAPS	Curriculum Assessment Policy Statements
CIT	Contextual Interaction Theory
CPTD	Continuing Professional Teacher Development
DBE	Department of Basic Education
DHET	Department of Higher Education and Training
DoE	Department of Education
HCT	HIV counselling and testing
HEAIDS	Higher Education HIV and AIDS Program
HIV	Human Immunodeficiency Virus
IITP	International Institute for Educational Planning
ITE	Initial Teacher Education
ITET	Initial Teacher Education and Training
LO	Life Orientation
M&E	Monitoring and Evaluation
MRTEQ	Minimum Requirements for Teacher Education Qualifications
NGO	None Governmental Organisation
NIP	National Integrated Plan
OBE	Outcomes Based Education
PGCE	Postgraduate Certificate in Education
PMTCT	Prevention of Mother to Child Transmission
SACE	South African Council for Educators
SMT	School Management Team
TACAIDS	Tanzania Commission for AIDS

UNAIDS	Joint United Nations Program for HIV and AIDS
UNESCO	The United Nations Scientific and Cultural Organisation
WEF	World Economic Forum
WHO	World Health Organisation

CHAPTER 1

INTRODUCTION

1. Preamble

The high prevalence and incidence rates of HIV among youth (UNAIDS, 2007) have necessitated different interventions by all government departments including the Department of Education (DoE) with HIV and AIDS policy to mention just one. The policy outlines among other things that HIV and AIDS education should be included within the Life-Skills curriculum in Primary schools and in Life Orientation curriculum in Secondary schools (UNESCO, 2008). HIV and AIDS education has a potential to empower learners with both knowledge of the disease and the decision making skills to help prevent acquisition and spread of the disease. It is therefore important to assess how much is done in schools in this regard.

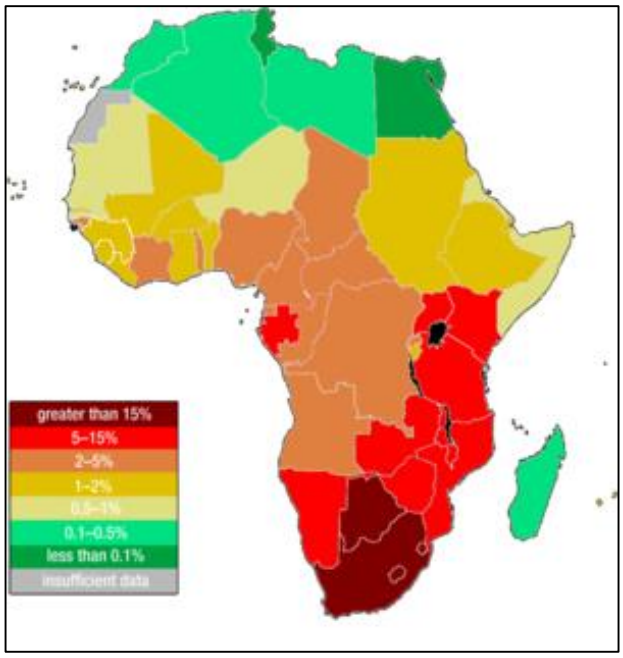
The reasons for evaluating the implementation of the HIV and AIDS education in schools are to unpack what the teachers in schools do to implement the HIV and AIDS education, the quality of this implementation and what could be facilitators and barriers they are facing. Of course, the HIV and AIDS policy requirements go beyond just the teaching of life-skills and HIV education but for the purposes of this study, emphasis will be on just these only.

1.2 BACKGROUND

1.2.1 The burden of HIV and AIDS in South Africa

The number of people living with HIV worldwide continues to grow, as was estimated at 33 million in 2007 (UNAIDS, 2008) and at 33, 4 million in 2009 (UNAIDS, 2010; WHO, 2010) and at 36.9 million by the end of 2014 (World Health Organisation (WHO), 2015). The sub-Saharan Africa accounts for two-thirds of the global population infected with HIV (UNAIDS, 2008). South Africa

continues to bear a disproportionately high share of the burden of HIV infections with an estimated 5.6 million people who were living with HIV in 2009 (UNAIDS, 2010); which is highest in the world (UNAIDS, 2008). The 2015 prevalence rate stands at 6.19 million (Shisana, Rehle, Simbayi, Zuma, Jooste, Jungi, Labadarios, & Onoya, 2014; UNAIDS, 2015). KwaZulu-Natal province has the highest HIV prevalence in South Africa at 22% in the adult population (27%, in females aged 15-49 and 14% in males aged 15-54). The prevalence is highest in women aged 25-29 years (51%) and men aged 30-34 years (44%), (Barnighausen, Hosegood, Timaeus & Newell, 2007). The figure below depicts clearly the extent of HIV in the Sub-Saharan Africa and worse still in South Africa.



Map from Wikipedia showing Estimated HIV infection in Africa in 2007 shows high rates of infection in Southern Africa.

The interpretation of HIV prevalence trends in South Africa is increasingly becoming a complex exercise due to the increased access to antiretroviral treatment (ART) which has a potential to increase the HIV prevalence by reducing the HIV related mortality, making it difficult to draw conclusions about the epidemic over time when using prevalence as the only measure (South African National HIV Survey, 2008). For instance, the HIV prevalence in the total population of South Africa is reported to have stabilized at a level of around 11%, with a decline from 10, 3% in 2005 to 8, 6% in 2008 among youth aged 15-24 (South African National HIV Survey, 2008).

On the other hand, the global incidence of HIV infection fell by 19 per cent between 1999 and 2009; the decline exceeded 25 percent in 33 countries, including 22 countries in sub-Saharan Africa (UNAIDS, 2010). In South Africa, the drop in incidence among 15-20 year-olds is substantial for the 2008 survey although for the 20 year olds it appears to approximate the incidence levels observed in the previous surveys of the same age. The 2009 HIV incidence for the South Africa population was 1.5% per 100 person years (UNAIDS, 2010), of the uninfected per year. The table below shows the considerable variation in the estimates for (15-49) year olds by province, with Kwa-Zulu Natal registering the highest.

Table 1: South Africa provincial estimates of new HIV infection

	Estimated number of new infections (Ages 15-49)
South Africa	335 700
KwaZulu-Natal	98 600
Gauteng	67 100
Eastern Cape	46 400
Limpopo	29 000
North West	28 500
Mpumalanga	28 200
Free state	22 600
Western Cape	12 300
Northern Cape	3 100

Source: UNAIDS (2009)

Reports of the decline in HIV prevalence and incidence are not as yet consistent with what obtains in reality as regards HIV and AIDS in schools. There are no specific figures of HIV in schools, but the estimates of youth statistics are true for our youth in schools. It is for this reason that since the late 1980s, interest has grown in the development of health education in schools (UNESCO, 2005).

Evidence suggests that a primary group for such education is teenagers and young adults and that HIV and AIDS education should definitely be part and parcel of the school curricula in order to contribute meaningfully in the fight against HIV and AIDS especially among the school-aged children:

Education is a critical means of changing behaviour at the formal level, and especially so in the case of HIV and AIDS which has a deadly consequence. A well-structured curriculum-based approach to preventive education on HIV and AIDS is therefore the sine qua non option in protecting the youths and adults alike (UNESCO, 2005, p.1).

Results of studies indicated that school based HIV and AIDS education can offer significant changes in youth sexual behaviour (Grundlingh, 2009; Mukoma, Flisher, Ahmed, Jansen, Mathews, Klepp & Schaalma, 2009; Sarma & Oliveras, 2013). The figure below shows how the South African government tries to mitigate the effects of HIV especially among women youth:

The Deputy President Cyril Ramaphosa-South Africa launches national campaign for young women and adolescent girls

Taken from: UNAIDS 2016:

1.2.2 Policy on HIV and AIDS in South African schools

Like other nations, South Africa crafted her own national policy on HIV and AIDS for learners and educators in public schools, and students and educators in further education and training institutions (DoE, 1999). The Department of Education policy for HIV and AIDS specified the guidelines for schools which are further clarified in the Implementation Plan for Tirisano 2000-2004 (DoE, 2000a, p.7-8).

The policy was the basis upon which different schools were to develop their own HIV and AIDS policies but keeping the similar regulatory guidelines pertaining to the rights and treatment of learners and educators in relation to HIV and AIDS. The policy also spells out the role and responsibilities of the school governing body and the school principal in giving operational effect to the national HIV and AIDS policy. This includes drawing up a school-based policy, developing an implementation plan and setting up a specialized sub-

committee – the Health Advisory Committee – to manage implementation of the HIV and AIDS school-based development plan.

In the Implementation Plan for Tirisano 2000-2004 (DoE, 2000a, p.7-8) the then Minister of Education, Kadar Asmal translates and prioritises the programs of action. The HIV and AIDS programs comprises of three national projects for dealing with HIV and AIDS. These are; awareness, information and advocacy (among educators, learners and students at all levels and institutions within the education and training system); HIV and AIDS within the curriculum (to ensure that life skills and HIV and AIDS education are integrated into the curriculum at all levels of the education and training system) and lastly HIV and AIDS and the education system (to develop models for analyzing and understanding the impact of HIV and AIDS on the education and training system).

1.2.3 The issue of monitoring and evaluation

Whilst institutionalising the HIV and AIDS policy was seen as a progressive step, little is known about the monitoring of the implementation of HIV and AIDS policies in individual schools. Monitoring (Misra, 1994) is defined as a specialized, dynamic, semi-autonomous, and institutionalized management resource which helps to ensure the implementation of policy or programs in accordance with their design and takes into account the interest of various stakeholders.

The scope of monitoring HIV and AIDS policy implementation in schools should cover at least seven dimensions (UNESCO, 2005); these are prevention as the general purpose for HIV and AIDS education; inclusion of HIV and AIDS in the curriculum; support for teachers and school staff, including teachers training; provision for monitoring process of the policy implementation; inclusion of community resources in school settings; provision to address impact of HIV and AIDS in the education system; and fight against stigma and discrimination. Whilst these indicators have been advocated for by UNESCO

commissioned by the 'Education for all global monitoring', for the purposes of this study only the first four indicators will be considered.

1.3 STATEMENT OF THE PROBLEM

Both the HIV and AIDS policy (DoE,1999) and the implementation plan for Tirisano (DoE, 2000 a,p.7-8) put more emphasis on HIV and AIDS within the curriculum to ensure that life skills and HIV and AIDS education are integrated into the curriculum at all levels of the education and training system. The policy is clear that teachers are responsible for giving guidance on education for prevention (abstinence, faithfulness, and use of condoms), but also makes reference to other issues such as; teaching children to respect their bodies and avoid situations in which they are likely to be raped; the importance of non-discrimination and education against the fear of HIV and AIDS; integration of HIV and AIDS into the curriculum of all learning areas, and also special Life-Skills courses is mentioned; and the policy also says that teachers have to be trained to do all this (HEAIDS, 2008).

Most studies have concentrated on the outcome evaluation and impact assessment of the HIV programs in schools (Alhassan, 2011; Buston & Barlet, 2009; Buthaina, Basaleen, Al-Sakkaf, Crutzen, Kok & van den Borne, 2011; Gallant & Maticka-Tyndale, 2004; Mukoma, Flisher, Ahmed, Jansen, Mathews, Klepp & Schaalma, 2009; Sarma & Oliveras, 2013). These studies have accordingly utilised the randomised experimental designs and quasi-experimental designs.

A few other studies have concentrated on process evaluations using either qualitative or quantitative approaches but with a focus on real time observation of the process (Muthukrishna, 2009; Orwe-Onyango, 2012; Wilmot & Wood, 2012). This study will focus on the relationship between teacher's demographics and implementation of HIV and AIDS education (Helleve, Flisher, Onya, Kaaya, Mukoma, Swai & Klepp, 2009; Mathews, Klepp & Schaalma, 2009) the quality of the implementation (Mukoma, Flisher, Ahmed, Jansen, Mathews, Klepp & Schaalma, 2009) and the facilitators and barriers to

the implementation of HIV and AIDS education (Grundlingh, 2009; Jacob, Mosman, Hite, Morisky & Nsubuga, 2007; Mathews, Boon, Flisher & Schaalma, 2006). There has never been a study that focuses on teachers' characteristics as implementers of the HIV and AIDS education in relation to the implementation process, especially using both quantitative and qualitative approaches.

Also this study will focus on the level of teachers' knowledge of HIV because most studies have investigated only the level of learners' knowledge of HIV not the teachers (Al-Iryan, Basaleem, Al-Sakkaf, Crutzen, Kok & van den Borne, 2011; Grundlingh, 2009).

The research questions that the study seeks to address are:

1.3.1 Who is implementing HIV and AIDS education and what is the impact of the teachers' demographic factors and teacher characteristics on who implements HIV and AIDS education in schools?

1.3.2 What is the assessment of the quality of teaching HIV and AIDS education in schools?

1.3.3 What is the relationship between the teachers' characteristics and the quality of implementing HIV and AIDS education in schools?

1.3.4 What are the facilitators and barriers to the implementation of HIV and AIDS education in schools?

1.3.5 What is the teachers' level of HIV and AIDS knowledge and how does it influence their ability to implement HIV and AIDS education in schools?

1.4 OBJECTIVES OF THE STUDY

1.4.1 To establish who is implementing HIV and AIDS education in schools and what is the impact of the teachers' demographic factors and teacher characteristics on who implements HIV and AIDS education in schools?

1.4.2 To assess the quality of the teaching of HIV and AIDS education in schools.

1.4.3 To establish if there is a relationship between teachers' characteristics and the quality implementing HIV and AIDS education in schools.

1.4.4 To understand what the teachers describe as the facilitators and barriers to the implementation of HIV and AIDS education in schools.

1.4.5 To determine if the level of the teachers' knowledge of HIV and AIDS is below average, average or above average and if such level of knowledge has any influence on the teacher's ability to implement HIV and AIDS education in their schools.

1.5 RESEARCH HYPOTHESES

1.5.1 Teachers who teach Life-Skills and Life Orientation in schools implement HIV and AIDS education and the teacher's demographic factors and teacher characteristics have an impact on who implements the HIV and AIDS education in schools.

1.5.2 The implementation of HIV and AIDS education in schools is of average quality.

1.5.3 There is a relationship between the teacher's characteristics and the quality of implementing HIV and AIDS education in schools.

1.5.4 The level of teachers' knowledge of HIV and AIDS is below average and this influences negatively their ability to implement HIV and AIDS education in schools.

1.6 CONCEPTUAL FRAMEWORK

Both the Monitoring and Evaluation (M&E) framework (Rugg, Carael, Boerma & Novak, 2004) and the Policy Implementation framework called Contextual Interaction Theory (O'Toole, 2004) will be used as conceptual frameworks for the study and these will be discussed at length in chapter two. The research questions, objectives, method of data collection and analysis in this study are informed by these two frameworks.

1.7 OPERATIONAL AND CONCEPTUAL DEFINITION OF TERMS

1.7.1 HIV and AIDS

HIV is an abbreviation for Human Immunodeficiency Virus, while AIDS is an abbreviation for the Acquired Immuno Deficiency Syndrome. The virus is transmitted through blood, semen and vaginal fluids. Once in the body, the virus uses the CD4 cells of the body's immune system to replicate itself, and in the process destroys these cells. These CD4 cells are vital as they co-ordinate the body's immune system, protecting us from illness. As the amount of HIV in the body increases, the number of CD4 cells decreases, weakening the immune system even further.

AIDS is the collection of diseases that are 'acquired' from HIV once the immune system is no longer able to protect the body from illnesses. As HIV weakens the immune system, a person with HIV develops a number of opportunistic infections (UNAIDS, 2009b). When a person's immune system has deteriorated so much that he or she starts becoming ill with life-threatening and often unusual illnesses, he or she is said to have AIDS.

1.7.2 Evaluation

In this study, evaluation shall mean the measures of how well the project/program/policy activities have met expected objectives not the extent to which changes in outcomes can be attributed to the project/program/policy or intervention (as this is summative evaluation or outcome evaluation). Evaluation in general, is done to determine the achievements of the plan and is usually conducted on a periodic basis (TACAIDS, 2004). More specifically, in this study, evaluation that is meant is the process evaluation, which assesses successes and challenges in implementation and performance and incorporates program monitoring. It also aims at finding out how and why a project/program/policy or an intervention works or does not work by assessing the operations and the degree of conformity to the service plan/policy/intervention.

1.7.3 Implementation of HIV and AIDS education

In this study implementation of HIV and AIDS education in schools means incorporating HIV and AIDS messages, examples, questions and projects as the teacher teaches his or her own subject as well as teaching the HIV and AIDS education as content in Life Skills and Life Orientation subjects in schools (Spratt, 2009).

1.8 SIGNIFICANCE OF STUDY

Collecting information so that one can check regularly on ones service's progress (monitoring) and looking back to find out what difference your service has made (evaluation) should be part of every organisation's routine including schools. Unfortunately, some people say "I don't have time" or "I have no expertise", but monitoring and evaluation are fundamental to continued existence and improvement of services. In education for instance, there are a lot of good policies, initiatives and interventions but little do we know about progress (knowing what works/does not work and why) and whether activities do yield intended outputs and outcomes.

This study will therefore help uncover the good practices by the teachers and schools in trying to mitigate the effects of HIV and AIDS. As such, the information on how excellent practices are conducted will be shared with other struggling schools as regards implementing HIV education in schools. Also reasons for failure to implement HIV and AIDS education will surface and therefore the departmental officials mandated to see to it that schools comply with policy requirements will have the opportunity to device means and suggest ways to help struggling schools. This study will conscientise respondents on the need to implement HIV and AIDS education and comply with the dictates of HIV and AIDS policy. They will also be encouraged if not capacitated to monitor their progress with regard to giving learners age appropriate messages around HIV and AIDS and implement school based HIV and AIDS intervention programs.

The study will also help establish whether monitoring of the implementation of HIV education in teaching occurs and if not, establish what could be the reasons for such an omission. The other important significance of the study will be to come up with the

HIV and AIDS monitoring plan that will be useful to the schools and district departmental officials that might not be well trained in monitoring and evaluation processes. This is the only way that the government will know if it will meet the targets set at national level for reducing the new HIV infections among the youth.

1.9 RESEARCH METHODOLOGY

1.9.1 Research approach and design

The study utilised the 'mixed methods' approach so as to use the questionnaire and the in-depth interviews to get answers to the research questions. The congruent triangulation design has been opted for to offer the study the breadth of both quantitative and qualitative methods.

1.9.2 Sampling

The study employed the systematic sampling procedure to select schools whose Life orientation and Life-Skills teachers were to participate by completing a questionnaire. For the in-depth interviews with the education district officials, the purposive sampling design was opted for to identify four district officials responsible for the teaching of Life orientation and Life-Skills in schools. More about sampling design is in chapter 4.

1.9.3 Data collection techniques

Two instruments for data collection were developed. The questionnaire was used to help with answers to research questions and the interview guide with open-ended questions to help solicit further the data for research question 3 as well as to elaborate on data from the questionnaire. More about the formats of the data collection techniques and the reasons for their choice and the method of scoring used in questionnaire will be described in chapter 4.

1.9.4 Validity and reliability

Issues of validity and reliability will be discussed in chapter4.

1.9.5 Description of procedures

Procedures will also be discussed in chapter 4.

1.9.6 Data management and analysis methods

Basic descriptive statistics was computed to summarise the characteristics of the sample, and to compare responses from teachers who implement HIV and AIDS education and those who do not. Frequencies, percentages and Pearson Chi square statistics were used to analyse data and to describe variables that were later used in the logistic regression model.

For qualitative data; data from transcribed interviews were analysed suing thematic methods (Creswell, 2008; Cohen, Manion & Harrison, 2007 & de Vos, *et al*, 2010). More on this will be discussed in chapter 4.

1.9.7 Pilot study

The pilot study was conducted 25 teachers from secondary schools of the same district, but those schools were not part of the sample for the main study. This aided in conducting the testing of the questionnaire before implementing it. Participants in the pilot study talked to the researcher about what each question meant to them thereby ascertaining that each question was correctly worded, which is the cognitive testing of the questionnaire that the researcher had referred to above.

1.10 ETHICAL CONSIDERATIONS

Research that involves human beings should always be guided by good clinical practice and human rights principles to ensure protection of participants. (Cohen, *et al*, 2007, p. 57) attest to the following ethical responsibilities of the researchers: give the

participants the opportunity to remain anonymous; all data given strict confidentiality; interviewees to be given a chance to verify statements which is called respondent validation; permission to participate must be obtained from participants.

In line with the notions propounded above, the respondents were asked to be part of the study after detailed information pertaining to the study had been explained and information sheets given. They were asked to sign the informed consent form if they wanted to participate as proof of their voluntary participation. Consent for recording the interviews was sought prior to each interview.

Furthermore, I declare that to the best of my knowledge, my research did not fall into any category that required special ethical obligations other than the ones described above. I undertook to abide by the general principles set out in the University's policies and the obligations which the policies imposed upon me, and to mitigate any other ethical risks that could arise. In particular, I undertook to respect the dignity, safety and the well-being of others; I also respected anonymity and confidentiality; conduct the research and produce the thesis on my own, subject to the normal supervisory and collegial assistance. I also referenced my work accurately according to my chosen referencing guide, I complied with copyright requirements and sought the necessary permission, where required; I made use of the turn-it-in software throughout the research writing process, as discussed and required by my supervisor and submitted appropriate reports in this regard with my proposal and thesis when they were in final draft form.

1.11 SUMMARY

It is high time we have evidence of what is done in schools concerning education on HIV and AIDS. Connecting reports on high pregnancy and HIV infection rates in schools, with claims that nothing is done towards teaching sexuality and HIV education without evidence is an unfortunate situation. This study will prove such claims as either true or unfounded. The study is also expected to uncover the difficulties if any, associated with the HIV and AIDS education. Since the HIV and AIDS education involves a number of role players at different levels and different responsibilities, the

Contextual Interaction Theory (CIT) and Monitoring and Evaluation theories are highlighted in the next chapter as theoretical frameworks that relate to implementing the HIV and AIDS education in schools.

CHAPTER 2

CONCEPTUAL FRAMEWORK FOR THE STUDY

2.1 Introduction

Both chapters 2 and 3 review literature related to the aims of the study. Chapter 2 focuses on the characteristics of teachers as implementers of HIV and AIDS education in schools and the implementation process. The Contextual Interaction Theory (CIT) Bressers & Klok, 1988; Bressers & Ringeling, 1995; Bressers, O'Toole & Richardson 1995; Bressers, 2004; Bressers & O'Toole, 2005), is the theory that guides the description of these characteristics. Some elements of the monitoring and evaluation framework UNESCO, 2010) are also described together with CIT elements to constitute the conceptual framework for the study.

Monitoring and evaluating the implementation of HIV and AIDS education will expose issues with regard to who implements this program in schools. Issues of whether the program is being implemented in schools and whether there is enough support and guidance offered by principals, education district officials in terms of resources and monitoring, stand to surface. UNESCO (2008, p.19) attest to the notion that schools are not always aware of national polies established by education ministries and there is a gap between policy and practice, with good intentions hindered by lack of local school policies and lack of guidance for educators who implement such policies.

It is important to also determine the kind of approach that is adopted to manage the interactions between the schools and the education district office officials as these actors drive the implementation process at different levels. For these reasons, both the Contextual Interaction Theory (Bressers & Klok, 1988; Bressers & Ringeling, 1995; Bressers, O'Toole & Richardson 1995; Bressers, 2004; Bressers & O'Toole, 2005), and the Monitoring and Evaluation framework (UNESCO, 2010) will direct this study and hence these are discussed below.

2.2 Contextual Interaction Theory

Twenty years of research has demonstrated that policy and program implementation involve a multi-layered, multi-actor or multi-implementer network of organisations with some role in policy or program implementation (Spratt, 2009). Evaluating the implementation of HIV and AIDS education in schools will be guided by some elements of the theoretical framework called 'The Contextual Interaction Theory (CIT) (Bressers & Klok, 1988; Bressers & Ringeling, 1995; Bressers, *et al*, 1995; Bressers, 2004; Bressers & O'Toole, 2005), and some elements of the monitoring and evaluation framework. The CIT has been studied a lot over the years and has its origin in the works of Bressers (1993). The theory helps in the understanding of the underlying factors that influence the implementation process of policy or program which in this case is HIV and AIDS education in schools.

The CIT posits that policy or program actors' motivation, cognitions (information) and power (Bressers, 2009) are key variables influencing the implementation of any program or policy (Owen, 2008). Bressers (2009) summarises the assertions of this theory as:

a) Policy processes are not mechanisms, but social interaction processes between a set of actors (people, organisations). These policy processes include policy transfer processes and project realization.
b) Many factors can influence the activities and interactions of these actors but only because and in as far as they change relevant characteristics of the involved actors.
c) These characteristics are: their motives (which drive their actions), their cognitions (information held to be true, with which the situation is interpreted) and their resources (providing capacity and power) (Bressers, 2004).
d) These three characteristics influence each other, but cannot be restricted to two or one without losing much insight (Bressers, 2009).
e) The characteristics of the actors shape the process, but are in turn also influenced by the course of and experiences in the process and can therefore gradually change during the process.

It is clear that the characteristics of the implementers (teachers in this case) in the implementation process are the driving force of the process. These core characteristics of implementers; the motivation, cognition and power exist at the core of the interaction or implementation processes (Bressers, 2004 & Owens, 2008). The three characteristics have been identified by other scholars (Ackerman & Steinmann, 1982; Nakamura & Smallwood, 1990; Williams, 1982) as key variables for implementation (Owen & Bressers, 2013). CIT is according to Owen and Bressers (2013), a deductive and realistic approach that allows implementation to be effectively analysed. The figure below shows the relationship between the actor characteristics.

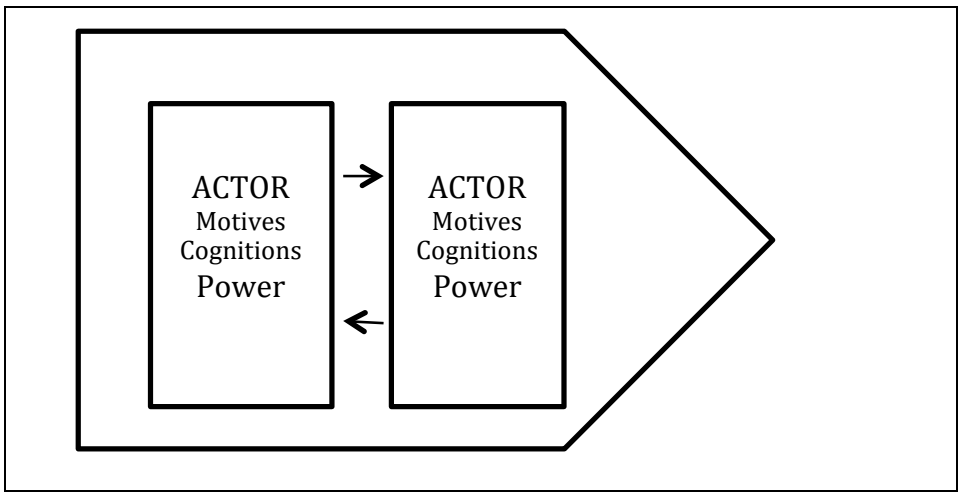


Figure 2. 1: Implementation process model with teacher characteristics used in CIT (modified from Bressers &de Boer, 2005)

In the model above, teachers as actors and implementers of HIV and AIDS education in schools possess these characteristics as both individuals and a collective in the school, circuit, district and province. Therefore, in terms of the implementation process, the relevant characteristics of teachers are determined largely by the schools' culture. For this reason, a change of the individual teacher is not likely to significantly change the setting of the process (de Boer & Bressers, 2011). Therefore, the different individual characteristics and schools' characteristics interact to either perpetuate productivity or non-productivity in terms of the implementation process.

2.2.1 Teacher characteristics as implementers of HIV and AIDS education

2.2.1.1 Motivation

According to CIT, motivation (Owen & Bressers, 2013) as a characteristic of process implementers (teachers in our case), means more of teachers' attitude to the objective of teaching HIV and AIDS education, teachers' attitude towards learners and their well-being, and the question of self-effectiveness. Guided by this framework, the research questions for this study are such that questions about who teaches HIV and AIDS in schools and the demographic characteristics of teachers in relation to their ability to implement HIV and AIDS education are prioritised. Data from these questions will shed light with regards to the teachers' motivational characteristics to aid or inhibit the implementation of HIV and AIDS education.

2.2.1.2 Cognition

This is another important characteristic of the process implementers described in CIT. Implementers' cognition includes general knowledge about the program being implemented, knowledge about the HIV and AIDS policy that drives the teaching of HIV and AIDS related topics and the reasons for the development of such policy. For this reason, questions about whether teachers know the HIV and AIDS policy in schools are included as well as teacher's assessments of the quality levels of teaching HIV and AIDS related topics in their schools.

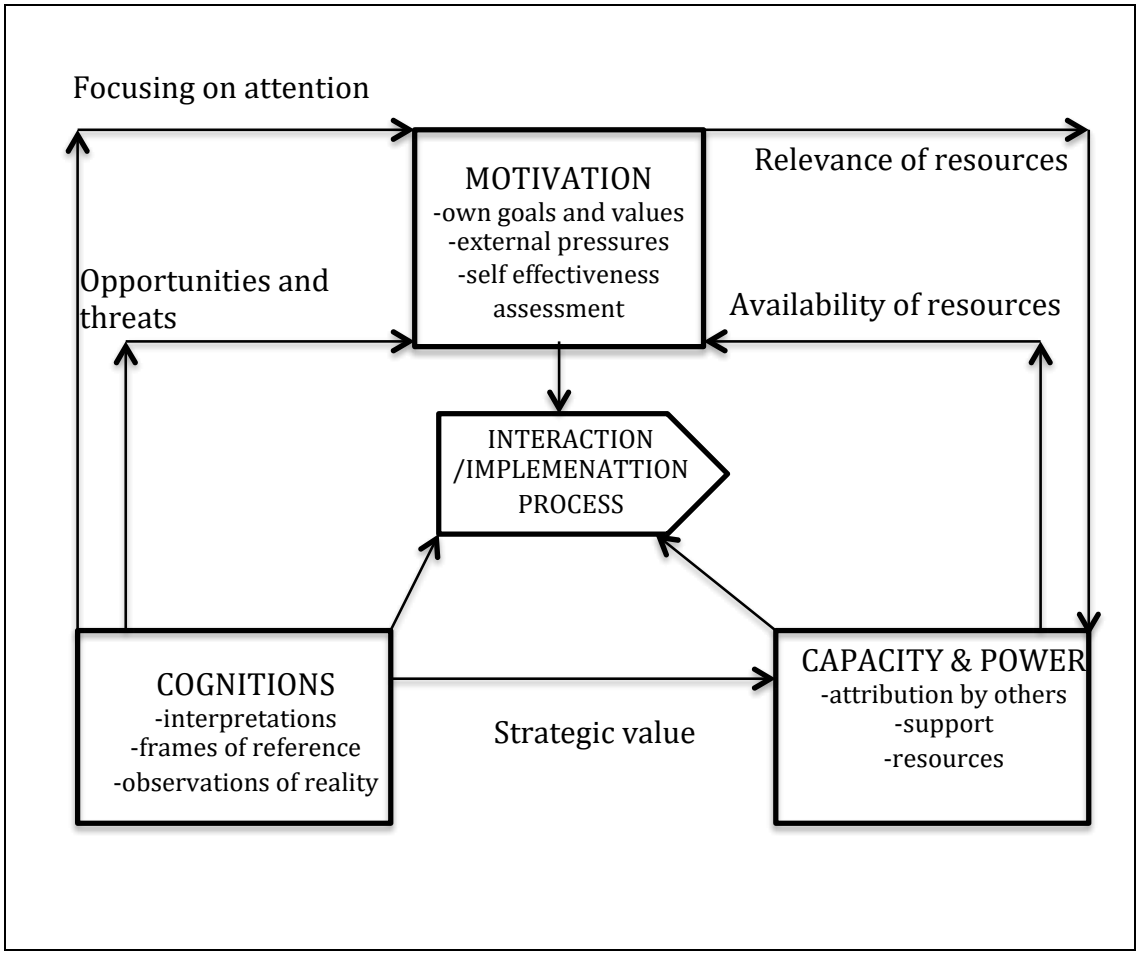
2.2.1.3 Power

Power in CIT describes both the capacity and control that implementers as individuals and as schools have in the process of implementing the program. Capacity has to do with resources such as finances, personnel, time and support. Owen and Bressers (2013) argue that resources or lack thereof, have the ability to strengthen or weaken the position of the implementer. Both teachers and the district office officials have to disclose if schools are adequately resourced for the implementation of the HIV and AIDS education.

Power as control can both be formal and informal. Formal power is given to a group, individual through legal channels or areas of responsibility. This could be through, provincial or district HIV and AIDS guidelines, syllabus, content, time allocation and support to enable individual teachers and schools to teach HIV and AIDS in schools. Informal power (Owen & Bressers, 2013) can derive from roles and the ability for one to use expertise, coalitions to one's advantage like the principals or district official power to convince the teachers to implement HIV and AIDS education in their areas or schools of control.

The relationship between the implementer's characteristics is further elaborated schematically in figure 2.2 below.

Figure 2.2: Dynamic interaction between key actor characteristics that drive social interaction process and in turn are shaped by the process:



Source: Adapted from Bressers (2007).

The motivation box in figure 2.2 above as described earlier in 2.3 talks more about the implementer's own personal internal goals and values (Owen & Bressers, 2013). This has to do with teacher's self-interest, whether he/she likes discussing sexual issues with learners. One therefore, should ask if teachers put value in the teaching of HIV and AIDS in their schools and how they assess the quality of such teaching. The questions on who implements the HIV and AIDS education in schools will explicitly uncover what internally drives teachers to implement HIV and AIDS education and what is the level of personal comfort teachers have with the content thereof.

Another important point to discuss relates to the issues of external pressures that teachers have, which could be the motivational factors to the implementation. These include interactions with colleagues about content, time and support needed for the implementation of HIV and AIDS education. The question on whether teacher's school places any emphasis on the teaching of HIV and AIDS has the potential to uncover whether the school's culture is a positive or negative external pressure on the individual teacher.

Another important consideration on the motivation is the teacher's self-effectiveness assessment. How much the teacher thinks that he or she is capable of implementing the program is very important as the motivational factor. This includes the teacher's assessment of his or her diplomatic skills to present sensitive sexual issues related to HIV and AIDS.

The information box summarises the teacher's cognitions or interpretations of reality held to be true about HIV and AIDS. Owen and Bressers (2013) stress that cognition is not only about the content knowledge of the subject, but it is also about the importance of the relevant knowledge in the interaction process. How the teachers, principals and district office officials interact with one another about the teaching of HIV and AIDS in schools is important. This includes availing time, guidelines, content, support and monitoring the implementation of the program.

Much related to the issues of support and relational knowledge is the box called the capacity and power' box. The teacher's power to implement the HIV and AIDS education is derived from the resources made available to him or her. However, Owen and Bressers (2013) argue that the relationship between power and resources is not

always direct. The availability of institutional rules like HIV and AIDS policy in a school, finances, time, skilled people and supporting climate affords a greater chance for the teachers to implement HIV and AIDS education. Bandura (1986) argues that a lack of necessary resources creates a low self-effectiveness and implementers therefore avoid cognitive dissonance.

2.2.2 Contextual layers and their interaction

de Boer and Bressers (2011) and Owen and Bressers (2013) contend that the three main characteristics of process implementers are not only intrinsic to the implementers and influenced by the process, but are also influenced by many external factors from multi-layered context. The first layer called the specific context involves the geographical place where the programme is realised, which in this study is the geographical area of the school; the previous decision – making and training. The latter, is the special type of case history that affects the institutional arena for the process that influences which implementers participate, to what extent and with what legal resources and expectations (de Boer & Bressers, 2011).

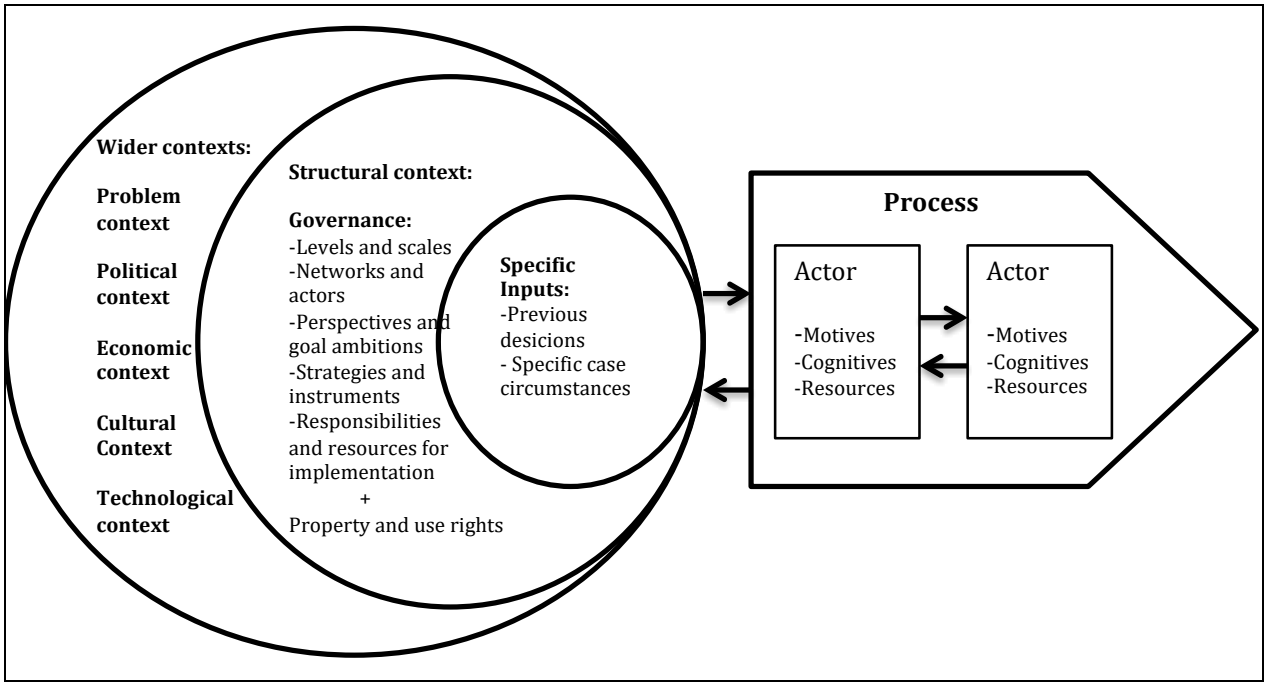
The second layer is called the structural context with elements of governance and the relevant property use rights (de Boer & Bressers, 2011), which is related to the national of governance and is thus more stable than the specific context which specifically applies to individual implementers. The structural context will to a far lesser degree be influenced back by the individual case of policy transfer and implementation of the transferred options. An important part of the structural context is formed by the 'five multiplicity aspects of governance' (Bressers & Kuks, 2003, p.75) outline these as below:

1. Multiple levels of governance. Which levels of governance dominate the policy discussion? What is the accepted role of government at various scales? Which other organisations are influential in the governance activities on these levels? Who decides or influences such issues? How is the interaction between various levels of governance organised?

2. Multiple actors in the policy network. How open is the policy arena? Open to whom and where, precisely? What role do experts play? How do the various governmental and other organisations relate to each other?
3. A multiplicity of problem definitions and other policy beliefs. What are the dominant maps of reality? To what degree do the actors accept uncertainty? Is the policy problem regarded as something individuals must deal with, or is it a problem for society in a collective sense? Where coordination is required with other fields of policy, what are the links accepted by the actors?
4. Multiple instruments in the policy strategy. Which (other) instruments belong to the relevant strategy or strategies? What are the target groups of the instruments, and what is the timing of their application? What are the characteristics of these instruments?
5. Multiple responsibilities and resources for implementation. Which organisations (including government organisations) are responsible for implementing the arrangements? What is the repertoire of standard reactions to challenges known to these organisations? What authority and other resources are made available to these organisations by the policy? What restrictions do they carry?

Further to this context is another more encompassing circle of political system, socio-cultural, economical, technological development and problem contexts. Although this study seeks to deeply investigate the influences of these elements on the implementation process, but through district officials the researcher will gain insights into some of these. Figure 2.3 below shows the interrelatedness of these contextual layers.

Figure 2. 3: Layers of contextual factors for implementer characteristics



Source: Modified from Bressers and de Boer (2005)

2.2.3 The Implementation process

The explanation of the implementation can be traced back from the first wave of studies that emphasised the top-down perspective, the bottom–up studies and later the third generation approaches (Bressers & de Boer, 2005). Bressers and de Boer (2005) emphasise that the third generation studies was the attempt by several scholars to synthesise best elements of the top-bottom and bottom-up approaches and bridge the gap between these. Below are the figures showing this evolution.

Figure 2. 4: Classic approach to implementation

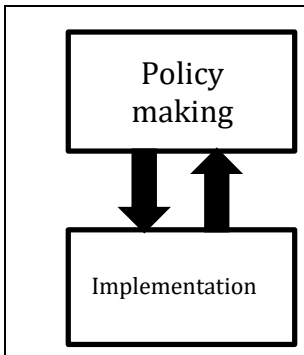
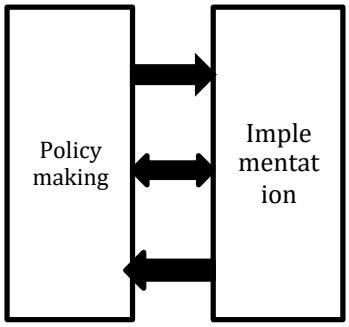


Figure 2. 5: Modern approach to implementation

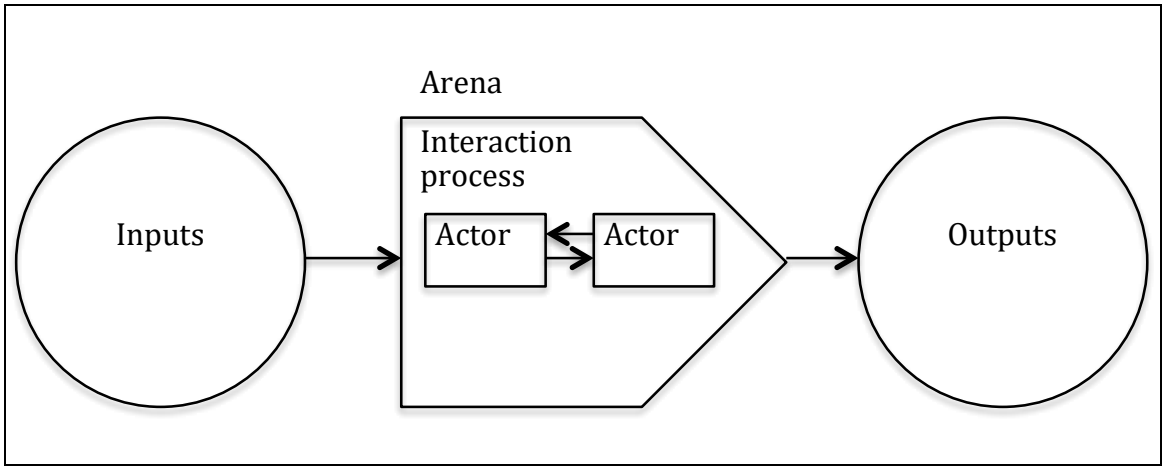


Source: Bressers & de Boer, 2005)

Bressers and de Boer (2005) define implementation as a multi-actor process where the relations between parties involved in the process, like the implementers (education officials and teachers in schools) and the target groups (learners in schools); determine the course and results of the process. In this manner the program to be implemented belongs to the inputs of the process, and is by no means the only input.

The definition of process and process implementation that was used in this study and in the context of CIT is the one that defines process as a series of actions or steps taken in order to achieve a particular end. Process implementation is defined for the purpose of this study and in the context of CIT as the purposeful endeavour with sufficiently detailed set of activities designed to put into practice a program of known dimensions. These definitions are not way out of the line of thinking of Bressers and de Boer (2005) who define the concept of a process as a conversion in which several inputs are processed into something new by activities and interactions of actors as individuals and as organisations. The figure below shows this interaction between just two groups of actors (Owens, 2008), the background actors in the actor network that do not actively participate in the interactions (our education district officials in our study), but give forms of support to actors that do the implementation (the teachers in schools).

Figure 2. 6: Simple model of interaction process as conversion of inputs into outputs:



Source: Modified from Bressers and de Boer (2005)

In this study, therefore, over and above studying actor characteristics as individuals and organisations, a careful consideration of the relations between the actors as occupying different levels of authority and between inputs, interaction process and output will be the focus of the study.

Bressers and de Boer (2005) further outline the assumptions of Contextual Interaction Theory to explain the dynamics that are involved in the implementation of HIV and AIDS education in schools as in fact quite simple and straight forward (Bressers, 2004). The theory ‘s first main assumptions are:

a. Policy processes are not mechanisms, but human social interaction processes between a set of actors (people, parts of organisations). This includes policy implementation management and project realization.

b. Many factors can have an influence on the activities and interactions of these actors but only because and in as far as they change relevant characteristics of the involved actors.

c. These characteristics are: their motives (which drive their actions), their cognitions (information held to be true, with which the situation is interpreted) and their resources (providing capacity and power) (Bressers 2004).

d. These three characteristics are influencing each other, but cannot be restricted to two or one without losing much insight.
e. The characteristics of the actors shape the process, but are in turn also influenced by the course of and experiences in the process and can therefore gradually change during the process.
f. A first layer of such influential sub-factors is specified in the boxes in figure 2 above, including how they influence the core actor characteristics. Of course, these factors can in turn be influenced by numerous other factors from within or outside the system.

The implementation of HIV and AIDS education in schools is one of the important social interactions that governments have prioritised in the era of HIV and AIDS. Bressers (2007) argue that all social processes simultaneously convert specific inputs, but are also influenced by more encompassing contexts as inputs and might change to some extent at the same time. Likewise, this study seeks to investigate the relationship between the characteristics of program actors and the implementation processes taking place in schools and therefore the CIT is the relevant theory to guide this study. It must be remembered that not so much of the outcomes of the program implantation is the focus of this study but the evaluation of the process itself.

2.2.4 The extent and the coherence as requirements of effective implementation of HIV and AIDS education in schools

CIT emphasises interaction between actors in the implementation process. The extent therefore, has to do with how much actors at different levels prioritise this interaction. Spratt (2009) argue that interactions between actors must be considered in order to analyse the facilitator and barriers to implementation. Since in any interaction process there are many actors, the coherence in the implementation can be the result of cooperation and joint learning. The teachers in schools charged with implementing HIV and AIDS education operate at a core level of the interaction process with the principal and education district officials also playing an oversight role in the implementation, hence the coherence between all these levels of actors is key to the success of the implementation.

2.3 Monitoring and evaluation (M&E) framework

The purpose of monitoring and evaluation as outlined in UNAIDS (2008) is to provide data needed to guide the planning, coordination and implementation of the HIV response; assess the effectiveness of the HIV response; identify areas for program or policy improvement. The figure below best explains the sequence of questions in an HIV M&E framework as well as the main data collection methods that can be used to answer these questions (Rugg, Carael, Boerma & Novak, 2004):

Figure 2. 7: Figure showing monitoring and evaluation framework for the study

<table>
<tr><td>Outcomes and Impacts Evaluation</td><td colspan="2"></td></tr>
<tr><td>M&E Outcomes (Evaluation)</td><td colspan="2"></td></tr>
<tr><td>M&E Outputs (Monitoring & Process evaluation)</td><td colspan="2">Number of schools implementing the HIV and AIDS education? Number of teachers trained to implement it? What are the facilitators and barriers to the implementation process?</td></tr>
<tr><td>Activities (Monitoring)</td><td colspan="2">What are we doing? Are we doing it right? What strategies are we using to teach HIV education, are we giving HIV age appropriate messages, organising school-based HIV related interventions? What are the success stories? What are the barriers? How can we improve implementation?</td></tr>
<tr><td rowspan="3">Inputs</td><td colspan="2">What resources are needed? Trained teachers and their characteristics (motives, cognitions and power)</td></tr>
<tr><td colspan="2">What resources are needed? HIV and AIDS policy, guidelines, content, time</td></tr>
<tr><td colspan="2">What resources are needed? Budgets, resources and support from district</td></tr>
<tr><td>Problem</td><td colspan="2">What is the problem? HIV prevalence and pregnancy rates high among youth, is there education on HIV and AIDS in schools?</td></tr>
</table>

Source: Adapted from A Public Health Questions Approach to Unifying HIV and AIDS Monitoring and Evaluation

It is clear from the figure above that the M&E questions are ‘What are we doing? Are we doing it right? Are we implementing the program or policy as planned? What are the facilitators and barriers to implementation? This study seeks to establish if these questions are being asked as schools implement the HIV and AIDS policies in their

schools, through integrating HIV and AIDS education in their subject teaching. TACAIDS (2004) further describes the purpose of M&E framework as to:

- Guide data collection through a dedicated set of indicators for planning, revising and improving programs
- Serve as a guide to role players on HIV monitoring and evaluation
- Ensure consistency in the use of indicators and linkage between different initiatives
- Ensure linkage between data collection efforts by different stakeholders and to promote appropriate upward and downward reporting and sharing of information.

Therefore, the data from this study will help shed light with regards to whether monitoring or the absence of monitoring the implementation of HIV and AIDS education in schools has had an effect on the implementation. It is observable that both the elements of CIT and M&E will be guiding this inquiry and therefore below is the comprehensive conceptual framework from both theories showing the relatedness of these elements with the research questions, and how the questions in the questionnaire and the interview guide will help answer the research questions. Below is the comprehensive research conceptual framework that guides and directs this study.

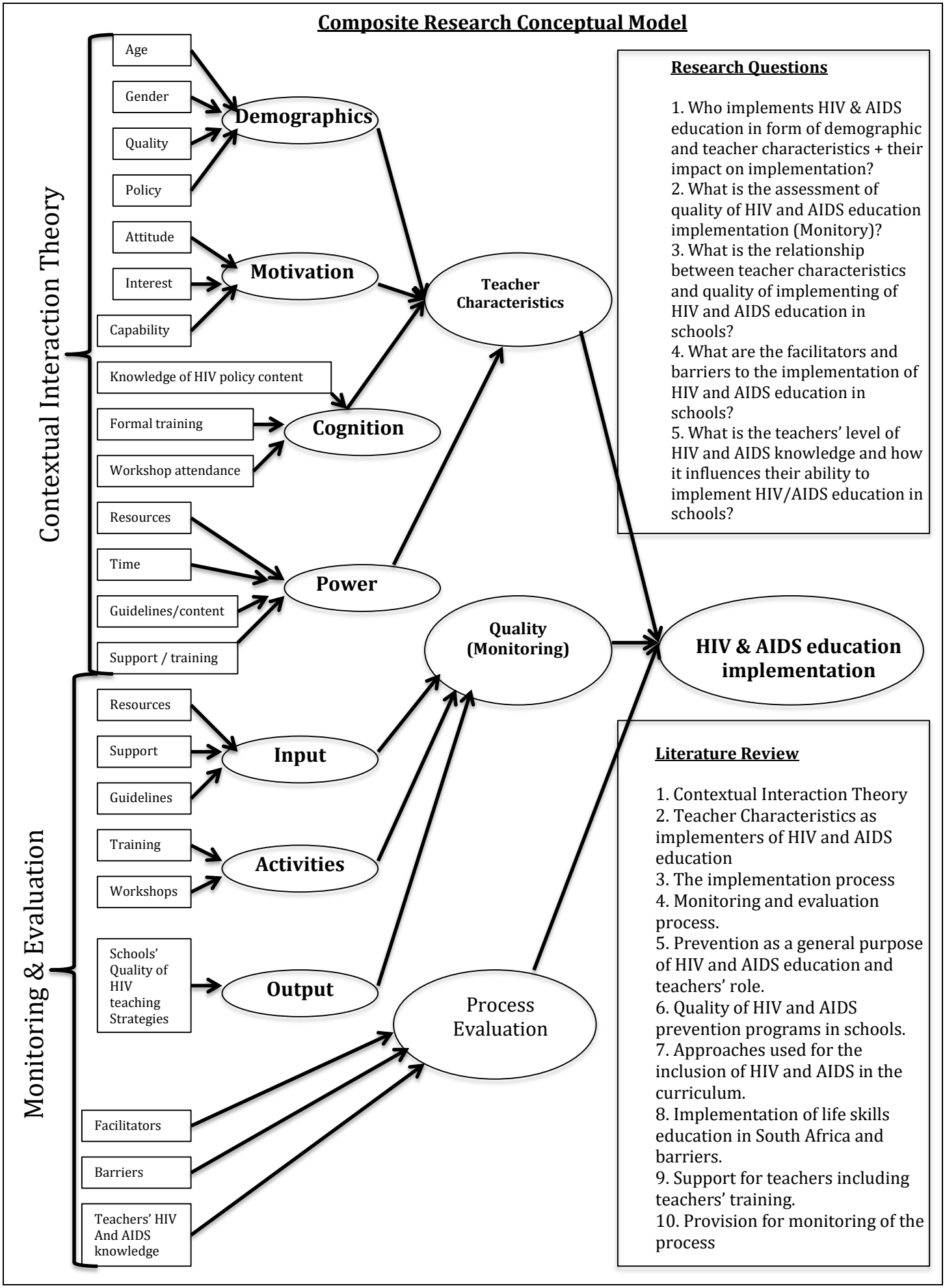


Figure 2. 8: Comprehensive research conceptual framework

2.4 Summary

Recognising the relationships and context within which programs are implemented is vital to determine their successes and failures. The Contextual Interaction Theory provides the basis for the determination of such relationships and contexts influencing the implementation of the HIV and AIDS education in schools. Process evaluation also aims to find out how and why an intervention works by assessing the actors' operations and the degree of conformity to the designed program hence both the CIT and the M&E frameworks have been reviewed in this chapter, detailing how the elements of these two frameworks will guide the study. In the next chapter I will be presenting literature on the burden of HIV and AIDS in schools, the policy on HIV and AIDS for South African Schools, implementation of HIV and AIDS education in schools and issues around monitoring and evaluation of programs to mention some.

CHAPTER 3

LITERATURE REVIEW

3.1 Introduction

Program and policy implementation require that there is a strong communication between programme designers and program implementers. The HIV and AIDS education is designed as a national response to the HIV epidemic in schools with a goal to mitigate the effects of HIV among school youth. For this to happen, the National HIV and AIDS policy is used and is cascaded down to schools who in-turn design school level policies with the help and support of the local education district officials. In this way the HIV and AIDS education enshrined in the HIV and AIDS policy gets localised for implementation in schools. Allowing schools to design and put together their own policy helps to bridge what could have become the straight jacket top-down approach to a more flexible interaction approach towards the implementation process.

The high rates of pregnancy in schools indicate that learners engage in sexual risk behaviours. Therefore, topics like HIV and AIDS education in schools as a preventative measure, inclusion of HIV and AIDS in curriculum and specific contents and thematic areas are important and thus chosen for literature review. It will be important to also review literature on provision for monitoring process of policy implementation in schools because such support or lack of it affects the implementation of the HIV and AIDS education program in schools.

3.2 Prevention as a general purpose of HIV and AIDS education

The burden of HIV and AIDS in South Africa and especially among school going age youth has been discussed in Chapter 1. The Department of Basic Education (DBE) (2010) posits that education is one of the fundamental and critical levers for the overall development, and must institute a comprehensive response to HIV and AIDS. The document further clarifies that unless HIV is addressed in a fundamental way in planning and implementing an accelerated approach to achieving quality education, it has the potential to undermine all the efforts with significant consequences for schooling and the country. According to the DBE (2010), schools are protective against negative reproductive health outcomes such as teenage pregnancy and HIV and AIDS.

UNAIDS (2009, p.8) in a Strategic Approach to HIV and AIDS education lays this out:

> 'We now have evidence of the important role that education plays in offering against HIV. School-going children and young people are less likely to become infected than those who do not attend school, even if HIV and AIDS are not included in the curriculum. Education reduces the vulnerability of girls, and each year of schooling offers greater protective benefits. Where offered, well-planned and well implemented education on life skills or sex and HIV has increased knowledge, developed skills, generated positive attitudes and reduced or modified sexual behaviour. The first line of the response should therefore be to provide more and better schooling'.

Schools play a major role in shaping the attitudes, opinions and behaviour of learners and so are ideal environments for teaching the social as well as the biological aspects of HIV and AIDS. Therefore, schools are a protective factor and as such should be used as strategic places for HIV and AIDS preventative programs for the youth. Young people especially at primary schools are also at a high risk of becoming infected with HIV. It is vital that they are educated about HIV transmission before they are exposed to situations that put them at risk of HIV infection (for example, before they are sexually active).

Effective HIV and AIDS education can help prevent new infections by providing learners with information about HIV and how it is passed on, and in doing so equip them with the knowledge to protect them from becoming infected with the virus. Some scholars argue that knowledge about HIV and AIDS has failed to reduce learner's engagement in high risk sexual behaviours (UNESCO, 2005; Vather, 2012; Visser, 2005). The researcher thinks that given the plight of the epidemic, the gain of heightened risk perception (Reddy, James & McCauley, 2005) as a result of exposure to HIV and AIDS education is an important gain upon which we should build towards behaviour change, even though some studies (Hendriksen, Pettifor, Coates & Rees, 2007; Maharaj, 2006) have found no association between increased knowledge and behaviour change.

HIV and AIDS education also plays a vital role in reducing stigma and discrimination. Around the world, in communities and in schools there continues to be a great deal of fear and stigmatisation of people living with HIV, which is fueled by misunderstanding and misinformation. This not only has a negative impact on people living with HIV, but can also fuel the spread of HIV by discouraging people from seeking testing and treatment. It is known that the spread of HIV is also perpetrated by people who do not know their HIV status, and those who do but with fear of discrimination do not access treatment.

Schools are ideal for education on HIV and AIDS because of their universality, structure, and accountability. Different methods and materials can be utilised including; booklets, case scenarios, play, radio and television, drama and theatre to mention but a few. The mode of presentation will rest on the availability of resources, the attitude and expertise of the teacher, the content and the cognitive level of learners. Excellent teachers who are able to inspire their learners about HIV and AIDS education are able to influence learners' parents as learners pass on what they have learnt to their parents.

Although HIV and AIDS education needs to be tailored to the context in which it takes place and to the people who are being educated, there are some key areas that HIV and AIDS education programs need to cover (IBE & UNESCO, 2006). It is important that the information provided is a balance of the social and emotional aspects of HIV and AIDS as well as biological, social and medical information.

Comprehensive HIV and AIDS education should include (IBE & UNESCO, 2006):

Protecting and promoting one's health

- Basic knowledge of HIV and AIDS – including how to protect oneself from HIV infection.
- Learning about treatment and care - including an understanding of HIV counselling and testing (HCT) and antiretroviral drugs.

Social and emotional aspects

- How to maintain a healthy level of self-confidence and self-esteem?
- Coping with difficult and risky situations.

- Coping with loss.

Sexuality

- Learning about different sexual orientations and the development of sexuality.

Promotion of equity, including gender issues

- Understanding that social, biological, economic and cultural factors affect vulnerability to HIV.
- Understanding that men and women have similar rights in society and family.

Overcoming stigma and discrimination and promoting human rights

- How to show support for HIV positive people and how not to discriminate against or stigmatise people living with HIV.
- Understanding the importance of confronting HIV and AIDS in the community.

Providing the right information is only a part of carrying out a comprehensive HIV and AIDS education. For the education to be effective, this information needs to be absorbed applied and remembered. Active learning encourages people to engage with information by giving them the opportunity to apply it (UNESCO, 2008). Teachers in schools have the opportunity through assessment activities to monitor whether active learning has taken place. Much more advanced monitoring systems are required to further assess if such active learning yields desirable behaviour change among youth.

3.2.1 Quality of HIV and AIDS prevention programs in schools, messages and strategies

South Africa is one of the few countries in the region that have made attempts to introduce sexual and HIV and AIDS education in schools (Thaver & Leao, 2012). Following the National Policy for HIV and AIDS (DoE, 1999), were these other

documents published by the DoE; with a view to put in place common strategy to fight HIV infection among youth.

- The Implementation Plan for Tirisano (DoE, 2000a)
- Norms and Standards for Educators DoE,2000b)
- The HIV and AIDS Emergency: Guidelines for Educators (DoE, 2000c)
- Education in South Africa: Achievements since 1994 (DoE 2001a)
- HIV and AIDS Resources Guides (DoE, 2003)
- National Policy Framework for Teacher Education and Development in South Africa (DoE, 2007).

Each one of these had specifics on strategy, guidelines and terms of reference for the implementation of the HIV and AIDS policy and programs in schools. The five-year implementation plan (DoE, 2000a, p.6) highlights as project no 2; HIV and AIDS within the curriculum, which highlights the strategic objective as 'to ensure that Life-Skills and HIV education are integrated into the curriculum at all levels of the education and training system. The outcomes of the project were that every learner understands the causes and consequences of HIV and AIDS and also that all learners lead healthy life-styles and take responsible decisions regarding their sexual behaviour. Aligned to the project were the three performance indicators namely; Life-Skills and HIV and AIDS education is integrated across the curriculum; increase in knowledge of, and changed attitudes towards sexuality and HIV and AIDS among learners and lastly reduction on incidence of HIV and AIDS among learners.

This bold and explicit direction from the national department of education had to be realised at provincial and local districts and schools level. Vather (2012) points out that the national policy only served as a guideline for schools, without a pre-set manual or curriculum and thus has been a source of inconsistency. The government had opted for this approach so as to accommodate a wide variety of circumstances posed by the South African community, and to acknowledge the importance of governing bodies in the education partnership. In each province different procedures and approaches were followed in training the teachers (Visser, 2005, p. 207), who would be catalysts for developing the Life-Skills programs with HIV and AIDS education in their schools.

The laid down indicators show that there was an intention and a directive to monitor and evaluate the implementation of the program by schools themselves and by the local district offices. Some scholars (Govender & Edwards, 2009; Vather, 2012; Visser, 2005) have voiced concerns that the schools have in their curricular focused mainly on HIV and AIDS awareness and HIV information without placing much emphasis on the advancement of life-skills that would allow learners to develop 'healthy life styles' (Vather, 2012), mental health and wellness (Govender & Edwards, 2009), as has been indicated in the government outcomes above.

Below is the example of how HIV and AIDS education has been mainstreamed into Life Orientation and other curricular in Nairobi (UNESCO Nairobi, 2005);

At the national level

The curriculum policy has been amended to include HIV and AIDS within the life-skills module of the life orientation curriculum, and as a component of all other subjects. Teaching materials have been reviewed and amended for, different levels (primary and secondary), local use and conform to outcomes-based methodologies.

At district level

Resource centres have been established. Information and materials are disseminated to support implementation.

At school level

Life skills and HIV and AIDS lessons are held as per timetable. HIV and AIDS lessons are conducted in all lessons. Youth peer educators have been recruited and trained and are supported to conduct group activities. Systems have been established to monitor Life-Skills and HIV and AIDS programs.

3.3 Approaches used for the inclusion of HIV and AIDS in the curriculum

Literature identifies four main approaches for the inclusion of HIV and AIDS education in the curriculum (DoE, 2010; Kelly, 2000; Jonker, 2011; UNESCO, 2005; Visser, 2005). These are:

- HIV and AIDS as a *stand-alone subject*, clearly labelled and including all aspects of HIV and AIDS education;

- HIV and AIDS as integrated in *one main carrier-subject* that will contain most of the material to be learned;
- HIV and AIDS as a *cross-curricular issue*, integrated in a few subjects clearly defined as containing some specific aspects of HIV and AIDS education, in a complementary and coordinated approach;
- HIV and AIDS *infused throughout the curriculum*, with, or without any specific mention of HIV and AIDS in specific subject areas, and in general without defining how to provide a comprehensive and coordinated approach of all topics related to HIV and AIDS.

In some countries, like Mozambique, the extra-curricular approach is added as a way to complete and supplement the official curriculum. This includes engaging learners in debates and other activities that are sought to stimulate learners towards behaviour change. The UNESCO (2005) paper on the quality analysis of a set curricular and related material on education for HIV and AIDS prevention in school settings found that in Sub-Saharan regions, the stand-alone and infused approaches are less common and have not been adopted in either the Asia/Pacific or Latin-America/Caribbean regions. Only Benin in Sub-Saharan Africa recorded using a stand-alone approach in both primary education and secondary education.

South Africa is one of the countries according to UNESCO (2005) that has adopted the 'main-carrier' approach and extra-curricular for both primary and secondary HIV and AIDS education. The 'infused' approach is followed in Botswana, Kenya and Mozambique, and the argument supporting for 'infused or wide' curricular approaches is that HIV and AIDS run across and affects all aspects of life and therefore should be integrated throughout the curriculum. However, the risk with such approach is that the responsibility to teach and provide the necessary information and skills to learners is diluted and that none actually provides relevant HIV and AIDS knowledge. Also, the 'infused' approach has been found to be ineffective and expensive (UNESCO, 2005), because usually there is no time allocated specifically to HIV and AIDS thus easy for teachers to skip it or just to forget about it. Infused approach requires that all teachers in a school receive sufficient training and expecting the coordination of such several teachers to be involved in achieving a comprehensive and coherent coverage would be a dream. An 'infused' approach may however, be realistic when only one or two

teachers are involved in the delivery of the whole school program, as it is often the case at primary level.

The difficulty often reported with other approaches, for instance, the 'cross-curricular' approach is that it also involves the training of all teachers in a school and coordination between subjects so that coherent coverage is secured, can be very costly. On the other hand, the main carrier subject approach has its disadvantage of limiting coverage, to only scientific and technical aspects when integrated into science subjects thus excluding the wide social scope with several topics. It is important to note that whatever approach selected, the need to train teachers to be equipped with necessary skills and knowledge cannot be underestimated. In HIV and AIDS field, there is always new knowledge as a result of ongoing research and developments in the field, so ongoing training of the teachers should be prioritised and more about the training of teachers will be covered in section 3.4 below.

3.3.1 What makes a good HIV and AIDS curriculum?

At the centre of HIV and AIDS education in schools is the issue of how should the effective HIV and AIDS curriculum look? Studies in the past (Jonker, 2011; UNAIDS, 2009b) have put forth the argument that the effective HIV and AIDS curriculum will detail content on psychosocial life skills and behaviour competency skills such as decision-making proficiency, critical thinking, interpersonal relationships, negotiation, conflict resolution, communication, self-awareness, stress and anxiety management, assertiveness as well as self-esteem and self-confidence. Jonker (2011) further posits that the curriculum should adopt a human rights and citizenship perspective dealing with respect and regard for others as well as tolerance and peace.

Whilst one might think that the above description is inclusive enough, UNAIDS (2009b; 2010) on the other hand advocates for a curriculum that covers inclusive models of belonging to help combat and deal with issues of stigma and discrimination. Also, sexuality, relationships and responsibility content covering gender-equality and power-sharing between males and females is stressed (Mzimela, 2010; UNAIDS, 2010). Sexuality content for youth and school going children should adopt the values of communities that 'sex outside wedlock' is unacceptable; as the basis for all sexuality

issues in schools. As such, Jonker (2011), argues that content should include the meaning of healthy lifestyle in reducing susceptibility to HIV-infection (value of abstinence, limiting the number of sexual partners) as well as promoting the quality of life and extended survival years of HIV-infected individuals through treatment, care, support and ongoing counselling.

It is disturbing that the issue of curriculum for HIV and AIDS education gets narrowed down to content only, as per the foregone exposition. Curriculum is more than just content, it also involves issues of theoretical underpinnings, method of delivery, notional hours and allocation of resources to mention some. Also, whilst the researcher personally agrees with the notions put forth above as content requirements for HIV and AIDS education, the question that remains is what obtains in reality with regard to the teaching of HIV and AIDS in schools. Do these topics and skills set feature in in the day to day dealings of teachers and what methods are utilised?

UNESCO (2005) further outlines the following summary of characteristics of effective curricular and program for HIV and AIDS prevention education:

- Base the program on sound theoretical approach
- Focus on Life-Skills with the aim of reducing risk-taking behaviours, in particular by delaying first sexual intercourse and encouraging protected intercourse.
- Concentrate on personalising risk through active participation of learners, by using appropriate role-play and interactive discussions
- Provide clear messages on sexual activity and discuss straightforwardly the possible results of unprotected sex, and in equally clear terms provide comprehensive information on the ways to avoid such an outcome
- Explain where to turn for help, support and services (such as peers, school staff and facilities, and outside facilities)
- Provide occasions to model and practice communication and refusal skills useful for self-protection and to build self-confidence
- Address pressure from peers and society and reinforce values, norms and peer group support for resisting pressure, both at school and in the community

- Provide sufficient time for classroom work and interactive teaching methods such as role play and group discussions
- Select teachers and peers who believe in the program and train them
- Start at the earliest possible age with adapted messages and teaching methods, and certainly before the onset of sexual activity, with the aim of delaying sexual debut for until marriage and if earlier with full knowledge if protection against diseases and HIV infection.

Against this background and guidelines, the question still remains, do schools in their HIV and AIDS education encompass these guidelines and who monitors whether this happens as planned? Do schools have the content and the age specific messages that enshrine these characteristics? Issues of implementation and process evaluation are very crucial for the success of every program. It will be important to establish what schools as individual institutions have put together as curriculum for their HIV and AIDS education, and in which subjects does HIV and AIDS education find expression?

3.3.2 Subject where HIV and AIDS is located in Sub Saharan Africa primary and secondary schools

HIV and AIDS education in the Sub-Saharan Africa finds realisation in subjects like; Life-Skills, Life Orientation, Physical and Health Education, Natural Science and Guidance and Counselling, Social and Development studies, Population and family life education/orientation, Social Science, Religious and civic education (UNESCO, 2005). This denotes that countries are very serious with the teaching of HIV and AIDS and realise that it should be integrated to some kind of other broad curricular. Whether this integration strengthens or waters it down remains to be answered by evaluation studies.

Life-Skills/Life-Orientation, Physical and health education and Natural Science are cited as the three most common subjects where HIV and AIDS education is housed by most countries in the Sub-Saharan Africa. Life-Skills education is considered to be an effective and participatory learning, which may not be the case with other subject areas. The Life-Skills approach is encouraged since it allows for a less formal way of talking about HIV and for practicing and modelling skills. It does appear that this approach is not yet understood in terms of pedagogical implications, in particular regarding

interactive teaching methodology, participatory learning process and adequate time allocation that such an approach requires (UNESCO, 2010).

3.3.3 The history of Life Skills program in South Africa

The DoE (2010), which is the draft integrated strategy on HIV and AIDS, describes fully the history of Life-Skills in education in South Africa. In 2000, during his Tirisano address Kader Asmal, the then Minister of Education, prioritised HIV and AIDS as a critical challenge that the education system would need to effectively address in the coming years. In an attempt to prevent the spread of HIV within South Africa's schooling system, the then DoE developed the HIV and AIDS Life-Skills Education Program
which was informed by the Students and Educators in Further Education and Training Institutions and the 2000 National Integrated Plan (NIP) for Children and Youth infected and affected with HIV and AIDS.

The implementation of the HIV and AIDS Life-Skills Education Program is coordinated by a national coordinator within the DBE and is implemented by provincial and district coordinators and administrators in each of the nine provinces. In its early years, the Life-Skills Program was implemented in the GET band (Grades 4 - 9), but from 2005 was extended to the Foundation Phase (Grades R - 3) and the FET band (schools and colleges, Grades 10 - 12). The Life Orientation learning area has remained the primary vehicle for teaching the Life-Skills Program to learners. It has been implemented within all public schools across the country although implementation within special schools has been delayed.

The primary purpose of the program is to reduce the vulnerability of young people to HIV infection and to equip them with the requisite knowledge and skills to make informed and responsible decisions regarding their sexual behaviour. The Life-Skills Program is a multifaceted program that consists of several components, including capacity building for educators and school management teams; the development of teaching and learning materials; OBE lessons within the Life-Skills component of the Life Orientation learning area; peer education programs; and the establishment of care and support teams that include community-based stakeholders. The main topic areas

covered by the program are sexuality and health education (including HIV and AIDS), substance abuse, child abuse, peer education, assertiveness, peer pressure, anti-bias, gender issues and other relevant skills that would enable learners to deal effectively with difficult situations.

3.3.4 The implementation of Life-Skills and HIV and AIDS education in South Africa (Facilitators and Barriers)

The definition of Life-Skills can be traced back to (WHO), 1997 as the ability for adaptive and positive behaviour that enables individuals to deal effectively with the demands and challenges of everyday life. The WHO, 1992 further describes the aim of Life-Skills in the context of HIV and AIDS as a means to develop young people's knowledge, and skills needed for healthy relationships, effective communication and responsible decision-making that will protect them and others from HIV infection and optimise their health. Given this elaborative aim, one would expect that the South African government and other nations of the world throw their whole weight, resources and capacity through the Department of Education in realising this program given the plight of HIV and AIDS in South Africa, in particular.

Visser (2005) quoting Ebersohn and Jacobs (2000) further posits that the Life- Skills training originated from an educational perspective and is based on a humanistic, cognitive and behavioral form of reference. Life-Skills, therefore, was developed with the aim of facilitating change in the individual, often observed through behavioral processes, like how an individual think, feels or makes decisions and changes in individual behaviour. It is on such an account that Life-Skills training was adopted as a strategy to deal with HIV and AIDS in schools because Life-Skills training can impact on risk behavior related to HIV and AIDS, which is associated with various processes at the individual level (such as self-esteem, awareness of personal risk, interpersonal notion (such as peer group norms, gender roles) and community and cultural levels (Visser, 2005 quoting Campbell & Williams, 1998).

In South Africa, the department of education took it upon itself to introduce a national Life-Skills program in 1996. It was designed to provide learners with comprehensive information about the transmission and prevention of HIV and other sexually transmitted infections, as well as reproductive biology, contraception and pregnancy,

domestic violence and sexual negotiation. The curriculum emphasises individual-level self-efficacy and behavior change to promote outcomes such as delay of sexual debut and increased condom use. In the light of envisaged outcomes, if Life-Skills program is implemented as planned in schools, we would not be seeing an escalation of numbers of teenage pregnancy in schools and overall hike in HIV infection rates among youth. It is in this light that this study seeks to evaluate the implementation process of the HIV and AIDS education which is part of the Life-Skills and Life Orientation subjects in primary and secondary schools respectively.

As mentioned earlier, in South Africa, the program has only a set of topics to be covered, without a single national curriculum. Schools are at liberty to craft their own program to meet their learner's needs (Visser, 2005). The 'cascade' Smith and Harrison (2013) approach towards the roll out of the program was used. In this cascade approach, schools elected a teacher or two to be trained in the train-the trainer model, Visser (2005) and this is discussed in the next paragraphs.

The comprehensive implementation process is described by Visser (2005) as follows:

- The provinces could decide if they wanted to be responsible for the training of teachers to implement the program or if they wanted a non-governmental agency to be responsible for the training.
- The trained teacher referred to as 'master trainers' were in-turn to train two teachers in every school in the country to present the Life-Skills and HIV and AIDS education in their schools.
- Teachers' training was done in small groups in each educational district and was presented in the afternoons after school.
- The 10-20-hour training focused mainly on knowledge and attitudes related to HIV and AIDS and how to use experiential learning techniques in Life-Skills training.
- Evaluations of the teachers' training in different areas were conducted by Foster (1998), Social Survey (1999) and Visser (2005).
- The role of the two trained teachers in each school was agreed to be:
    - To develop a context-specific program for their school according to the needs of the learners and values of the community,
    - To present the program to learners in their schools,

- To act as change agents in the school by involving other teachers and parents in a change process to integrate Life Skills training and HIV and AIDS education as part of the school curriculum.

Whist the above strategy was according to the researcher not extensive enough to allow the Life Orientation teachers to be able to implement effectively the HIV and AIDS education in schools. One reckons that the strategy was left to open to the hands of the two teachers and this shift of the responsibility to the two trained teachers was a recipe for inconsistencies and problems. It will be interesting to find out if schools sent their teachers for the train-the trainer workshops and if those trained master teachers did understand their three roles and how far they have implemented these roles, and what have been the facilitators and barriers to the implementation.

It is noticeable that as the social ills escalate, so does the need to expand the topics of discussion in the Life Orientation and thus the HIV and AIDS program. As a result, HIV and AIDS education is now part of a broader Life Orientation curriculum (Smith & Harrison, 2013), which also teaches about physical activity and nutrition, emotional and mental health, drug and alcohol use and vocational preparation. One would expect that the trained master teachers are therefore regularly trained as well.

Few studies (Ahmed, Flisher, Mathews Jansen Mukoma & Schaalma; 2006; Griesel-Roux, Ebersohn, Smit & Eloff, 2005; Helleve, Flisher, Onya, Kaaya, Mukoma, Swai & Kleep, 2009; Kelly, 2002; Mukoma, Flisher, Ahmed, Jansen, Mathews, Klepp & Schaalma, 2009; Mathews Boon, Flischer & Schaalma, 2006; Nsubuga & Bonnet, 2009; Ongunya, et.al., 2009; Visser, 2005) were conducted early between (2001-2009) to evaluate the implementation of sexuality education in schools in other parts of the country and none in KwaZulu Natal where there is high HIV prevalence among youth. These studies found different reasons for ineffective implementation of the program and the various problems in the practice of Life Orientation teachers (Jacobs, 2011) such as inadequate support from teachers in both school and classroom level (Ahmed, *et al,* 2006; Kinsky, Maulsby, Jain, Charles, Riordan, & Holtgrave, 2015); teachers' characteristics such as their confidence (Helleve, *et al,* 2009b) as well as their self-efficacy and comfort with one's own sexuality and life experiences (Helleve, *et al,* 2009b; Mkumbo, 2012) which make some teachers better able than others to teach learners about sex (Smith & Harrison, 2013 quoting Helleve, *et al,* 2009b).

The issue of methodology used in HIV and AIDS education has been questioned by a number of scholars (Griesel-Rous, *et al,* 2005; Jonker, 2011; Kelly, 2002; Mukoma *et al*, 2009) where teachers have failed to use more interactive and participatory teaching methods to help instill values, skills and attitudes to help learners make sound sexual decisions. Sukati, Vilakati and Esampally (2010) criticised the excessive use of lecture method in the teaching of HIV and AIDS. The reasons often cited for the failure to use more interactive teaching methods like role-plays is large classes (Griesel-Rous, *et al,* 2005; Mukoma, *et al*, 2009) that teachers are teaching. This is even worse in rural public schools. van Deventer (2008) bluntly puts it that Life Orientation teachers are not fully qualified to teach Life Orientation.

None involvement of other professionals, external community and service providers (Kelly, 2002; Griesel-Rous, *et al,* 2005; HSRC, 2002) in schools hinder the effective implementation of HIV and AIDS education. Teachers might not be in a position to tackle with confidence all new topics but local clinic staff members and local NGO staff members might be of great help with their expertise. Often teachers will cite lack of time (Jonker, 2011; UNAIDS, 2009b) as the barrier to organising such partnerships which leave the implementation very superficial. This study is better suited for this time and is conducted in both rural and urban schools; primary and secondary in Umhlathuze district of Kwa-Zulu Natal and this will shed light with regards to the implementation process, barriers and facilitators in this part of the country.

3.4 Support for teachers and school staff members, including teachers' training

Teacher training is most important for effective teaching in general. The training of teachers helps increase teachers 'confidence (Helleve, *et al,* 2009) and attitude (Joyce & Mammkolo, 2014; Smith & Harrison, 2013) towards teaching. Both confidence and attitude are teachers' characteristics that are also shaped by the circumstances that the teacher faces like support he or she receives, type of learners he or she teaches but most importantly the availability of resources (content, guidelines, teacher's guides, policies and time) that a teacher can rely on during planning for teaching, teaching and assessment, as according to the training received. This study therefore, also seeks to investigate such teachers' characteristics and whether enough training and support

(Kinsky *et al*, 2015; Prinsloo. 2007; van Deventer, 2009) are offered now that we are close to two decades since HIV and AIDS education was introduced in schools.

Benefits of teacher training encompass preparing a teacher for both the known and unknown. It equips the teacher with relevant content for the subject as well as appropriate method to deliver the content. The advancement of teachers' characteristics, motivation, cognition and power described in chapter 2 can be attributed to the kind of training that a teacher has received in his or her pre-service training and in-service training. The South African Council for Educators (SACE) training sub-division named Continuing Professional Teacher Development (CPTD) as well as District organised workshops are key to providing ongoing workshops for teachers.

With the increased burden of HIV and AIDS education in schools, teacher training has had to also prepare teachers to provide psychosocial support for learners and communities (DBE, 2010; DoE, 2007b; Ferreira & Ebersohn, 2011; UNAIDS, 2009b; UNESCO, 2008a). Scott, Copper & Swartz (2014) argue that teachers are expected to fulfill their institutional duties of implementing the official curriculum in the classroom as well as monitor learners' well-being and inspire them to overcome the difficulties of growing up in the midst of social ills. Ferreira (2013) supports this notion when he concludes that researchers have begun to contribute to the discussion of what role teachers should play in driving social and educational change in South Africa. As implementers of education they too have a vast experience to help shape the education agenda and it is about time they are given platforms to influence policies and program development. The question arises as to how fast teacher are training institutions adapting to the need of preparing teachers for these roles of social and educational change, at least in the light of HIV and AIDS education.

A study conducted to evaluate the implementation of Higher Education AIDS program (HEAIDS, 2009) where HEAIDS piloted an HIV and AIDS module at a national level. The aim was to try and help teacher educators in 23 Higher Education Institutions to better prepare education students for the realities of teaching in a South African context characterised by HIV and AIDS. Findings by Woods (2011) indicated that knowledge about HIV and AIDS can be infused into teacher education programs like Postgraduate Certificate in Education (PGCE). However, he also pointed out that there is no provision for PGCE students to learn and practice basic helping skills such as active

listening and emphatic responding, role-play and interactive discussion methods to boost their confidence to respond to learners' needs when it comes to effectively teaching HIV and AIDS education. The development of these skills takes more time (Woods, 2011) than is allocated to the module and as it is known that PGCE is only a one-year long program.

Current research into how teacher training universities are implementing the HIV and AIDS teaching module in their Initial Teacher Education (ITE) programs and PGCE has to be undertaken, to determine if there have been improvements from the findings of the evaluation conducted on the initial pilot program. Also, it would be important to undertake a study that will gather experiences of teacher graduates teaching Life-Skills and Life Orientation that have recently graduated from teacher training institutions that are currently offering this module, to determine if the module on HIV and AIDS teaching at universities prepared them to effectively teach HIV and AIDS education in schools. This study seeks to cover that aspect although our sample did not exclude all other Life-Skills and Life Orientation teachers irrespective of ITE received.

Studies from long time ago (Ahmed, *et al*, 2006; Mathews, *et al*, 2006; Visser, 2004, Zambuko & Mturi, 2005) on the teaching of Life-Skills and HIV and AIDS education have reported that teachers of young age, and who knew someone who was sick and died of AIDS related illness, who had a good knowledge of HIV and AIDS, who consistently used condom in sexual interactions, and who had a high perception of their personal risk of contracting HIV were more likely to have communicated about HIV and AIDS with their learners.

Whilst this talks about mere communicating and not actively teaching as have been the recent mandate from the department of education one also can attest to the fact that different studies have found conflicting results on the influence of knowing someone with HIV on one's behaviour, where one study have found no association between knowing someone living and dying of AIDS and behaviour change like use of condoms (Camlin & Chimbwete, 2003) and another one found that knowing someone with HIV was related to current condom use (Peltzer, 2000). Therefore, a question of who currently in terms of characteristics of teachers effectively implement HIV and AIDS education in schools has to be answered, as this might help influence both pre-service and in-service training of teachers. Likewise, in a study conducted in South Africa,

previous training, self-efficacy, student-centredness, beliefs about controllability and outcomes of education, and personal responsibility were found to be associated with having implemented HIV and AIDS education with learners (Mathews, *et al*, 2006).

These findings suggest that there is more to the training of teachers as well as to the personal characteristics of a teacher; therefore, teacher training has to equip teacher trainees with personal skills relevant for the task. For instance, teacher training institutions teach student teachers seven roles of an educator one of which is fulfilling a role of playing a community citizenship and pastoral role. This is depicted by the *Norms and Standards of Educators* (DoE, 2000) and retained by *The Draft Policy on the Minimum Requirements for Teacher Education Qualifications* (MRTEQ) selected from the *Higher Education Qualifications Framework* (DHET, 2010). So, in addition to the seven roles of the educator, how do training institutions build character, teach skills and instill personality traits that will enable teacher trainees able to execute these roles. Jonker (2011) argues that one of the critical dimensions of teachers' community, citizenship and pastoral role is HIV and AIDS education (DHET, 2010). However, it remains a question whether teachers possess the necessary array of skills, competence and confidence to fulfill the roles allocated to them.

Jonker (2011) further enumerates the following skills that teacher training institutions should provide to teacher trainees with respect to offering HIV and AIDS education:

- Training should offer authentic experiences, training teachers what to do (raise competence) and how to do it well in diverse context (Gripper, 2010, p.29).
- Training should provide teachers with methods for enhancing teachers' instructional efficacy (personal beliefs relating to teacher's capabilities to help learners learn).
- Provide knowledge of how to generate and use quality resources like teacher manuals and HIV and AIDS lesson activities (Kelly, 2000; Mukoma, *et al*, 2009) which will boost their confidence (Helleve, *et al*, 2009).
- Teachers need to be effectively trained to employ alternative, interactive and participatory teaching and learning methods (Ahmed, *et al*, 2006; UNAIDS, 2009b; UNESCO, 2008b).

- Teacher training should furthermore include preparation and practical opportunities to promote safety, make appropriate referrals to psychosocial, health, protection and other services as well as support teachers in identifying signs of risk (such as harmful drug use) and learners with need (UNAIDS, 2009b).
- There should be adequate provision of content (taking into consideration that HIV knowledge keeps changing) such as sociology and economics of HIV, life-skills pedagogy, ethical practices, child and adolescent psychology (including counselling skills) as well as improvement of communication skills with regards to HIV and AIDS (Ferreira & Ebersohn, 2011).
- Teacher training should enable teachers to establish relationships as well as support networks with parents, communities and other stakeholders concerning HIV and AIDS treatment, care and support to promote resilience in schools and communities (Ebersohn & Ferreira, forthcoming, Jonker, 2011; UNAIDS, 2009b).

Another important role of an educator as depicted by the Norms and Standards for Educators (2010) and MRTEQ in Higher Education Qualifications Framework (DHET, 2010) is that of being a scholar, researcher and a life-long learner. With HIV and AIDS posing an urgent and ever-increasing challenge to education and teachers, teachers require continuous training and support from all stakeholders. The CPTD is the appropriate vehicle for this in-service training as the aim of CPTD is to help teachers enhance theoretical subject and pedagogic content knowledge as well as teaching skills and practical work in order to identify and address barriers to learning and to develop new specialisations in order to support teaching and learning (DHET, 2010; DoE, 2007b). Therefore, the issue of training of teachers cannot be left entirely to the ITE, also SACE with its CPTD and District office officials and NGOs all have a combined role to play.

UNESCO IBE (2004, p.21) have conducted an assessment of teacher training schemes put in place by Sub Saharan countries to respond to HIV and AIDS in schools, and the summary of the review is as follows:

> '*In all nine countries, Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland and Zimbabwe; teacher training for HIV and AIDS education appears to be insufficient. In some countries HIV and AIDS prevention has been integrated in pre-service teacher training curricular. However, national strategies to integrate pre-service and in-service training seem to be lacking. Among the nine countries of the region, several have no formal pre-service and in-service that has been put in place to train teachers.'*

Although the review happened in 2004, it is surprising that the review came up with such findings when governments were faced by escalating HIV statistics among youth (Barnighausen, Tanser & Newell, 2009; UNAIDS, 2008) and escalating teenage pregnancy rates. There is a further need for ongoing monitoring and evaluation of HIV and AIDS education programs in school so as to establish if there are any improvements to what was found some time back.

3.5 Provision for monitoring the implementation process of programs and policies

The history of program evaluation dates back to the 17th century, but widespread systematic evaluation is a relatively new development for the 20th century (de Vos, *et al*, 2011 citing Lunt, Davidson & McKegg (2003); Rossi, Lipsey & Freeman (2004); Patton (2002) and Weinbach (2005). In its early years prior to World War 1, it was directed at assessing literacy and occupational training programs and public health initiatives to reduce mortality and morbidity from infectious disease (de Vos, *et al*, 2011). To date, the Department of Health and NGOs has prioritised Monitoring and Evaluation (M&E) for similar and more diverse reasons including Monitoring and Evaluating the HIV and AIDS surveillance programs, including antiretroviral treatment (ART) dissemination. For instance, there is always a Directorate or wing specifically dealing with M&E in those institutions and I have been fortunate to have worked at an NGO and specifically at the M&E division as the Senior M&E officer. The knowledge I gained at the Africa Centre for Health and Population studies helped me to undertake this study with keen interest and background knowledge of the field.

In chapter 1, evaluation was briefly described but in the following paragraphs both monitoring and evaluation will be fully explained together with associated terminology. Marriot and Goyder (2009) writing for UNESCO; International Institute for

Educational Planning (IIEP) and World Economic Forum (WEF) give a wider and clearer definition of monitoring as an ongoing function that employs the systematic collection of data related to specified indicators. It provides management and the main stakeholders of a development intervention with indications of the extent of progress and achievement of expected results and progress with respect to use of allocated funds. They further contend that monitoring provides an early indication of the likelihood that expected results will be attained, as well as an opportunity for validating program theory and logic, and making necessary changes in program activities and approaches. Monitoring provides essential input for evaluation and therefore constitutes part of the overall evaluation process. One can therefore not talk about evaluation without talking about monitoring.

This explanation helps the sectors that are not conversant with M&E and who sometimes think that monitoring is some kind of 'policing' and an operation from outside the intervention or process and by an outsider. Instead, the implementers of the program (teachers and district officials) are themselves tasked with the M&E function. Whilst, they implement the program, they should monitor progress and report on such progress made, such reports form part of the evaluation process undertaken by either themselves and or district officials at periodic times. This study seeks to ascertain whether that function is carried out and if not what could be the reasons for the omission. Bartler (2009) has some interesting comments on monitoring which support my arguments above when he posits that monitoring is an integral part of every project, from start to finish and should be executed by all individuals and all institutions which have interest in the project. He further declares that monitoring is like watching where you are going while riding a bicycle; you can adjust as you go along and ensure that you are on the right track.

According to Marriot and Goyder (2009) evaluation is a systematic and objective assessment of an ongoing or completed policy, program or project, its design or its implementation or its results. The aim is to provide timely assessments of the relevance, efficiency, effectiveness, impact or sustainability of interventions and overall progress against original objectives. Evaluation essentially concerns the following questions: Are we doing the right thing? Are we doing it right? Are there better ways of achieving the results? From this definition it is clear that there is no way one can assess the

effectiveness of the program or policy implementation without undertaking the M&E function.

The questions that monitors and evaluators ask do confirm that the monitors are always program implementers and evaluators can be program implementers as well as outsiders depending on the type of evaluation that is at hand. For instance, in the case of the formative evaluation and process evaluation (de Vos, *et al*, 2011) which are intended to improve performance and most often conducted during the implementation phase of the program the evaluation is done from within the program, whilst outcome/impact independent evaluation are carried out by entities and persons free from the control of those involved in the making of policy/program, management or implementers of the program.

Evaluation can and should be conducted before, during and after the implementation process, it becomes essential for drawing lessons from the project implementation experience and using the lessons in the planning of other projects. It also helps identify the constraints or bottlenecks that hinder the achievement of program objectives and thereby such solutions implemented to remedy the situation. Therefore, with M&E of the implementation of HIV and AIDS education we don't know whether we are progressing effectively towards reaching our objectives of influencing learners' behaviour with regards to delaying sexual debut, avoiding teenage pregnancy and overall decision making around sexuality. It will also be interesting to check if teachers as implementers of the program are aware of this other mammoth task other than just implementing the program. The figure 7 in chapter 2 depicted the stages of M&E with related questions for each stage for this study.

It will be noted from the same figure 7 in chapter two that this study is not about summative evaluation (de Vos, *et al*, 2011) which is about assessing the impact, outcome or worth of the program and hence the two upper grids are left blank. Instead, for the purposes of delineation this study focusses on both formative evaluation (de Vos, *et al*, 2011) which is looking at activities that are aimed at ensuring that the HIV and AIDS education program in schools is well constructed and process evaluation (de Vos, *et al*, 2011) which is aimed at describing what actually happens in the context of course of a program. Process evaluation is also termed program monitoring.

Rehle, Saidal, Mill and Magnani (2001) describe the complementarity between formative and process evaluation by declaring that formative evaluation explores the need for the intervention, provides the information necessary to define realistic goals and objectives for the program, and helps make tentative decisions about effective, feasible program strategies and how to carry them out. They further posit that formative evaluation can also be used as an exploratory tool as the program is being carried out to provide feedback to project managers to help them adjust program objectives to changing situations. It can also identify unacceptable or ineffective program approaches, designs and concepts. They further contend that the lack of this type of evaluation is particularly felt in community-based interventions designed to reduce sexual transmission of HIV. Gallant and Maticka-Tyndale (2004) had found a sad state of affairs that only 3 out of 11 school-based HIV prevention programs for African youth were monitored. This study will therefore bring to light what evaluation exercises if any, were undertaken to help prepare for the teaching of HIV and AIDS in their respective schools since formative evaluation also gives direction as to how the program should work.

Once activities are underway, there is a need to examine whether they are being carried out correctly, on time and within budget. Therefore, process evaluation (Rehle, Saidal, Mill & Magnani, 2001) addresses such questions as, 'To what extent are planned activities actually realised? and "How are these carried out – to whom, when, how often and in what context?" Both input (the basic resources required in terms of manpower, money, material and time and output (the immediate service improvement expressed as distributed commodities, trained staff, and service units delivered) are key elements of process evaluation. Process evaluation can improve or modify programs by providing the information necessary to adjust delivery strategies or program objectives. This is confirmed by Gallant and Maticka-Tyndale (2004) who argue that program monitoring helps establish if programs are implemented as their designers intended them to be implemented.

The best way to find answers to the questions in the figure 2.7 above is by using the indicators. The indicator (Marriot & Goyder, 2009) is the quantitative or qualitative variable that allows the verification of a change brought about by a program or intervention and that shows that a result relative to what was planned. Indicators must be valid, reliable, specific, sensitive, operational, affordable, and feasible. An example

would be a number of teachers trained as part of the HIV and AIDS education program. There should be a link between the problem or issues, the target or result (at output or outcome or impact level) and output indicator or outcome indicator or impact indicator. For the purpose of this study I limit myself to only the output target therefore output indicators. Output statements are derived from identified educational problem areas and should be broken down to isolate specific improvement areas. This is best explained using the M&E Results Framework, which is the next figure. I have basically demonstrated in the next framework how the district office officials could help teachers in schools draft their schools' M&E framework with 'SMART' indicators for different levels of expected results.

Figure 3. 1: Showing results level and corresponding indicators for each expected result

Results Level	Impact	Indicators
	-Mitigating impact of HIV/AIDS on the school youth	-Annual mortality rates in Umhlathuze schools district -% of teenage pregnancy in Umhlathuze district schools

Results Level	Outcomes	Indicators
	-Changing quality of life of learners receiving HIV and AIDS education	-% learners delaying sexual debut -% learners free from STIs -% learners with one sexual partner and using condoms
	-Increasing number of teachers able to implement HIV and AIDS education	-Number of teachers able to implement HIV and AIDS education

Results Level	Outputs/process	Indicators
	-Increase in number of schools providing HIV and AIDS education in Umhlathuze district	-Number of schools providing HIV and AIDS education in Umhlathuze district
	-Increase in number of teachers trained to provide HIV and AIDS education	-Number of teachers trained on HIV and AIDS
	-Increased number of learners and teachers reporting having knowledge and skills to protect against HIV infection	-Number of teachers with adequate HIV and AIDS knowledge -Number of learners with adequate knowledge and skills to prevent HIV infection
	-Increased workshops for LO teachers to help them implement HIV and AIDS education	-No of workshops organised

Results Level	Input	Indicators
	-Resources -Appropriately qualified LO staff members	-Resources allocated -Appropriate staff allocated
	-Staff recruited into LO and Life Skills subjects -Two staff members recruited of train-the trainer workshop	-Properly trained staff hired -Two staff members per school trained
	-Available policy, equipment, support, guidelines, content, teacher's guides - Available time	-Guidelines and teacher's guides received -Time-table allocation

Source: Adapted from Monitoring and evaluation indicator framework, 2010

In the figure above I have retained the results at outcomes and impact levels for the purposes of completing the picture and offer clarity but as has been mentioned previously, for the purposes of this study only outcome and input levels are considered.

3.6 Summary

In Chapter 3, the researcher has located the current study within the existing literature of HIV and AIDS education as a preventative measure. It is on the basis of such literature that I investigate firstly the characteristics of teachers as implementers of the HIV and AIDS education programs in schools, the quality of the implementation process and issues of monitoring and evaluation of such programs.

In Chapter 4, the researcher describes the method followed in questionnaire and interview guide design, the data collection method and the analysis; and their suitability for the study.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 Introduction

The chapter details the research methodology followed in the study and the rationale behind choosing the methodology. The following aspects are fully described with accompanying reasons for their choice as well as how these relate to the research questions; research design, sampling design, data collection methods, description of procedures, data management and analysis methods for the quantitative data, the validity and reliability of the questionnaire. The anticipated outcomes for the study and the data management and quality issues for the qualitative data are also discussed in this chapter. Lastly, the ontological assumptions, role and experience of the researcher are discussed.

4.2 Research design

Punch (2009, p.112-114), defines research design as 'the basic plan for executing the research project and includes four main ideas; namely, the strategy, the conceptual framework, the question of who or what will be studied and the tools and procedures to be used for collecting and analysing materials'. In line with the demands of the study the 'mixed methods approach was followed (de Vos, Strydom, Fouche & Delport, 2010). According to de Vos, Strydom, Fouche & Delport (2010, p. 435):

> "Mixed methods research approach is a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves the philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative approaches in many phases in the research process. As a method, it focuses on collecting, analysing, and mixing both qualitative and quantitative data into a single study. Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone".

The mixed method approach was preferred for this study as it provided the opportunity for a greater assortment of divergent views that might arise from quantitative data, and further pursue of such issues through the use of more qualitative means. In so doing, the researcher was more open to the fact that issues were more multifaceted than they were supposed to be. Furthermore, as de Vos, *et al,* 2010, p. 435 point out, that this type of design is "practical" and as a researcher was free to address the research problem by combining the inductive and deductive reasoning processes thus improving the validity and quality of the research. Both the quantitative and qualitative data were accorded equal weight and the approach to merging and connecting the two data sets was thought through clearly as the study progressed.

The researcher understands the complexity, time and resources issues that accompany the design but Creswell and Plano Clark (2007, p.10) have laid down strategies to address these challenges. Moreover, to ease the complexity, the design followed an explanatory mixed method approach. Furthermore, de Vos, *et al,* (2010) argue that three decisions should be made regarding the use of the explanatory mixed method approach which are; timing or sequence; weight and the approach to mixing the two data sets. Therefore, for this study, first, the quantitative data was collected and analysed then followed by in-depth qualitative data collection and analysis to shed light on issues that had emanated from the quantitative data.

4.3 Sampling design

Consistent with the mixed explanatory research methods requirements, the probability sampling procedures (Kumar, 2005) was followed for identifying schools for quantitative data collection and non-probability purposive method for the follow up interviews to collect in-depth knowledge of issues. Probability sampling procedures are based on randomization (Kumar, 2005). Also probability sampling is one in which each person in the population has the same known probability to be representatively selected which permits the researcher to compute an estimate of the accuracy of the sample even before the study begins (Babbie, 2007; Creswell, 2008; Kumar, 2005).

For purposes of this study, systematic sampling procedure was used to select every fifth school from the alphabetical list of schools in the Umhlathuze district and teachers in

those selected 28 schools formed the sampling frame (Creswell, 2008, p.381). The sampling frame was stratified by primary and secondary school teachers to get an equal balance of both. Babbie (2007) argues that systematic sampling has higher value than simple random sampling, at least as far as convenience is concerned. Purposive sampling design of the non-probability was used to identify and interview four department officials of the Umhlathuze district who deal with issues of HIV and AIDS in schools.

4.4 Data collection techniques

The study falls within the mixed methods research paradigm (Creswell, 2008; de Vos, *et al*, 2010) and as such the data collection method followed encompassed both the survey and the interviews. The questionnaire had five sections and with both closed ended and open ended questions. Section one, of the questionnaire consisted of items about the demographic features of participants thus addressing objective 1.3.1 of the study. Section two to four, of the questionnaire had both closed ended questions and open ended questions addressing objectives 1.3.2 and 1.3.3. Lastly, section five of the questionnaire consisted of teachers' HIV knowledge test to address the last objective.

Use was made of partially researcher-developed hand delivered and collected questionnaires (de Vos, *et al*, 2010, p. 188; Kumar, 2005). The last section was made up of the 15 item version HIV knowledge questionnaire (Carey & Schroeder, 2002). This is an already existing and validated tool to assess the HIV knowledge. It was inbuilt in the questionnaire so that participants' data on other matters was in the same tool as the data for HIV knowledge. Whilst personally sending questionnaires to different schools appeared cumbersome, it afforded the researcher an opportunity to explain the purpose, relevance and importance of the study to principals of schools and also increased response rate and mitigated the weaknesses of questionnaires as the researcher immediately collected the completed questionnaires (de Vos, *et al*, 2010, p.188; Imenda & Muyanga, 2006; Kumar, 2005, p.129).

The second data collection technique that was utilised, consistent with mixed method approach was the interviews. The open ended interviews were scheduled and conducted

with four departmental officials in the district office, to further solicit data for objective 1.3.4 of the study. Neuman (2006, p.305) defines the interview 'as the short-term, secondary social interaction between two strangers with the explicit purpose of one person obtaining specific information from the other'. A semi-structured interview guide was opted for because the interviews of this nature clarify issues for respondents and encourage respondents to expand on answers as desirable (Burton & Barlet, 2009). The four education district officials, three of whom were subject advisors for the Life Orientation and Life-Skills had to expand on answers given by the teachers in questionnaires. The fourth interviewee was the District HIV and AIDS coordinator for schools.

4.4.1 Construction of the questionnaire

The questionnaire contained five sections, sections A to E. Section A had thirteen items that solicited biographical data of the teachers as well as an item that asked whether teachers were implementing HIV and AIDS education in their Life Orientation and Life-Skills subjects in their respective schools. Section B had seven items in a 4-point Likert scale, which dealt with teacher- characteristics as implementers of HIV and AIDS education. Section C had two sub-sections, first sub-section with seven items in a 4-point Likert scale and the second sub-section with eleven items on a 5-point scale. Section C dealt with issues of quality of implementing HIV and AIDS education in schools, including assessment of quality of strategies used by schools in engaging learners in the implementation of HIV and AIDS education. Section D had 5 items, the last two of which were open ended questions on facilitators and barriers to implementing HIV and AIDS education. Section E had 15 HIV and AIDS knowledge items (Carey & Schroder, 2002) to test whether teachers themselves have below average, average or above average knowledge of HIV and AIDS.

The Cronbach's Coefficient Alpha of reliability and consistency (Maree & van der Westhuisen, 2009) was run using SPSS for the three constructs; the teachers' characteristics (7 items), assessment of quality of HIV and AIDS education implementation (7 items), and rating school's quality in using various strategies of

engaging learners (10 items). The Alpha coefficients were 0.850, 0.877 and 0.933 respectively, suggesting that the items had relatively high internal consistency. The table below show the Cronbach Alpha Statistics.

Table 4. 1: Cronbach Alpha Statistics

Construct	Items	Example of Item	Response format/range	Cronbach's Alpha
Teachers' characteristics	7	I have a positive attitude towards HIV and AIDS education	4 point scale 4 = Strongly Disagree 3 = Disagree 2 = Agree 1 = Strongly Agree	0.850
Assessment of quality of HIV and AIDS education implementation	7	In my school there are enough teachers teaching HIV and AIDS	4 point scale 4 = Strongly Disagree 3 = Disagree 2 = Agree 1 = Strongly Agree	0.877
Rating school's quality in using various strategies in engaging learners	10	Discussion of sexuality issues	5 point scale 5 = Poor 4 = Average 3 = Unsure 2 = Good 1 = Excellent	0.933

Source: Survey data (2015)

4.4.2 Validity and reliability

Salkind (2006, p.113) refers to truthfulness, accuracy, authenticity, genuineness and soundness as synonyms of validity, and like Leedy and Ormod (2005, p. 28) stresses that the instrument is valid if the researcher uses it and actually measures what it is supposed to measure. Salkind (2006, p.106) further refers to dependable, consistent, stable, trustworthy, predictable and faithful as synonyms for reliability. This is in congruent with the views of de Vos, *et al*, (2010, p.178) and Kumar (2005, p.153) who summarises by arguing that reliability refers to the extent to which independent administrator of the same instrument consistently yields the same or similar results under comparable conditions.

Furthermore, internal validity refers to the extent to which extraneous variables have been prevented from affecting the outcome of a study; whilst construct validity concerns itself with the degree to which an instrument is based upon a particular theory or conceptual framework and content validity refers to the extent to which the content

of interest has been covered by a particular instrument (Imenda & Muyanga, 2006, p.94, 115 & 117).

In this study, internal validity of quantitative data was ensured through controlling for all variables that were associated with implementing the HIV and AIDS education but were not of any interest to the researcher. Furthermore, in constructing questions for the questionnaire, a diagram that showed the connection between the research aims, the conceptual framework that was crafted from both the M&E and CIT models was constantly visited to ensure that the questionnaire was based on such a conceptual framework. The questionnaire was further subjected to scrutiny by the supervisor of the study, the HIV and AIDS district education personnel and the specialist data analyst that would later help with data analysis. These experts had access to research questions, hypotheses, objectives and the study conceptual model as they deliberated on the questionnaire.

For validity in qualitative data, quality was ensured because the researcher has extensive knowledge of working with qualitative studies and through using the district office official to verify qualitative results. The four district officials were asked to confirm interpretation of results as the analysis progressed. The pilot study that was conducted with 25 teachers in the same district but in other schools prior to the main study helped to increase instrument validity, as some questions were re-phrased and the sequence of questions in questionnaire got altered after the pilot study.

4.5 Description of procedures

Upon receiving approval from the University research structures and the University research ethics committees, the researcher completed an application form to request the approval to conduct the study from the Provincial Department of Education. The letter of approval was sent to the Umhlathuze District office through the Coordinator for HIV and AIDS who also introduced me to the three Life Orientation and Life-Skills subject advisors and the four ward managers for the schools in the Umhlathuze District. After explaining the study to all of them, the researcher arranged to visit schools with the intention to meet staff members in groups to explain the study; ask teachers to give consent to participate and to distribute the questionnaires. In schools, the researcher

was not given a chance to speak to teachers, and therefore could not self-administer the questionnaire, as was planned. Instead the principals of schools or their appointed personnel administered the questionnaire in my absence and the researcher would get back to a school a day or two later to collect completed questionnaires. This was done until all schools were visited and analysis resumed. For qualitative section, the researcher arranged interviews with four district officials.

Copies of the letter of approval from the district manager to conduct the study accompanied the questionnaires to educators and principals of schools concerned as well as to the district officials who were part of the sample. The researcher personally collected all questionnaires.

4.6 Pilot study

Creswell (2008) defines the pilot study as the procedure in which the researcher makes changes to the instrument based on the feedback from a small number of individuals who complete and evaluate the instrument. The pilot study was conducted with 25 secondary school teachers in the Life Orientation workshop for schools of the same district, but those schools were not part of the sample for the main study. This aided in testing the questionnaire before implementing it. Participants in the pilot study talked to the researcher about what each question meant to them thereby ascertaining that each question was correctly worded, which is the cognitive testing of the questionnaire that the researcher had referred to above. As a result of the discussions with pilot participants and studying the responses, some questions were re-phrased and the sequence of the questions slightly altered.

4.7 Data management and analysis method

Data analysis has to do with categorizing, ordering and summarizing data to obtain answers to research questions (Kumar, 2005). In this study both deductive and inductive data analysis approaches were followed, in line with the mixed method design. For the quantitative data, the Statistical Package for the Social Sciences (SPSS) version 22 (Creswell, 2008; Imenda & Muyanga, 2006) was used. Basic descriptive statistics (de Vos, *et al*, 2010) was computed to summarise the characteristics of the sample across a wide range of variables (objective 1.3.1). Binary logistic regression modelling was

employed to determine the factors (teacher characteristics) that influenced whether the teacher implemented the HIV and AIDS education or not (objectives 1.3.1 and 1.3.3) and for determining the teacher characteristics that influenced the quality of HIV and AIDS education implementation in schools (objective 1.3.3).

4.7.1 Descriptive statistics

Descriptive statistics such as frequencies, percentages and Pearson Chi square statistics were used to analyze data to describe variables that are used in the logistic regression model. Results of the descriptive analysis are presented by means of frequency tables, cross tabulations and graphs.

4.7.2 Binary logistic Model

The study applied a binary logistic regression model to determine the factors (teacher characteristics) that influenced whether the teacher implemented HIV and AIDS education or not and secondly for determining the teacher characteristics that influenced the quality of HIV and AIDS education implementation in schools. The binary logistic model in the first instance (objective 1.3.1) is motivated by the fact that the teacher characteristics can influence the decision regarding HIV and AIDS education implementation (Owen & Bressers, 2013) that is whether a teacher implements HIV and AIDS education or otherwise, which is a dichotomous response. In the second instance (objective 1.3.3), the binary logistic model is motivated by the fact that the teacher characteristics can also influence the quality of HIV and AIDS education implementation in schools (Ackerman & Steinmann,1982; Nakamura & Smallwood, 1990; & Williams, 1982) and whether the HIV and AIDS education implementation is of quality or otherwise, which is also dichotomous (objective 1.3.2).

The logistic regression model was chosen because there is wide literature showing that decision-making on HIV and AIDS implementation by teachers and in schools and the quality of its implementation can be quantitatively analysed using the logistic regression modelling approach (Helleve, *et al*, 2009; Mathews, *et al*, 2007; Mkumbo, 2012). The dependent variable in the first instance (objective 1.3.1) for this study was the implementation of HIV and AIDS education by educators, which is a binary

variable with a value of 1 (if the teacher was an implementer) and/or 0 (for otherwise). The dependent variable in the second instance (objective 1.3.3) for this study was the quality of HIV and AIDS education implementation, which is a binary variable coded with a value of 1 (if the HIV and AIDS education implementation was of quality) and/or 0 (for otherwise), here the respondents (educators) were asked to indicate if they agreed or not. Three separate indicators of quality HIV and AIDS education were chosen namely: whether the number of class periods devoted to sexuality in one class per week was enough or not; whether the coverage of information topics and prevention messages of HIV in each class per term was enough or not and whether the number of HIV and prevention skills covered in each class per term was adequate or not. These indicators were used as a proxy for quality HIV and AIDS quality implementation (dependent variable) and each ran in a separate model against the independent (explanatory) variables. The likelihood of the teacher to be an implementer of HIV and AIDS education and the implementation of quality HIV and AIDS education is predicted by odds (Y=1) that is the ratio of the probability that Y=1 to the probability that Y ≠ 1 (equation 1):

$$\text{Odd Y}= \frac{P(Y=1)}{(1-P(Y=1))} \quad (1)$$

The Binary logistic Model is specified as follows (equation 2):

The logit (Y) is given by the natural log of Odds;

$$\ln\left(\frac{p(Y_i=1)}{(1-p(Y_i=1))}\right)=\log Odds=Logit(Y) \quad (2)$$

This can be expanded (equation 3) as

$$Logit(Y)=\alpha+\sum\beta_1X_1+\sum\beta_2X_2+....+\sum\beta_nX_n+\varepsilon_i \quad (3)$$

Where,

Y is a categorical response variable with 1 = teacher is an implementer and 0 = otherwise;

1 = quality HIV and AIDS education implementation and 0 = otherwise

α is the intercept;

β_1, β_2.... β_n are coefficients of independent (explanatory) variables;

X_1, X_2,..., Xn are the independent (explanatory) variables;

P (p) is the probability of implementing HIV and AIDS education (objective 1.3.1) and the probability of implementing quality HIV and AIDS education (objective 1.3.3) and (1-P) is the probability that a teacher is not an implementer of HIV and AIDS education (objective 1.3.1) and that the implementation of HIV and AIDS education is not of quality (objective 1.3.3);

ln is the Natural log.

4.7.2.1 Independent variables used in the model and their expected outcomes

The independent variables that were used in the model are guided by literature. Table 4.2 shows the independent (explanatory) variables, their description and the expected outcome or relationship with the dependent variable. The same set of independent (explanatory) variables was used in all instances.

Table 4. 2: Explanatory (independent) variables, description and the expected outcome

Variable	Description and measurement type	Variable type	Expected Outcome (+/-)
Age	Age of the respondent	categorical	_
Gender	Gender of the of the respondent (1 = female 0 = male) (Dummy)	categorical	_
Highest Education Qualification	Highest Educational Qualification	categorical	+/-
Religion	Religion of the respondent	categorical	+/-
Duration of teaching years in general	The duration of the teaching years of the teacher	categorical	+
School location	The location of the school (1 = Urban, 0 = Rural) (Dummy)	categorical	+/-
Type of school	The type of school, (1 = Primary, 2 = Secondary 3 = Combined)	categorical	+/-
Does your school have the HIV and AIDS policy (Yes/No)	Whether the school had an the HIV and AIDS policy (1 = Yes, 0 = otherwise) (Dummy)	categorical	+
Teaching phase	The teaching phase taught by the implementer	categorical	+/-
Teaching Life Orientation (Grades 7 – 12)/Life Skills Grade (Grades 1 – 6) (Yes/No)	Whether the implementer was teaching Life Orientation (Grades 7 – 12)/Life Skills Grade (Grades 1 – 6) (1 = Yes, 0 = otherwise) (Dummy)	categorical	+/-
Do you have any formal training in your certificate diploma or degree (Yes/No)	Whether the teacher had any formal training in HIV/AIDS, certificate diploma or degree (1 = Yes, 0 = otherwise) (Dummy)	categorical	+
I have a positive attitude towards HIV and AIDS education (Agree/Disagree)	Whether the teacher had a positive attitude towards HIV and AIDS education (1 = Agree, 0 = otherwise) (Dummy)	categorical	+
I have an interest in implementing HIV and AIDS education (Agree/Disagree)	Whether the teacher had an interest in implementing HIV and AIDS education (1 = Agree, 0 = otherwise) (Dummy)	categorical	+
I am capable of implementing HIV and AIDS education in my school (Agree/Disagree)	Whether the teacher was capable of implementing HIV and AIDS education (1 = Agree, 0 = otherwise) (Dummy)	categorical	+
I know the contents of HIV and AIDS policy for my school (Agree/Disagree)	Whether the teacher knew the contents of HIV and AIDS policy for the school (1 = Agree, 0 = otherwise) (Dummy)	categorical	+
I have enough resources to implement HIV and AIDS education in my school (Agree/Disagree)	Whether the teacher had enough resources to implement HIV and AIDS education (1 = Agree, 0 = otherwise) (Dummy)	categorical	+
The time allocated in the timetable for HIV and AIDS education is enough (Agree/Disagree)	Whether the time allocated in the timetable for HIV and AIDS education was enough (1 = Agree, 0 = otherwise) (Dummy)	categorical	+
I received enough support from my colleagues, principal and the district office (Agree/Disagree)	Whether the teacher receives enough support from my colleagues, principal and the district office (1 = Agree, 0 = otherwise) (Dummy)	categorical	+
Attended any workshop on the teaching of HIV and AIDS in the last 12 months (Yes/No)	Whether the teacher had attended any workshop on the teaching of HIV and AIDS in the last 12 months (1 = Yes, 0 = otherwise) (Dummy)	categorical	+

(+/-) indicates positive or negative relation with the dependent variable Source: Author (2016)

4.8 Anticipated results

Objective 1: To establish who is implementing HIV and AIDS education in schools and what is the impact of the teachers' demographic factors and teacher characteristics on who implements HIV and AIDS education.

The researcher anticipated that teachers who teach Life-Skills and Life Orientation in schools implement HIV and AIDS education and that those teacher's demographic factors and teacher characteristics have an impact on who implements the HIV and AIDS education in schools. For instance, I anticipated that both age and gender would have a negative relation with the dependent variable. Older teachers were never in their teacher training exposed to the teaching of Life Orientation and Life-Skills as these are new subjects introduced in the late 1990's (DoE, 2002; Francis, 2010) in our schools. I did not expect highest education qualification, religion, school location, type of school and teaching phase to have any influence on whether teachers implement HIV and AIDS education in schools.

In this study, having the HIV and AIDS policy in school and knowing the contents of the HIV and AIDS policy were hypothesised to have a positive influence on implementing the HIV and AIDS policy. It was anticipated that teachers reporting that they have the policy and know the contents of the policy would be more likely to report that they implement the HIV and AIDS education within their Life Orientation and Life Skills subjects (Helleve, *et al*, 2009; Mathews, *et al*, 2006). Furthermore, teacher characteristics; motivation, cognition and power with variables such as positive attitude towards HIV and AIDS education; having an interest in implementing HIV and AIDS education and being capable of implementing HIV and AIDS education, for motivation, were hypothesised to have a positive influence on HIV and AIDS education implementation. Likewise, for cognition and support, having enough resources, having attended workshops and getting support were hypothesised to have a positive influence on implementing HIV and AIDS education (Ahmed, *et al*, 2006; Blake, *et al*, 2005; Helleve, *et al*, 2009; Jonker, 2011; Mathews, *et al*, 2006).

Objective 2: To assess the quality of the teaching of HIV and AIDS education in schools. The study had hypothesised that the implementation of HIV and AIDS education in schools would be of low quality. Data on curriculum implementation characteristics (Ahmed, 2006; Blake, *et al*, 2005) used with variables such as whether there are enough teachers to teach HIV and AIDS, whether the number of class periods devoted to sexuality in class is enough; whether there is enough coverage of information topics and prevention skills and whether teachers are provided with clear guidelines and teaching materials to help them implement HIV and AIDS education were hypothesised to have positive influence on the quality of the implementation (Blake, *et al*, 2005). Moreover, data on the 5 point Likert scale on schools' ability to use various strategies to engage learners during implementing HIV and AIDS education were hypothesised to show positive association with quality implementation for teachers that responded with "excellent and good" for these variables.

Objective 3: To establish if there is a relationship between teachers' characteristics and the quality implementing HIV and AIDS education in schools.

Consistent with objective two above, for this study, teacher characteristics and teachers' comfort and confidence in handling sexuality issues in class were hypothesised to influence positively teachers to implement HIV and AIDS education with high quality as has also been propounded by other scholars (Ahmed, *et al*, 2009; De Palma & Francis, 2014b; Francis & De Palma, 2015; Helleve, *et al*, 2009).

Objective 4: To understand what the teachers describe as the facilitators and barriers to the implementation of HIV and AIDS education in schools. It was anticipated that teachers would cite a lot more reasons for their failure to implement the HIV and AIDS education in schools ranging from lack of sexuality pedagogical and content knowledge (Francis & DePalma, 2015; and therefore lack of confidence and comfort in teaching sexuality issues (Ahmed, *et al*, 2006; Helleve, *et al*, 2009; UNAIDS, 2009b) and general in school and outside of school organisational problems including support.

Objective 5: To determine if the level of the teachers' knowledge of HIV and AIDS is below average, average or above average and if such level of knowledge has any

influence on the teacher's ability to implement HIV and AIDS education in their schools. It was hypothesised that teachers' general HIV and AIDS knowledge is below average and as such impacts negatively on their implementation of HIV and AIDS education in schools.

4.9 Qualitative data

The recorded interviews were downloaded into the secured computer and imported to NVivo 7 (Kumar, 2005) for transcribing, coding and analysis using the thematic analysis (de Vos, *et al*, 2010; Kumar, 2005, p.240). Data was classified into themes then interpreted to bring about the understanding of facilitators and barriers to the implementation of HIV and AIDS education in schools and how far the monitoring of the implementation of the HIV and AIDS education or the absence thereof had impacted on the implementation. To achieve this, interview transcripts were read, coded, and interpreted again and again for crystallisation (de Vos, *et al*, 2010; Maree & van der Westhuisen, 2009) purposes with themes grouped into clusters and examples of raw data illustrating each one of them extracted as quotations.

To avoid researcher bias against own expectations, misperceptions and the need to find answers that would support the researcher's preconceived notions about the study (Creswell, 2008; Maree & van der Westhuisen, 2009) I hosted a meeting to present qualitative findings to some of the teachers and four district officials who were interviewed to test the credibility and trustworthiness of the findings.

Table 4. 3: Qualitative data source

Participant	Gender	Age	Role at Umhlathuze education district office	Number of years in post
1	Female	49	Foundation Phase Life-Skills Subject Advisor	8 years
2	Female	48	Life-Skills and Life Orientation subject Advisor for intermediate and senior phase	9 years
3	Female	48	Senior Education Specialist – HIV and AIDS Coordinator	7 years
4	Female		Unavailable for the interview – hospitalised for a lengthy period	

Source: Survey data (2015)

4.9.1 Qualitative data analysis

Qualitative data analysis is described by Babbie (2007, p.378) as the…" nonnumerical examination and interpretation of observations, for the purpose of discovering underlying meanings and patterns of relationships. In this study, data from transcribed interviews and field notes were read and broken up into manageable recurring themes using the thematic analysis method (Creswell, 2008; Cohen, *et al*, 2007; de Vos, *et al*, 2010). Thematic analysis was used to identify, analyse and interpret repeated patterns as part of the process of inductive reasoning. During this process, common themes that related to teacher's failure to implement HIV and AIDS education were ranked according to their prevalence with some direct quotations used to substantiate the idea. Success stories of HIV and AIDS education implementation; the facilitators thereof and the education district officials accounts of why implementation happens as it does in schools were also crafted as a result of careful re-reading of the materials as coding progressed following steps of thematic analysis (Braun & Clarke, 2006) which are: becoming familiar with the data; generating initial codes; searching for themes; reviewing themes; defining and naming themes and lastly producing the results as is laid out in section b of chapter 5.

4.9.2 Quality issues in qualitative data

The research objective 1.3.4 sought to understand what teachers described as the facilitators and barriers to implementing HIV and AIDS education in schools. The view was to gather elements of good practices and their facilitators so as to compile these for the benefit of struggling teachers. It was also the researcher's intention to document the challenges that teachers face with implementing HIV and AIDS education so that the district officials would be in a position to offer support and guidance. Whilst these were the focus areas for the qualitative section, quality of data was ensured from data collection through to analysis and reporting. The criteria for assessing quality in quality research (Denzin & Lincoln, 2003; de Vos, *et al*, 2010) that were adhered to are discussed below.

4.9.2.1 Credibility

Credibility has to do with whether the researcher has been able to portray the respondents' viewpoints as they were presented (Creswell, 2008; de Vos, *et al*, 2010; Jonker, 2011). In this study, the researcher ensured credibility through a number of strategies that included transcribing the interviews 'verbatim' into word documents that were later together with field notes subjected to rigorous analysis (Cohen *et al*, 2007). The themes that emerged from the open-ended questions in the questionnaire were probed during interviews with district officials to obtain more complete and nuanced meanings of data (Maree & Van der Westhuisen, 2009). The researcher guarded against own expectations, misperceptions and the need to find answers that would support the preconceived notions about the study (Creswell, 2008; Maree & Van der Westhuisen, 2009). Examples of quotations which are evidence of raw data from verbatim transcribed documents are provided to justify for trustworthiness of the analysis process. Lastly the district officials were asked to validate the data analysis process and verify the interpretations of the data.

4.9.2.2 Transferability

Transferability refers to whether findings of a study can be applied to another context, population, or settings (de Vos, *et al*, 2010). The researcher was clear with the

connections from the conceptual framework, the research aim 1.3.3 through to analysis so that the future researchers would be in a position to decide the degree of transferability based on the audit trail.

4.9.2.3 Dependability

In dependability the researcher asks whether the research process is logical and well documented (de Vos, *et al*, 2010). The researcher has sufficiently documented the data collection, data management and analysis to the satisfaction of the supervisor who reviewed the findings and interpretations against the transcripts and the analysis process.

4.9.2.4 Conformability

De Vos, *et al,* (2010) define conformability as a construct that stresses the need to ask whether the findings of the study could be confirmed by another study. In this qualitative section of the study, the researcher has crafted the interpretation of findings from the data itself, and for that reason transcriptions of interviews were used as sources of data analysis.

4.10 Researcher's ontological assumptions, role and experience

Prior to describing the ontological assumptions of the researcher, the researcher will define ontology according to Crotty (2003, p.10), who says 'ontology is the study of being' and is concerned with 'what kind of world we are investigating'. The researcher's practical research experience dates back to 2004 - 2010 when the researcher worked as a social scientist and later a senior monitoring and evaluation officer at the Africa Centre for Health and Population Studies, before joining the University of Zululand. As a social scientist the researcher worked mostly with qualitative data, although there were some engagements with quantitative data sets and as a monitoring and evaluation officer, the researcher worked purely with quantitative data. This period coincided with the period during which the researcher did her two

master's degrees; with one utilising quantitative data set and another using the qualitative design.

This has shaped her ontological assumptions so much so that the researcher assumes that social reality can be understood from both the external point of view (objectivism) therefore reality is of an objective nature and exist out there (Cohen, *et al*, 2007; Maree & Van der Westhuisen, 2009), and that social phenomena and their meanings are continually constructed by social actors and therefore reality is internal and truth depends on the knower's point of reference and as such external reality should be interpreted through the meaning that research participants give to their world (interpretive) (Cohen, *et al*, 2007; Maree & Van der Westhuisen, 2009; Scotland, 2012).

For this reason, the study utilised both quantitative and qualitative research approaches to allow the researcher a more extensive and accurate grasp of HIV and AIDS education in schools. The emphasis was on quantitative data and methods, correlations and binary logistic models as forms of analysis but the inclusion of the sophisticated qualitative data and methods assisted with additional depth in the findings. The researchers experience in working with both designs enhanced the quality of the study.

The researcher personally formulated the research tools; the questionnaire and the interview guide. She personally collected data for the study and prepared quantitative data for statistical analysis which the researcher conducted with the help of a statistician. For qualitative data, the researcher unilaterally performed the analysis with the supervisor authenticating the interpretations of the data. The researcher continually reflected on her research journal and was mindful of personal values, biases and experiences as a person that has worked in the HIV and AIDS field throughout the study.

4.11 Overview of methodological decisions

Table 4. 4: Methodological decisions

	View	Ontological Assumption	Epistemological Assumption	Methodological Assumption	Sampling	Instrument	Data Analysis	Purpose
Mixed	**Research Paradigm**	**Nature of reality**	**Nature of knowledge**	**Process of research**	**Sampling procedures**	**Data collection instruments used**	**Forms of data analysis techniques**	**Purpose**
	Quantitative	Objective	Researcher is independent of what is studied	Deductive process	Systematic	Questionnaire	Descriptive statistics Binary Logistic Models	To explain and predict
	Qualitative	Subjective	Researcher interacts with that being studied	Inductive process	Purposive	In-depth Interviews	Inductive thematic	To understand and interpret

Source: Table adapted from Creswell (1994)

4.12 Summary

In this chapter, the researcher has detailed the research process that has been followed for this study. The researcher discussed the study design, data collection methods that assisted in assembling data to answer the research question. The rationale for the choice of these methods has been elaborated on and reasons for the choice of data analysis methods opted for have been explained. The next chapter details the results obtained from both the quantitative and qualitative data sets in an integrated manner so as to situate the results within the wider HIV and AIDS education context.

CHAPTER 5

RESULTS AND DISCUSSION

5.1 Introduction

In chapter 4, the researcher presented the research methodology and the rationale for its appropriateness for this study. This chapter presents and discusses the findings of the study. Findings for the quantitative data, section A will be discussed first followed by the findings from the qualitative data in section B. For the quantitative data, a total of 371 questionnaires were collected and analysed. The results are presented in the form of tables and figures (bar graphs). The first section starts with the demographic characteristics of the respondents in relation to the implementation of HIV and AIDS education in schools followed by subsequent sections on the quality of implementing HIV and AIDS education in schools, the relationship between the quality of implementation and teachers characteristics, the facilitators and barriers to HIV and AIDS education implementation in schools, the teachers' level of HIV knowledge and relationship between teachers' HIV knowledge and the quality of implementation.

Table 5. 1: Distribution of participant teachers according to teaching phase and type of school

Teaching phase	Primary		Secondary		Combined	
	Frequency	Percent (%)	Frequency	Percent (%)	Frequency	Percent (%)
1 = Life Skills (Foundation)	171	54.1	-	-	4	40
2 = Life Skills (Intermediate)	104	32.9	-	-	5	50
3 = Life Orientation (Senior)	33	10.4	29	64.4	-	-
4 = Life Orientation (FET)	-	-	14	31.1	1	10
5 = Life Skills (Intermediate + Senior)	8	2.5	-	-	-	-
6 = Life Orientation (Senior +FET)	-	-	2	4.4	-	-
	316	**100**	**45**	**100**	**10**	**100**
TOTAL						**371**

Source: Survey data (2015)

Table 5. 2: Overview of Chapter 5

Revisiting theoretical assumptions	
Pilot Study Data	
QUANTITATIVE DATA	
Addressing research questions	
Research question 1.3.1a	**Who implements HIV and AIDS education in schools?**
Research question 1.3.1b	**Teacher demographics**
Research question 1.3.1c	**Teacher characteristics**
Research question 1.3.1d	**Relationship between implementation of HIV and AIDS education and teacher characteristics**
Research question 1.3.2a	**Quality of implementation and also stratified by primary, secondary and combined school type**
Research question 1.3.2b	**Teachers' assessment of their school's quality in using strategies of engaging learners in the implementation of HIV and AIDS education, stratified by school type**
Research question 1.3.3	**Relationship between teachers' demographic characteristics and quality of implementing HIV and AIDS education**
Research question 1.3.5a	**Teachers' level of HIV and AIDS knowledge**
Research question 1.3.5b	**Teachers' responses to HIV and AIDS knowledge test**
Research question 1.3.5c	**Teachers' level of HIV and AIDS knowledge and its influence on HIV and AIDS education implementation**
QUALITATIVE DATA	
Research question 1.3.4	**Facilitators and Barriers to implementation (Teachers and District officials accounts)**
Discussion of results	
Summary	

Source: Researcher (2016)

5.2 Revisiting the conceptual framework

This chapter will outline how the results of the study have confirmed or rejected some existing relevant literature around the same topic. It will also detail how the findings of this study have supported the notions of the elements of CIT (Owen & Bressers, 2013) and of the M&E framework (Marriot & Goyder, 2009).

The current study was poised to either support or refute the claims of the CIT that different individual characteristics and schools' characteristics interact to either perpetuate program implementation or hinder the implementation (de Boer & Bressers, 2011). It was important for this study to first investigate who implements HIV and AIDS education, to be the basis for investigating the characteristics of such a group of implementers. The assumption that the researcher had was that all Life Orientation teachers in secondary schools and Life-Skills teachers in primary schools do implement HIV and AIDS education in schools. Findings revealed that 17, 3% teachers did not implement the HIV and AIDS education, a much higher percentage of non-implementers than was reported in the 2003 study (Mathews, *et al*, 2006). The findings of the study support the CIT in that program implementation rests much on the characteristics of the implementer both in terms of process implementation as well as quality of the implementation.

It was also the assumption of this study based on CIT that motivation (teachers' interest, comfort and self-efficacy) have an influence on the implementation of HIV and AIDS education in schools. The study found that 91.1% teachers reported that they have a positive attitude towards HIV and AIDS education and 99,2% reported having an interest in implementing HIV and AIDS education. Previous studies (Helleve, *et al*, 2009; Kinsky, *et al*, 2015 & Mkumbo, 2012) have also reported such similar high results. This was confirmed by the study's qualitative data where teachers reported being motivated to teach HIV and AIDS related topics so as to help them prevent HIV infection.

The assumption for this study was also that knowledge or cognition (Bressers, 2004; Bressers 2007; de Boer & Bressers, 2011) of HIV and AIDS and knowledge of the contents of the HIV and AIDS policy by implementers of the HIV and AIDS education in schools would have an influence on the implementation. For that reason, the study investigated the level of teachers' knowledge as described above and the findings confirmed that teachers with better knowledge levels were more likely to implement HIV and AIDS education in schools than those that did not have higher knowledge of HIV and AIDS as well as knowledge of the contents of the HIV and AIDS policy.

Consequently, it was assumed that teachers without power (resources, time and support) to implement HIV and AIDS education would have difficulty with the implementation and with quality implementation of HIV and AIDS education. The results of the study confirmed the researcher's assumption where teachers who not receiving support from colleagues, principal and the district office were 0.52 times less likely to implement quality HIV and AIDS education. Also teacher who reported that they do not have enough time allocated in the time-table for HIV and AIDS education were 0.64 times less likely to implement quality HIV and AIDS education compared to an implementer who has enough time allocated in the time-table for HIV and AIDS education.

In order to understand HIV and AIDS implementation in schools, over and above looking at issues of demographics and teacher characteristics, the schools' quality of teaching strategies were investigated so that these would be the basis for understanding the quality of the implementation process among other things. The study revealed that implementation as well as quality implementation in terms of (resources, support, training of implementers, teachers' skills) all impacted on the implementation and this will be discussed later in the chapter.

It was also the researchers' assumption that monitoring (process evaluation) and or lack thereof by both the school and the district office would influence the implementation of HIV and AIDS education in schools. The study found that there was no monitoring of the implementation of HIV and AIDS education in schools. The general monitoring of Life Orientation and Life-Skills teaching did not do justice to the HIV and AIDS education as the component of Life Orientation and Life-Skills. Teacher reported in the

qualitative data that they lacked information/content, support, resources, skills and time to teach HIV and AIDS related topics. Like-wise the subject advisors confirmed that their monitoring tool is silent about HIV and AIDS and teachers do not raise the issue of teaching units on HIV and AIDS as being problematic and therefore needing their attention. Instead the section of Life Orientation that has been reported by the subject advisors to be giving teachers a hard time is the physical education.

As part of evaluating the process implementation of HIV and AIDS in schools, an assumption was made that investigating the facilitators and barriers to implementation would bring forth the total picture of the teachers' success stories and the difficulties they encounter so as the researcher would make balanced recommendations. The study found that there were barriers than facilitators reported and these will be discussed later in the chapter. It was evident from the reports that some issues like teacher characteristics and HIV prevalence could both be facilitators as well as barriers to the implementation of HIV and AIDS education in schools.

5.3 Pilot Study

There were 25 secondary school teachers of Life Orientation who participated in the pilot study. These teachers were drawn from the same district but not from the sampled schools. Below is table 5.3 with Cronbach coefficient Alpha of reliability and consistency (Maree & van der Westhuisen, 2009) run for the pilot study. For the three constructs which were; teachers' characteristics (10 items), assessment of quality of HIV and AIDS education implementation (7 items) and rating school's quality in using various strategies of engaging learners (10 items) the reliability analysis was run in SPSS and yielded Cronbach's Alpha 0.534; 0.539 and 0.887 respectively. For the first and second constructs the Cronbach's Alpha were below 0.7 and therefore some variables with poor Cronbach Alpha removed and or replaced for the main study.

Table 5. 3: Cronbach Alpha Statistics (Pilot Survey)

Construct	Items	Example of Item	Response format/range	Cronbach's Alpha
Teachers' characteristics	10	I have a positive attitude towards HIV and AIDS education	4 point scale 4 = Strongly Disagree 3 = Disagree 2 = Agree 1 = Strongly Agree	0.534
Assessment of quality of HIV and AIDS education implementation	7	The time allocated to the teaching HIV and AIDS in my school is enough	4 point scale 4 = Strongly Disagree 3 = Disagree 2 = Agree 1 = Strongly Agree	0.539
Rating school's quality in using various strategies in engaging learners	10	Discussion of sexuality issues	5 point scale 5 = Poor 4 = Average 3 = Unsure 2 = Good 1 = Excellent	0.887

Source: Survey data (2015)

5.3.1 Demographic characteristics of the pilot sample (n=25)

Table 5. 4: Demographics

	Secondary	
Age (Years)		
Mean	34.76	
Standard Deviation	7.479	
Minimum	22	
Maximum	52	
Total	**25**	
	Secondary	
	Frequency	**Percentage (%)**
Gender		
Female	23	92
Male	2	8
Total	**25**	**100**
Highest Education Qualification		
Teacher's certificate	3	12
Teacher's diploma	2	8
Bachelor degree	18	72
Hons. Bachelor degree	1	4
Masters Degree	1	4
Other	-	-
Total	**25**	**100**
Religion		
Catholic	4	16
Protestant	-	-
Charismatic	3	12
Nazareth	7	28
Zion	2	8
Other	9	36

Total	**25**	**100**
Duration of teaching years in general (Years)		
0-4	15	60
5-10	6	24
11-15	3	12
16-20	1	4
21+	-	-
Total	**25**	**100**
School location		
Urban (Town)	1	4
Peri-Urban (Township)	4	16
Rural	20	80
Total	**25**	**100**
Does the school have an HIV and AIDS policy?		
Yes	18	72
No	7	28
Total	**25**	**100**
Are you teaching Life Orientation (Grades 7-12 teachers)/ Life-Skills (Grades 1-6 teachers)? Skills?		
Yes	23	92
No	2	8
Total	**25**	**100**

	Secondary	
	Frequency	**Percentage (%)**
Do you implement HIV and AIDS education as a component of your Life-Skills/ Life Orientation in your school?		
Yes	23	92
No	2	8
Total	**25**	**100**
Duration of years of implementing HIV and AIDS education		
0-4	20	80
5-10	3	12
11-15	2	8
16-20	-	-
21+	-	-
Total	**25**	**100**
Do you have any formal training (in your certificate, diploma or degree) in implementing HIV and AIDS education as part of Life Orientation / Life Skills?		
Yes	14	56
No	11	44
Total	**25**	**100**
Have you attended any workshop on the teaching of HIV and AIDS in the last twelve months?		
Yes	17	68
No	8	32
Total	**25**	**100**

Source: Survey data (2015)

The demographics table 5.4 above shows the following:

Gender

Out of 25 teachers, 23 (92%) were female teachers and 2 (8%) were male teachers.

Highest education qualification

Most teachers, 18 out of 25 (72%) had the bachelor degree as their highest educational qualification

Religion

None of the teachers reported that their religion was protestant. Most of them 36% reported that they belong to 'other' religious groups other than the ones mentioned in the table. One wonders if the terminology of 'protestant' and 'charismatic' did not cause problems to teachers and therefore opted for 'other'.

Duration of teaching years in general

Most teachers, 15 out of 25 (60%) had their duration of teaching years in general as ranging from 0-4 years, followed by 6 out of 25 (24%) having their duration of teaching years as ranging from 5-10 years. This indicates that Life Orientation subject in schools is taught mostly by newly appointed teachers.

School location

Out of 25 teachers, 20 (80%) teachers were from rural schools, 4 (16%) were from townships and 1(4%) was from the town school.

Availability of HIV and AIDS policy in school

With regards to the availability of HIV and AIDS policy in schools, 18 out of 25 (72%) teachers reported that their schools have the HIV and AIDS policy in place. It is worrying that 28% teachers reported that they did not have the HIV and AIDS policies in their schools.

5.4 Main Study

SECTION A (Quantitative: n=371)

5.4.1 a Research question 1a: Who implements HIV and AIDS education? What is the impact of demographic factors and teacher characteristics on who implements HIV and AIDS education in schools?

Table 5. 5: Whether the educator implemented HIV and AIDS education as a component of Life-Skills/Life Orientation

Component of Life-Skills/Life Orientation	Frequency	Percent (%)
Yes	307	82.7
No	64	17.3
Total	**371**	**100**

Source: Survey data (2015)

Of the 371 teachers who participated in the study because they were either Life Orientation or Life-Skills teachers, 64 (17, 3%) of them reported that they did not implement HIV and AIDS education in their schools. Similar results were reported by Mathews et al (2006) who found that 70% teachers reported that they had provided HHIV and AIDS education during 2003 in secondary schools of Cape Town, South Africa, leaving 30% as non-implementers.

Table 5. 6: Demographics

	Primary		Secondary		Combined (Primary and Secondary)	
	Frequency	**Percentage (%)**	**Frequency**	**Percentage (%)**	**Frequency**	**Percentage (%)**
Age (Years)						
18-29	25	7.9	13	28.9	1	10.0
30-39	82	25.9	14	31.1	3	30.0
40-49	119	37.7	15	33.3	1	10.0
50+	90	28.5	3	6.7	5	50.0
Total	**316**	**100.0**	**45**	**100.0**	**10**	**100.0**
Gender						
Female	274	86.7	31	68.9	-	-
Male	42	13.3	14	31.1	10	100.0
Total	**316**	**100.0**	**45**	**100.0**	**10**	**100.0**
Highest Education Qualification						
Teacher's certificate	18	5.7	1	2.2	1	10
Teacher's diploma	136	43.0	9	20	4	40
Bachelor degree	108	34.2	24	53.3	2	20
Hons. Bachelor degree	37	11.7	8	17.8	2	20
Masters Degree	-	-	1	2.2	1	10
Other	17	5.4	2	4.4		
Total	**316**	**100.0**	**45**	**100.0**	**10**	**100.0**
Religion						
Catholic	54	17.1	6	13.3	2	20
Protestant	26	8.2	6	13.3	-	-
Charismatic	52	16.5	12	26.7	3	30
Nazareth	22	7	4	8.9	1	10
Zion	33	10.4	3	6.7	1	10
Other	129	40.8	14	31.1	3	30
Total	**316**	**100.0**	**45**	**100.0**	**10**	**100.0**

	Primary		Secondary		Combined (Primary and Secondary)	
	Frequency	**Percentage (%)**	**Frequency**	**Percentage (%)**	**Frequency**	**Percentage (%)**
Duration of teaching years in general (Years)						
0-4	56	17.7	10	22.2	2	20
5-10	81	25.6	14	31.1	1	10
11-15	49	15.5	8	17.8	2	20
16-20	48	15.2	8	17.8	1	10
21+	82	25.9	5	11.1	4	40
Total	**316**	**100.0**	**45**	**100.0**	**10**	**100.0**
School location						
Urban (Town)	56	17.7	13	28.9	4	40
Peri-Urban (Township)	76	24.1	10	22.2	6	60
Rural	184	58.2	22	48.9		
Total	**316**	**100**	**45**	**100**	**10**	**100**
Does the school have an HIV and AIDS policy?						
Yes	271	85.8	37	82.2	9	90
No	45	14.2	8	17.8	1	10
Total	**316**	**100**	**45**	**100**	**10**	**100**
Are you teaching Life Orientation (Grades 7-12 teachers)/ Life-Skills (Grades 1-6 teachers)? Skills?						
Yes	260	82.3	43	95.6	7	70.0
No	56	17.7	2	4.4	3	30.0
Total	**316**	**100.0**	**45**	**100.0**	**10**	**100.0**

	Primary		Secondary		Combined (Primary and Secondary)	
	Frequency	**Percentage (%)**	**Frequency**	**Percentage (%)**	**Frequency**	**Percentage (%)**
Do you implement HIV and AIDS education as a component of your Life-Skills/ Life Orientation in your school?						
Yes	255	80.7	44	97.8	8	80.0
No	61	19.3	1	2.2	2	20.0
Total	316	100.0	45	100.0	10	100.0
Duration of years of implementing HIV and AIDS education						
0-4	135	42.7	20	44.4	5	50.0
5-10	99	31.3	16	35.6		
11-15	54	17.1	9	20.0	3	30.0
16-20	19	6.0		1	1	10.0
21+	9	2.8			1	10.0
Total	**316**	**100.0**	**45**	**100.0**	**10**	**100.0**
Do you have any formal training (in your certificate, diploma or degree) in implementing HIV and AIDS education as part of Life Orientation / Life Skills?						
Yes	122	38.6	21	46.7	5	50.0
No	194	61.4	24	53.3	5	50.0
Total	**316**	**100.0**	**45**	**100.0**	**10**	**100.0**

Source: Survey data (2015)

Age

Table 5.6 shows that a big number of primary school teachers 37.7% who are teaching Life Orientation and Life-Skills are of ages between 40-49, whilst in secondary schools, teachers are distributed almost evenly among the three age categories; 18-29 (28.9%), 30-39 (31.1%) and 40-49 (33.3%).

Gender

The majority of the Life Orientation and Life-Skills teachers are females, with 86% female teachers in primary schools and 68.9% in secondary schools. The table also shows that all teachers that participated in combined schools were males.

Highest educational qualification

A large percentage of primary school Life Orientation and Life-Skills teachers have their highest educational qualifications as teachers' diploma 43% and bachelor's degree 34.2%, whilst for secondary schools 53.3% reported having their highest qualifications as bachelor's degree. It was also noted that none of the primary school teachers had a master's degree and only one in secondary schools.

Religion

Out of 371 teachers, 129 (40.8%) reported their religion as 'other' for primary schools and 14 (31.1%) of secondary schools.

Duration of teaching years in general

A significant percentage of teachers in primary, 81 out of 316 (25.6%) reported that their duration of teaching years in general was between 5-10 years and 82 out of 316 (25.9%) had 21 years of teaching experience. In secondary a large percentage of 31.1% had their teaching experience ranging between 5-10 years.

School location (rural, peri-urban=township, urban=town)

Table 5.6 also shows that the majority of the teachers that participated in the study were from rural school, with 184 out of 316 (58.2%) of primary teachers from rural as against 76 (24%) from township schools and 56 (17.7%) from town schools. Similarly, for secondary schools, 22 out of 45 (48.9%) are from rural schools whilst 10 (22.2%) were from township schools and 13 (28.9%) were from town schools.

Availability of HIV and AIDS policy in school

Out of 316 primary school teachers, 271 (85.8%) reported that their schools had an HIV and AIDS policy in place whilst 45 (14.2%) reported that their schools did not have an HIV and AIDS policy in place. For secondary schools, 37 out of 45 (82.2%) reported that their schools had an HIV and AIDS policy as against 8 (17.8%) that reported none existence of the policy.

Teaching Life Orientation and Life-Skills in school and Implementing HIV and AIDS education

Data showed that 56 out of 316 (17.5%) of primary school teachers reported that they did not teach either Life Orientation and Life-Skills and 61 out of 316 (19.3%) that reported in the subsequent question that they did not implement HIV and AIDS policy.

Having any formal training in implementing HIV and AIDS education

Only 122 out of 316 (38.6%) primary school teachers reported that they have formal training in implementing HIV and AIDS education as part of their Life Orientation/Life-Skills subjects. as opposed to 194 (61.4%) that reported having no formal training in implementing HIV and AIDS education. In secondary schools, a similar pattern is observed where, 21 out of 45 (46.7%) have no training and 24 out of 45 (53.3%) reported having formal training.

5.4.1 b Research question 1b: What is the impact of demographic factors and teacher characteristics on who implements HIV and AIDS education in schools?

This section presents the demographic characteristics of all the respondents (primary and secondary together) in relation to HIV and AIDS education implementation in schools. The results of the Pearson chi-square test for the null hypotheses are indicated in each figure following the frequency table outcome. Contingency tables have been used to construct two-variable bar charts. In this case, the extent to which teachers implement HIV and AIDS education in schools is contingent on various independent demographic characteristics of teachers.

5.4.1.1 Age of respondents

Table 5. 7: Age of respondents

Age (years)	Frequency	Percent (%)
18 - 29	39	10.5
30 - 39	99	26.7
40 - 49	135	36.4
> 50	98	26.4
Total	**371**	**100**

Source: Survey data (2015)

Relationship between HIV and AIDS education implementation as a component of Life-Skills/Life Orientation and age of respondent

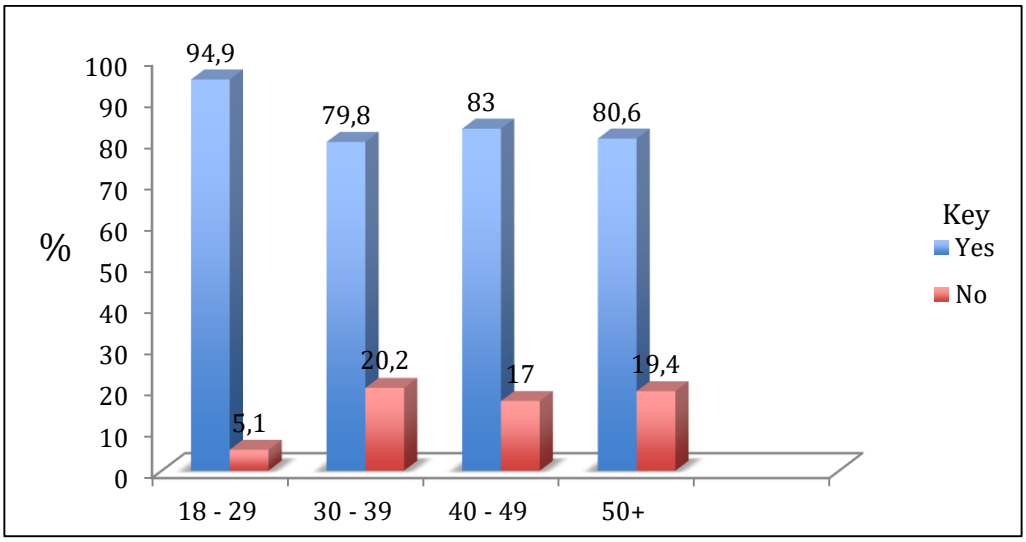


Figure 5. 1: Relationship between HIV and AIDS education implementation as a component of Life-Skills/Life Orientation and age of respondent
Source: Survey data (2015)

Dependent	HIV and AIDS education implementation
Independent	Age
Null Hypothesis	HIV and AIDS education implementation is not dependent on the age of implementer
Alternative Hypothesis	HIV and AIDS education implementation is dependent on the age of implementer
Pearson Chi-Square	4.937a *df* = 3 p = *0.176* (Accept Null Hypothesis)

Figure 5.1 shows that 94.9% teachers between ages 18-29; 79.8% between ages 30-39; 83% between ages 40-49 and 80.6% of ages 50 and above implemented HIV and AIDS education as a component of Life-Skills and Life Orientation, compared to 5.1%; 20.2%; 17% and 19.4% teachers in the respective age categories who did not implement the HIV and AIDS education. The null hypothesis was accepted. (Chi-square = 4.937, p =0.176). More than half of teachers who implemented HIV and AIDS education were spread throughout the age categories and therefore, implementation of HIV and AIDS education is not dependent on the age of the implementer.

5.4.1.2 Gender of respondents

Table 5. 8: Gender of respondents

Gender	Frequency	Percent (%)
Female	315	84.9
Male	56	15.1
Total	**371**	**100**

Source: Survey data (2015)

Relationship between HIV and AIDS education implementation as a component of Life-Skills/Life Orientation and gender of respondent

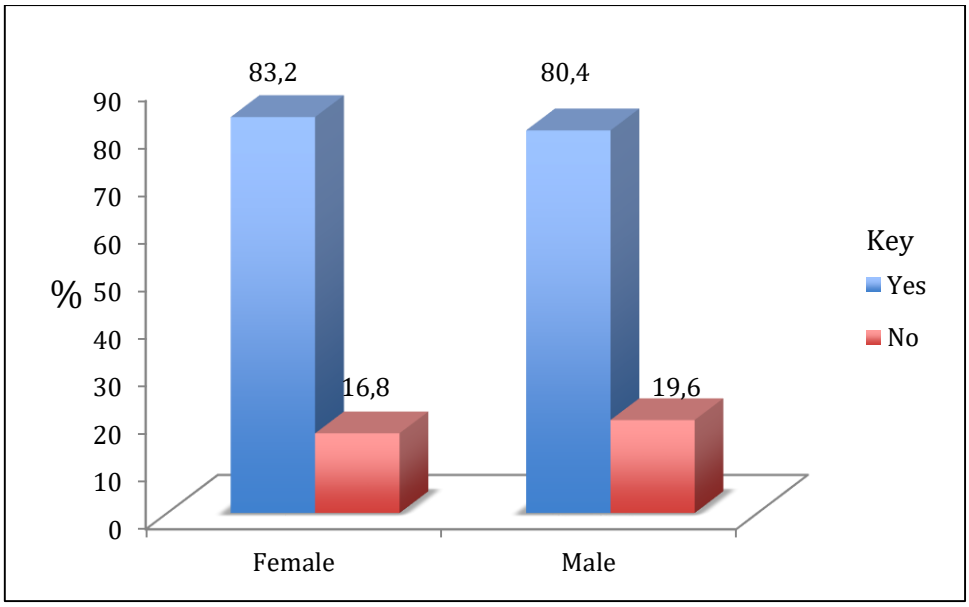


Figure 5. 2: Relationship between HIV and AIDS education implementation as a component of Life-Skills/Life Orientation and gender of respondent
Source: Survey data (2015)

Dependent	HIV and AIDS education implementation
Independent	Gender
Null Hypothesis	HIV and AIDS education implementation is not dependent on the gender of implementer
Alternative Hypothesis	HIV and AIDS education implementation is dependent on the gender of implementer
Pearson Chi-Square	0.264a *df* =1 p = 0.607 (Accept Null Hypothesis)

Figure 5.2 reveals that with regards to gender, more than 80% of both males and females implemented the HIV and AIDS education compared to 16.8% female teachers and 19.6% male teachers who did not implement HIV and AIDS education in their schools. This difference was not significant because chi-square was 0.264 and p was 0.607, therefore the null hypothesis was accepted indicating that HIV and AIDS education implementation was not dependent on the gender of the implementer.

5.4.1.3 Highest Education qualification of respondents

Table 5. 9: Highest Education qualification of respondents

Highest Education qualification	Frequency	Percent (%)
Teacher's certificate	20	5.4
Teacher's diploma	149	40.2
Bachelor degree	134	36.1
Hons. Bachelor degree	47	12.7
Master's degree	1	.3
Other	20	5.4
Total	**371**	**100**

Source: Survey data (2015)

Relationship between HIV and AIDS education implementation as a component of Life-Skills/Life Orientation and highest education qualification of respondent

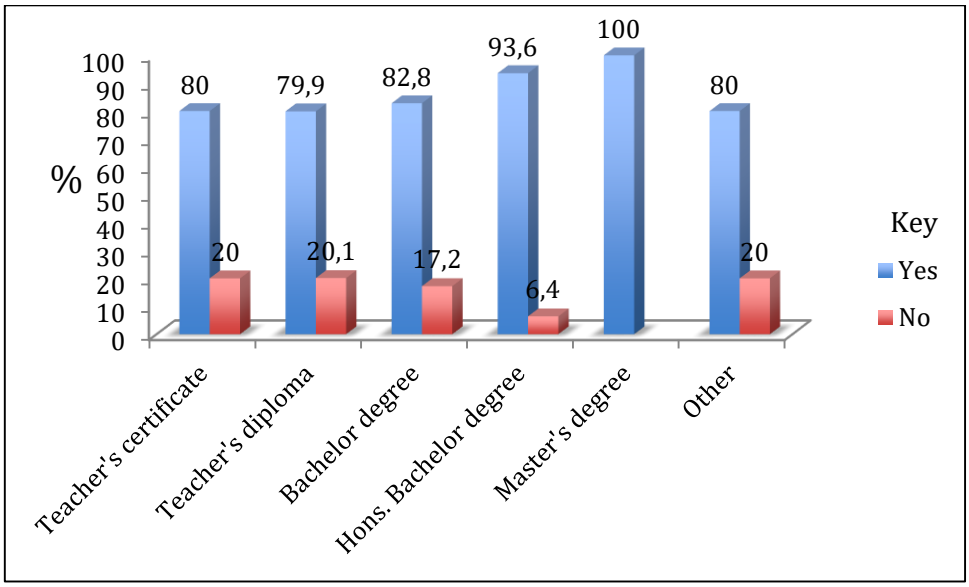


Figure 5. 3: Relationship between HIV and AIDS education implementation as a component of Life-Skills/Life Orientation and highest education qualification of respondent
Source: Survey data (2015)

Dependent	HIV and AIDS education implementation
Independent	Highest education qualification
Null Hypothesis	HIV and AIDS education implementation is not dependent on the highest education qualification of implementer
Alternative Hypothesis	HIV and AIDS education implementation is dependent on the highest education qualification of implementer
Pearson Chi-Square	0.264a *df* =1 p = 0.607 (Accept Null Hypothesis)

Figure 5.3 shows that there is no statistical significant association between HIV and AIDS education implementation and the highest education qualification for the teacher. The Chi-square was 0.264 and p = 0.607, and the null hypothesis was accepted and HIV and AIDS education implementation was not dependent on the highest education qualification of the teacher.

5.4.1.4 Religion of respondents

Table 5. 10: Religion of respondents

Religion	Frequency	Percent (%)
Catholic	62	16.7
Protestant	32	8.6
Charismatic	67	18.1
Nazareth	27	7.3
Zion	37	10.0
Other	146	39.4
Total	**371**	**100**

Source: Survey data (2015)

Relationship between HIV and AIDS education implementation as a component of Life-Skills/Life Orientation and religion of respondent

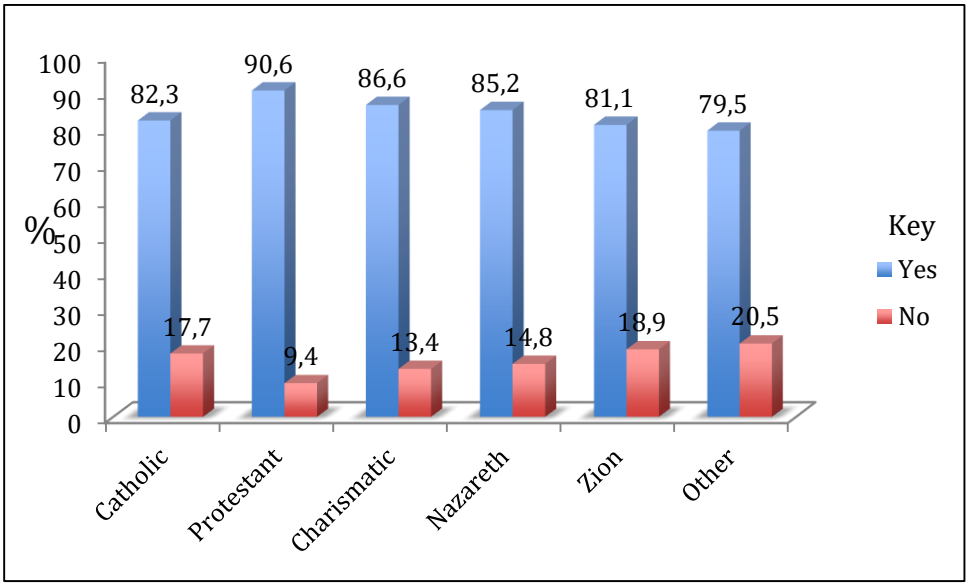


Figure 5. 4: Relationship between HIV and AIDS education implementation as a component of Life-Skills/Life Orientation and religion of respondent
Source: Survey data (2015)

Dependent	HIV and AIDS education implementation
Independent	Religion
Null Hypothesis	HIV and AIDS education implementation is not dependent on the religion of implementer
Alternative Hypothesis	HIV and AIDS education implementation is dependent on the religion of implementer
Pearson Chi-Square	3.381a *df* =5 p = 0.641 (Accept Null Hypothesis)

The results shown in figure 5.4 reveal that 82.3% catholic teachers; 90.6% protestant teachers; 86.6% teachers from charismatic faiths; 85.2% Nazareth teachers; 81.1% Zion teachers and 79.5% teachers from other religious groups implemented HIV and AIDS education, compared to 17.7%; 9.4%; 13.4%; 14.8%; 13.9% and 20.5% teachers from the respective religious groups that did not implement HIV and AIDS education in their schools. The Chi-square = 3.381 and p=0.641confirmed that the null hypothesis be accepted as this indicated that HIV and AIDS education implementation was not associated to the religion of the teacher.

5.4.1.5 Duration of teaching years in general of respondents

Table 5. 11: Duration of teaching years in general

Duration of teaching (years)	Frequency	Percent (%)
0 - 4	68	18.3
5 - 10	96	25.9
11 - 15	59	15.9
16 - 20	57	15.4
> 21	91	24.5
Total	**371**	**100**

Source: Survey data (2015)

Relationship between HIV and AIDS education implementation as a component of Life-Skills/Life Orientation and duration of teaching years of respondent

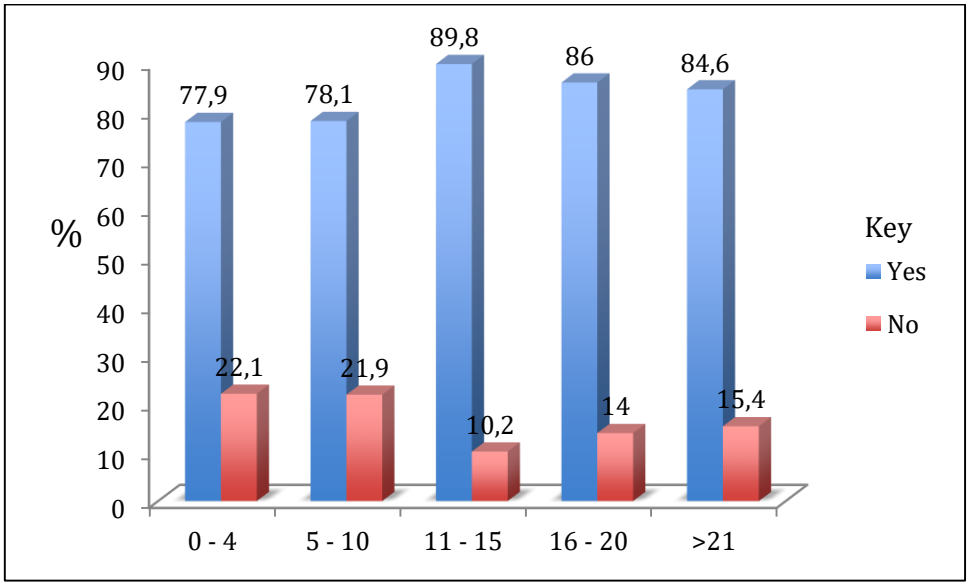


Figure 5. 5: Relationship between HIV and AIDS education implementation as a component of Life-Skills/Life Orientation and duration of teaching years of respondent
Source: Survey data (2015)

Dependent	HIV and AIDS education implementation
Independent	Duration of teaching years
Null Hypothesis	HIV and AIDS education implementation is not dependent on the duration of teaching years of implementer
Alternative Hypothesis	HIV and AIDS education implementation is dependent on the duration of teaching years of implementer
Pearson Chi-Square	3.381a *df* =5 p = 0.641 (Accept Null Hypothesis)

Figure 5.5 shows that 77.9% teachers with duration of teaching years 0-4; 78.1% teachers with duration of teaching years 5-10; 89.8% teachers with 11-15 years; 86% teachers with 16-20 years and 84.6% teachers with 21 years and above duration of teaching years all implemented HIV and AIDS education. This is compared to 21.1% teachers with duration of teaching years 0-4; 21.9% teachers with 5-10 years; 10.2% teachers with 11-15 years; 14% teachers with duration 16-20 years and 15.4% teachers with duration 21 years and above who all reported not implementing HIV and AIDS education in their schools. The Chi-square test results of 3.381 and p= 0.641 show that there is no statistical significant association and therefore, implementation is not dependent on the duration of teaching years for the teachers.

Table 5. 12: School location

School location	Frequency	Percent (%)
Urban (Town)	73	18.3
Peri-Urban (Township)	86	25.9
Rural	212	15.9
Total	**371**	**100**

Relationship between HIV and AIDS education implementation as a component of Life-Skills/ Life Orientation and school location

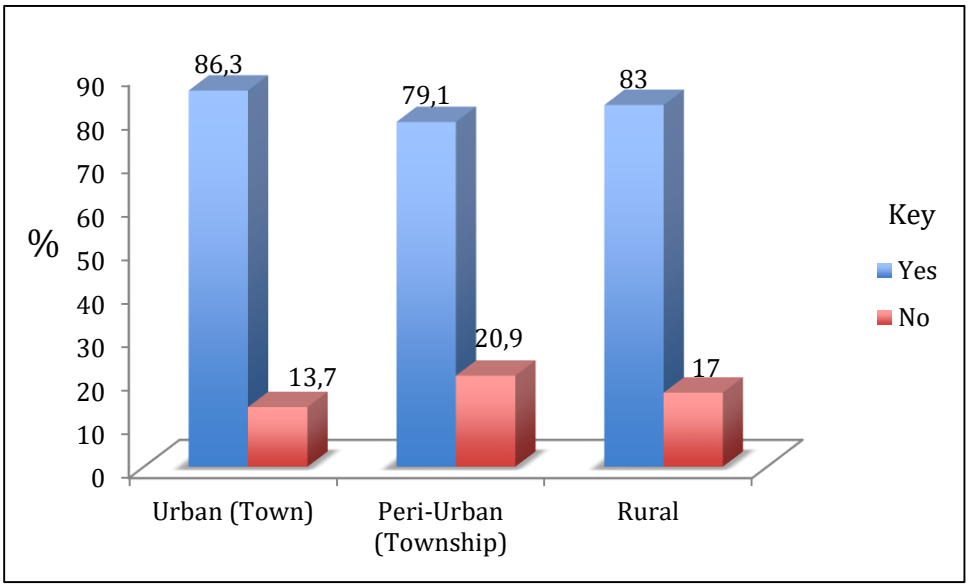


Figure 5. 6: Relationship between HIV and AIDS education implementation as a component of Life- Skills/Life Orientation and school location
Source: Survey data (2015)

Dependent	HIV and AIDS education implementation
Independent	School location
Null Hypothesis	HIV and AIDS education implementation is not dependent on school location
Alternative Hypothesis	HIV and AIDS education implementation is dependent on school location
Pearson Chi-Square	1.472[a] *df* = 2 p = *0.*479 (Accept Null Hypothesis)

Figure 5.6 shows that there is no statistical significant association between HIV and AIDS education implementation and the school location. The Chi-square was 1.472 and p = 0.479, and the null hypothesis was accepted and thus HIV and AIDS implementation was not dependent on whether the school is located in an urban, peri-urban or rural community.

5.4.1.7 Teaching phase

Table 5. 13: Teaching phase

Teaching phase	Frequency	Percent (%)
Life Skills (Foundation Phase)	176	47.4
Life Skills (Intermediate)	111	29.9
Life Orientation (Senior phase)	59	15.9
Life Orientation (FET)	15	4.0
Life Skills (Intermediate + Senior phase)	8	2.2
Life Orientation (Senior phase +FET)	2	.5
Total	**371**	**100**

Source: Survey data (2015)

Relationship between HIV and AIDS education implementation as a component of Life-Skills/Life Orientation and teaching phase

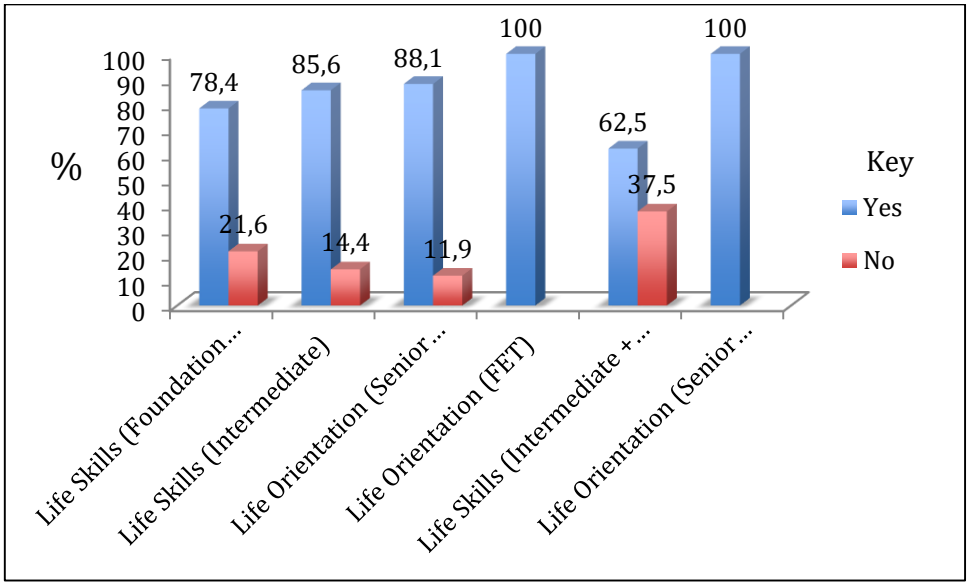


Figure 5. 7: Relationship between HIV and AIDS education implementation as a component of Life-Skills/Life Orientation and teaching phase
Source: Survey data (2015)

Dependent	HIV and AIDS education implementation
Independent	Teaching phase
Null Hypothesis	HIV and AIDS education implementation is not dependent on the teaching phase
Alternative Hypothesis	HIV and AIDS education implementation is dependent on the teaching phase
Pearson Chi-Square	9.989^{a} *df* = 5 p = *0.076* (Accept Null Hypothesis)

Figure 5.7 above shows that most teachers across all phases were implementing HIV and AIDS education in schools. It is noted that teachers at the FET band all reported implementing HIV and AIDS education although for this study we could only reach a

total of 17 FET teachers. A larger percentage of 37.5% of teachers that reported that they did not implement HIV and AIDS education were in the intermediate and senior phase. Pearson Chi-square was calculated at 9.989 and p = 0.076 and therefore the difference was not statistically significant and the null hypothesis was accepted. HIV and AIDS implementation was not dependent on the teaching phase of the teacher.

Table 5. 14: Type of school and teaching phase

Teaching phase	Primary		Secondary		Combined	
	Frequency	Percent (%)	Frequency	Percent (%)	Frequency	Percent (%)
1 = Life Skills (Foundation Phase)	171	97.2			4	2.3
2 = Life Skills (Intermediate)	104	93.7			5	4.5
3 = Life Orientation (Senior phase)	33	55.9	29	44.1	-	-
4 = Life Orientation (FET)	-	-	14	93.3	1	6.7
5 = Life Skills (Intermediate + Senior phase)	8	100	-	-	-	-
6 = Life Orientation (Senior phase +FET)	-	-	2	100	-	-

Source: Survey data (2015)

5.4.1.8 Whether the school has an HIV and AIDS policy

Table 5. 15: Whether the school has an HIV and AIDS policy

HIV and AIDS policy	**Frequency**	**Percent (%)**
Yes	317	85.4
No	54	14.6
Total	**371**	**100**

Source: Survey data (2015)

Relationship between HIV and AIDS education implementation as a component of Life-Skills/Life Orientation and whether the school has an HIV and AIDS policy

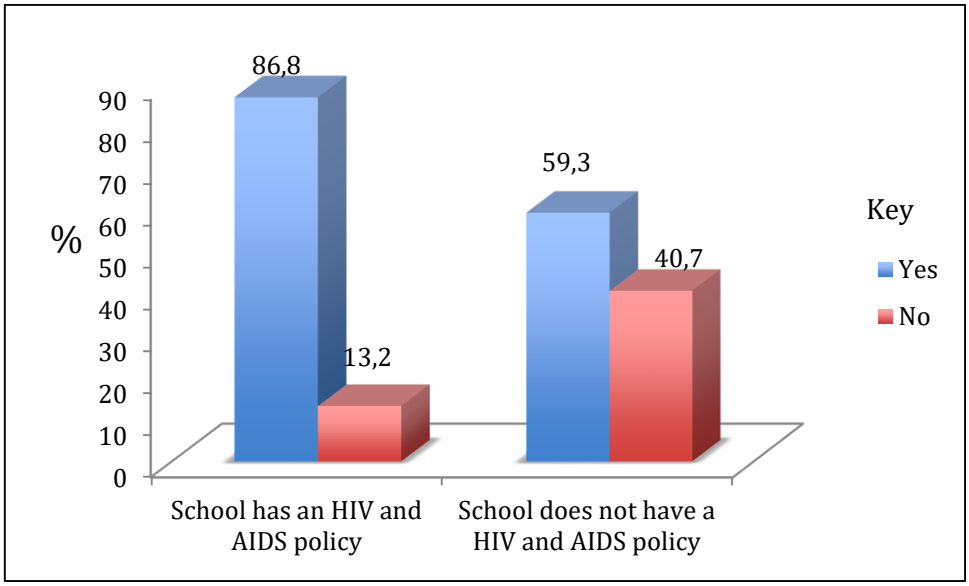


Figure 5. 8: Relationship between HIV and AIDS education implementation as a component of Life-Skills/Life Orientation and whether the school has an HIV and AIDS policy
Source: Survey data (2015)

Dependent	HIV and AIDS education implementation
Independent	Availability of the HIV and AIDS policy in school
Null Hypothesis	HIV and AIDS education implementation is not dependent on whether the school has an HIV and AIDS policy
Alternative Hypothesis	HIV and AIDS education implementation is dependent on whether the school has an HIV and AIDS policy
Pearson Chi-Square	24.429[a] *df* = 1 p = *0.000* (Reject Null Hypothesis)

Table 5.14 shows that 317 out of 371 teachers (85.4%) reported that their schools had an HIV and AIDS policy, whilst 54 out of 371 reported that their schools did not have the HIV and AIDS policies. From figure 5.8 it is clear that of the 317 teachers that reported having the policy in place, 86.8% implemented the HIV and AIDS education and of the 54 that reported having no policy in place, 59.3% implemented the HIV and AIDS education. The Pearson Chi-square of 24.429 and $p < 0.001$ meant that the null hypothesis be rejected and this indicated that implementation of HIV and AIDS education depends on whether or not the school has the HIV and AIDS policy.

5.4.1.9 Duration of years of implementing HIV and AIDS education

Table 5. 16: Duration of years of implementing HIV and AIDS education

Duration (years)	Frequency	Percent (%)
0 - 4	160	43.1
5 - 10	115	31.0
11 - 15	66	17.8
16 - 20	20	5.4
> 21	10	2.7
Total	**371**	**100**

Source: Survey data (2015)

Relationship between HIV and AIDS education implementation as a component of Life-Skills/Life Orientation and duration of years of implementing HIV and AIDS education

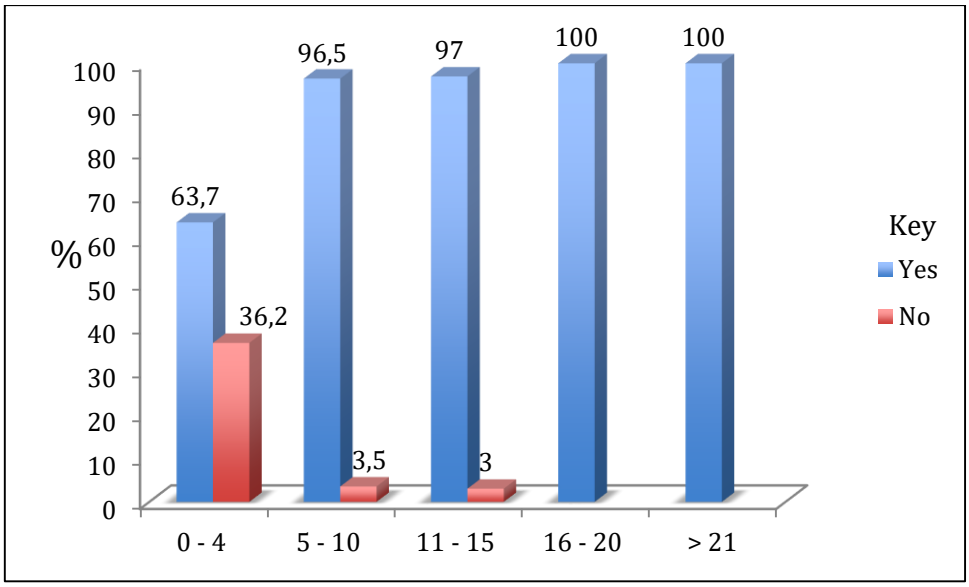


Figure 5. 9: Relationship between HIV and AIDS education implementation as a component of Life-Skills/Life Orientation and duration of years of implementing HIV and AIDS education
Source: Survey data (2015)

Dependent	HIV and AIDS education implementation
Independent	Duration of years implementing HIV and AIDS education
Null Hypothesis	HIV and AIDS education implementation is not dependent on the duration of years of implementing HIV and AIDS education
Alternative Hypothesis	HIV and AIDS education implementation is dependent on the duration of years of implementing HIV and AIDS education
Pearson Chi-Square	71.345^{a} *df* = 4 p = 0.000 (Reject Null Hypothesis)

Table 5.15 shows that most teachers fell into the 0-4 and 5-10 years implementing HIV and AIDS education. They were 160 out of 371 (43.1%) who reported that they have had 0-4 years duration of implementing HIV and AIDS education and 115 out of 371 (31%) who reported that they had 5-10 years duration of implementing HIV and AIDS education.

Figure 5.9 shows that of the 43.1% who have implemented HIV and AIDS education for 0-4 years duration, actually 63.7% are currently implementing and 36.2% are not. With Chi-square of 71.345 and $p < 0.001$ the null hypothesis was rejected and therefore, actual HIV and AIDS education implementation is dependent on the duration of years that the teacher had in implementing HIV and AIDS education.

5.4.1.10 Whether the educator had any formal training (certificate, diploma or degree) in implementing HIV and AIDS education as part of Life Orientation/Life Skills

Table 5. 17: Whether the educator implemented HIV and AIDS education as a component of Life-Skills/Life Orientation

Formal training	Frequency	Percent (%)
Yes	148	39.9
No	223	60.1
Total	**371**	**100**

Source: Survey data (2015)

Relationship between HIV and AIDS education implementation as a component of Life-Skills/Life Orientation and whether the educator had any formal training in implementing HIV and AIDS education

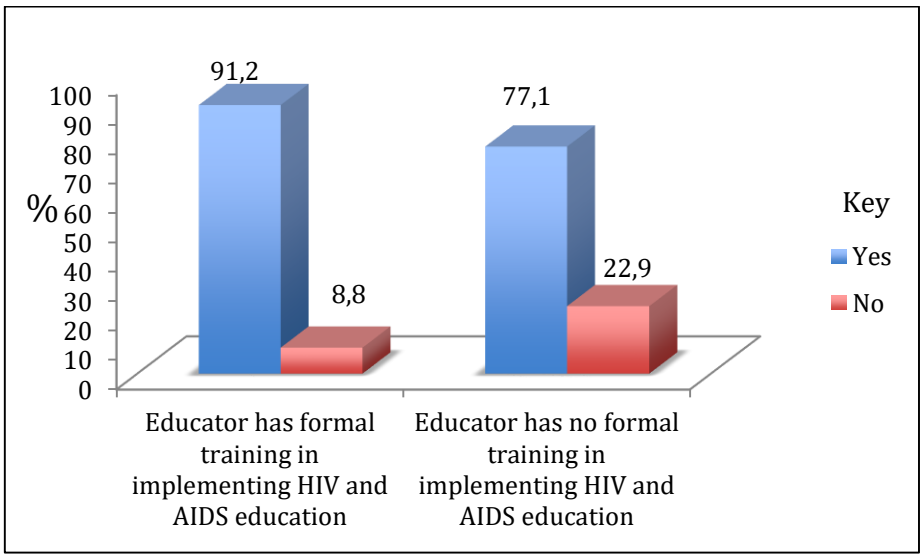


Figure 5. 10: Relationship between HIV and AIDS education implementation as a component of Life-Skills/Life Orientation and whether the educator had any formal training in implementing HIV and AIDS education
Source: Survey data (2015)

Dependent	HIV and AIDS education implementation
Independent	Formal training in implementing HIV and AIDS education
Null Hypothesis	HIV and AIDS education implementation is not dependent on whether the educator had any formal training in implementing HIV and AIDS education
Alternative Hypothesis	HIV and AIDS education implementation is dependent on whether the educator had any formal training in implementing HIV and AIDS education
Pearson Chi-Square	12.365^{a} $df = 1$ $p = 0.000$ (Reject Null Hypothesis)

Table 5.16 shows that a larger percentage of teachers, 60% to be exact reported that they did not have any formal training in implementing HIV and AIDS education as part of Life-Skills and Life Orientation.

Figure 5.10 shows that of those without training, 22. 9 % did not implement HIV and AIDS education against 8.8% who also did not implement but had the formal training. The Chi-square value of 12.365 and $p<0.001$ meant that the null hypothesis be rejected as there was significant statistical association between implementing HIV and AIDS

education and having formal training in implementing HIV and AIDS education. Therefore, HIV and AIDS implementation was dependent on whether or not the educator had any formal training in his or her certificate, diploma or degree in implementing HIV and AIDS education.

5.4.1c Research question 1c: What is the impact of teacher characteristics on who implements HIV and AIDS education in schools?

5.4.2 Description of teacher characteristics

5.4.2.1 Motivation

5.4.2.1.1 Whether educators have a positive attitude towards HIV and AIDS education

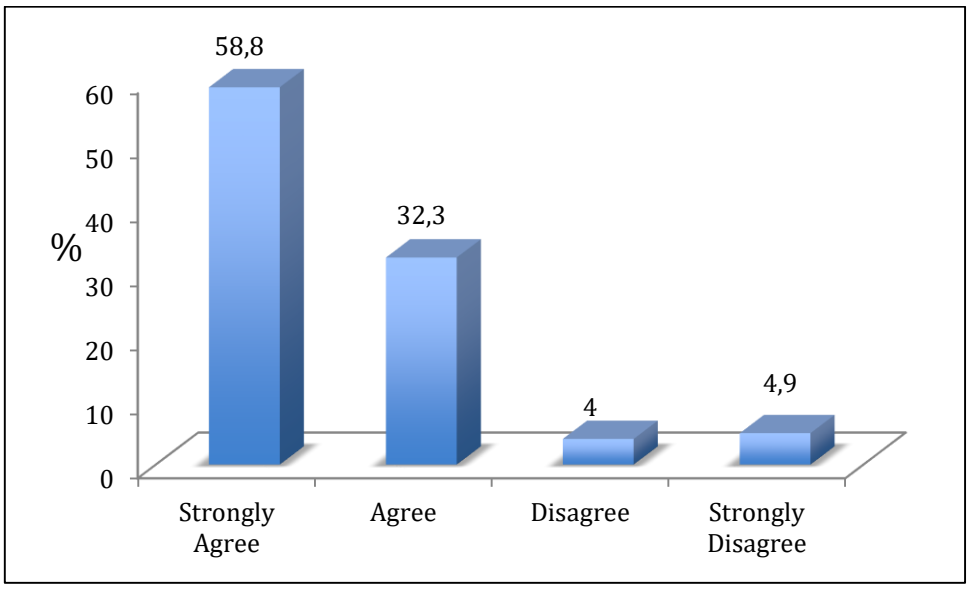


Figure 5. 11: Whether educators have a positive attitude towards HIV and AIDS education
Source: Survey data (2015)

Figure 5.11 shows that most teachers reported that they had a positive attitude towards HIV and AIDS education with 58.8% answering 'strongly agree' and 32.3% answering 'agree'. These results are consistent with what the researcher had expected. There were however, a total of 8.9% who reported having negative attitude towards HIV and AIDS education.

5.4.2.1.2 Whether educators have an interest in implementing HIV and AIDS education

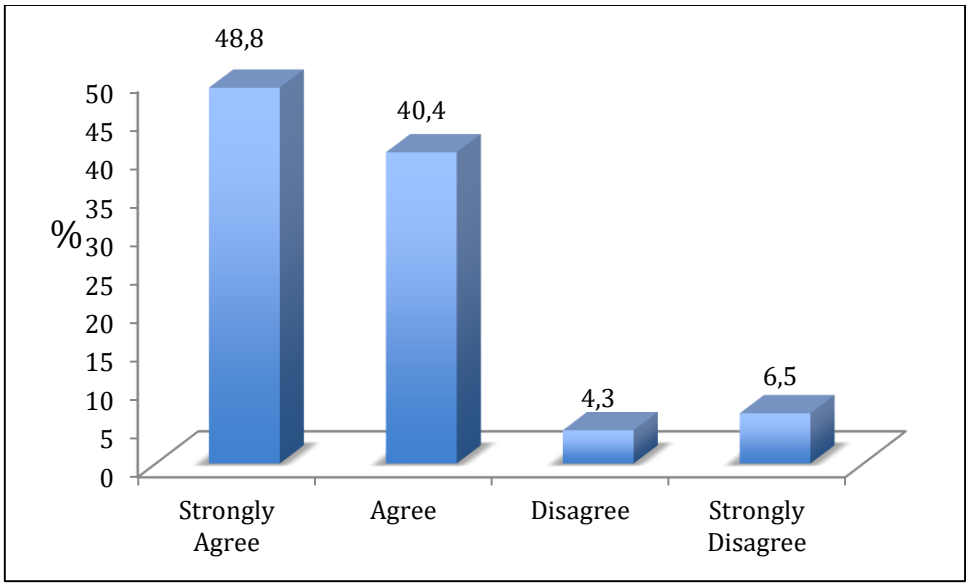


Figure 5. 12: Whether educators have an interest in implementing HIV and AIDS education
Source: Survey data (2015)

Figure 5.12 shows as was also expected that the majority of 89.2% of teachers reported that they had interest in implementing HIV and AIDS education. Even though a total of 10.8% teachers reported having no interest in implementing HIV and AIDS education seemed worrisome.

5.4.2.1.3 Whether educators are capable of implementing HIV and AIDS education

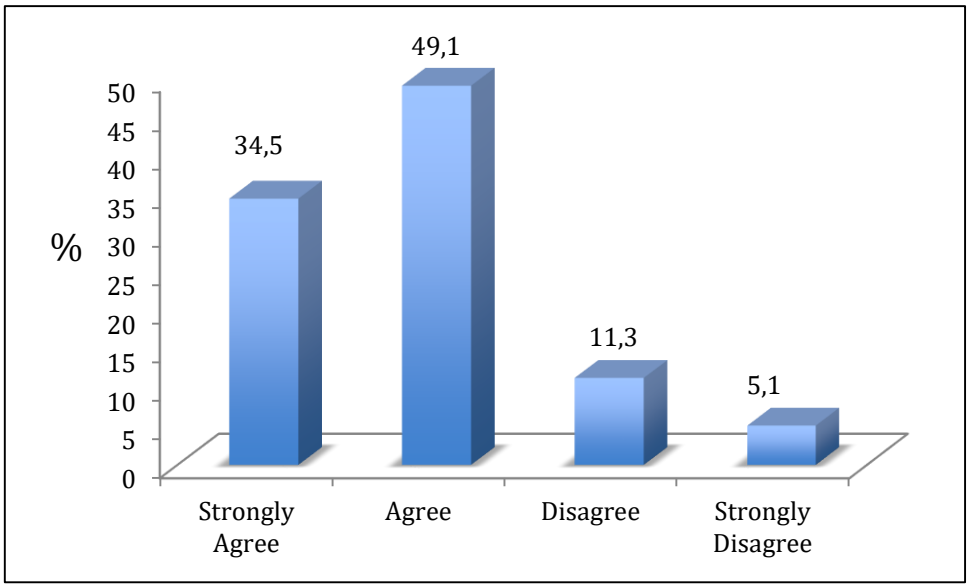


Figure 5. 13: Whether educators are capable of implementing HIV and AIDS education
Source: Survey data (2015)

Figure 5.13 shows that about 83.6% of teachers reported that they were capable of implementing HIV and AIDS education. The 16.4% teachers who reported that they were not capable became the subject of talk with the subject advisors although it was not easy to identify their schools due to the nature of the anonymity of the questionnaire.

5.4.2.2 Cognition

5.4.2.2.1 Whether educators know the contents of the HIV and AIDS policy for their schools

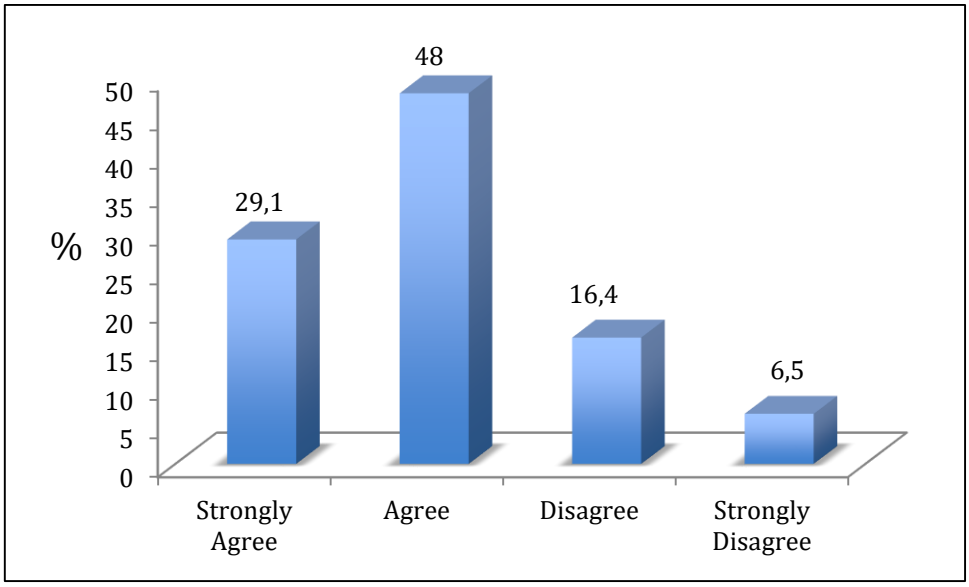


Figure 5. 14: : Whether educators know the contents of the HIV and AIDS policy for their schools
Source: Survey data (2015)

Figure 5.14 shows that a large percentage of 77.1 of teachers reported that they knew the contents of the HIV and AIDS policy for their schools. A worrying figure of 23.4% reported that they did not know the contents of HIV and AIDS policy for their schools and this was also reported to the subject advisors.

5.4.2.2.2 Whether educators have formal training (certificate, diploma or degree) in implementing HIV and AIDS education as part of Life Orientation/Life-Skills

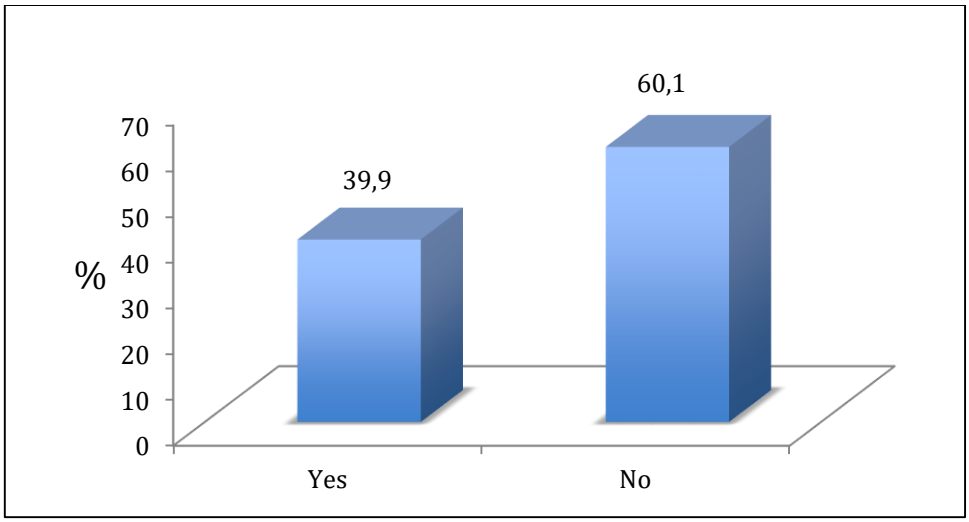


Figure 5. 15: Whether educators have formal training (certificate, diploma or degree) in implementing HIV and AIDS education as part of Life Orientation/Life Skills
Source: Survey data (2015)

Figure 5.15 shows that 60.1% teachers reported that they did not have any formal training in their certificates, diplomas and degrees to implement HIV and AIDS education as part of Life-Skills or Life Orientation. Only 39.9% teachers reported that they had formal training in the teaching of HIV and AIDS. This showed that HIV and AIDS education in schools was handled by teachers who were trained to teach something else other than Life-Skills or Life Orientation.

5.4.2.2.3 Whether educators have attended any workshop/s on the teaching of HIV and AIDS in the last twelve months

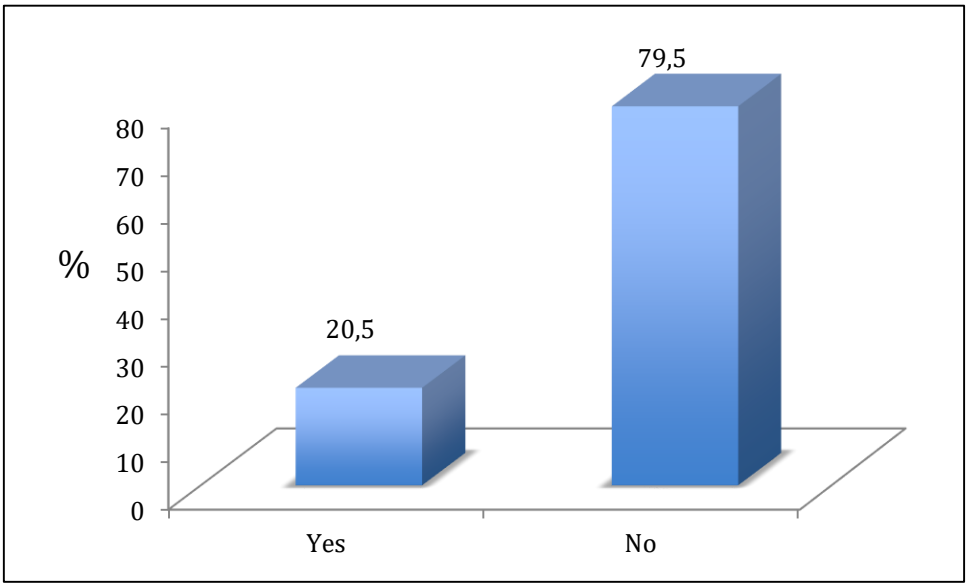


Figure 5. 16: Whether educators have attended any workshop/s on the teaching of HIV and AIDS in the last twelve months
Source: Survey data (2015)

Figure 5.16 shows that 79.5% teachers reported that they had not attended a workshop on the teaching of HIV and AIDS in the last twelve months. Only 20.5% teachers reported that they have attended any workshop on the teaching of HIV and AIDS in the last twelve months. This is worrying because the results above had shown that most teachers teaching Life-Skills and Life Orientation and therefore HIV and AIDS had not received formal training in these subjects and getting more of workshops would aid them become effective in the implementation of HIV and AIDS education.

5.4.2.3 Power

5.4.2.3.1 Whether educators have enough resources to implement HIV and AIDS education in their school

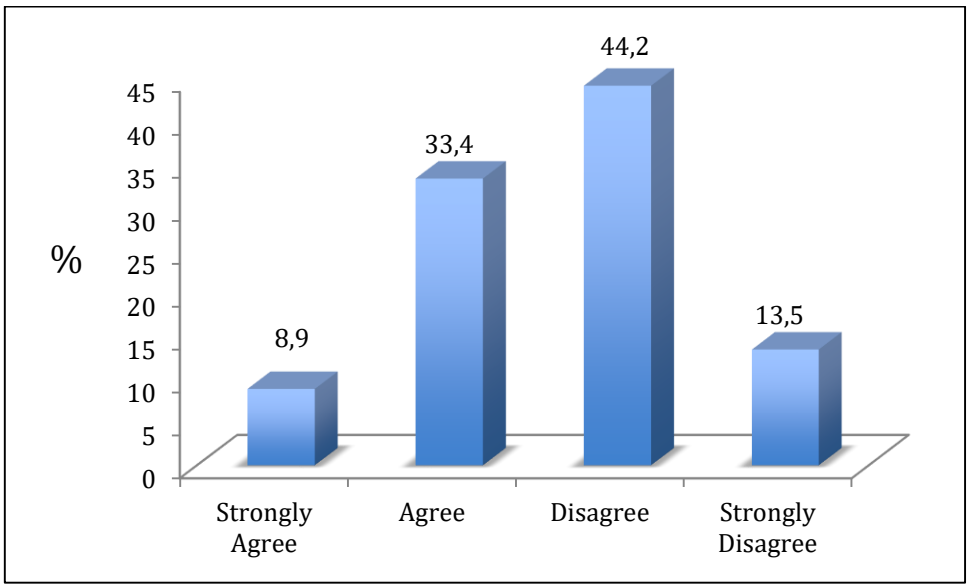


Figure 5. 17: Whether educators have enough resources to implement HIV and AIDS education in their school
Source: Survey data (2015)

Figure 5.17 shows that more than 50% of teachers reported that they did not have enough resources to implement HIV and AIDS education in their schools. In specific terms, 42.3% teachers agreed that they had enough resources to implement HIV and AIDS education in their schools with 57.7% teachers disagreeing. This shows that HIV and AIDS education has not received serious attention from the schools and the district offices.

5.4.2.3.2 Whether the time allocated in the time table for HIV and AIDS education is enough

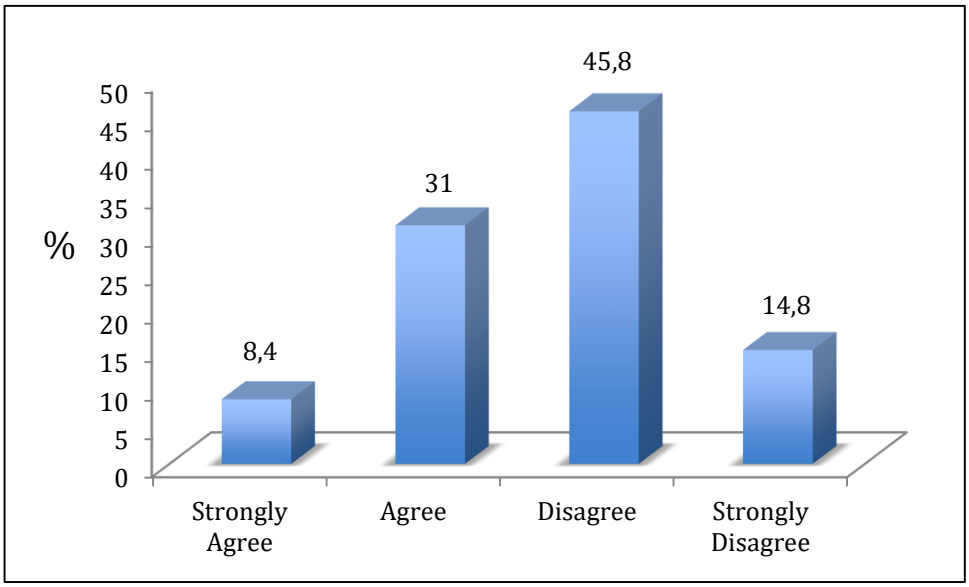


Figure 5. 18: Whether the time allocated in the time table for HIV and AIDS education is enough
Source: Survey data (2015)

Figure 5.18 shows that over 60% teachers disagree, that time allocated in the time-table for HIV and AIDS education is enough. Again this shows that schools and the department of education do not take seriously the issue of HIV and AIDS education.

5.4.2.3.3 Whether educators receive enough support from colleagues, principal and the district office in implementing the HIV and AIDS education

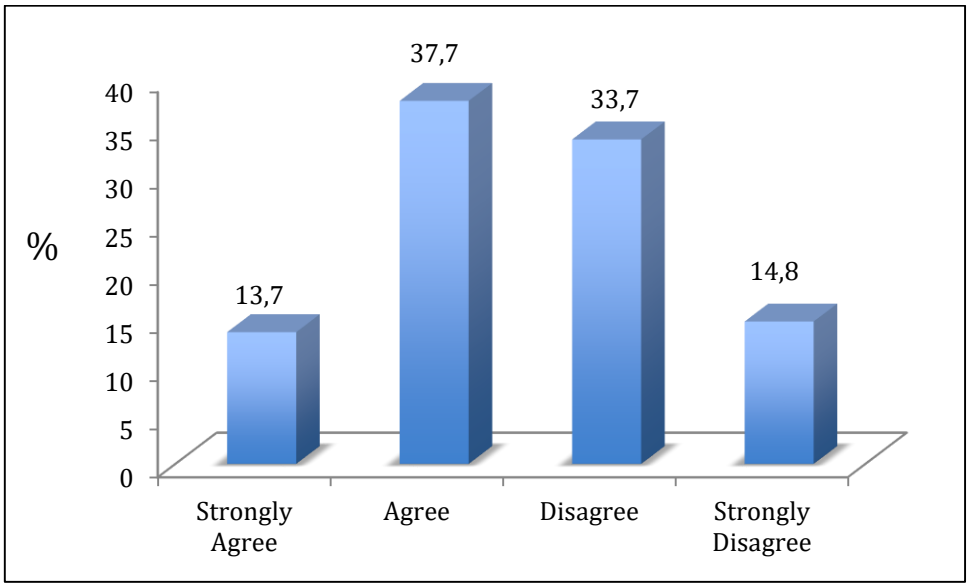


Figure 5. 19: Whether educators receive enough support from colleagues, principal and the district office in implementing the HIV and AIDS education Source: Survey data (2015)

Figure 5.19 shows that there was more or less an equal distribution of teachers reporting that they received enough support from colleagues, principals and the district office and those that reported not receiving enough support. It is worrying that over 50% teachers reported not receiving enough support.

5.4.3. Relationship between implementation of HIV and AIDS education and teacher characteristics

Table 5. 18: Results of the binary Logistic regression analysis on whether the teacher implemented HIV/AIDS education or not

Variable	β	SE	Wald	df	Sig. (p-value)	Exp(β)	95% C.I. for EXP(β) Lower	95% C.I. for EXP(β) Upper
Constant	22.928	26678.865	0.000	1	0.999	9066025391.348	-	-
Age (50+ years)	-	-	3.074	3	0.380	-	-	-
-Age (18-29 years)	1.619	1.090	2.207	1	0.137	5.047	0.596	42.697
-Age (30-39 years)	0.032	0.607	0.003	1	0.958	1.033	0.314	3.392
-Age (40-49 years)	-0.214	0.530	0.163	1	0.686	0.807	0.286	2.281
Gender (Male)	-0.802	0.537	2.230	1	0.135	0.448	0.156	1.285
Highest Education Qualification (HEQ) (Other qualification)	-	-	7.614	5	0.179	-	-	-
- HEQ (Teacher's certificate)	-0.529	1.038	0.260	1	0.610	0.589	0.077	4.508
- HEQ (Teacher's diploma)	-1.517	0.796	3.635	1	0.057	0.219*	0.046	1.043
- HEQ (Bachelor degree)	-1.281	0.799	2.572	1	0.109	0.278	0.058	1.329
- HEQ (Hons. Bachelor degree)	-0.039	1.030	0.001	1	0.969	0.961	0.128	7.244
- HEQ (Master's degree)	16.323	40192.970	0.000	1	1.000	12278137.653	0.000	-
Religion (Other)	-	-	3.132	5	0.680	-	-	-
-Religion (Catholic)	0.291	0.527	0.305	1	0.581	1.338	0.476	3.757
-Religion (Protestant)	1.024	0.855	1.437	1	0.231	2.785	0.522	14.869
-Religion (Charismatic)	0.110	0.509	0.046	1	0.829	1.116	0.412	3.024
-Religion (Nazareth)	1.008	0.735	1.879	1	0.170	2.739	0.649	11.567
-Religion (Zion)	0.377	0.629	0.359	1	0.549	1.458	0.425	5.002
Duration of teaching years in general (21+ years)	-	-	5.407	4	0.248	-	-	-
-Duration of teaching years (0-4 years)	-1.046	0.722	2.102	1	0.147	0.351	0.085	1.445
-Duration of teaching years (5-10 years)	-0.771	0.605	1.625	1	0.202	0.462	0.141	1.514
-Duration of teaching years (11-15 years)	0.530	0.701	0.572	1	0.450	1.699	0.430	6.713
-Duration of teaching years (16-20 yrs)	-0.411	0.680	0.365	1	0.546	0.663	0.175	2.512
School location (urban)	0.320	0.369	0.755	1	0.385	1.378	0.669	2.837
Type of school (Combined - primary and secondary)	-	-	1.838	2	0.399	-	-	-
-Type of school (Primary)	0.308	1.038	0.088	1	0.767	1.361	0.178	10.413
-Type of school (Secondary)	1.979	1.635	1.465	1	0.226	7.238	0.293	178.509
Does your school have the HIV and AIDS policy (Yes)	-0.943	0.448	4.419	1	0.036	0.390**	0.162	0.938
Teaching phase (Life Orientation (Senior phase +FET))	-	-	4.853	5	0.434	-	-	-
-Teaching phase (Life Skills (Foundation Phase))	-16.972	26678.865	0.000	1	0.999	0.000	0.000	-

-Teaching phase (Life Skills (Intermediate))	-16.248	26678.865	0.000	1	1.000	0.000	0.000	-
-Teaching phase (Life Orientation (Senior phase))	-16.515	26678.865	0.000	1	1.000	0.000	0.000	-
-Teaching phase (Life Orientation (FET))	0.152	28352.101	0.000	1	1.000	1.164	0.000	-
-Teaching phase (Life Skills (Intermediate + Senior phase))	-18.034	26678.865	0.000	1	0.999	0.000	0.000	-
Teaching Life Orientation (Grades 7 – 12)/Life Skills Grade (Grades 1 – 6) (No)	-1.094	0.454	5.809	1	0.016	0.335**	0.138	0.815
Do you have any formal training in your certificate diploma or degree (No)	-0.935	0.429	4.750	1	0.029	0.393**	0.169	0.910
I have a positive attitude towards HIV and AIDS education (Disagree)	0.950	0.879	1.169	1	0.280	2.586	0.462	14.467
I have an interest in implementing HIV and AIDS education (Disagree)	-0.595	0.846	0.495	1	0.482	0.552	0.105	2.894
I am capable of implementing HIV and AIDS education in my school (Disagree)	0.063	0.572	0.012	1	0.913	1.065	0.347	3.265
I know the contents of HIV and AIDS policy for my school (Disagree)	-0.900	0.477	3.562	1	0.059	0.407**	0.160	1.035
I have enough resources to implement HIV and AIDS education in my school (Disagree)	-0.543	0.490	1.226	1	0.268	0.581	0.222	1.519
The time allocated in the timetable for HIV and AIDS education is enough (Disagree)	-0.545	0.458	1.419	1	0.234	0.580	0.237	1.422
I received enough support from my colleagues, principal and the district office (Disagree)	-0.378	0.464	0.666	1	0.415	0.685	0.276	1.700
Attended any workshop on the teaching of HIV and AIDS in the last 12 months (No)	-1.654	0.798	4.299	1	0.038	0.191**	0.040	0.913
Number of observations	371							
Hosmer and Lemeshow Chi-square	10.919 (p = 0.206)							
Cox & Snell R Square	0.257							
(-2) Log likelihood	230.829a							
Over all model prediction (%)	88.1							
Nagelkerke R^2	0.428							

*** Statistically significant at 1% significance level; ** Statistically significant at 5% significance level & * Statistically significant at 10% significance level Source: Survey data (2015)

Dependent - Whether the teacher implemented HIV/AIDS education or not (if implemented coded with 1 = implemented; if otherwise coded with 0 = did not implement)

With regards to the model fit for table 5.18, the Lemeshow Goodness-of-Fit test measure was employed to check and validate that the model fitted the data well. The chi-square goodness-of-fit test statistics of the model showed that the model fitted the data. This showed that the independent variables were relevant in explaining the dependent variable. Another measure of goodness-of-fit of the model (Nagelkerke R^2), a pseudo R^2 was computed and used as a proxy to estimate the proportion of the variation in the response that is explained by the model. Nagelkerke R^2 of 0.428 was obtained, indicating the variation of about 43% explained by the model with an overall prediction of about 88%.

The variable: Highest Education Qualification overall was significant to the implementation of HIV and AIDS education. The contrast; a teacher having a Teachers' diploma was statistically significant at 10% significance level with p = 0.057; beta coefficient $\boldsymbol{\beta}$ = -1.517. The odds ratio (0.219) means that a teacher with a Teachers' diploma was about 0.78 times less likely to implement HIV and AIDS education in school when compared to a teacher who had other highest educational qualifications.

The variable: Does your school have the HIV and AIDS policy (Yes/No) was significant to the implementation of HIV and AIDS education. The contrast; a school that did not have an HIV and AIDS policy was statistically significant at 5% significance level with p = 0.036; beta coefficient $\boldsymbol{\beta}$ = -0.943. The odds ratio (0.390) meant that a school without an HIV and AIDS policy was about 0.6 times less likely to implement HIV and AIDS education when compared to a school that had an HIV and AIDS policy.

The variable: Teaching Life Orientation (Grades 7 – 12)/Life-Skills Grade (Grades 1 – 6) (Yes/No) was significant to the implementation of HIV and AIDS education. The contrast; a teacher who was not Teaching Life Orientation (Grades 7 – 12)/Life-Skills Grade (Grades 1 – 6) was statistically significant at 5% significance level with p = 0.016; beta coefficient $\boldsymbol{\beta}$ = -1.094. The odds ratio (0.335) meant that a teacher who was not teaching Life Orientation (Grades 7 – 12)/Life-Skills Grade (Grades 1 – 6) was about 0.67 times less likely to implement HIV and AIDS education in school when compared to a teacher who was teaching Life Orientation (Grades 7 – 12)/Life-Skills Grade (Grades 1 – 6).

The variable: Do you have any formal training in your certificate diploma or degree (Yes/No) was significant to the implementation of HIV and AIDS education. The contrast; a teacher who did not have any formal training in his/her certificate diploma or degree was statistically significant at 10% significance level with p = 0.029; beta coefficient $\boldsymbol{\beta}$ = -0.935. The odds ratio (0.393) meant that the likelihood of a teacher who did not have any formal training in his/her certificate diploma or degree was about 0.61 times less likely to implement HIV and AIDS education when compared to a teacher who had any formal training in his/her certificate diploma or degree.

The variable: I know the contents of HIV and AIDS policy for my school (Yes/No) was significant to the implementation of HIV and AIDS education. The contrast; a teacher who did not know the contents of HIV and AIDS policy for his/her school was statistically significant at 10% significance level with p = 0.059; beta coefficient $\boldsymbol{\beta}$ = -0.900. The odds ratio (0.407) meant that the likelihood of a teacher who did not know the contents of HIV and AIDS policy for his/her school was about 0.6 times less likely to implement HIV and AIDS education when compared to a teacher who knew the contents of HIV and AIDS policy for his/her school.

The variable: Attended any workshop on the teaching of HIV and AIDS in the last 12 months (Yes/No) was significant to the implementation of HIV and AIDS education. The contrast; a teacher who never attended any workshop on the teaching of HIV and AIDS in the last 12 months was statistically significant at 5% significance level with p = 0.038; beta coefficient $\boldsymbol{\beta}$ = -1.654. The odds ratio (0.191) meant that a teacher who never attended any workshop on the teaching of HIV and AIDS in the last 12 months was about 0.8 times less likely to implement HIV and AIDS education in school when compared to a teacher who attended any workshop on the teaching of HIV and AIDS in the last 12 months.

RESEARCH QUESTION 1.3.2

5.4.4 The quality of HIV and AIDS education implementation in schools and is stratified by primary, secondary and combined school type

5.4.4.1 There are enough teachers teaching HIV and AIDS education in schools

Table 5. 19: There are enough teachers teaching HIV and AIDS education in schools

Enough teachers	Frequency	Percent (%)
Strongly Agree	46	12.4
Agree	132	35.6
Disagree	146	39.4
Strongly Disagree	47	12.7
Total	**371**	**100**

Source: Survey data (2015)

5.4.4.1 There are enough teachers teaching HIV and AIDS education in schools stratified by school type

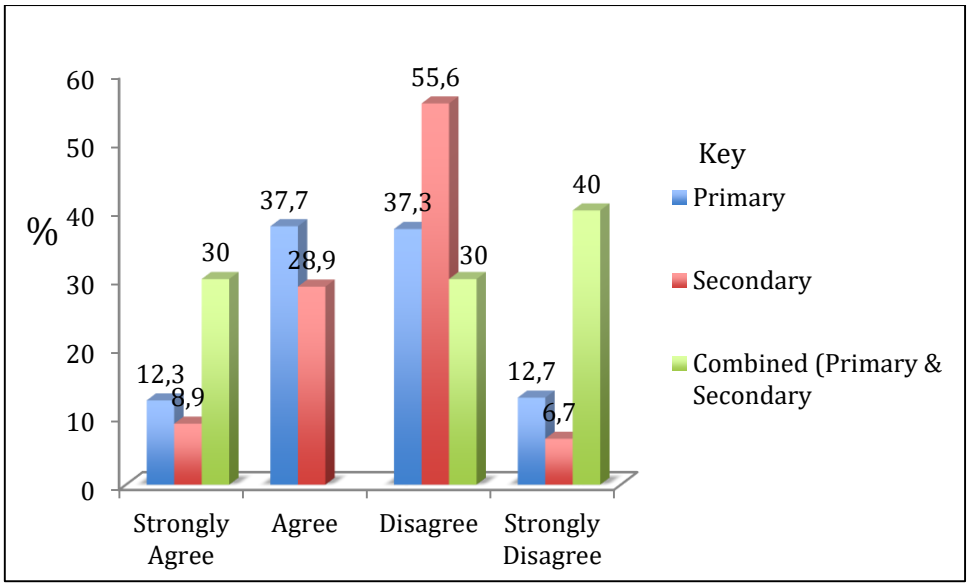


Figure 5. 20: There are enough teachers teaching HIV and AIDS education in schools stratified by school type
Source: Survey data (2015)

Table 5.21 shows that there was an equal split of teachers reporting having enough teachers who are teaching HIV and AIDS in their schools and not having enough of such teachers.

Stratified by school type, a greater percentage of 55% of the teachers who disagreed that there had enough teachers in their schools teaching HIV and AIDS were secondary school teachers. With primary school teachers, there was an equal split between teachers reporting that they had enough teachers in their schools teaching HIV and AIDS and those reporting that teachers were not enough.

5.4.4.2 The number of class periods devoted to sexuality in one class per week is enough

Table 5. 20: The number of class periods devoted to sexuality in one class per week is enough

Number of class periods enough	Frequency	Percent (%)
Strongly Agree	28	7.5
Agree	130	35.0
Disagree	156	42.0
Strongly Disagree	57	15.4
Total	**371**	**100**

Source: Survey data (2015)

5.4.4.2 The number of class periods devoted to sexuality in one class per week is enough stratified by school type

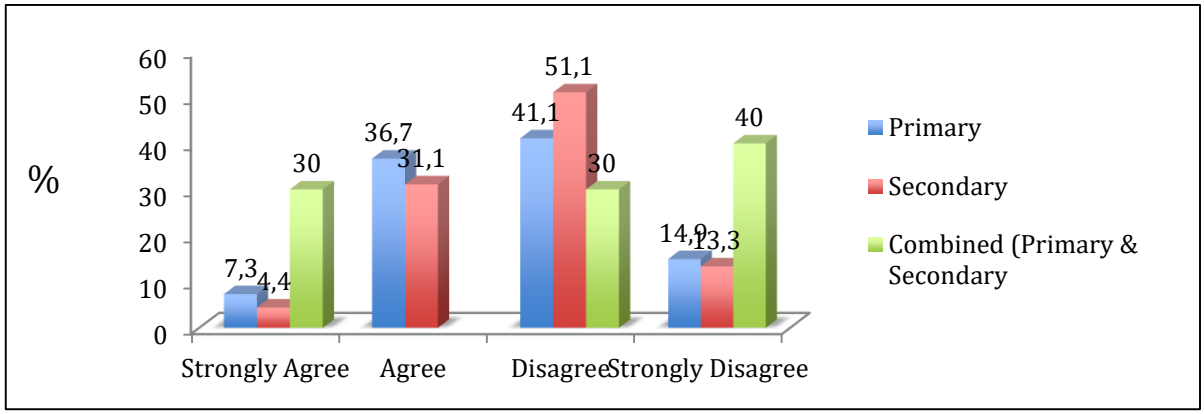


Figure 5. 21: The number of class periods devoted to sexuality in one class per week is enough stratified by school type
Source: Survey data (2015)

Table 5.19 shows that a greater percentage of 42% teachers denied that there were enough class periods devoted to sexuality in one class per week in their schools. Of these teachers who disagreed to the statement, most of them, 51% were secondary school teachers. In a category of teachers who agreed that they had enough class periods devoted to sexuality, most of them, 36.7% were from primary schools.

5.4.4.3 There is enough coverage of information topics and prevention messages of HIV in each class per term

Table 5. 21: There is enough coverage of information topics and prevention messages of HIV in each class per term

Enough coverage of information topics	Frequency	Percent (%)
Strongly Agree	30	8.1
Agree	155	41.8
Disagree	133	35.8
Strongly Disagree	53	14.3
Total	**371**	**100**

Source: Survey data (2015)

5.4.4.3 There is enough coverage of information topics and prevention messages of HIV in each class per term stratified by school type

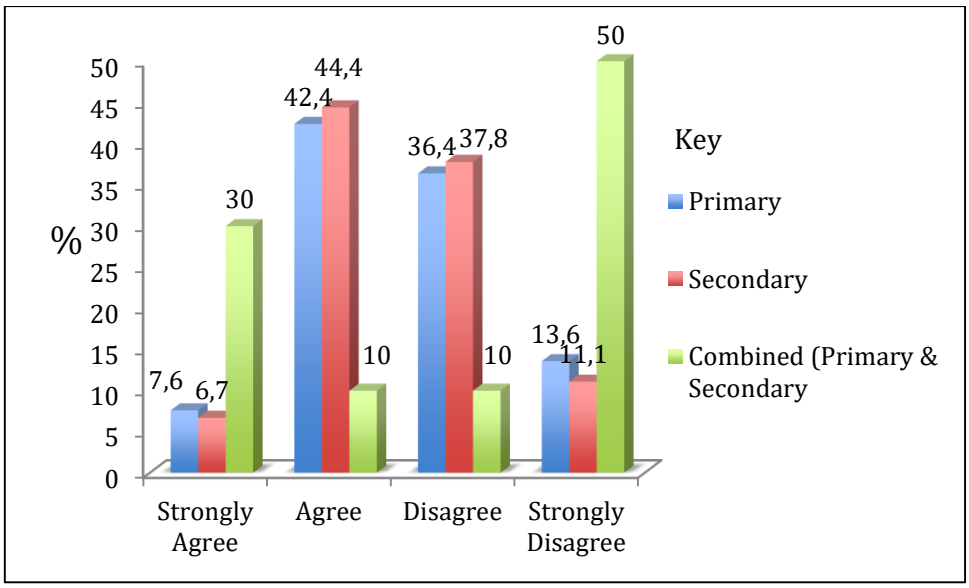


Figure 5. 22: There is enough coverage of information topics and prevention messages of HIV in each class per term stratified by school type
Source: Survey data (2015)

In table 5.21 about coverage of information topics and prevention messages of HIV and AIDS in each class per term, out of 371 a total of 185 (49.9%) agreed that there was enough coverage and a total of 186 (50.1%) disagreed that there was enough coverage, which is more or less an equal distribution of teachers. Figure 5.22 shows that of those

who agreed to having enough coverage, 44.4% of them were secondary school teachers and 42.4% of them were primary school teachers, an equal split too.

5.4.4.4 There is adequate number of HIV prevention skills covered in each class per term

Table 5. 22: There is adequate number of HIV prevention skills covered in each class per term

Adequate number of HIV prevention skills covered	Frequency	Percent (%)
Strongly Agree	24	6.5
Agree	137	36.9
Disagree	153	41.2
Strongly Disagree	57	15.4
Total	**371**	**100**

Source: Survey data (2015)

5.4.4.4 There is adequate number of HIV prevention skills covered in each class per term stratified by school type

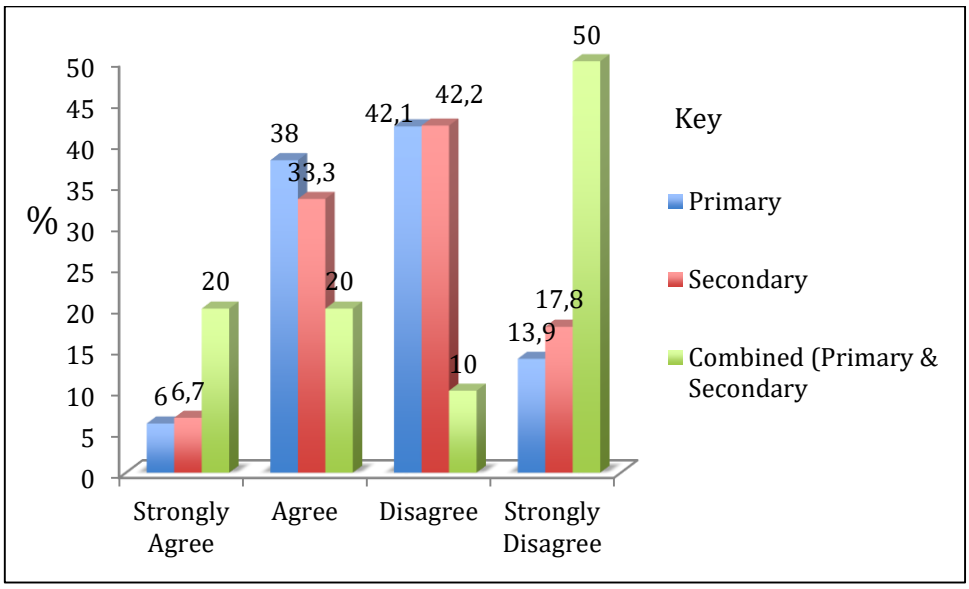


Figure 5. 23: There is adequate number of HIV prevention skills covered in each class per term stratified by school type
Source: Survey data (2015)

Table 5.22 shows that with regards to whether there is adequate number of HIV prevention skills covered in each class per term, a total of 161 out of 371 (43.4%) teachers agreed and a total of 210 out of 371 (56.6%) denied that there was adequate number of HIV prevention skills covered in each class per term in their schools.

Figure 5.23 further shows that among teachers who denied that there was adequate number of HIV prevention skills covered, there was an equal split of teachers between primary and secondary teachers.

5.4.4.5 Whether educators were provided with clear guidelines, teaching materials and activities to help them implement HIV and AIDS education

Table 5. 23: Whether the educator was provided with clear guidelines, teaching materials and activities to help me implement HIV and AIDS education

Provided with clear guidelines, teaching materials and activities	Frequency	Percent (%)
Strongly Agree	23	6.2
Agree	127	34.2
Disagree	161	43.4
Strongly Disagree	60	16.2
Total	**371**	**100**

Source: Survey data (2015)

5.4.4.5 Whether educators were provided with clear guidelines, teaching materials and activities to help them implement HIV and AIDS education stratified by school type

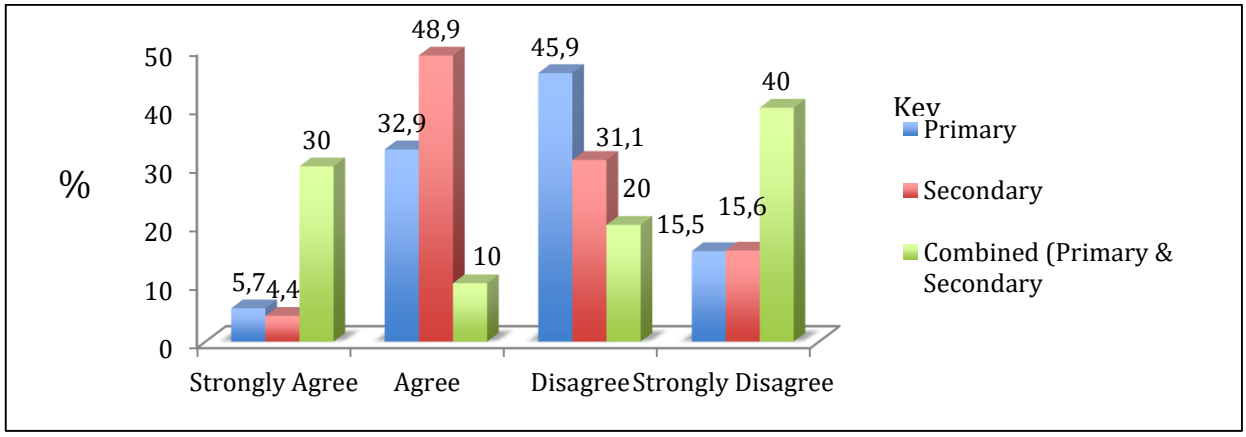


Figure 5. 24: Whether educators were provided with clear guidelines, teaching materials and activities to help them implement HIV and AIDS education stratified by school type
Source: Survey data (2015)

Table 5.23 shows that 150 out of 371 (40.4%) of teachers agreed that they were provided with clear guidelines, teaching materials and activities to help them implement HIV and AIDS education. A greater number of teachers totaling at 221 out of 371 (59.6%) reported that they were not provided with clear guidelines, teaching materials and activities to help them implement HIV and AIDS education. Out of the latter group, 45.9% teachers were from primary schools, 31.1% teachers were from secondary

schools and 20% teachers were from combined schools. Out of the former group that reported having been provided with guidelines, teaching materials and activities, 48% of them were secondary school teachers, 32.9% of them were primary school teachers and 10% of them were from combined schools.

5.4.4.6 Whether educators were confident that their teaching of HIV and AIDS influenced learners' sexual behaviour for the better

Table 5. 24: Whether educators were confident that their teaching of HIV and AIDS influenced learners' sexual behaviour for the better

Confident that the teaching of HIV and AIDS influenced learners' sexual behaviour	Frequency	Percent (%)
Strongly Agree	64	17.3
Agree	187	50.4
Disagree	89	24.0
Strongly Disagree	31	8.4
Total	**371**	**100**

Source: Survey data (2015)

5.4.4.6 Whether educators were confident that their teaching of HIV and AIDS influenced learners' sexual behaviour for the better stratified by school type

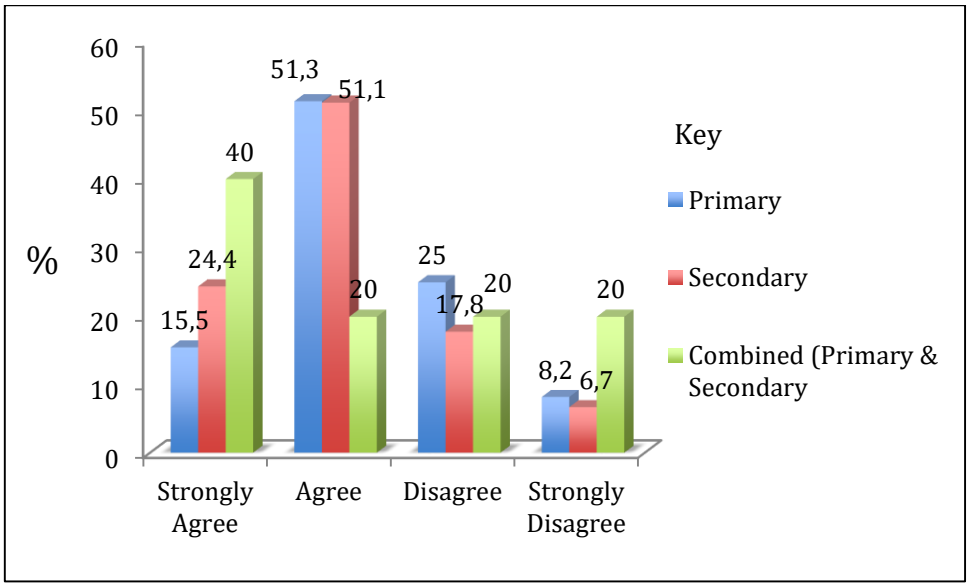


Figure 5. 25: Whether educators were confident that their teaching of HIV and AIDS influenced learners' sexual behaviour for the better stratified by school type
Source: Survey data (2015)

Table 5.24 shows that the majority of 241 out of 371 (67.7%) teachers reported that they were confident that their teaching of HIV and AIDS influenced learners' behaviour for the better. A total of 120 out of 371 (32.4%) teachers reported that they were not confident that their teaching of HIV and AIDS could influence learners' sexual behaviours for the better. There was no big difference in the number of secondary and primary school teachers reporting that they were confident and also no big difference in the numbers of primary and secondary amongst those that report not being confident.

5.4.4.7 Whether educators were comfortable handling sexuality issues in their classes

Table 5. 25: Whether educators were comfortable handling sexuality issues in their classes

Comfortable handling sexuality issues	Frequency	Percent (%)
Strongly Agree	74	19.9
Agree	173	46.6
Disagree	90	24.3
Strongly Disagree	34	9.2
Total	**371**	**100**

Source: Survey data (2015)

5.4.4.7 Whether educators were comfortable handling sexuality issues in their classes stratified by school type

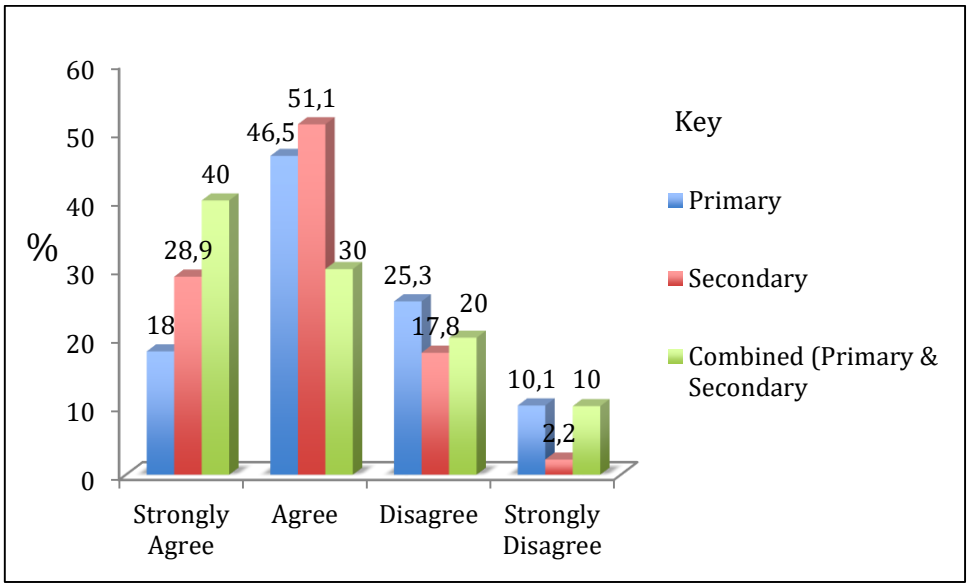


Figure 5. 26: Whether educators were comfortable handling sexuality issues in their classes stratified by school type
Source: Survey data (2015)

Table 5.25 shows that the majority of teachers of about 247 out of 371 (66.5%) reported who they were comfortable handling sexuality issues in their classes. Of course, there was a big number of 124 out of 371 (33.5%) teachers who reported that they were not comfortable handling sexuality issues in schools. Of those that were not comfortable, a larger percentage of 25.3% teachers were primary school teachers, followed by combined school teachers with 20% and lastly secondary school teachers with 17.8%.

5.4.5 Teachers' assessment of their schools' quality on using strategies of engaging learners in the implementation of HIV and AIDS education also stratified by secondary, primary and combined type of school.

5.4.5.1 Discussion of sexuality issues

Table 5. 26: Discussion of sexuality issues

Discussion of sexuality issues	Frequency	Percent (%)
Excellent	46	12.4
Good	153	41.2
Unsure	79	21.3
Average	63	17.0
Poor	30	8.1
Total	**371**	**100**

Source: Survey data (2015)

5.4.5.1 Discussion of sexuality issues stratified by school type

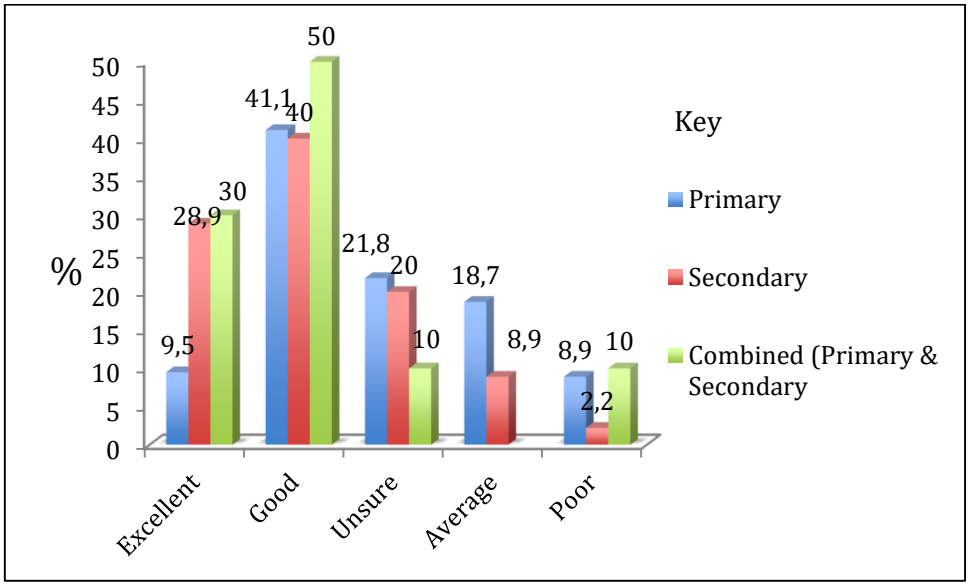


Figure 5. 27:Discussion of sexuality issues stratified by school type
Source: Survey data (2015)

Table 5.26 shows that the majority of 153 out of 371 (41.2%) teachers rated the use of discussion of sexuality issues as a strategy in engaging learners in the implementation of HIV and AIDS as having been 'good' in their schools. Of these teachers 50% were combined school teachers, 40% were secondary school teacher and 41.1% were primary school teachers. It is noted that fewer teachers, 172 out of 371 (38.8%) gave the ratings that suggest that this strategy is not used in their schools. Very few of secondary school teachers, 2% denied that this strategy is being used.

5.4.5.2 Messages around risks of HIV infection as prevention strategies

Table 5. 27: Messages around risks of HIV infection as prevention strategies

Messages around risks of HIV infection and prevention strategies	Frequency	Percent (%)
Excellent	65	17.5
Good	162	43.7
Unsure	69	18.6
Average	51	13.7
Poor	24	6.5
Total	**371**	**100**

Source: Survey data (2015)

5.4.5.2 Messages around risks of HIV infection as prevention strategies stratified by school type

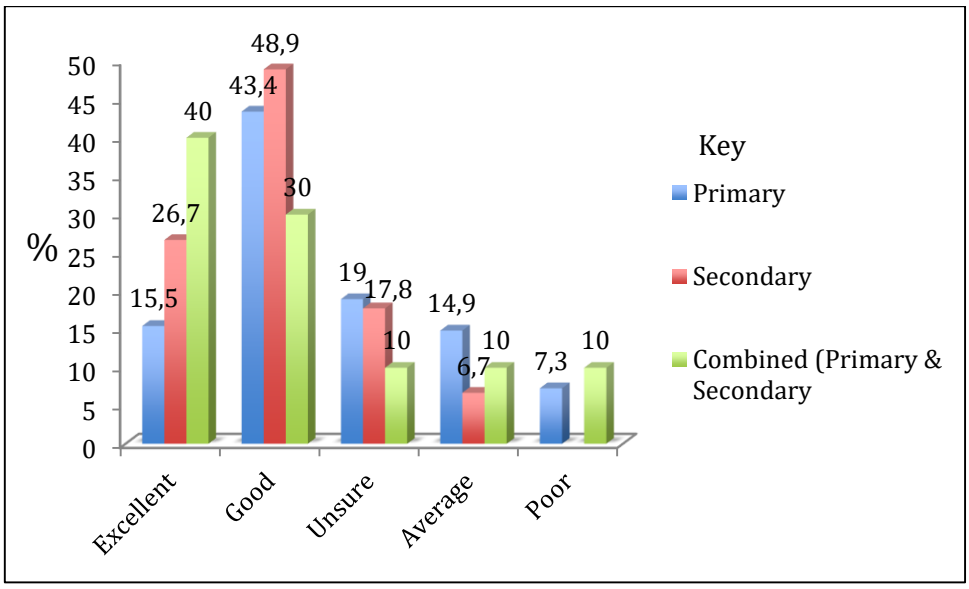


Figure 5. 28: Messages around risks of HIV infection and prevention strategies stratified by school type
Source: Survey data (2015)

Table 5.27 shows that more than 50% of teachers used this strategy with most teachers, 162 out of 371 (43.7%) rating the use of messages around risks of HIV and prevention strategies as 'good'. Of these teachers, 48.9% were secondary school teachers and 43.4% were primary school teachers. A fewer number of 144 out of 371 (38.8%) teachers rated this strategy as 'unsure', 'average' and 'poor'. It is noted that none of the secondary school teachers denied the use of this strategy in their schools.

5.4.5.3 Assignments and projects on HIV and AIDS related topics

Table 5. 28: Assignments and projects on HIV and AIDS related topics

Assignments and projects on HIV and AIDS related topics	Frequency	Percent (%)
Excellent	34	9.2
Good	123	33.2
Unsure	109	29.4
Average	55	14.8
Poor	50	13.5
Total	**371**	**100**

Source: Survey data (2015)

5.4.5.3 Assignments and projects on HIV and AIDS related topics stratified by school type

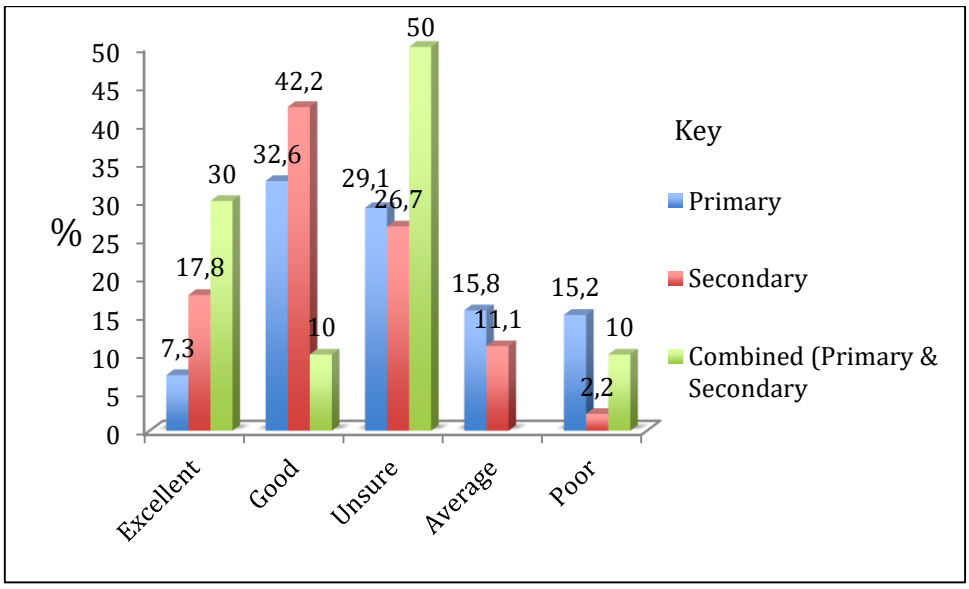


Figure 5. 29: Assignments and projects on HIV and AIDS related topics stratified by school type
Source: Survey data (2015)

Table 5.28 shows that most teachers fell into two categories of ratings for this variable of using assignments and projects on HIV and AIDS related topics as a strategy to implement HIV and AIDS education in their classes. There were 123 out of 371 (33.2%) rated the use of this strategy as 'good' and 109 out of 371 (29.4%) were unsure of the use of this strategy in their schools. Of the 29.4% who rated the use of this strategy as 'good' in their schools, 42.2% were secondary school teachers, 32.6% were primary school teachers and 10% were combined school teachers.

5.4.5.4 Debates on HIV and AIDS related topics

Table 5. 29: Debates on HIV and AIDS related topics

Debates on HIV and AIDS related topics	Frequency	Percent (%)
Excellent	25	6.7
Good	114	30.7
Unsure	89	24.0
Average	70	18.9
Poor	73	19.7
Total	**371**	**100**

Source: Survey data (2015)

5.4.5.4 Debates on HIV and AIDS related topics stratified by school type

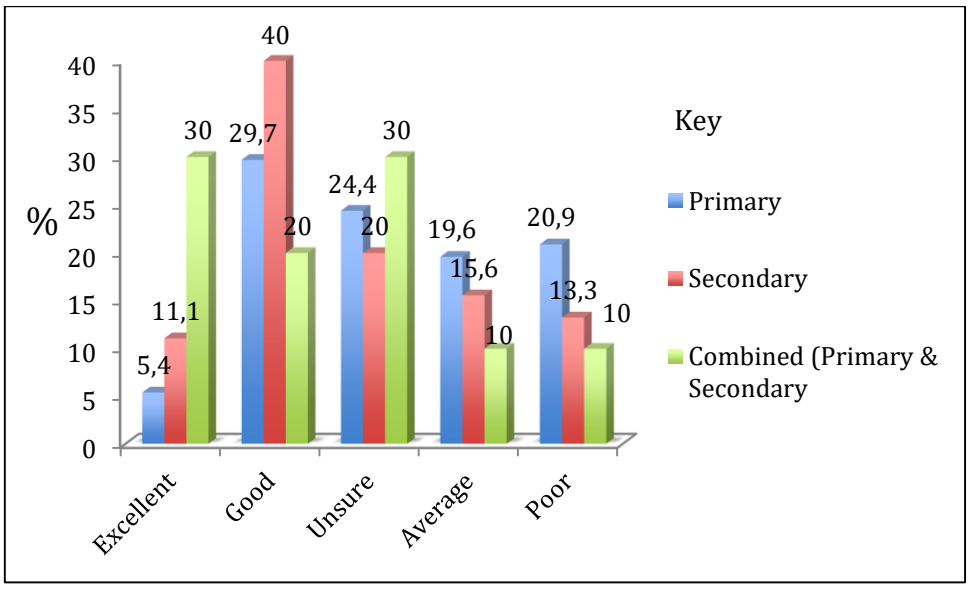


Figure 5. 30: Debates on HIV and AIDS related topics stratified by school type
Source: Survey data (2015)

Table 5.29 shows that 114 out of 371 (30.7%) teachers rated the use of debates on HIV and AIDS related topics as a strategy to engage learners in implementing HIV and AIDS education as 'good'. Of these teachers, 40% were secondary school teachers, 29.7% were primary school teachers and 20% were combined school teachers.

5.4.5.5 Exercises and quizzes on modes of HIV transmission and myths about HIV

Table 5. 30: Exercises and quizzes on modes of HIV transmission and myths about HIV

Exercises and quizzes on modes of HIV transmission and myths about HIV	Frequency	Percent (%)
Excellent	24	6.5
Good	118	31.8
Unsure	89	24.0
Average	77	20.8
Poor	63	17.0
Total	**371**	**100**

Source: Survey data (2015)

5.4.5.5 Exercises and quizzes on modes of HIV transmission and myths about HIV stratified by school type

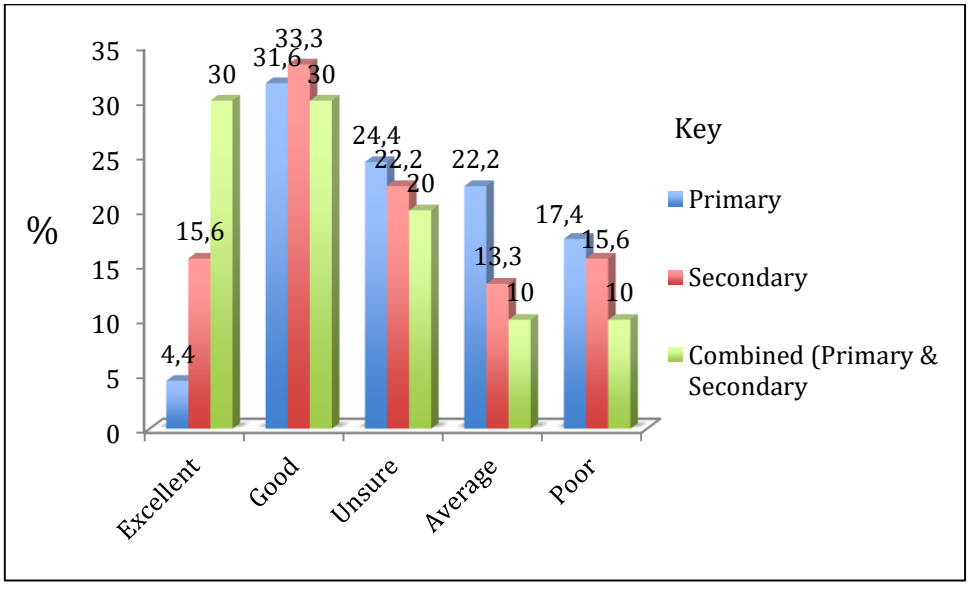


Figure 5. 31: Exercises and quizzes on modes of HIV transmission and myths about HIV stratified by school type
Source: Survey data (2015)

Table 5.30 shows that 118 out of 371 teachers (31.8%) rated the use of exercises and quizzes on modes of transmission and myths about HIV as teaching strategies for HIV

and AIDS as ‘good’ in their schools. Another 24 out of 371 (6.5%) gave a rating of ‘excellent’. Of those that gave a rating ‘good’, 33.3% secondary school teachers, 31.6% were primary school teachers and 30% were combined school teachers. Teachers who rated this strategy as ‘unsure’, ‘average’ and ‘poor’ amounted to 229 out of 381 teachers, and primary school teachers were the highest number in all such negative categories.

5.4.5.6 Use of peer educators for some HIV related topics

Table 5. 31: Use of peer educators for some HIV related topics

Use of peer educators for some HIV related topics	Frequency	Percent (%)
Excellent	27	7.3
Good	128	34.5
Unsure	90	24.3
Average	67	18.1
Poor	59	15.9
Total	**371**	**100**

Source: Survey data (2015)

5.4.5.6 Use of peer educators for some HIV related topics stratified by school type

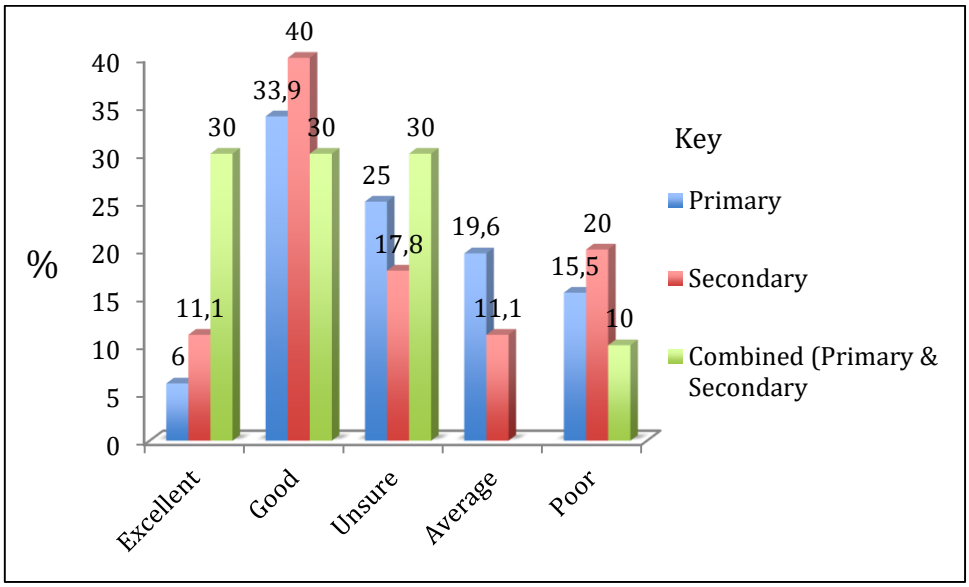


Figure 5. 32: Use of peer educators for some HIV related topics stratified by school type
Source: Survey data (2015)

Table 5.31 shows that 128 out of 371 (34.5%) teachers rated the use of peer educators of some HIV related topics as a strategy to engage learners in HIV and AIDS education

as ‘good’. Of these teachers, 40% were secondary school teachers and 33.9% were primary school teachers and 30% were combined school teachers. Teachers who rated this strategy as ‘unsure’, ‘average’ and ‘poor’ amounted to 216 out of 381 teachers, with 20% of these teachers being the secondary school teachers rating this strategy as ‘poor’.

5.4.5.7 School wide intervention programs including commemoration of World AIDS Day

Table 5. 32: School wide intervention programs including commemoration of World AIDS Day

School wide intervention programs	Frequency	Percent (%)
Excellent	32	8.6
Good	111	29.9
Unsure	81	21.8
Average	75	20.2
Poor	72	19.4
Total	**371**	**100**

Source: Survey data (2015)

5.4.5.7 School wide intervention programs including commemoration of World AIDS Day stratified by school type

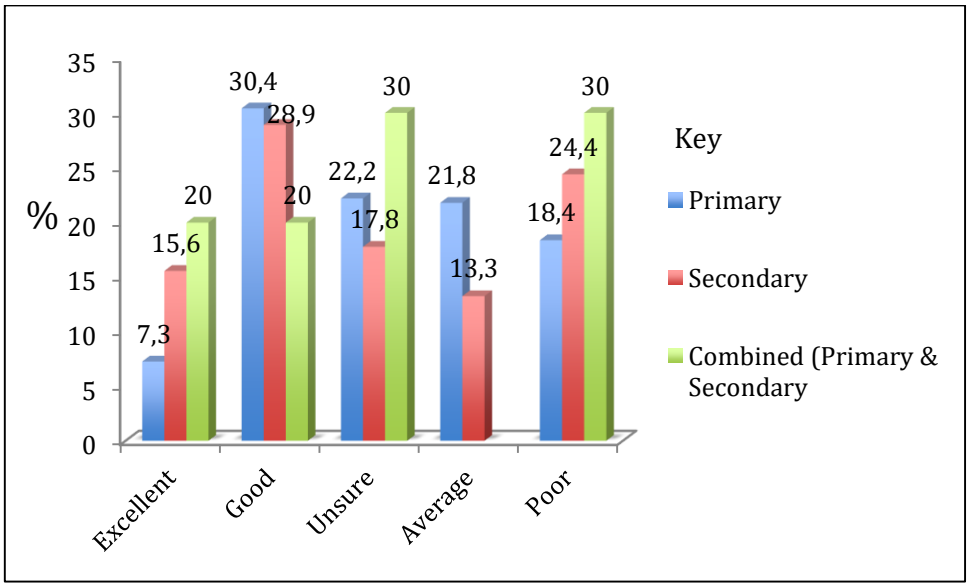


Figure 5. 33: School wide intervention programs including commemoration of World AIDS Day stratified by school type
Source: Survey data (2015)

Table 5.32 shows that the use of school wide intervention programs including commemoration of the World AIDS Day was also not a popular strategy because only 143 out of 371 (38.5%) teachers rated the use of this strategy as 'good' and 'excellent'. There is no big difference in numbers of secondary and primary school teachers in each rate category. It is noted that a large number of teachers, 228 out of 371 (61.4%) rated the use of this strategy as 'unsure', 'average' and 'poor'. Most teachers, 20% who gave a rating of 'poor' were from combined schools.

5.4.5.8 Use of role-play to dramatise key issues of HIV and AIDS

Table 5. 33: Use of role-play to dramatise key issues of HIV and AIDS

Use of role-play to dramatize key issues of HIV and AIDS	Frequency	Percent (%)
Excellent	29	7.8
Good	119	32.1
Unsure	74	19.9
Average	87	23.5
Poor	62	16.7
Total	**371**	**100**

Source: Survey data (2015)

5.4.5.8 Use of role-play to dramatise key issues of HIV and AIDS stratified by school type

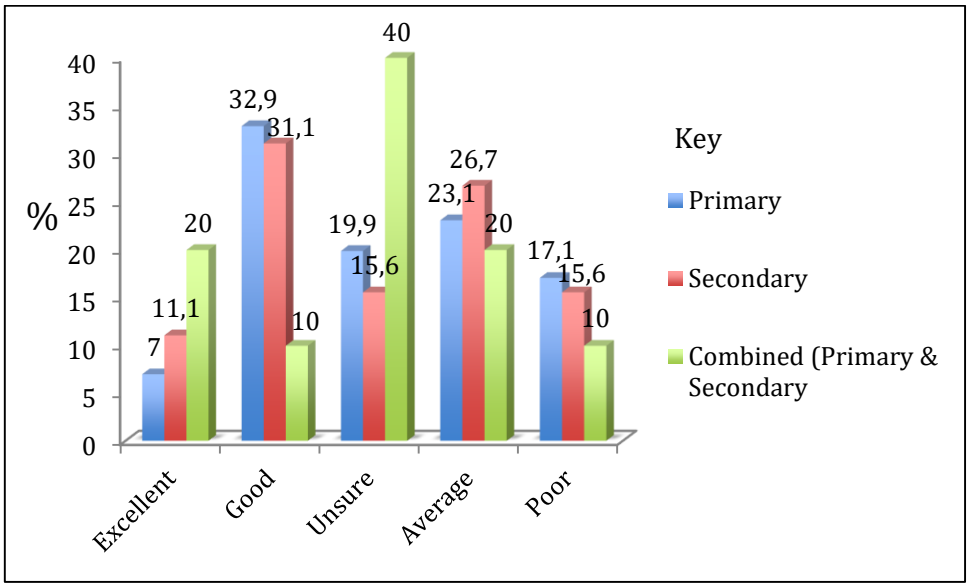


Figure 5. 34: Use of role-play to dramatise key issues of HIV and AIDS stratified by school type
Source: Survey data (2015)

Use of role-plays to dramatise key issues of HIV and AIDS is another strategy that was not used by most of teachers. Table 5.33 reveals that only 119 out of 371 (32.1%) teachers rated the use of this strategy as 'good' in their schools, with a more or less equal split between primary and secondary school teachers. A greater number of 223 out of 371 (60.1%) teachers denied that this strategy was well used in their schools thereby giving ratings of 'unsure', 'average' and 'poor'. Of those who had chosen 'unsure', 40% were from combined schools.

5.4.5.9 Playing video clips on HIV topics for learners

Table 5. 34: Playing video clips on HIV topics for learners

Playing video clips on HIV topics for learners	Frequency	Percent (%)
Excellent	19	5.1
Good	55	14.8
Unsure	95	25.6
Average	60	16.2
Poor	142	38.3
Total	**371**	**100**

Source: Survey data (2015)

5.4.5.9 Playing video clips on HIV topics for learners stratified by school type

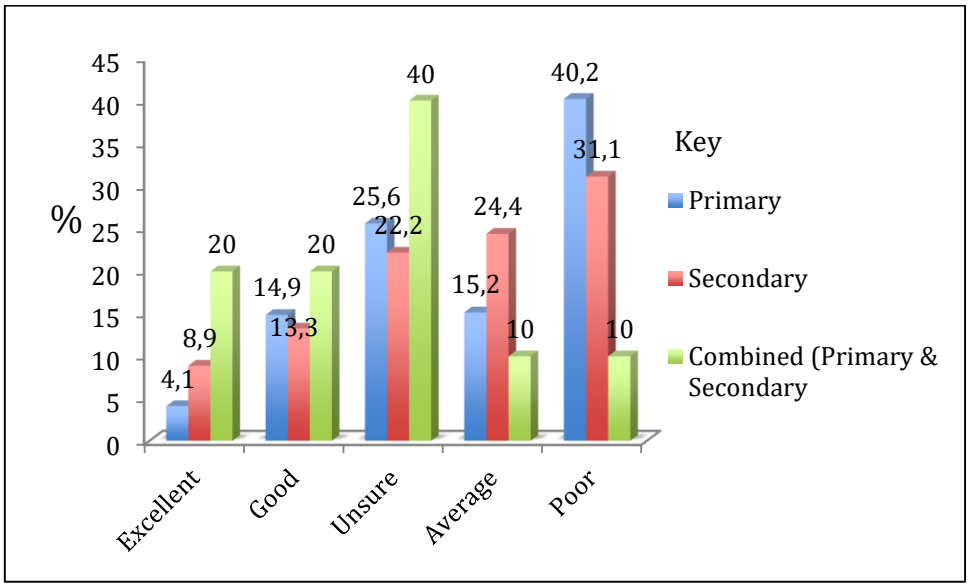


Figure 5. 35:Playing video clips on HIV topics for learners stratified by school type
Source: Survey data (2015)

Table 5.34 shows that this strategy of playing video clips on HIV topics was the least used one, with a total of 279 out of 371 (80.1%) teachers rating the use of this strategy as 'unsure', 'average' and 'poor'. A total of 142 out of 371 (38.3%) gave it a 'poor' rating and of those, 40.2% were primary school teachers, followed by 31.1% secondary school teachers and 10% combined school teachers. There were teachers who reported using this strategy excellently though in small percentages and these amounted to 20% teachers in combined schools, 8.9% in secondary schools and 4.1% in primary schools.

5.4.5.10 Use of outside speakers to motivate learners to prevent HIV infection

Table 5. 35: Use of outside speakers to motivate learners to prevent HIV infection

Use of outside speakers to motivate learners to prevent HIV infection	Frequency	Percent (%)
Excellent	42	11.3
Good	109	29.4
Unsure	58	15.6
Average	69	18.6
Poor	93	25.1
Total	**371**	**100**

Source: Survey data (2015)

5.4.5.10 Use of outside speakers to motivate learners to prevent HIV infection stratified by school type

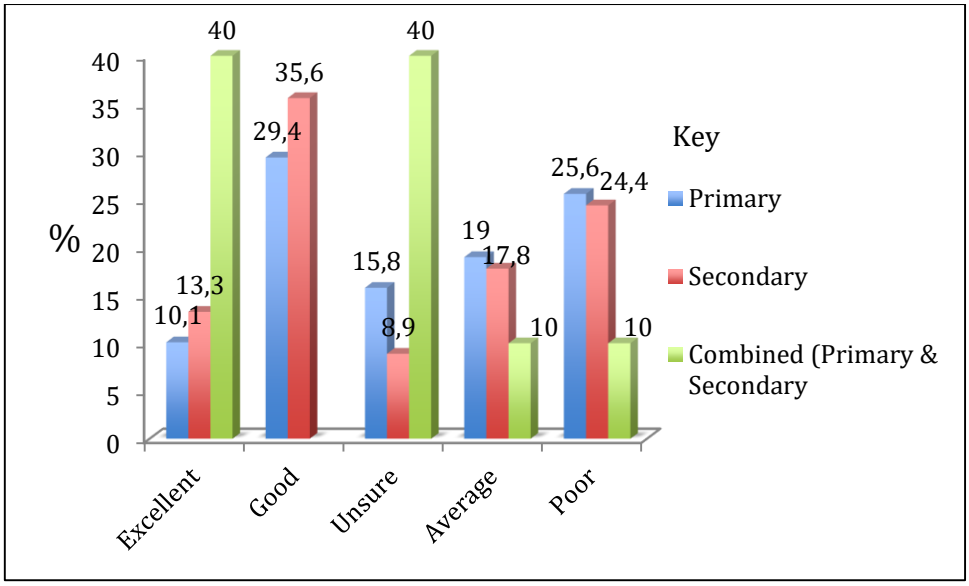


Figure 5. 36: Use of outside speakers to motivate learners to prevent HIV infection stratified by school type
Source: Survey data (2015)

Table 5.35 shows that most teachers 109 out of 371 (29.4%) rated the use of outside speakers to motivate learners to prevent HIV infection as 'good' and 35.6% of these teachers were secondary schools and 29.4% primary school teachers. Another bulk of teachers 93 out of 371(25.1%) gave a rating 'poor' to the use of this strategy in their school. Of these, 25.5% were primary school teachers, 24.4% were secondary school teacher and 10% were combined school teachers.

RESEARCH QUESTION 1.3.3

5.6 Relationship between the quality of HIV and AIDS education implementation in schools and teacher characteristics

Table 5. 36: Results of the binary logistic regression analysis on the relationship between the quality of HIV/AIDS education implementation in schools and teacher characteristics

Variable	β	SE	Wald	df	Sig. (p-value)	Exp(β)	95% C.I.for EXP(β)	95% C.I.for EXP(β)
							Lower	Upper
Constant	-19.598	28238.290	0.000	1	0.999	0.000	-	-
Age (50+ years)	-	-	1.501	3	0.682	-	-	-
-Age (18-29 years)	0.373	0.599	0.387	1	0.534	1.452	0.449	4.695
-Age (30-39 years)	-0.242	0.468	0.268	1	0.604	0.785	0.314	1.963
-Age (40-49 years)	-0.061	0.406	0.023	1	0.880	0.941	0.424	2.085
Gender (Male)	-0.529	0.402	1.729	1	0.189	0.589	0.268	1.296
Highest Education Qualification (HEQ) (Other qualification)	-	-	1.487	5	0.915	-	-	-
- HEQ (Teacher's certificate)	0.427	0.794	0.289	1	0.591	1.532	0.323	7.266
- HEQ (Teacher's diploma)	-0.205	0.655	0.098	1	0.754	0.814	0.225	2.942
- HEQ (Bachelor degree)	0.073	0.647	0.013	1	0.910	1.076	0.303	3.826
- HEQ (Hons. Bachelor degree)	-0.206	0.741	0.077	1	0.782	0.814	0.190	3.482
- HEQ (Master's degree)	-18.187	40192.970	0.000	1	1.000	0.000	0.000	-
Religion (Other)	-	-	5.154	5	0.397	-	-	-
-Religion (Catholic)	-0.032	0.394	0.007	1	0.935	0.968	0.447	2.097
-Religion (Protestant)	0.017	0.471	0.001	1	0.971	1.017	0.404	2.561
-Religion (Charismatic)	-0.522	0.388	1.811	1	0.178	0.593	0.277	1.269
-Religion (Nazareth)	-1.101	0.599	3.384	1	0.066	0.332*	0.103	1.075
-Religion (Zion)	-0.388	0.483	0.644	1	0.422	0.679	0.263	1.749
Duration of teaching years in general (21+ years)	-	-	1.060	4	0.900	-	-	-
-Duration of teaching years (0-4 years)	0.141	0.550	0.066	1	0.798	1.151	0.392	3.384
-Duration of teaching years (5-10 years)	0.184	0.458	0.161	1	0.688	1.201	0.490	2.947
-Duration of teaching years (11-15 years)	0.130	0.471	0.076	1	0.782	1.139	0.452	2.868
-Duration of teaching years (16-20 yrs)	0.494	0.491	1.014	1	0.314	1.639	0.626	4.290
School location (rural)	-1.029	0.280	13.529	1	0.000	0.357***	0.206	.618
Type of school (Combined - primary and secondary)	-	-	5.313	2	0.070	-	-	-
-Type of school (Primary)	1.151	0.976	1.390	1	0.238	3.162	0.467	21.425
-Type of school (Secondary)	-0.214	1.147	0.035	1	0.852	0.807	0.085	7.640
Does your school have the HIV and AIDS policy (No)	0.058	0.434	0.018	1	0.894	1.060	0.453	2.482
Teaching phase (Life Orientation (Senior phase +FET))	-	-	3.944	5	0.558	-	-	-

-Teaching phase (Life Skills (Foundation Phase))	21.173	28238.290	0.000	1	0.999	1567557773.548	0.000	-
-Teaching phase (Life Skills (Intermediate))	20.763	28238.290	0.000	1	0.999	1040148675.370	0.000	-
-Teaching phase (Life Orientation (Senior phase))	21.488	28238.290	0.000	1	0.999	2148359652.743	0.000	-
-Teaching phase (Life Orientation (FET))	21.757	28238.290	0.000	1	0.999	2810534092.822	0.000	-
-Teaching phase (Life Skills (Intermediate + Senior phase))	20.134	28238.290	0.000	1	0.999	554820812.179	0.000	-
Do you have any formal training in your certificate diploma or degree (No)	-0.070	0.291	0.059	1	0.809	0.932	0.527	1.647
I have a positive attitude towards HIV and AIDS education (Disagree)	-0.054	0.682	0.006	1	0.937	0.948	0.249	3.606
I have an interest in implementing HIV and AIDS education (Disagree)	0.676	0.714	0.897	1	0.344	1.966	0.485	7.965
I am capable of implementing HIV and AIDS education in my school (Disagree)	0.264	0.509	0.268	1	0.604	1.302	0.480	3.527
I know the contents of HIV and AIDS policy for my school (Disagree)	-0.251	0.427	0.346	1	0.557	0.778	0.337	1.796
I have enough resources to implement HIV and AIDS education in my school (Disagree)	-0.594	0.314	3.581	1	0.058	0.552**	0.299	1.021
The time allocated in the timetable for HIV and AIDS education is enough (Disagree)	-1.265	0.303	17.395	1	0.000	0.282***	0.156	0.511
I receive enough support from my colleagues principal and the district office (Disagree)	-0.426	0.328	1.679	1	0.195	0.653	0.343	1.244
I am confident that my teaching of HIV and AIDS influences learners sexual behaviour (Disagree)	-0.665	0.343	3.766	1	0.052	0.514**	0.263	1.007
I am comfortable handling sexuality issues in my class (Disagree)	-0.937	0.341	7.540	1	0.006	0.392*	0.201	0.765
Have you attended any workshop on the teaching of HIV and AIDS (No)	-0.303	0.347	0.762	1	0.383	0.739	0.374	1.458
Teaching Life Orientation (Grades 7 – 12)/Life Skills Grade (Grades 1 – 6) (No)	0.119	0.376	0.101	1	0.751	1.127	0.540	2.352
Number of observations	371							
Hosmer and Lemeshow Chi-square	6.832 (p=0.555)							
Cox & Snell R Square	0. 301							
(-2) Log likelihood	373.173a							
Over all model prediction (%)	76							
Nagelkerke R^2	0. 405							

******* Statistically significant at 1% significance level**; **** Statistically significant at 5% significance level & ***** Statistically significant at 10% significance level Source: Survey data (2015)

Dependent - The number of class periods devoted to sexuality in one class per week is enough or not used as a proxy for quality implementation (if implementer agreed it was enough coded with 1 = high quality; if otherwise coded with 0 = low quality)

Table 5.35: Results of the binary logistic regression analysis on the relationship between the quality of HIV and AIDS education implementation in schools and teacher characteristics

Table 5.36 above shows the results of the binary logistic regression analysis on the relationship between the quality of HIV and AIDS education implementation in schools and teacher characteristics. The dependent variable used as a proxy for quality implementation: 'the number of class periods devoted to sexuality in one class per week was enough or not' was coded 1 'if the teacher agreed that the number of class periods devoted to sexuality in one class per week was enough'; the HIV and AIDS education implementation was deemed to be of 'high quality' and coded with 1; 'if otherwise' the HIV and AIDS education implementation was deemed to be of 'low quality' and coded with 0.

With regards to the model fit, the Lemeshow Goodness-of-Fit test measure was employed to check and validate that the model fitted the data well. The chi-square goodness-of-fit test statistics of the model showed that the model fitted the data. This showed that the independent variables were relevant in explaining the dependent variable. Another measure of goodness of fit of the model (Nagelkerke R^2), a pseudo R^2 was computed and used as a proxy to estimate the proportion of the variation in the response that is explained by the model. Nagelkerke R^2 of 0.405 was obtained; indicating the variation explained by the model was about 41% with an overall prediction of 76%.

The variable: Religion; overall did not contribute to the implementation of quality HIV and AIDS education. However the contrast; the teacher being of religion -Nazareth was statistically significant at 10% significance level with p = 0.066; beta coefficient $\boldsymbol{\beta}$ = -1.101. The odds ratio (0.332) meant that a teacher being of religion - Nazareth was about 0.67 times less likely to implement quality HIV and AIDS education in terms of number of class periods devoted to sexuality in one class per week as compared to "other" religions.

The variable: School location (urban/rural) contributes to the implementation of quality HIV and AIDS education. The contrast; the school being located in the rural was statistically significant at 1% significance level with p = 0.000; beta coefficient $\boldsymbol{\beta}$ = -1.029. The odds ratio (0.357) meant that a school located in the rural area was about 0.64 times less likely to implement quality HIV and AIDS education in terms of number

of class periods devoted to sexuality in one class per week when compared to a school located in the urban area.

The variable: I have enough resources to implement HIV and AIDS education in my school (Agree/Disagree) contributes to the implementation of quality HIV and AIDS education. The contrast; a teacher who did not have enough resources to implement HIV and AIDS education was statistically significant at 1% significance level with p = 0.058; beta coefficient $\boldsymbol{\beta}$ = -0.594. The odds ratio (0.552) meant that a teacher who did not have enough resources to implement HIV and AIDS education was about 0.49 times less likely to implement quality HIV and AIDS education in terms of number of class periods devoted to sexuality in one class per week when compared to a teacher who had enough resources to implement HIV and AIDS education.

The variable: The time allocated in the timetable for HIV and AIDS education was enough (Agree/Disagree) contributes to the implementation of quality HIV and AIDS education. The contrast; a teacher who did not have time allocated in the timetable for HIV and AIDS education was statistically significant at 1% significance level with p = 0.000; beta coefficient $\boldsymbol{\beta}$ = -1.265. The odds ratio (0.282) meant that a teacher without enough time allocation in the timetable for HIV and AIDS education was about 0.72 times less likely to implement quality HIV and AIDS education in terms of number of class periods devoted to sexuality in one class per week as compared to a teacher who had enough time allocated in the timetable for HIV and AIDS education.

The variable: I am confident that my teaching of HIV and AIDS influences learners' sexual behaviour for the better (Agree/Disagree) contributes to the implementation of quality HIV and AIDS education. The contrast; a teacher who was not confident that his/her teaching of HIV and AIDS influences learners' sexual behaviour was statistically significant at 5% significance level with p = 0.052; beta coefficient $\boldsymbol{\beta}$ = -0.665. The odds ratio (0.514) meant that a teacher who was not confident that his/her teaching of HIV and AIDS influences learners' sexual behaviour was about 0.49 times less likely to implement quality HIV and AIDS education in terms of number of class periods devoted to sexuality in one class per week when compared to a teacher who

was confident that his/her teaching of HIV and AIDS influenced learners' sexual behaviour for the better.

The variable: I am comfortable handling sexuality issues in my class (Agree/Disagree) contributes to the implementation of quality HIV and AIDS education. The contrast; a teacher who was not comfortable handling sexuality issues in his/her class was statistically significant at 5% significance level with p = 0.006; beta coefficient $\boldsymbol{\beta}$ = -0.937. The odds ratio (0.392) meant that a teacher who was not comfortable handling sexuality issues in his/her class was about 0.61 times less likely to implement quality HIV and AIDS education in terms of number of class periods devoted to sexuality in one class per week.

Table 5. 37: Results of the binary logistic regression analysis on the relationship between the quality of HIV/AIDS education implementation in schools and teacher characteristics

Variable	β	SE	Wald	df	Sig. (p-value)	Exp(β)	95% C.I.for EXP(β) Lower	95% C.I.for EXP(β) Upper
Constant	1.875	2.101	0.796	1	0.372	6.518	-	-
Age (50+ years)	-	-	3.649	3	0.302	-	-	-
-Age (18-29 years)	-0.390	0.620	0.396	1	0.529	0.677	0.201	2.282
-Age (30-39 years)	0.338	0.501	0.454	1	0.501	1.402	0.525	3.744
-Age (40-49 years)	-0.347	0.439	0.623	1	0.430	0.707	0.299	1.672
Gender (Male)	-0.809	0.422	3.670	1	0.055	0.445*	0.195	1.019
Highest Education Qualification (HEQ) (Other qualification)	-	-	1.064	5	0.957	-	-	-
- HEQ (Teacher's certificate)	-0.574	0.816	0.495	1	0.482	0.563	0.114	2.789
- HEQ (Teacher's diploma)	-0.654	0.666	0.965	1	0.326	0.520	0.141	1.918
- HEQ (Bachelor degree)	-0.463	0.660	0.492	1	0.483	0.629	0.173	2.295
- HEQ (Hons. Bachelor degree)	-0.495	0.760	0.425	1	0.515	0.610	0.137	2.702
- HEQ (Master's degree)	-18.803	40192.970	0.000	1	1.000	0.000	0.000	-
Religion (Other)	-	-	5.288	5	0.382	-	-	-
-Religion (Catholic)	0.188	0.425	0.197	1	0.657	1.207	0.525	2.775
-Religion (Protestant)	1.155	0.540	4.580	1	0.032	3.174**	1.102	9.141
-Religion (Charismatic)	0.350	0.417	0.706	1	0.401	1.420	0.627	3.216
-Religion (Nazareth)	0.117	0.595	0.039	1	0.844	1.124	0.350	3.609
-Religion (Zion)	0.532	0.497	1.142	1	0.285	1.702	0.642	4.511
Duration of teaching years in general (21+ years)	-	-	7.691	4	0.104	-	-	-
-Duration of teaching years (0-4 years)	1.061	0.592	3.212	1	0.073	2.889*	0.906	9.218
-Duration of teaching years (5-10 years)	0.168	0.490	0.118	1	0.732	1.183	0.453	3.088
-Duration of teaching years (11-15 years)	0.522	0.503	1.079	1	0.299	1.686	0.629	4.518
-Duration of teaching years (16-20 yrs)	1.080	0.543	3.954	1	0.047	2.946**	1.016	8.545
School location (rural)	-0.378	0.294	1.655	1	0.198	0.685	0.385	1.219
Type of school (Combined - primary and secondary)	-	-	2.902	2	0.234	-	-	-
-Type of school (Primary)	0.810	0.913	0.787	1	0.375	2.248	0.376	13.447
-Type of school (Secondary)	-0.225	1.142	0.039	1	0.844	0.799	0.085	7.483
Does your school have the HIV and AIDS policy (No)	-0.872	0.449	3.761	1	0.052	0.418*	0.173	1.009
Teaching phase (Life Orientation (Senior phase +FET))	-	-	15.971	5	0.007	-	-	-
-Teaching phase (Life Skills (Foundation Phase))	0.772	1.668	0.214	1	0.644	2.164	0.082	56.865
-Teaching phase (Life Skills (Intermediate))	-0.459	1.667	0.076	1	0.783	0.632	0.024	16.599
-Teaching phase (Life Orientation (Senior phase))	0.699	1.598	0.192	1	0.662	2.013	0.088	46.112
-Teaching phase (Life Orientation (FET))	2.128	1.721	1.529	1	0.216	8.398	0.288	244.912
-Teaching phase (Life Skills (Intermediate + Senior phase))	-0.680	1.943	0.123	1	0.726	0.506	0.011	22.822

Do you have any formal training in your certificate diploma or degree (No)	0.567	0.316	3.215	1	0.073	1.762*	0.949	3.274
I have a positive attitude towards HIV and AIDS education (Disagree)	0.151	0.728	0.043	1	0.835	1.163	0.279	4.850
I have an interest in implementing HIV and AIDS education (Disagree)	0.698	0.769	0.824	1	0.364	2.009	0.445	9.062
I am capable of implementing HIV and AIDS education in my school (Disagree)	-1.388	0.555	6.259	1	0.012	0.250**	0.084	0.740
I know the contents of HIV and AIDS policy for my school (Disagree)	0.553	0.447	1.526	1	0.217	1.738	0.723	4.178
I have enough resources to implement HIV and AIDS education in my school (Disagree)	-0.428	0.330	1.684	1	0.194	0.652	0.341	1.244
The time allocated in the timetable for HIV and AIDS education is enough (Disagree)	-1.608	0.330	23.722	1	0.000	0.200***	0.105	0.383
I receive enough support from my colleagues principal and the district office (Disagree)	-0.735	0.342	4.623	1	0.032	0.479**	0.245	0.937
I am confident that my teaching of HIV and AIDS influences learners sexual behaviour (Disagree)	-1.244	0.364	11.678	1	0.001	0.288**	0.141	0.588
I am comfortable handling sexuality issues in my class (Disagree)	-0.367	0.351	1.088	1	0.297	0.693	0.348	1.380
Have you attended any workshop on the teaching of HIV and AIDS (No)	-1.108	0.388	8.146	1	0.004	0.330**	0.154	0.707
Teaching Life Orientation (Grades 7 – 12)/Life Skills Grade (Grades 1 – 6) (No)	0.276	0.396	0.486	1	0.486	1.318	0.606	2.864
Number of observations	371							
Hosmer and Lemeshow Chi-square	4.349 (p=0.824)							
Cox & Snell R Square	0.372							
(-2) Log likelihood	341.637a							
Over all model prediction (%)	78.2							
Nagelkerke R^2	0. 496							

*** Statistically significant at 1% significance level; ** statistically significant at 5% significance level & * statistically significant at 10% significance level Source: Survey data (2015)

Dependent – The coverage of information topics and prevention messages of HIV in each class per term is enough or not used as a proxy for quality implementation (if teacher agreed it was enough coded with 1 = high quality; if otherwise coded with 0 = low quality)

Table 5.37 above shows the results of the binary logistic regression analysis on the relationship between the quality of HIV and AIDS education implementation in schools and teacher characteristics. The dependent variable used as a proxy for quality implementation: 'the coverage of information topics and prevention messages of HIV in each class per term is 'enough or not' was coded 1 if 'enough' and represents 'high quality' and coded with 0 if 'otherwise' and represented 'low quality'.

A goodness of fit measure of the model (Nagelkerke R^2), a pseudo R^2 was computed and used as a proxy to estimate the proportion of the variation in the response that is explained by the model. Nagelkerke R^2 of 0.496 was obtained, indicating about 50% of the variation explained by the model with an overall prediction of about 78%. Another model fit test measure; the Lemeshow Goodness-of-Fit Chi-square test; also showed that the model fitted the data. This shows that the independent variables were relevant in explaining the dependent variable.

The variable: Gender; contributes to the implementation of quality HIV and AIDS education. The contrast; a teacher being male was statistically significant at 10% significance level with p = 0.055; beta coefficient $\boldsymbol{\beta}$ = -0.809. The odds ratio (0.445) meant that a teacher being male was about 0.56 times less likely to implement quality HIV and AIDS education in terms of the coverage of information topics and prevention messages of HIV in each class per term as compared to the teacher being female.

The variable: Religion; overall does not contribute to the implementation of quality HIV and AIDS education. However the contrast; the teacher being of religion - Protestant was statistically significant at 5% significance level with p = 0.032; beta coefficient $\boldsymbol{\beta}$ = 1.155. The odds ratio (3.174) meant that a teacher being of religion - Protestant was about 3.1 times more likely to implement quality HIV and AIDS education in terms of the coverage of information topics and prevention messages of HIV in each class per term as compared to teachers of "other" religions.

The variable: Duration of teaching years in general contributes to the implementation of quality HIV and AIDS education. The contrast; Duration of teaching years of a teacher being in the range of (0-4 years) was statistically significant at 10% significance level with p = 0.073; beta coefficient $\boldsymbol{\beta}$ = 1.061. The odds ratio (2.889) meant that the

likelihood of a teacher with a duration of teaching years of (0-4 years) was about 2.9 times more likely to implement quality HIV and AIDS education in terms of the coverage of information topics and prevention messages of HIV in each class per term as compared to a teacher with a teaching duration of over 21 years (21+ years). Again the other contrast; Duration of teaching years of a teacher being in the range of (16-20 years) was statistically significant at 10% significance level with p = 0.047; beta coefficient $\boldsymbol{\beta}$ = 1.080. The odds ratio (2.946) meant that the likelihood of a teacher with a duration of teaching years of (16-20 years) was about 2.9 times more likely to implement quality HIV and AIDS education in terms of the coverage of information topics and prevention messages of HIV in each class per term as compared to a teacher with a teaching duration of over 21 years (21+ years).

The variable: Does your school have the HIV and AIDS policy (Yes/No) contributes to the implementation of quality HIV and AIDS education. The contrast; a teacher in a school that did not have an HIV and AIDS policy was statistically significant at 10% significance level with p = 0.052; beta coefficient $\boldsymbol{\beta}$ = -0.872. The odds ratio (0.418) meant that the likelihood of a teacher in a school that did not have an HIV and AIDS policy was about 0.58 times less likely to implement quality HIV and AIDS education in terms of the coverage of information topics and prevention messages of HIV in each class per term as compared to a teacher in a school that did have an HIV and AIDS policy.

The variable: Do you have any formal training in your certificate diploma or degree (Yes/No) contributes to the implementation of quality HIV and AIDS education. The contrast; a teacher who did not have any formal training in his/her certificate diploma or degree was statistically significant at 10% significance level with p = 0.073; beta coefficient $\boldsymbol{\beta}$ = -0.567. The odds ratio (1.762) meant that the likelihood of a teacher who did not have any formal training in his/her certificate diploma or degree was about 1.8 times more likely to implement quality HIV and AIDS education in terms of the coverage of information topics and prevention messages of HIV in each class per term as compared to a teacher who had any formal training in his/her certificate diploma or degree. This finding was contrary to the prior expectation.

The variable: I am capable of implementing HIV and AIDS education in my school (Agree/Disagree) contributes to the implementation of quality HIV and AIDS education. The contrast; a teacher who was not capable of implementing HIV and AIDS education was statistically significant at 5% significance level with p = 0.012; beta coefficient $\boldsymbol{\beta}$ = -1.388. The odds ratio (0.250) suggested that a teacher who was not capable of implementing HIV and AIDS education was about 0.75 times less likely to implement quality HIV and AIDS education in terms of the coverage of information topics and prevention messages of HIV in each class per term when compared to a teacher who was capable of implementing HIV and AIDS education.

The variable: The time allocated in the timetable for HIV and AIDS education was enough (Agree/Disagree) contributes to the implementation of quality HIV and AIDS education. The contrast; a teacher who did not have enough time allocated in the timetable for HIV and AIDS education was statistically significant at 1% significance level with p< 0.000; beta coefficient $\boldsymbol{\beta}$ = -1.608. The odds ratio (0.200) suggested that a teacher who did not have enough time allocated in the timetable for HIV and AIDS education was about 0.8 times less likely to implement quality HIV and AIDS education in terms of the coverage of information topics and prevention messages of HIV in each class per term when compared to a teacher who was capable of implementing HIV and AIDS education.

The variable: I receive enough support from my colleagues, principal and the district office (Agree/Disagree) contributes to the implementation of quality HIV and AIDS education. The contrast; a teacher who did not receive enough support from his/her colleagues, principal and the district office was statistically significant at 5% significance level with p = 0.032; beta coefficient $\boldsymbol{\beta}$ = -0.735. The odds ratio (0.479) meant that a teacher who did not receive enough support from his/her colleagues, principal and the district office was about 0.52 times less likely to implement quality HIV and AIDS education in terms of the coverage of information topics and prevention messages of HIV in each class per term when compared to a teacher who did receive enough support from his/her colleagues, principal and the district office.

The variable: I am confident that my teaching of HIV and AIDS influences learners' sexual behaviour (Agree/Disagree) contributes to the implementation of quality HIV and AIDS education. The contrast; a teacher who was not confident that his/her teaching of HIV and AIDS influenced learners' sexual behaviour for the better was statistically significant at 5% significance level with p = 0.001; beta coefficient $\boldsymbol{\beta}$ = -1.244. The odds ratio (0.288) meant that a teacher who was not confident that his/her teaching of HIV and AIDS influences learners' sexual behaviour was about 0.71 times less likely to implement quality HIV and AIDS education in terms of the coverage of information topics and prevention messages of HIV in each class per term when compared to a teacher who was confident that his/her teaching of HIV and AIDS influenced learners' sexual behavior for the better.

The variable: Have you attended any workshop on the teaching of HIV and AIDS (Yes/No) contributes to the implementation of quality HIV and AIDS education. The contrast; a teacher who never attended any workshop on the teaching of HIV and AIDS was statistically significant at 5% significance level with p = 0.004; beta coefficient $\boldsymbol{\beta}$ = -1.108. The odds ratio (0.330) meant that a teacher who never attended any workshop on the teaching of HIV and AIDS was about 0.67 times less likely to implement quality HIV and AIDS education in terms of the coverage of information topics and prevention messages of HIV in each class per term when compared to a teacher who attended any workshop on the teaching of HIV and AIDS.

Table 5. 38: Results of the binary logistic regression analysis on the relationship between the quality of HIV/AIDS education implementation in schools and teacher characteristics

Variable	β	SE	Wald	df	Sig. (p-value)	Exp(β)	95% C.I.for EXP(β) Lower	95% C.I.for EXP(β) Upper
Constant	3.144	2.069	2.308	1	0.129	23.188	-	-
Age (50+ years)	-	-	3.027	3	0.387	-	-	-
-Age (18-29 years)	0.793	0.629	1.588	1	0.208	2.209	0.644	7.579
-Age (30-39 years)	-0.008	0.502	0.000	1	0.987	0.992	0.371	2.654
-Age (40-49 years)	-0.124	0.438	0.080	1	0.777	0.883	0.374	2.085
Gender (Male)	-1.095	0.436	6.316	1	0.012	0.335**	0.142	0.786
Highest Education Qualification (HEQ) (Other qualification)	-	-	6.588	5	0.253	-	-	-
- HEQ (Teacher's certificate)	1.280	0.850	2.268	1	0.132	3.597	0.680	19.030
- HEQ (Teacher's diploma)	0.060	0.715	0.007	1	0.933	1.062	0.261	4.315
- HEQ (Bachelor degree)	0.565	0.698	0.656	1	0.418	1.759	0.448	6.904
- HEQ (Hons. Bachelor degree)	0.833	0.787	1.119	1	0.290	2.300	0.491	10.767
- HEQ (Master's degree)	-16.299	40192.970	0.000	1	1.000	0.000	0.000	.
Religion (Other)	-	-	2.390	5	0.793	-	-	-
-Religion (Catholic)	-0.343	0.426	0.648	1	0.421	0.710	0.308	1.636
-Religion (Protestant)	0.306	0.486	0.396	1	0.529	1.358	0.524	3.521
-Religion (Charismatic)	-0.067	0.409	0.027	1	0.870	0.935	0.420	2.084
-Religion (Nazareth)	-0.002	0.582	0.000	1	0.997	0.998	0.319	3.125
-Religion (Zion)	0.414	0.511	0.656	1	0.418	1.513	0.556	4.121
Duration of teaching years in general (21+ years)	-	-	8.369	4	0.079	-	-	-
-Duration of teaching years (0-4 years)	0.402	0.590	0.464	1	0.496	1.494	0.470	4.748
-Duration of teaching years (5-10 years)	0.676	0.491	1.898	1	0.168	1.967	0.751	5.150
-Duration of teaching years (11-15 years)	0.035	0.499	0.005	1	0.944	1.036	0.389	2.754
-Duration of teaching years (16-20 years)	1.348	0.535	6.355	1	0.012	3.850**	1.350	10.980
School location (rural)	-0.644	0.293	4.831	1	0.028	0.525**	0.296	0.933
Type of school (Combined - primary and secondary)	-	-	7.566	2	0.023	-	-	-
-Type of school (Primary)	0.100	0.930	0.012	1	0.914	1.106	0.179	6.841
-Type of school (Secondary)	-1.766	1.114	2.512	1	0.113	0.171	0.019	1.519
Does your school have the HIV and AIDS policy (No)	-0.210	0.464	0.205	1	0.651	0.811	0.326	2.013
Teaching phase (Life Orientation (Senior phase +FET))	-	-	12.461	5	0.029	-	-	-
-Teaching phase (Life Skills (Foundation Phase))	-1.237	1.643	0.567	1	0.451	0.290	0.012	7.264
-Teaching phase (Life Skills (Intermediate))	-2.218	1.655	1.797	1	0.180	0.109	0.004	2.787
-Teaching phase (Life Orientation (Senior phase))	-0.659	1.579	0.174	1	0.676	0.517	0.023	11.431
-Teaching phase (Life Orientation (FET))	-0.614	1.622	0.143	1	0.705	0.541	0.023	13.004
-Teaching phase (Life Skills (Intermediate + Senior phase))	-1.867	1.858	1.011	1	0.315	0.155	0.004	5.891
Do you have any formal training in your certificate diploma or degree (No)	0.622	0.316	3.861	1	0.049	1.862**	1.002	3.461

I have a positive attitude towards HIV and AIDS education (Disagree)	-0.227	0.753	0.091	1	0.763	0.797	0.182	3.484
I have an interest in implementing HIV and AIDS education (Disagree)	0.542	0.791	0.469	1	0.493	1.720	0.365	8.114
I am capable of implementing HIV and AIDS education in my school (Disagree)	0.197	0.549	0.129	1	0.719	1.218	0.415	3.576
I know the contents of HIV and AIDS policy for my school (Disagree)	-0.933	0.463	4.062	1	0.044	0.393**	0.159	0.975
I have enough resources to implement HIV and AIDS education in my school (Disagree)	-0.471	0.327	2.079	1	0.149	0.624	0.329	1.184
The time allocated in the timetable for HIV and AIDS education is enough (Disagree)	-1.023	0.315	10.522	1	0.001	0.359**	0.194	0.667
I receive enough support from my colleagues principal and the district office (Disagree)	-0.843	0.340	6.149	1	0.013	0.431**	0.221	0.838
I am confident that my teaching of HIV and AIDS influences learners sexual behaviour (Disagree)	-1.087	0.373	8.473	1	0.004	0.337**	0.162	0.701
I am comfortable handling sexuality issues in my class (Disagree)	-0.685	0.361	3.592	1	0.058	0.504**	0.248	1.024
Have you attended any workshop on the teaching of HIV and AIDS (No)	-0.905	0.370	6.003	1	0.014	0.404**	0.196	0.834
Teaching Life Orientation (Grades 7 – 12)/Life Skills Grade (Grades 1 – 6) (No)	-0.094	0.413	0.052	1	0.820	0.910	0.405	2.045
Number of observations	371							
Hosmer and Lemeshow Chi-square	9.728 (p=0.285)							
Cox & Snell R Square	0.357							
(-2) Log likelihood	343.907a							
Over all model prediction (%)	77.6							
Nagelkerke R^2	0. 479							

*** Statistically significant at 1% significance level; ** Statistically significant at 5% significance level Source: Survey data (2015)

Dependent – The number of HIV and prevention skills covered in each class per term is adequate or not used as a proxy for quality implementation (if enough coded with 1 = high quality; if otherwise coded with 0 = low quality)

Table 5.38 above shows the results of the binary logistic regression analysis on the relationship between the quality of HIV and AIDS education implementation in schools and teacher characteristics. The dependent variable used as a proxy for quality implementation: 'the number of HIV and prevention skills covered in each class per term is adequate or not' was coded 1 if 'adequate' and represents 'high quality' and coded with 1 if 'otherwise' represents 'low quality' and coded with 0.

With regards to the model fit, the Lemeshow Goodness-of-Fit test measure was employed to check and validate that the model fitted the data well. The chi-square goodness-of-fit test statistics of the model showed that the model fitted the data. This showed that the independent variables were relevant in explaining the depended variable. Another measure of goodness of fit of the model (Nagelkerke R^2), a pseudo R^2 was computed and used as a proxy to estimate the proportion of the variation in the response that is explained by the model. Nagelkerke R^2 of 0.479 was obtained, indicating the variation explained by the model of about 48% and with an overall prediction of about 78%.

The variable: Gender contributes to the implementation of quality HIV and AIDS education. The contrast; the teacher being male was statistically significant at 5% significance level with p = 0.012; beta coefficient $\boldsymbol{\beta}$ = -1.095. The odds ratio (0.335) meant that a male teacher was about 0.67 times less likely to implement quality HIV and AIDS education in terms of the number of HIV prevention skills covered in each class per term when compared to a female teacher.

The variable: Duration of teaching years in general contributes to the implementation of quality HIV and AIDS education. The contrast; Duration of teaching years of a teacher being in the range of (16-20 years) was statistically significant at 10% significance level with p = 0.012; beta coefficient $\boldsymbol{\beta}$ = 1.348. The odds ratio (3.850) meant that the likelihood of a teacher with a duration of teaching years of (16-20 years) was about 3.9 times more likely to implement quality HIV and AIDS education in terms of the number of HIV prevention skills covered in each class per term as compared to a teacher with a teaching duration of over 21 years (21+ years).

The variable: School location (Urban/rural) contributes to the implementation of quality HIV and AIDS education. The contrast; school being located in the rural area was statistically significant at 5% significance level with p = 0.028; beta coefficient $\boldsymbol{\beta}$ = -0.644. The odds ratio (0.525) meant that a school located in the rural area was about 0.48 times less likely to implement quality HIV and AIDS education in terms of the number of HIV prevention skills covered in each class per term when compared to a school located in the urban area.

The variable: Do you have any formal training in your certificate diploma or degree (Yes/No) contributes to the implementation of quality HIV and AIDS education. The contrast; a teacher who did not have any formal training in his/her certificate diploma or degree was statistically significant at 5% significance level with p = 0.049; beta coefficient $\boldsymbol{\beta}$ = 0.622. The odds ratio (1.862) meant that the likelihood of a teacher who did not have any formal training in his/her certificate diploma or degree was about 1.9 times more likely to implement quality HIV and AIDS education in terms of the number of HIV prevention skills covered in each class per term as compared to a teacher who did have any formal training in his/her certificate diploma or degree. This finding is contrary to the prior expectation.

The variable: I know the contents of HIV and AIDS policy for my school (Yes/No) contributes to the implementation of quality HIV and AIDS education. The contrast; a teacher who did not know the contents of HIV and AIDS policy for his/her school was statistically significant at 5% significance level with p = 0.044; beta coefficient $\boldsymbol{\beta}$ = -0.933. The odds ratio (0.393) meant that a teacher who did not know the contents of HIV and AIDS policy for his/her school was about 0.61 times less likely to implement quality HIV and AIDS education in terms of the number of HIV prevention skills covered in each class per term when compared to an implementer who knew the contents of HIV and AIDS policy for his/her school.

The variable: Time allocated in the timetable for HIV and AIDS education is enough (Agree/Disagree) contributes to the implementation of quality HIV and AIDS education. The contrast; a teacher who did not have enough time allocated in the timetable for HIV and AIDS education was statistically significant at 5% significance

level with p = 0.001; beta coefficient $\boldsymbol{\beta}$ = -1.023. The odds ratio (0.359) meant that a teacher who did not have enough time allocated in the timetable for HIV and AIDS education was about 0.64 times less likely to implement quality HIV and AIDS education in terms of the number of HIV prevention skills covered in each class per term when compared to a teacher who had enough time allocated in the timetable for HIV and AIDS education.

The variable: I receive enough support from my colleagues, principal and the district office (Agree/Disagree) contributes to the implementation of quality HIV and AIDS education. The contrast; a teacher who did not receive enough support from his/her colleagues, principal and the district office was statistically significant at 5% significance level with p = 0.013; beta coefficient $\boldsymbol{\beta}$ = -0.843. The odds ratio (0.431) means that a teacher who did not receive enough support from his/her colleagues, principal and the district office was about 0.57 times less likely to implement quality HIV and AIDS education in terms of the number of HIV prevention skills covered in each class per term when compared a teacher who did receive enough support from his/her colleagues, principal and the district office.

The variable: I am confident that my teaching of HIV and AIDS influences learners' sexual behaviour for the better (Agree/Disagree) contributes to the implementation of quality HIV and AIDS education. The contrast; a teacher who was not confident that his/her teaching of HIV and AIDS influenced learners' sexual behaviour for the better was statistically significant at 5% significance level with p = 0.004; beta coefficient $\boldsymbol{\beta}$ = -1.087. The odds ratio (0.337) meant that a teacher who was not confident that his/her teaching of HIV and AIDS influenced his/her learners' sexual behaviour for the better was about 0.66 times less likely to implement quality HIV and AIDS education in terms of the number of HIV prevention skills covered in each class per term when compared to a teacher who was confident that his/her teaching of HIV and AIDS influenced learners' sexual behaviour.

The variable: I am comfortable handling sexuality issues in my class (Agree/Disagree) contributes to the implementation of quality HIV and AIDS education. The contrast; a teacher who was not comfortable handling sexuality issues in his/her class was

statistically significant at 5% significance level with p = 0.058; beta coefficient $\boldsymbol{\beta}$ = -0.685. The odds ratio (0.504) meant that a teacher who was not comfortable handling sexuality issues in his/her class was about 0.5 times less likely to implement quality HIV and AIDS education in terms of the number of HIV prevention skills covered in each class per term when compared to a teacher who was comfortable handling sexuality issues in his/her class.

The variable: Have you attended any workshop on the teaching of HIV and AIDS (Yes/No) contributes to the implementation of quality HIV and AIDS education. The contrast; a teacher who never attended any workshop on the teaching of HIV and AIDS was statistically significant at 5% significance level with p = 0.014; beta coefficient $\boldsymbol{\beta}$ = -0.905. The odds ratio (0.404) meant that a teacher who never attended any workshop on the teaching of HIV and AIDS was about 0.6 times less likely to implement quality HIV and AIDS education in terms of the number of HIV prevention skills covered in each class per term when compared to a teacher who attended any workshop on the teaching of HIV and AIDS.

RESEARCH QUESTION 1.3.5a: Teachers' level of HIV and AIDS knowledge

For the HIV and AIDS knowledge for teachers, the scores were based on true or false answers of the 15 HIV and AIDS knowledge questions extracted from Carey & Schroeder (2002). A correct answer for each question was coded 1 and 0 for an incorrect answer. Those who scored a total of <5 out of 15 were classified as below average and those that scored from 6 to 10 were classified as average and those that scored between 11 and 15 were classified as having above average knowledge of HIV and AIDS.

5.7 Teachers' level of HIV and AIDS knowledge

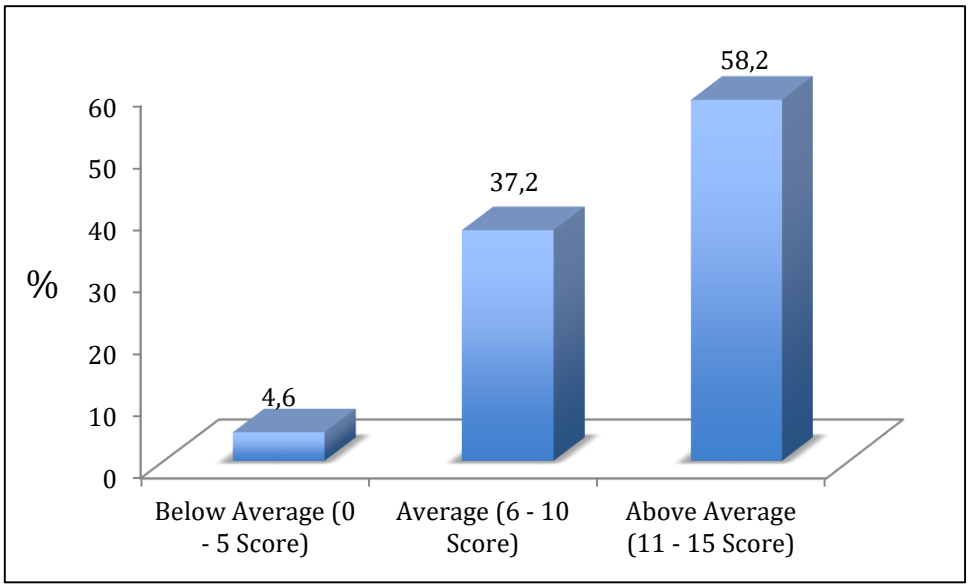


Figure 5. 37: Teachers' level of HIV and AIDS knowledge
Source: Survey data (2015)

Figure 5.37 therefore, shows that 58.2% teachers had their level of HIV and AIDS knowledge above average, 37.2% have their knowledge of HIV and AIDS average and 4.6% of them had their knowledge of HIV and AIDS below average. This was not consistent with the research hypothesis as it was thought that most teachers would have an overall 'below average' knowledge of HIV. Whist the overall results for the teachers' knowledge of HIV and AIDS was not 'below average' as was expected, serious misconceptions and lack of knowledge of individual questions raised concerns as can be seen in the results below.

5.8. Research question 1.3.5b: Teachers' responses on the knowledge of HIV and AIDS

Whilst the overall teachers' knowledge of HIV and AIDS was found to be above average, the following section shows the teachers' knowledge of each of the fifteen statements. This will help identify problem areas in the teachers' knowledge of HIV and AIDS.

5.8.1 HIV and AIDS are the same thing

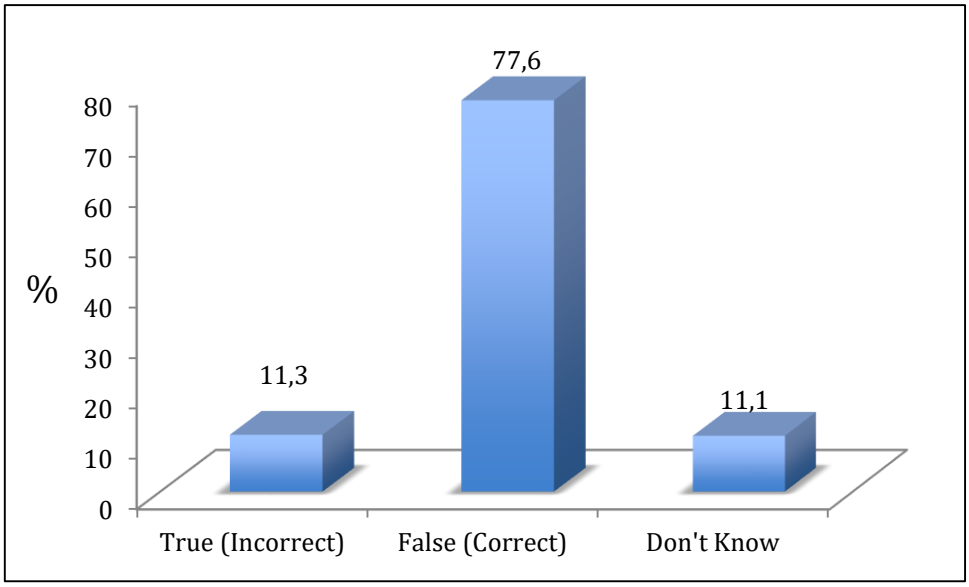


Figure 5. 38: Responses to the statement "HIV and AIDS are the same thing"
Source: Survey data (2015)

Figure 5.38 shows that 77.6% teachers know that HIV and AIDS are not the same thing. There were 11.1% teachers who did not know this important message about HIV and AIDS. The figure also shockingly revealed that 11.3% teachers thought that HIV and AIDS are the same thing.

5.8.2 There is a cure for AIDS

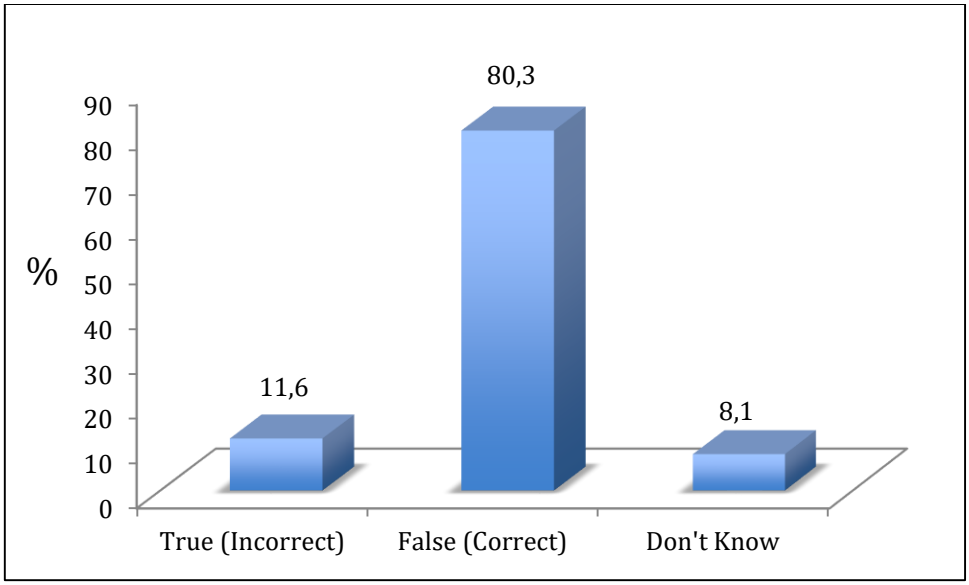


Figure 5. 39: Responses to the statement "There is a cure for AIDS"
Source: Survey data (2015)

Figure 5.39 shows that 19.7% teachers do not know that there is no cure for AIDS. It was worrying to note that 19.1% of teachers did not know that there is no cure for AIDS. The most worrying factor was that these are Life Orientation and Life-Skills teachers who are the ones that were supposed to be teaching these messages of HIV and AIDS to learners in schools.

5.8.3 A person can get HIV from a toilet seat

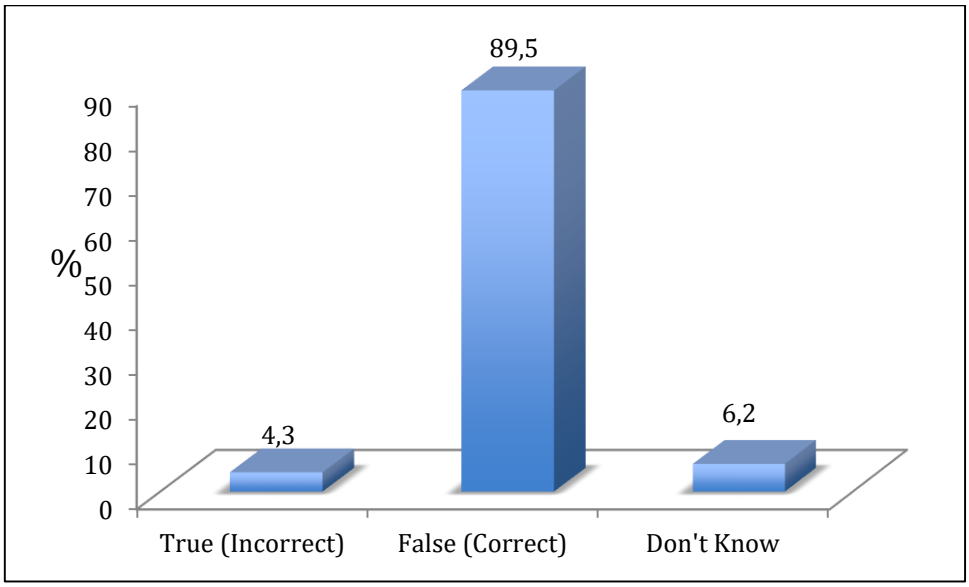


Figure 5. 40: Responses to the statement "A person can get HIV from a toilet seat"
Source: Survey data (2015)

Figure 5.4 reveals that 6.2% teachers did not know that a person cannot get HIV from a toilet seat. Whilst this was shocking to learn, a further 4.3% answered this question incorrectly by saying that it is true that a person can get HIV from a toilet seat. The majority of 89.5% teachers knew that a person cannot get HIV from a toilet seat.

5.8.4 Coughing and sneezing do not spread HIV

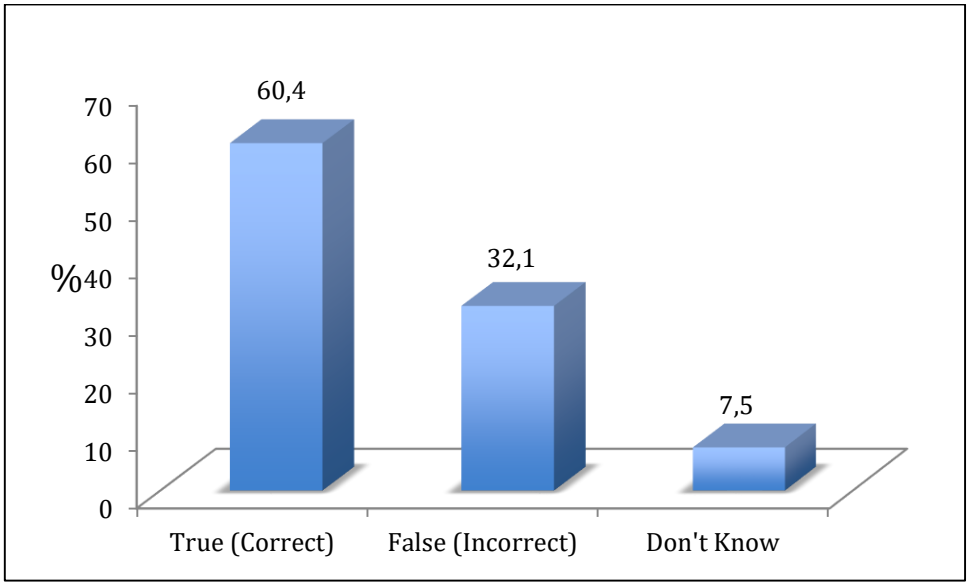


Figure 5. 41: Responses to the statement "Coughing and sneezing do not spread HIV"
Source: Survey data (2015)

Figure 5.41 shows that a total of 32.1% teachers did not know that coughing and sneezing do not spread HIV. A further 7.5% opted for a 'don't know' answer. A greater 60.4% teachers knew that coughing and sneezing do not spread HIV.

5.8.5 HIV can be spread by mosquitoes

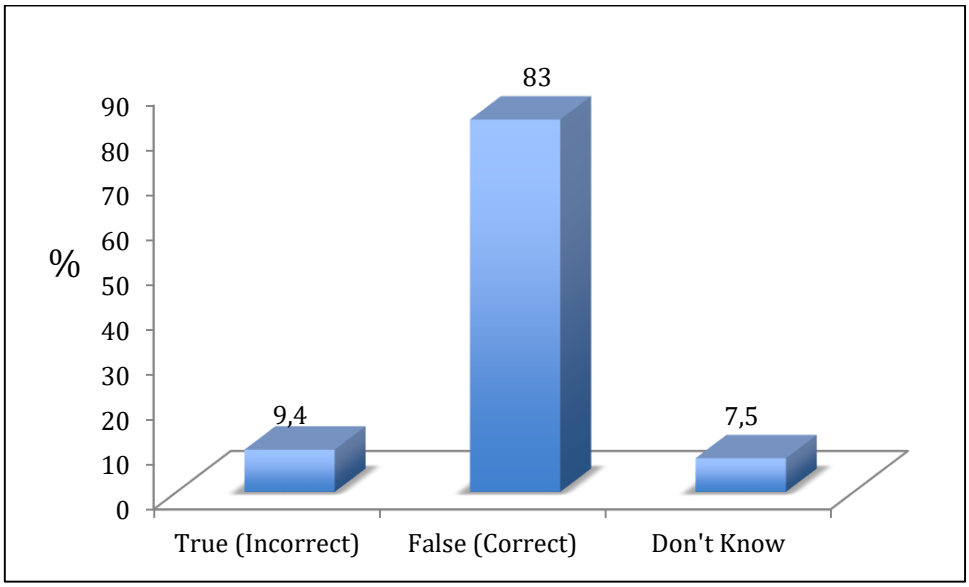


Figure 5. 42: Responses to the statement "HIV can be spread by mosquitoes"

Source: Survey data (2015)

It is noted from figure 5.42 that 83% teachers answered this question correctly and 9.4% teachers answered it incorrectly whilst a further 7.5 % teachers opted for the "don't know" answer.

5.8.6 AIDS is the cause of HIV

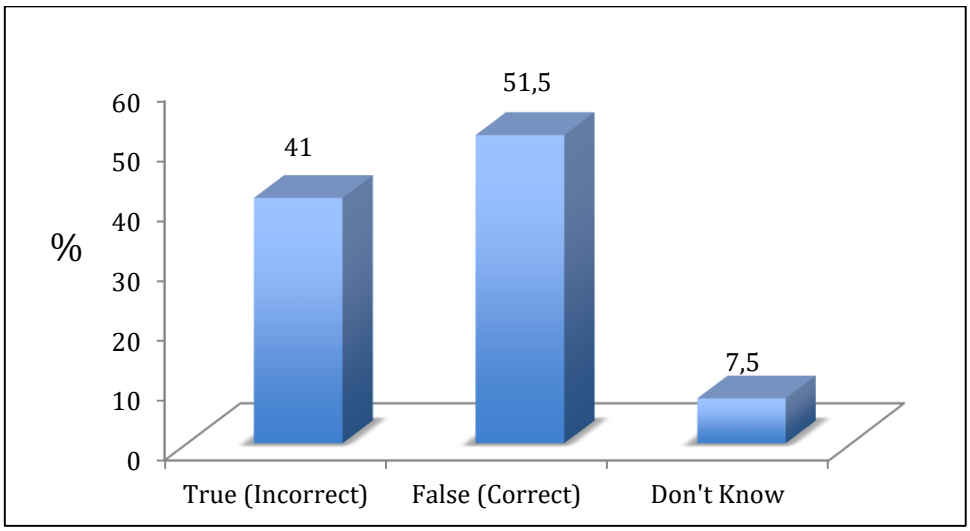


Figure 5. 43: Responses to the statement "AIDS is the cause of HIV"

Source: Survey data (2015)

More than half of teachers, 51.5% teachers to be precise gave the correct answer that it is "false" that AIDS is the cause of HIV whilst 41% teachers gave the wrong answer. A further 7.5% teachers opted for a "don't know" answer.

5.8.7 A person can get HIV by sharing a glass of water with someone who has HIV

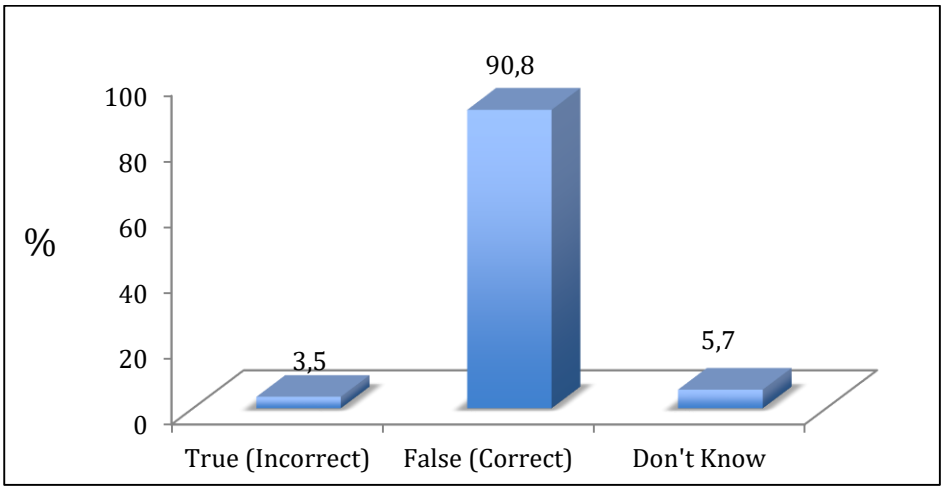


Figure 5. 44: Responses to the statement "A person can get HIV by sharing a glass of water with someone who has HIV"
Source: Survey data (2015)

From the figure above it can be noted that the majority of 90.8% teachers knew that a person cannot get HIV from sharing a glass of water with someone who is infected. Only 3.5% gave a wrong answer to this question and 5.7% opted for a "don't know answer".

5.8.8 HIV is killed by bleach

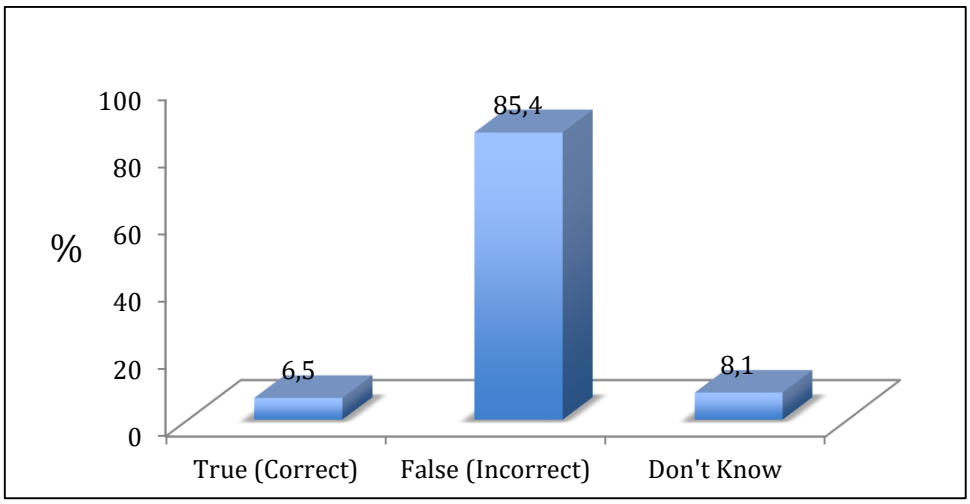


Figure 5. 45: Responses to the statement "HIV is killed by bleach"

Source: Survey data (2015)

Figure 5.45 shows that as high as 85.4% teachers think that HIV is killed by bleach and 8.1% teachers did not know at all. Only 6.5% teachers had a correct view of this myth about HIV.

5.8.9 It is possible to get HIV when a person gets a tattoo

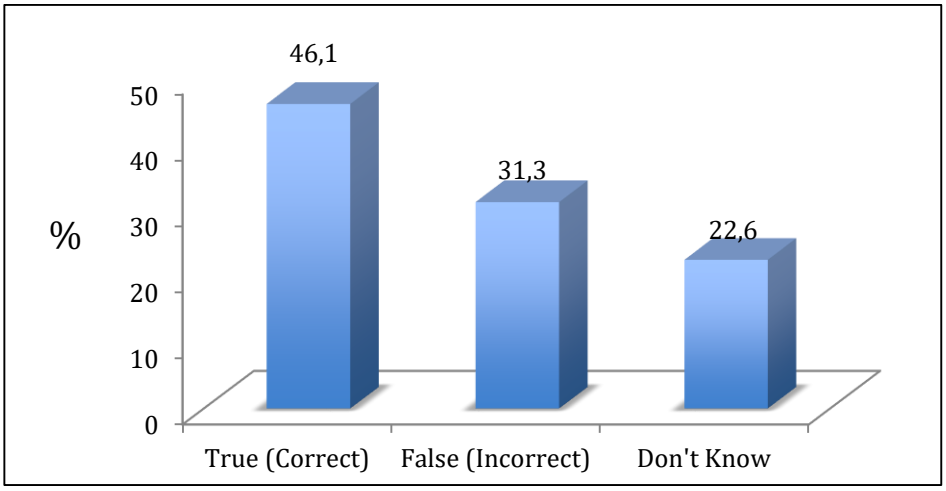


Figure 5. 46: Responses to the statement "It is possible to get HIV when a person gets a tattoo"
Source: Survey data (2015)

Less than half of the teachers 46.1% knew that it is possible for a person to get HIV from a tattoo. A total of 53.9% teachers did not know about this and of these, 31.3% had the wrong perception altogether.

5.8.10 A pregnant woman with HIV can give the virus to her unborn baby

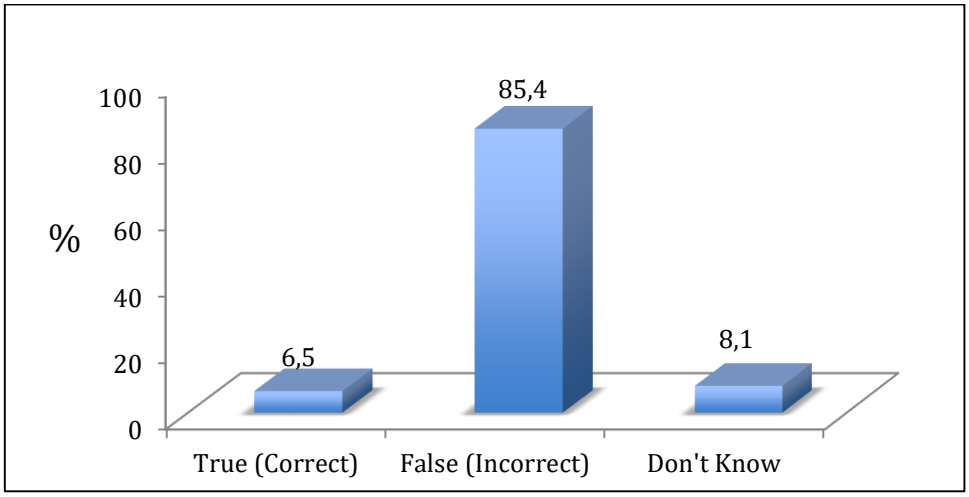


Figure 5. 47: Responses to the statement "A pregnant woman with HIV can give the virus to her unborn baby"
Source: Survey data (2015)

Figure 5.47 shows another worrying scenario of 85.4% teachers who did not know that a pregnant woman with HIV can give the virus to her unborn baby, plus a further 8.1% who opted for a "don't know" answer. This was disturbing because these are the messages that teachers should consistently and constantly be giving to learners so as to help them move away from risky sexual behaviours that lead to teenage pregnancy and HIV infection.

5.8.11 A woman can get HIV if she has anal sex with a man

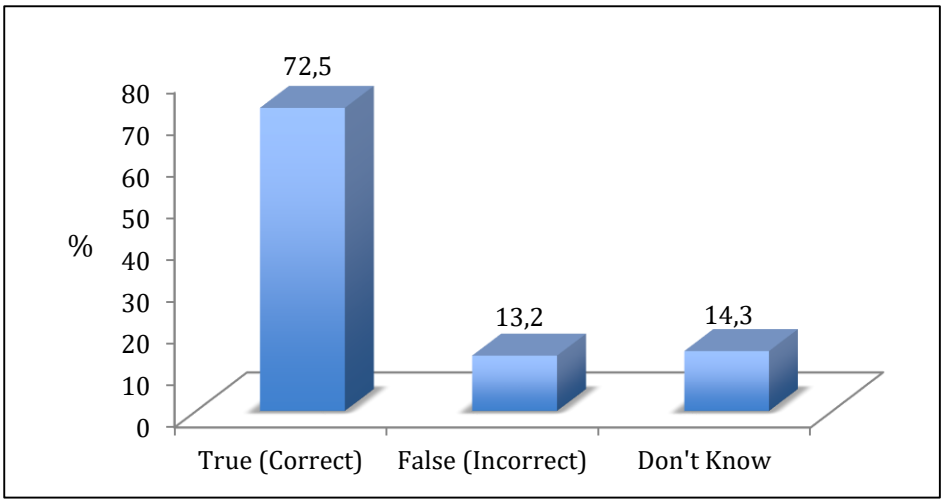


Figure 5. 48: Responses to the statement "A woman can get HIV when she has anal sex with a man."
Source: Survey data (2015)

It can be seen from the figure 5.48 above that a total of 27.5% teachers did not know that a woman can get HIV if she has anal sex with a man. Of these, 13.2% answered "false" and 14.3% answered "don't know". Although the majority of 72.5% teachers gave the correct answer to this question, it is worrying that there are Life Orientation and Life-Skills teachers who do not know this important fact.

5.8.12 Showering, or washing one's genitals/private parts, after sex protects a person from getting HIV

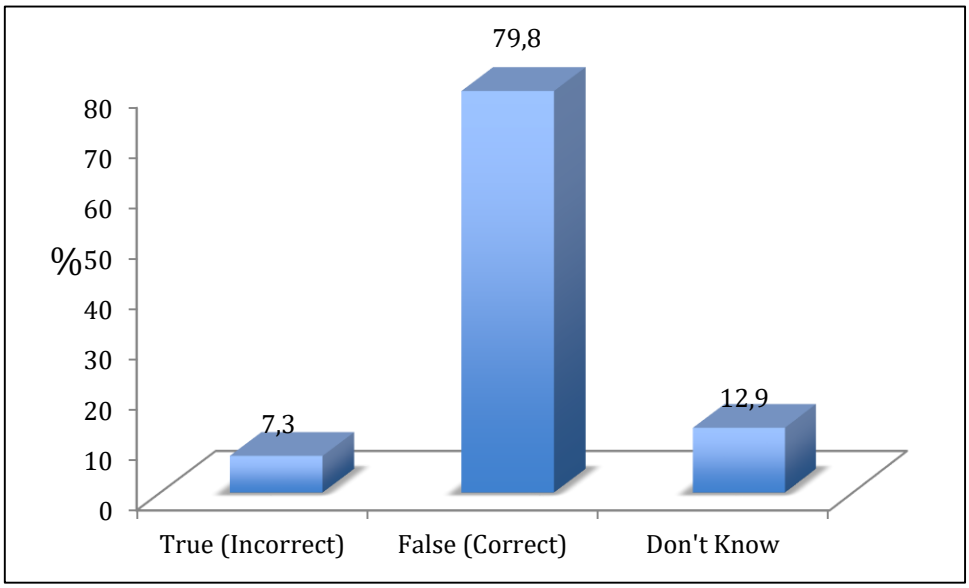


Figure 5. 49: Responses to the statement "Showering, or washing one's genitals/private parts, after sex protects a person from getting HIV"
Source: Survey data (2015)

Although a majority of 79.8% teachers knew that showering and washing after sex does not protect someone from getting HIV, it was disturbing to learn that 7.3% teachers did not know that showering or washing the private parts after sex does not protect a person from getting HIV, and a further 12.9% teachers don't know the answer to this question. These are the sensitive and widely unknown truths about HIV transmission and it is more worrying if Life Orientation and Life-Skills teachers have such misconceptions as well.

5.8.13 Eating healthy foods can prevent a person from getting HIV

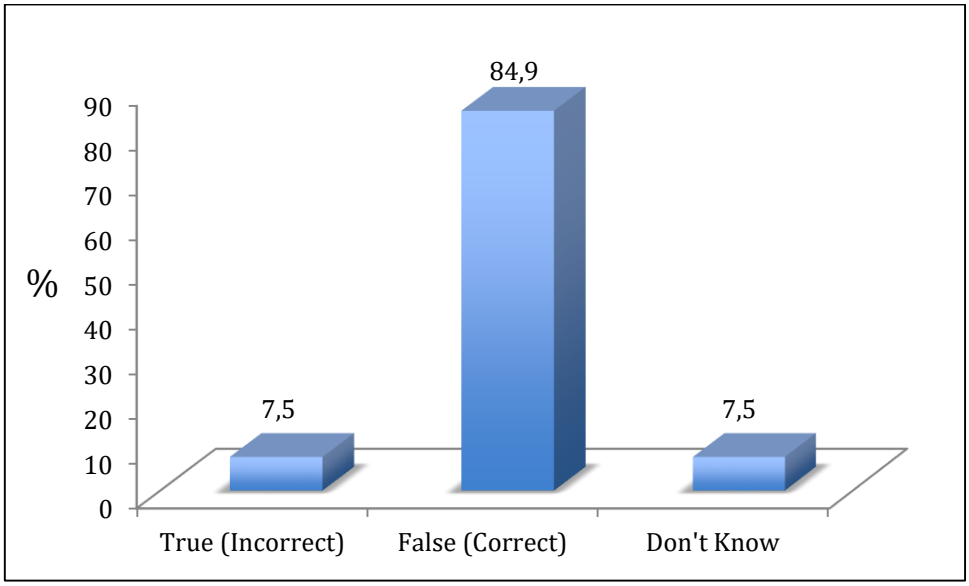


Figure 5. 50: Responses to the statement "Eating healthy foods can prevent a person from getting HIV"
Source: Survey data (2015)

This was another statement about HIV transmission which was wrongly perceived by some teachers, with 7.5% teachers that incorrectly answered the question and another 7.5% teachers who did not know that eating healthy foods cannot prevent someone from contracting HIV.

5.8.14 All pregnant women infected with HIV will have babies born with AIDS

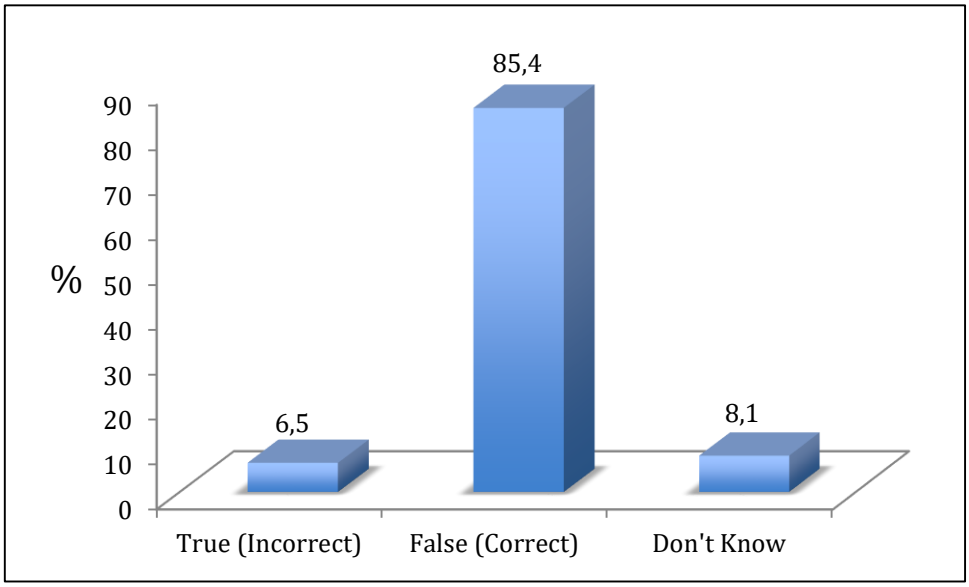


Figure 5. 51: Responses to the statement "All pregnant women infected with HIV will have babies born with AIDS"
Source: Survey data (2015)

Figure 5.51 shows a different picture to the one on "A pregnant woman with HIV can give the virus to her unborn baby". In this one 85.4% teachers knew that not all pregnant women infected with HIV would have babies born with AIDS. At least, 6.5% teachers gave the wrong answer and 8.1% teachers opted for a "don't know" answer. These results and the results in figure 5.47 would give a complete picture about whether teachers know the benefits of Prevention of Mother to Child Transmission (PMTCT). This in-turn showed that learners who fall pregnant in schools could not be assisted to seek PMTCT early enough to prevent mother to child transmission.

5.8.15 Using a latex condom or rubber can lower a person's chance of getting HIV

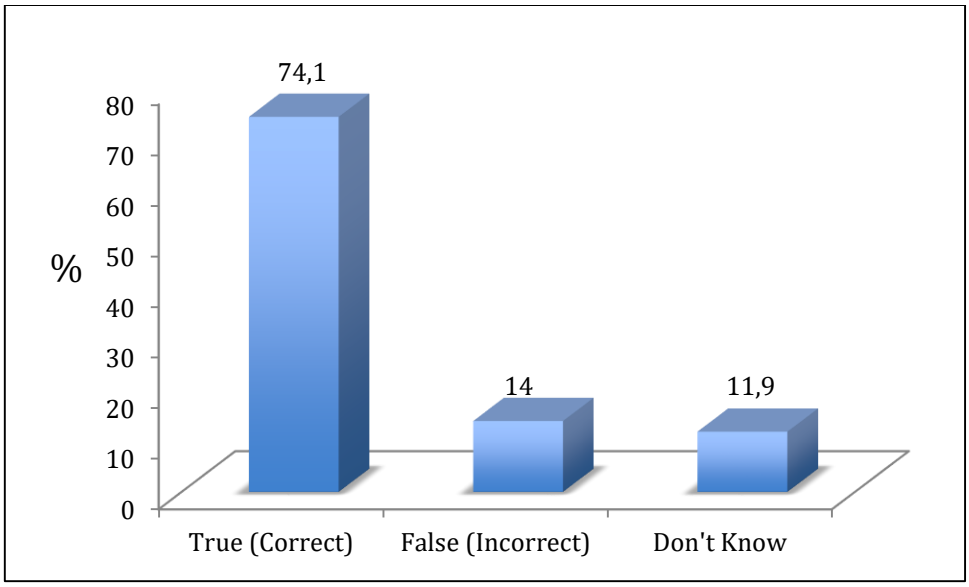


Figure 5. 52: Responses to the statement "Using a latex condom or rubber can lower a person's chance of getting HIV"
Source: Survey data (2015)

Figure 5.52 shows that a total of 25.9% teachers did not know that condoms can lower a person's chance of getting HIV. This figure is made out of 14% teachers that gave the incorrect answer and a further 11.9% teachers that opted for a "don't know answer". Whilst one may have thought that this was the well-known fact about HIV, it was clear that some teachers did not know this and one wondered what they teach learners when it comes to HIV prevention strategies.

5.9 Research question 1.3.5c: Teachers' level of HIV and AIDS knowledge and its influence on the quality of HIV and AIDS education implementation in schools

In order to understand whether the teachers' knowledge of HIV and AIDS had any influence on the quality of HIV and AIDS education implementation, the researcher computed the Pearson Chi-squared test to test the null hypothesis "The quality of HIV and AIDS education implementation was not dependent on the level of HIV and AIDS

knowledge of the implementer", where the quality of HIV and AIDS implementation was the dependent variable (using different proxies) and level of HIV and AIDS knowledge the independent variable.

5.9.1 Relationship between quality attribute: In my school there are enough teachers teaching HIV and AIDS and teachers' level of HIV and AIDS knowledge

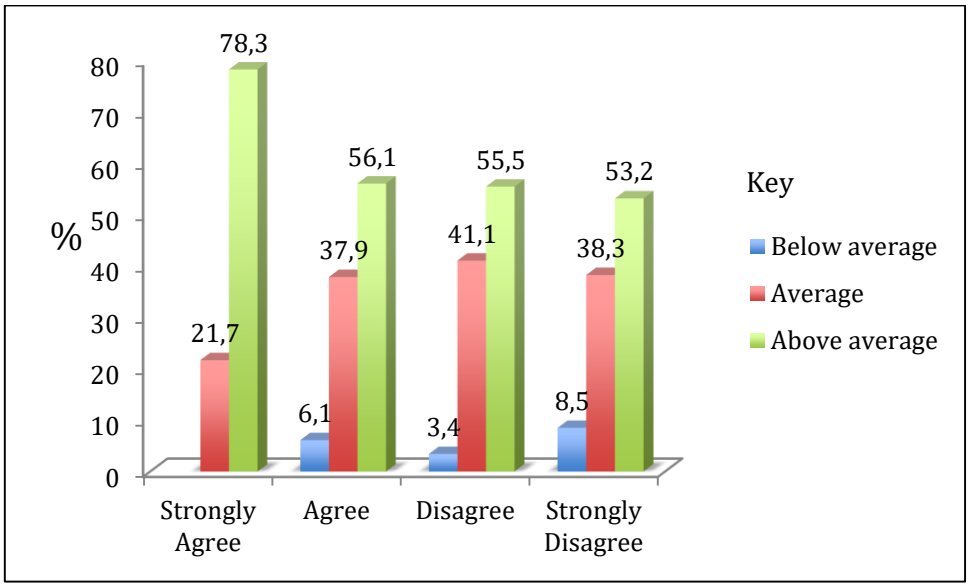


Figure 5. 53: Relationship between quality attribute: In my school there are enough teachers teaching HIV and AIDS and teachers' level of HIV and AIDS knowledge
Source: Survey data (2015)

Dependent	Quality of HIV and AIDS education implementation
Independent	Level of HIV and AIDS knowledge
Null Hypothesis	The quality HIV and AIDS education implementation is not dependent on the level of HIV and AIDS knowledge of the implementer
Alternative Hypothesis	The quality HIV and AIDS education implementation is dependent on the level of HIV and AIDS knowledge of the implementer
Pearson Chi-Square	12.002^{a} *df* =6 p = 0.062 (Accept Null Hypothesis)

The presentation in figure 5.53 reveals the result for the 371 teachers' relationship between the quality attribute 'In my school there are enough teachers teaching HIV and AIDS' and the teacher's level of HIV and AIDS knowledge. The Pearson Chi- square was computed and the results were, chi square = 12.002, degrees of confidence = 6 and

p value = 0.062 and therefore accepted the null hypothesis. More than 50% teachers with 'above average' knowledge were spread throughout the four categories of "strongly agree" to "strongly disagree" ratings of whether they saw their schools as having enough teachers teaching HIV and AIDS, a variable used to assess the quality of HIV and AIDS implementation in the school.

5.9.2 Relationship between quality attribute: The number of class periods devoted to sexuality in one class per week is enough and teachers' level of HIV and AIDS knowledge

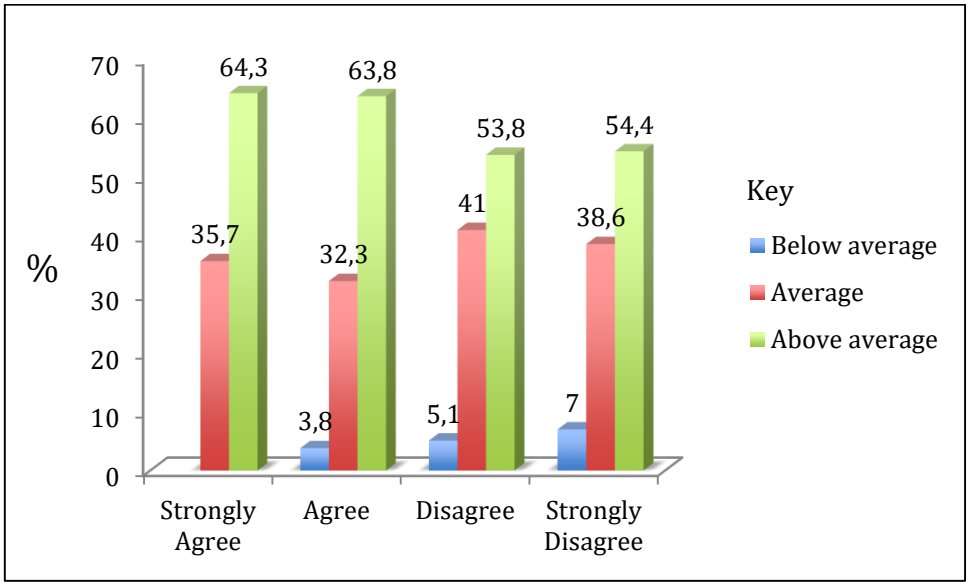


Figure 5. 54: Relationship between quality attribute: The number of class periods devoted to sexuality in one class per week is enough and teachers' level of HIV and AIDS knowledge
Source: Survey data (2015)

Dependent	Quality of HIV and AIDS education implementation
Independent	Level of HIV and AIDS knowledge
Null Hypothesis	The quality HIV and AIDS education implementation is not dependent on the level of HIV and AIDS knowledge of the implementer
Alternative Hypothesis	The quality HIV and AIDS education implementation is dependent on the level of HIV and AIDS knowledge of the implementer
Pearson Chi-Square	5.313^{a} *df* =6 p = 0.504 (Accept Null Hypothesis)

The figure 5.54 shows the results for the 371 teachers' relationship between the quality attribute 'The number of class periods devoted to sexuality in one class per week is

enough' and the teacher's level of HIV and AIDS knowledge. The Pearson Chi-square was computed and the results were, chi square = 5.313, degrees of confidence = 6 and p value = 0.504 and therefore accepted the null hypothesis. More than 49.1% teachers with 'above average' knowledge were spread throughout the four categories of "strongly agree" to "strongly disagree" ratings of whether their schools have the number of class periods devoted to sexuality on one class enough, a variable used to assess the quality of HIV and AIDS implementation in the school.

5.9.3 Relationship between quality attribute: There is enough coverage of information topics and prevention messages of HIV in each class per term and teachers' level of HIV and AIDS knowledge

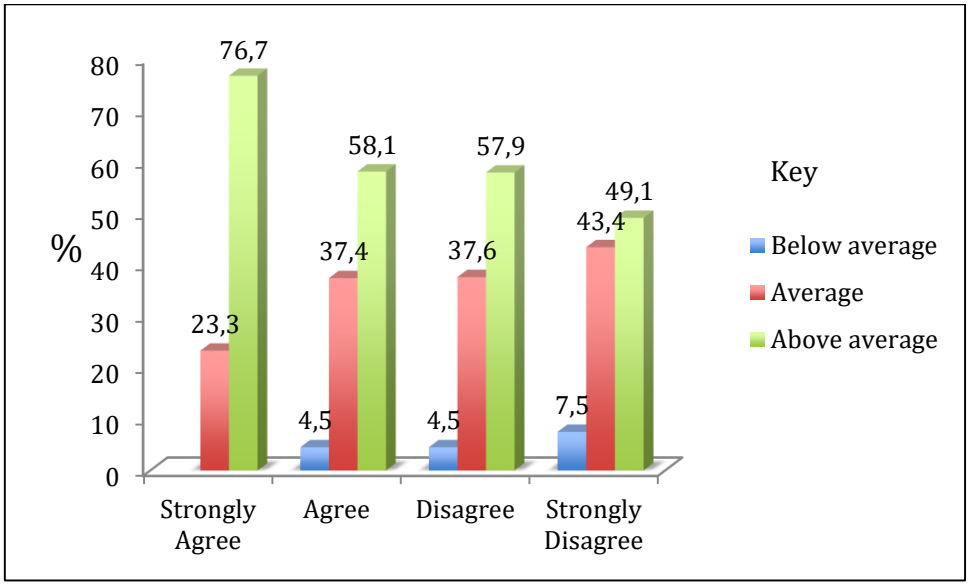


Figure 5. 55: Relationship between quality attribute: There is enough coverage of information topics and prevention messages of HIV in each class per term and teachers' level of HIV and AIDS knowledge
Source: Survey data (2015)

Dependent	Quality of HIV and AIDS education implementation
Independent	Level of HIV and AIDS knowledge
Null Hypothesis	The quality HIV and AIDS education implementation is not dependent on the level of HIV and AIDS knowledge of the implementer
Alternative Hypothesis	The quality HIV and AIDS education implementation is dependent on the level of HIV and AIDS knowledge of the implementer
Pearson Chi-Square	7.021^{a} *df* =6 p = 0.319 (Accept Null Hypothesis)

The figure 5.55 shows the results for the 371 teachers' relationship between the quality attribute 'There is enough coverage of information topics and prevention messages of HIV in each class' and the teacher's level of HIV and AIDS knowledge. The Pearson Chi-square was computed and the results were, chi square = 7.021, degrees of confidence = 6 and p value = 0.319 and therefore accepted the null hypothesis. More than 49.1% teachers with 'above average' knowledge were spread throughout the four categories of 'strongly agree' to 'strongly disagree' ratings of whether their schools had enough coverage of information topics and prevention messages of HIV in each class, a variable used to assess the quality of HIV and AIDS implementation in the school.

5.9.4 Relationship between quality attribute: There is adequate number of HIV and prevention skills covered in each class per term and teachers' level of HIV and AIDS knowledge

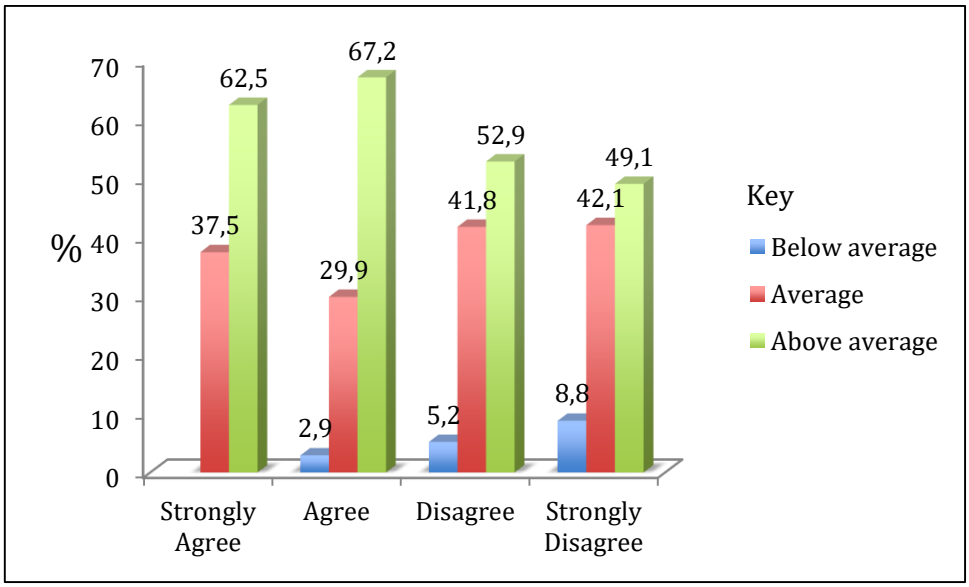


Figure 5. 56: Relationship between quality attribute: There is adequate number of HIV and prevention skills covered in each class per term and teachers' level of HIV and AIDS knowledge
Source: Survey data (2015)

Dependent	Quality of HIV and AIDS education implementation
Independent	Level of HIV and AIDS knowledge
Null Hypothesis	The quality HIV and AIDS education implementation is not dependent on the level of HIV and AIDS knowledge of the implementer
Alternative Hypothesis	The quality HIV and AIDS education implementation is dependent on the level of HIV and AIDS knowledge of the implementer
Pearson Chi-Square	10.944^{a} *df* =6 p = 0.090 (Accept Null Hypothesis)

The figure 5.56 shows the results for the 371 teachers' relationship between the quality attribute 'There is adequate number of HIV prevention skills covered in each class per term' and the teacher's level of HIV and AIDS knowledge. The Pearson Chi-square was computed and the results were, chi square = 10.944, degrees of confidence = 6 and p value = 0.090 and therefore accepted the null hypothesis. More than 49.1% teachers with 'above average' knowledge were spread throughout the four categories of 'strongly agree' to 'strongly disagree' ratings of whether their schools offered an adequate number of HIV prevention skills in each class per term, a variable used to assess the quality of HIV and AIDS implementation in the school.

5.9.5 Relationship between quality attribute: I have been provided with clear guidelines, teaching materials and activities to help me implement HIV and AIDS education and teachers' level of HIV and AIDS knowledge

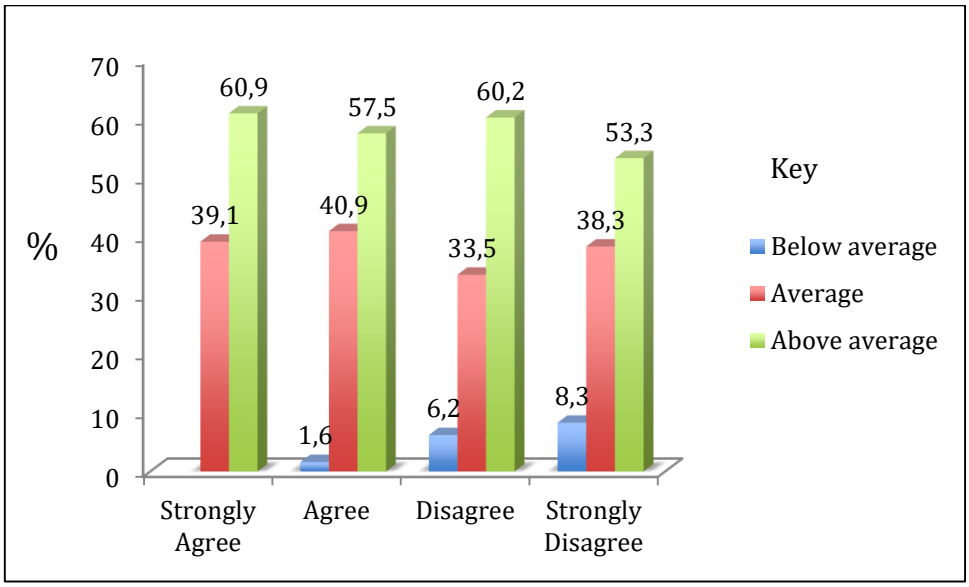


Figure 5. 57: Relationship between quality attribute: I have been provided with clear guidelines, teaching materials and activities to help me implement HIV and AIDS education and teachers' level of HIV and AIDS knowledge
Source: Survey data (2015)

Dependent	Quality of HIV and AIDS education implementation
Independent	Level of HIV and AIDS knowledge
Null Hypothesis	The quality HIV and AIDS education implementation is not dependent on the level of HIV and AIDS knowledge of the implementer
Alternative Hypothesis	The quality HIV and AIDS education implementation is dependent on the level of HIV and AIDS knowledge of the implementer
Pearson Chi-Square	7.837[a] *df* =6 p = 0.250 (Accept Null Hypothesis)

The figure 5.57 shows the results for the 371 teachers' relationship between the quality attribute 'I have been provided with clear guidelines, teaching materials and activities to help me implement HIV and AIDS education' and the teacher's level of HIV and AIDS knowledge. The Pearson Chi-square was computed and the results were, chi square = 7.837, degrees of confidence = 6 and p value = 0.250 and therefore accepted the null hypothesis. More than 50% teachers with 'above average' knowledge were spread throughout the four categories of 'strongly agree' to 'strongly disagree' ratings of whether they have been provided with clear guidelines, teaching materials and activities to help me implement HIV and AIDS education, a variable used to assess the quality of HIV and AIDS implementation in the school.

5.9.6 Relationship between quality attribute: I am confident that my teaching of HIV and AIDS influences learners' sexual behaviour for the better and teachers' level of HIV and AIDS knowledge

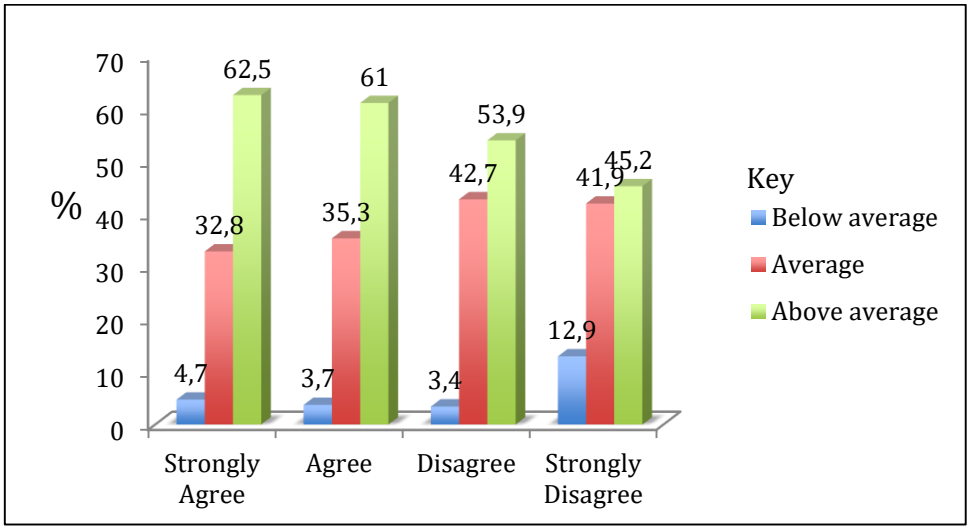


Figure 5. 58: Relationship between quality attribute: I am confident that my teaching of HIV and AIDS influences learners' sexual behaviour for the better and teachers' level of HIV and AIDS knowledge
Source: Survey data (2015)

Dependent	Quality of HIV and AIDS education implementation
Independent	Level of HIV and AIDS knowledge
Null Hypothesis	The quality HIV and AIDS education implementation is not dependent on the level of HIV and AIDS knowledge of the implementer
Alternative Hypothesis	The quality HIV and AIDS education implementation is dependent on the level of HIV and AIDS knowledge of the implementer
Pearson Chi-Square	8.314[a] *df* =6 p = 0.216 (Accept Null Hypothesis)

The figure 5.58 shows the results for the 371 teachers' relationship between the quality attribute 'I am confident that my teaching of HIV and AIDS influences learners' sexual behaviour for the better' and the teacher's level of HIV and AIDS knowledge. The Pearson Chi-square was computed and the results were, chi square = 8.314, degrees of confidence = 6 and p value = 0.216 and therefore accepted the null hypothesis. More than 45% teachers with 'above average' knowledge were spread throughout the four categories of 'strongly agree' to 'strongly disagree' ratings of whether they were confident that their teaching of HIV and AIDS influenced the learners' sexual behaviour for the better.

5.9.7 Relationship between quality attribute: I am comfortable handling sexuality issues in my class and teachers' level of HIV and AIDS knowledge

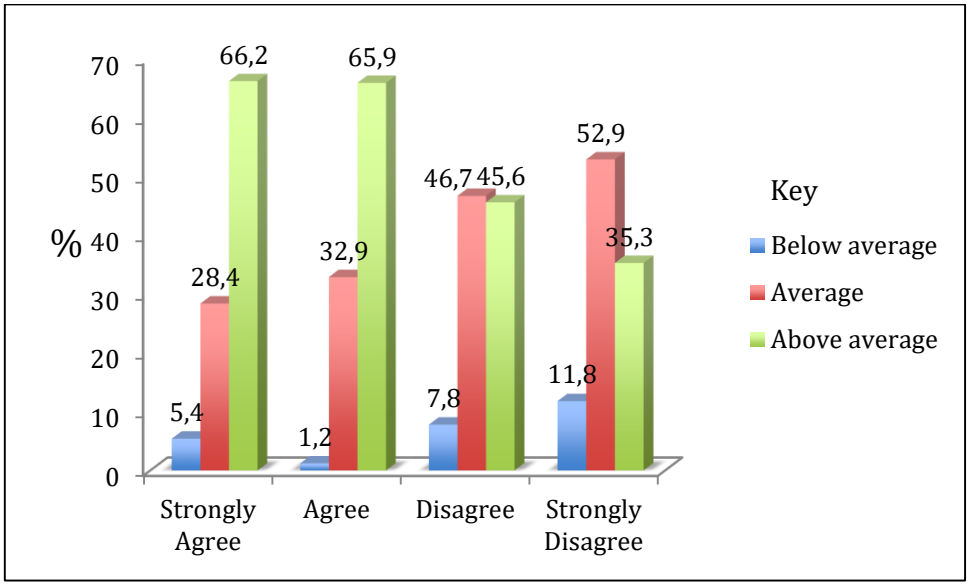


Figure 5. 59: Relationship between quality attribute: I am comfortable handling sexuality issues in my class and teachers' level of HIV and AIDS knowledge
Source: Survey data (2015)

Dependent	Quality of HIV and AIDS education implementation
Independent	Level of HIV and AIDS knowledge
Null Hypothesis	The quality HIV and AIDS education implementation is not dependent on the level of HIV and AIDS knowledge of the implementer
Alternative Hypothesis	The quality HIV and AIDS education implementation is dependent on the level of HIV and AIDS knowledge of the implementer
Pearson Chi-Square	25.309^{a} *df* =6 p = 0.000 (Reject Null Hypothesis)

The figure 5.59 shows the results for the 371 teachers' relationship between the quality attribute 'I am comfortable handling sexuality issues in my class' and the teacher's level of HIV and AIDS knowledge. The Pearson chi square was computed and the results were, chi square = 25.309, degrees of confidence = 6 and p value< 0.001 and therefore rejected the null hypothesis. The quality of HIV and AIDS implementation is dependent on the level of HIV and AIDS knowledge that the implementer/teacher has when it comes to the attribute of comfort with handling sexuality issues in class.

5.10 Research question 1.3.4: What are the facilitators and barriers to the implementation of HIV and AIDS education in schools?

The questions on facilitators and barriers to the implementation of HIV and AIDS education in schools were asked as two open ended questions in the teachers' questionnaire (questions 20 and 21 of section D) and also as a question (in the interview guide) to the subject advisors during the in-depth interviews. Therefore, this section will have both the teachers' accounts and the district officials' account of facilitators and barriers in theme 1 and 2. It also encompasses the context around the implementation of HIV and AIDS education (theme 3) from the perspective of the subject advisors as district office officials responsible for the Life Orientation and Life-Skills. The analysis is structured according to these three main themes namely facilitators to the implementation of HIV and AIDS education in schools; barriers to the implementation of HIV and AIDS education in schools and the district office officials' narratives. The discussion of these themes and the corresponding sub-themes that emerged during thematic analysis is enhanced by quotes from verbatim transcriptions of the narratives from questionnaires and interviews. The themes and the

corresponding sub-themes that emerged are summarised in Table 5.38, and subsequently discussed in the following paragraphs.

Table 5. 39: Results of thematic analysis

Theme 1	
Facilitators to the implementation of HIV and AIDS education in schools	
Sub-theme 1	Curriculum coverage and HIV and AIDS policy prescripts
Sub-theme 2	Support and school functionality
Sub-theme 3	Teacher characteristics and personal experiences
Sub-theme 4	HIV and teenage pregnancy prevalence in schools
Theme 2	
Barriers to the implementation of HIV and AIDS education in schools	
Sub-theme 1	Lack of knowledge, support and resources
Sub-theme 2	Teacher characteristics
Sub-theme 3	HIV prevalence in schools and stigma associated with it
Sub-theme 4	Community values
Sub-theme 5	No provision for content for HIV education in CAPS and teaching plans documents
Sub-theme 6	Learners' reactions to HIV and AIDS related topics
Sub-theme 7	LO program overload and lack of monitoring

Source: Survey data (2015)

5.10.1 Theme 1: Facilitators to HIV and AIDS education implementation in schools

Sub-theme 1: Curriculum coverage and HIV and AIDS policy prescripts

Data analysis from the responses of both the open-ended questions and the in-depth interviews revealed that there are a number of facilitators to HIV and AIDS education implementation in schools and these have been grouped into sub-themes. The first one that is discussed is that for the implementation of HIV and AIDS education in schools is facilitated by the need to cover the curriculum demands. Teachers felt obliged to

teach something on HIV and AIDS although most didn't know what, how and to what extent. Teachers had the following to say:

> *" It forms part of our curriculum and is integrated in the Life-Skills education program"*
>
> *"HIV and AIDS is part of the CAPS Life-Skills curriculum, taught to learners so as to make them aware of the seriousness of the disease, but we struggle we it because there is nothing like specific lessons we need to concentrate on for different grades"*
>
> *"I teach the 10 universal precautions that are on display in my class"*

The above teachers' utterances are consistent with the findings of Blake et al (2004); Mkumbo (2012); Paulussen, Kok & Schaalma (1994) that teachers who adopted HIV policies and sexuality curricular were more likely to provide HIV prevention education to learners. This however, was not driven by the need to produce proof of coverage of specifically the HIV and AIDS topics during the monitoring by the subject advisors. Monitoring by the subject advisors does not specifically cover or target HIV topics, as this was confirmed by both the teachers and subject advisors:

> *" We have a general monitoring tool that does not check coverage of HIV and AIDS teaching or sexuality education as topics so I wouldn't know but most teachers do not have a problem with this topic and therefore I hardly get questions or problems from them about the teaching of HIV and AIDS component of Life Orientation. The section that they struggle with is the physical education part of Life Orientation and that is why even for our workshops we concentrate on that section" 48 year old subject advisor*
>
> *"When they (subject advisors) come to check my work, they check the file and learners' exercise books sometimes there is work on HIV and sometimes it is not there" teacher*
>
> " I rely on internet and radio to hear the news of HIV then I talk about that in class, just to give them knowledge about the diseases" teacher

In chapter 3 the researcher alluded to the fact that South Africa is one of the countries that have made attempts to introduce sexual and HIV and AIDS education in school (Thaver & Leao, 2012) in its 1996 national Life-Skills program (DoE, 2000a) which was designed to provide learners with comprehensive information about transmission and prevention of HIV and other sexually transmitted infections, as well as reproductive biology, contraception and pregnancy, domestic violence and sexual negotiation skills. The curriculum is said to emphasise individual-level self-efficacy and behaviour change to promote outcomes such as delay of sexual debut and increased condom use. Whilst the aim of the Life-Skills program is well articulated, this study revealed that the implementation thereof lacks as there is no clear outline of content to be covered in each grade, the figure below shows the CAPS grade 2-12 teaching plans with topics related to HIV and AIDS only:

Table 5. 40: Life-Skills and Life Orientation CAPS topics on HIV and AIDS adapted from Teaching Plan documents

GRADE	TOPIC	SUB-TOPICS
Grade R-3	Beginning knowledge and Personal and Social Well-being	
Grade 4	Health and environmental responsibility	HIV and AIDS education: Basic facts
Grade 5	Health and environmental responsibility	HIV and AIDS education: Dealing with stigma
Grade 6	Health and environmental responsibility	HIV and AIDS education: Myths and realities
Grade7	Health, social and environmental responsibility	Common diseases: TB, diabetes, epilepsy, obesity, anorexia, HIV and AIDS
Grade 8	Health, social and environmental responsibility	Decision making about health and safety: HIV and AIDS
Grade 9	Health, social and environmental responsibility	Concept: Volunteerism Health and safety issues related to violence
Grade 10	Development of the self in society	Decision-making regarding sexuality
Grade 11	Development of the self in society	Healthy lifestyle choices: decision-making skills
Grade 12	Development of the self in society	Life skills required to adapt to change as part of ongoing healthy lifestyle choices

Source: Survey data (2015)

Table 5.62 above does show why teachers are found wanting when it comes to content on HIV and AIDS. Only broad topics are provided and there is an instruction to the teachers that they should adapt these topics to suite their school needs and also choose their own topics if they feel those are more appropriate. Teachers understood the need

to offer HIV and AIDS education as is perpetuated by the CAPS and HIV and AIDS school policies, the difficulty is in the lack of provision for the appropriate content for different grades.

Teachers understood the importance of HIV and AIDS education in the curriculum also from the perspective of being in touch with issues on the ground.

> *"Parents contact us to let us know about their kids who are HIV positive and who are taking ARVs"*
> *"Learners have had their experiences with HIV and AIDS, they come speak to us about that, so we must teach them and the topics in the CAPS book do give some guide"*
> *Learners are HIV positive and bring their treatment to school, we need to protect them from others so we teach it"*

The above statements show that, not only are teachers encouraged by policies to teach HIV and AIDS, instead these policies and curriculum help to give teachers some guidance towards addressing real life issues that teachers face as they engage with both learners and communities. These resources must therefore be adequately prepared to offer such guidance. Literature confirms the importance of community involvement in HIV and AIDS programmes (Kelly, 2002; UNAIDS, 2009b).

Sub-theme 2: Support and monitoring

Data revealed that teachers received support from colleagues, principals and subject-advisors although this support was not enough. Some teachers cited the kind of support like workshops that are provided by the district office, the NGOs and the department of health.

> *"……the support we get from the department encouraged us to implement HIV and AIDS education, and our principal is very supportive when it comes to HIV and AIDS".*
> *" We have Life-Skills books and posters from the department of health"*
> *"I was working with Soul Buddies together with peer educators"*
> *"I was a peer educator but it was not organised by the DoE, but by the union*

that work shopped some teachers"
"We received support from Love-Life, and we also attended workshops by the department, but all in all internet is useful in these AIDS topics"

Whilst some teachers echoed that support received from different stakeholders encouraged them to implement HIV and AIDS education, some teachers complained that they lacked the support.

"I am not encouraged because there are no workshops to empower us as educators to implement the HIV and AIDS education"
"It would be better if someone conducts in-service training for us within schools, with regular workshops to develop educators and pay visits to even teach these learners"

It was noted that teachers viewed support as the important feature in the implementation of HIV and AIDS education as is echoed in the CIT (Bressers, 2007). Support and lack of support has tremendous influence on implementation (Owen & Bressers, 2013). Similar results were also reported by Gripper, 2010; Jonker, 2011 and Kinsky *et al*, 2015. Teachers who received support, benefitted from such and it encouraged them to perform better than those who reported lack of support and who complained that they were not given direction and motivation to implement HIV and AIDS education. One teacher had this to say:

"HIV is rife in KZN and learners need to know about it. Most of them are exposed to it, it is important that they understand the consequences of their actions but how do I know how to help them because I have never attended any workshop concerning HIV and AIDS education"

Teachers' desperation is also seen in statements like:

" --- there must be a syllabus which contains HIV and AIDS content to teach, But also learners need motivational talks at least twice every month,---
--- serious this must be done because HIV is a serious disease"

Sub-theme 3: Teacher characteristics and personal experiences

The teachers' responses confirmed that teacher characteristics as outlined in the Contextual Interaction Theory (Bressers, 1993) in our chapter 3 played a role as both the facilitators and sometimes the barriers to the implementation of HIV and AIDS education in schools. As the facilitator, teachers reported that their attitudes towards HIV and their motivation to want to protect children from HIV kept them focused on implementing HIV and AIDS education. This drive to protect the learners was also motivated by observing that learners needed knowledge to protect themselves but also by the knowledge that teachers have that they feel will also be of help to the learners and their parents. In explaining these teacher characteristics and teacher experiences, teachers had this to say:

> *" I teach it for the safety of my learners, the media out there tell us that the statistics is high for HIV and rape so someone must caution these learners and give them knowledge, if they don't listen, it is their own but my conscience will be clean"*

> *"----so that my learners can protect themselves from HIV, so I teach myths and facts about HIV as well as how to prevent it"*

> *"---parents do not teach their kids about sex and HIV so we as teachers should do it so as to give them knowledge to use to protect themselves"*

> *'learners are staying with HIV positive children and they have no knowledge on how to handle them and so I take a chance to equip the learners with knowledge"*

> *"These learners have their experiences with HIV so it is easier to speak to them, they need us to help them"*

The quotes above show the realities faced with teachers on the ground with regards to HIV and AIDS. These personal teacher experiences and how these have shaped

teachers' characteristics and therefore conduct bears testimony to what was already found in the work of Owen & Bressers (2013) who described the teacher's motivation and cognition as the characteristics of process implementer which determine if the teacher as the implementer of HIV and AIDS education will carry out the objective of the teaching of HIV and whether he/she will have the interest of the learner at heart. Likewise, Helleve *et al*, (2009b) had also found that teachers' characteristics such as their confidence, self-efficacy and comfort with one's own sexuality and life experiences make some teachers more able than others to teach learners about sex.

Sub-theme 4: HIV and teenage pregnancy prevalence in schools

Another teacher characteristic that stood out as the facilitator for teachers to implement HIV and AIDS education was that of knowledge which is described in CIT (Bressers, 2007) as cognition. Teachers reported that the knowledge of the number of learners already infected, and the number of those pregnant and the media reports on the prevalence of HIV among youth ignited their willingness to implement the HIV and AIDS education with the view to save the rest and caution the youth at their care.

> "*Most learners are already infected by HIV in our school, so we need to talk about it to save others if we can but also it becomes difficult to discuss it in front of the infected ones because they feel sad and stigmatised –so it is difficult, but we do it*"

> " *We have high rate of pregnancy in our school*"

> "*In this area there is high rate of HIV both parents and their kids are infected*"
> " *How can I not talk about it because they are pushing their big stomachs (pregnant) here in school without even a shame*"

Teachers seem to be worried about the state of HIV both in communities and in schools. There also seem to be very little that they think they can do so the best for them is to

talk to the learners. These "talks" are to the teachers the best they can offer and they refer to such as implementing HIV and AIDS education.

5.10.2 Theme 2: Barriers to HIV and AIDS education implementation in schools

Sub-theme1: Lack of HIV and AIDS knowledge, support and resources

Whilst knowledge and support were cited as facilitators to the implementation of HIV and AIDS education, the lack of HIV and AIDS knowledge, support and resources were also reported as the barriers to the implementation of HIV and AIDS education in schools. Teachers referred to lack of knowledge provided for them to use to teach HIV and sexuality issues, lack of time periods dedicated to the teaching of HIV topics and lack of resources to use to demonstrate and facilitate the teaching of some issues related to HIV as barriers to implementing HIV and AIDS education.

The results of this study's quantitative data on teacher's knowledge of HIV and AIDS did confirm that most teachers did not have adequate knowledge of HIV, with 37.2% teachers having the average knowledge of HIV and AIDS and 4.6% with even below average knowledge of HIV and AIDS. Some of the teachers' comments below show these frustrations with regards to lack of knowledge, lack of support and lack of resources:

> "*There is no enough information about HIV and AIDS, there are no guidelines and not materials as well as the activities to do with learner as we have them in other units"*

> *"-----we do not have textbooks with HIV and even TVs with DVDs to Play for children"*

This study also found that lack of HIV and AIDS knowledge at teacher's disposal made them doubt their self-efficacy. Self-efficacy has been reported to be an important feature in the implementation of HIV and AIDS education, awareness and programs by other studies (Mathews, *et al*, 2006; Paulussen, *et al*, 1994). This study's quantitative data had shown that 32.4% teachers reported that they are not confident that their

teaching of HIV and AIDS could influence learner's sexual behavior for the better. Confirming these quantitative reports is the qualitative data that revealed the following:

"It is not easy to talk about things that concern sex to learners"

"----- I do not have the required skills so it is safe to simply skip it"

The analysis also pointed out the lack of support in terms of 'time allocation' in the time-table, resources and general support from colleagues, principals and district officials as the barrier to HIV and AIDS implementation. Their heightened level of frustration led some of the teachers to think that the researcher would have an influence in how the district office and principals resource the schools. Some of the quotations below confirm these frustrations:

" *---we have no special period for HIV and AIDS in the time-table, this HIV is only a topic on Life-Skills"*

"I want to see more periods on HIV and AIDS in our time-table like other subjects"

"I hope the researcher will communicate to the department about the need for More time to teach HIV and AIDS and to ask them to provide schools with HIV test stations in schools and more workshops for teachers"

This is congruent with the data from this study's quantitative data where 45.8% teachers reported that time allocated in the time-table for HIV and AIDS is not enough. Although there is some conflict in the reports because some teachers had openly reported that in schools there are not HIV and AIDS periods (time-allocation) instead these are within the Life Orientation subject and the individual teacher decides on the time to spend so as to cover the HIV and AIDS unit within the Life Orientation and Life-Skills subjects. In the same breath, some reported that time for HIV and AIDS is used for more other 'serious' topics that need to be covered in the teaching plan as is indicated in the following quote:

"*We have so much to cover, so don't have time for HIV and AIDS*"

Sub-theme 2: Allocation of teachers to the teaching of Life-Orientation and the status of Life-Orientation in schools

Data showed that some teachers reported their barriers to implementing HIV and AIDS education as having its roots in not having been trained to be Life Orientation teachers and are therefore not prepared for what they do. These could be teachers that had reported in the quantitative survey that they do not have the HIV and AIDS knowledge as well as the required methods of handling HIV and AIDS topics and sexuality topics. Two teachers disclosed as follows:

"*I am not trained to deal with such a sensitive subject of Life Orientation and I don't have the information and skills to use"*

"I was employed as the Netball coach, and eventually given the teaching task, which was Life Orientation teaching"

Another perspective which came out strongly from both the teachers and the district officials is that Life Orientation as the subject is not accorded the same status as other subjects in schools. Somehow, Life Orientation is seen as inferior (Mkumbo, 2012; van DeVenter, 2008), easy to be handled by anyone, even if not trained at all; not trained for the Life Orientation or not the very good teacher at school. For instance, the district official had this to explain:

"-----when the rationalization and re-deployment happened in schools some few years back and this coincided with the introduction of Life Orientation in schools, you will remember that back then there were no Life Orientation trained teacher and it became easy for schools to rather give the Life Orientation post to a teacher who was supposed to be re-deployed if they were too many in that Commerce or History stream. That is how we had our Life Orientation teachers and in some schools because Life Orientation is not externally examinable in grade 12, a not so good teacher whose subject causes a high failure rate in school is just changed to teach the Life Orientation. For

this reason and many others, Life Orientation has an inferior status and these teachers are looked down upon" (Subject advisor).

These results have been confirmed by Visser (2005), who mentioned that the inferior status of Life-Skills in schools is a barrier to program implementation.

Sub-theme 3: HIV prevalence in schools and the stigma associated with HIV and AIDS

The prevalence of HIV among learners in primary and secondary schools in not recorded because there has not been a study commissioned for such purpose in KZN. Teachers in both secondary and primary schools reported being confronted with increasing numbers of reports of infected learners, either through parents reporting or learners bringing their ARVs to schools. In this manner, teachers get to know about infected learners in their classroom, and so do other learners. During lessons about HIV and AIDS, the atmosphere of uneasiness confronts the class as such issues are discussed in front of already infected learners. Teachers expressed these concerns about how HIV prevalence in schools and stigma associated with HIV becomes the barrier to HIV and AIDS education implementation. The quotes below show these feelings:

"------it is hard to address these issues of HIV and AIDS in class while others are HIV positive because other learners will laugh at them"

"More and more learners are on medication (ARVs), so the stigma is high"
"There are things that are not easy to explain to lower grades learners, like abstain from sex (which sex) and although they know condoms but it is not easy to even talk about them"

Two issues stood out from the conversations of teachers about teaching already infected learners. First is how teachers were expected to deliver the HIV and AIDS related content and secondly was what age appropriate content and messages to use for their different age groups. Our quantitative data had shown that 50.1% teachers disagreed that there was enough coverage of information topics and prevention messages of HIV in class per term covered in their schools. Again, 59.6% teachers reported in the quantitative data that they were not provided with clear guidelines, teaching materials

and activities to help them implement the HIV and AIDS education. Jonker (2011) had argued that to ensure participation and effective HIV and AIDS teaching, employment of interactive teaching and learning methodologies like role plays as well as modelling (use of DVDs) are essential. Jonker (2011) had further postulated that training of teachers offering HIV and AIDS education should provide teachers with methods for enhancing teachers' instructional efficacy. It has been shown above that teachers have the knowledge of learners who are infected in schools which is in contrary to what was found 6 years ago by Helleve, *et al,* (2009b) who reported that Life Orientation teachers were not aware of any HIV infected student at their schools.

Sub-theme 4: Community values and beliefs around the teaching of HIV and AIDS in schools

Previous HIV and AIDS programs have focused on engaging communities with a view to lobbying community support to programs (Guliad & Kiragu, 2012; Griesel-Roux, Ebersohn, Smit & Eloff, 2005; MacQueen, Bhan, Frohlich, Holzer, & Sugarman, 2015; UNAIDS, 2009b). Efforts to win community involvement have been fruitful in some areas (Mzimela (2010) and have had many difficulties in some areas (Visser, 2005) especially in rural areas (Prinsloo, 2007). Teachers' reports in this study confirm that rural communities still find it difficult to balance the need for HIV and AIDS prevention programs with their entrenched opposing cultural values and beliefs. For the same reason, teachers reported in the quantitative data that they were not comfortable handling sexuality issues in their classes. This discomfort stems out their intrinsic fight between wanting to deliver the sensitive HIV knowledge and their personal convictions and also the fear of ridicule by the communities they serve. Moreover, UNAIDS (2009b) argue that HIV and AIDS knowledge and skills learned in school must be re-enforced by communities and parents. When communities do not endorse the sexuality and HIV programs conducted in schools there can be no such re-enforcement. This is supported by Jonker (2011) who confirms that active engagement and establishment of positive relationships with communities may reduce possible resistance to the implementation of HIV and AIDS programs. Teachers' frustrations in this study were evidence in the following quotes:

"-----in most cases any mention of any sexual related knowledge to learners

is viewed by my community with another eye"

If parents do not want their children to be taught about it (sex/HIV), what do we do?"

"Other parents don't want their children to be taught HIV and AIDS"

"It is difficult to discuss this thing with children, especially because small ones are innocent so how do I talk about condoms that they prevent HIV, so I am going to be seen as a corrupt teacher"

"-------parents don not agree with what is taught to their kids, they say that children will want to practice it"

"---age of learners, parents say their children are too young"

The above teachers' comments demonstrate that their frustrations go beyond lack of knowledge, skills, time and support to implement HIV and AIDS education. The lack of community support is also widely expressed. It can also be noted that more than the fear of being criticised by parents, those that teach young ones also feel that there is either no need to teach HIV and AIDS to young leaners or they have no skills and relevant age appropriate content for such young learners. Confirming this qualitative result is the quantitative data in this study where 50% teachers who denied having enough coverage of information topics and prevention messages of HIV in their classes were primary school teachers. Previous studies have for this reason and many others stressed the importance of continuing teacher training that would enable teachers to establish relationships as well as support networks with parents, communities and other stakeholders concerning HIV and AIDS treatment, care and support to curb resistance in schools and communities but also to offer support with required knowledge and skills (Ebersohn & Ferreira forthcoming Jonker, 2011; UNAIDS 2009b).

Sub-theme 5: No provision of content for HIV and AIDS in CAPS and teaching plans documents

In the foregone paragraphs, the researcher has described how the lack of HIV knowledge has been reported as the barrier for HIV and AIDS implementation in schools. Another related barrier that was widely reported was the lack of provision for the HIV and AIDS content in CAPS documents (Francis, 2010). Teachers face situations where they are expected to respond to the ever changing demands of knowledge that teachers themselves do not have access to. Instead the CAPS documents have broad themes (figure 5.62) that are not very useful to a teacher who needs specific and age appropriate messages and activities to use in the implementation of HIV and AIDS education in classes. For example, the document spells out that grade 4 learners should be taught basic facts about HIV and AIDS but is silent about where then does a teachers get those basic facts from. Some teachers had this to say about this situation:

"*I use internet to get knowledge about HIV"*

"-----no video clips on HIV and AIDS"

"Less information in textbooks is a problem"

"There is not enough information of HIV and AIDS, not even guidelines, materials and activities to use"

'Not enough textual and visual resources to implement it"

Teachers expect to be given the guidelines, curriculum, content, materials including activities to use when implementing HIV and AIDS education. On the other hand, the department of education (DoE, 2000a) highlights the strategy, guidelines and terms of reference for the implementation of HIV and AIDS policy and programs in schools. Vather (2012) concurs that the national policy and related strategy only served as a guideline for schools to create their own curriculum, Life-Skills programs with HIV

and AIDS education content and messages that were to be appropriate to their circumstances. It is clear that different schools are struggling with this additional task.

Sub-theme 6: Learners' reactions to HIV and AIDS related topics

The results of this study indicate that sometimes teachers faced unfavorable reactions from learners when implementing HIV and AIDS education. These learner negative reactions added another layer of discomfort to teachers as they taught HIV and AIDS. Teachers had the following to say about learners' reactions to the HIV and AIDS related topics in class:

> "*Other learners become hurt when discussing this matter because they are somehow affected"*
>
> *"Most learners are shy to discuss sexual issues"*
>
> *"--------lack of interest from learners, HIV is over-used so learners have lost interest"*
>
> *"Children are immature and often giggle and laugh at the topic, makes educator uncomfortable"*
>
> *"Some learners are stubborn and will not listen to what we are teaching them"*

The above utterances by teachers show different reactions confirmed by other studies ranging from lack of seriousness by Life Orientation teachers (Adewumi, 2015) and by leaners (Jacobs, 2011); ill-feelings due to personal experiences of learners (Mugweni, 2012), and ill-discipline by learners in some schools (Jacobs, 2011). On the contrary Jonker (2011) had found that learners were comfortable in communicating about issues of HIV and AIDS.

Sub-theme 7: Life Orientation program overload and lack of monitoring

There was a sense from the data that teachers and subject advisors felt that Life Orientation was so overloaded and complex as a result issues of HIV and AIDS are not afforded the required time. This is evident in the description by Van Deventer (2008) when he purports that Life Orientation concerns itself with the self, the environment, responsible citizenship, a healthy and productive life, social engagement, recreation and physical activity and career choices in an attempt to equip 'learner for the meaningful and successful living in a rapidly changing and transforming society' (DoE. 2003; DoE, 2008). This program overload suffocates the subject and as a result there are various problems in the practice of Life Orientation education (Jacobs, 2011 and therefore HIV and AIDS education. Two subject advisors concurred:

> *"Teacher have always reported that their challenge in Life Orienation is with physical the education component, not the HIV and AIDS one"*

> *"I have been asked by teachers to conduct for them workshops on how to treat the physical education part of Life Orientation"*

Lack of monitoring was mentioned as another reason, the HIV and AIDS education did not receive the attention it deserves. Teachers felt that skipping the unit did not attract any reprimand from the SMT and from the district office officials and this was supported by the subject advisor who admitted that their monitoring tool for Life Orienation is general and does not specifically cover monitoring HIV and AIDS unit coverage. This view was in contrast with the view that curriculum coverage was also reported by some teachers as a facilitator to implement HIV and AIDS education.

5.11 Discussion of results

The following paragraphs discuss major findings of the study in relation to literature and the elements of the two theories/frameworks that guided this inquiry. The study reviewed and used the CIT (Owen & Bressers, 2013) and the M&E framework (Marriot & Goyder, 2009) and the results supported both these theories.

5.11.1 HIV and AIDS education implementation and teacher characteristics

The characteristics of program/policy implementer play an important role on the actual implementation. Mathews, *et al*, (2006) and Owen and Bressers (2013) had confirmed that evaluating the effectiveness in the implementation of the program is by analysing the characteristics of implementers. Teacher characteristics as described in the CIT: motivation (interest, comfort, self-efficacy and attitude); cognition (knowledge about HIV and AIDS, knowledge of HIV and AIDS policy, skills and methods of teaching HIV and AIDS topics) and power (resources, time, HIV and AIDS teaching guidelines and content, support and training) have been analysed in order to evaluate teachers' implementation of HIV and AIDS education in schools.

Figures 5.11; 5.12 and 5.13 are graphs that showed the results of the teachers' motivational characteristics as implementers of HIV and AIDS education in schools. Overall, teachers expressed to be highly motivated in terms of interest, capability and comfort (Helleve, *et al*, 2009; Kinsky, *et al*, 2015 & Mkumbo, 2012) towards implementing HIV and AIDS education. The issue of how these characteristics influence teachers' implementation of HIV and AIDS education was explored. It was found that whilst these variables scored very high in figures 5.11, 5.12 and 5.13 these characteristics (attitude, interest and capability) had no significant influence on the implementation of HIV and AIDS education in schools as can be seen in the binary logistic regression model in figure 5.18. These characteristics were obtained as self-reports by teachers and as such social desirability bias may have affected these results.

With regard to cognition, Blake, *et al*, (2005) believed that providing training on adopting the policy for HIV prevention programs led to broad adoption and effective implementation of the program. He further added that clear national policies set a stage for the adoption of local policies and set standards against which performance can be measured. In this study, 77.1% of teachers reported that they knew the contents of the HIV and AIDS policy for their schools. Furthermore, knowing the contents of the HIV and AIDS policy was associated with implementation of HIV and AIDS education.

The results also showed that the teachers who did not have any formal training for implementing HIV education in his/her degree/diploma was 0.61 times less likely to implement HIV and AIDS education compared to a teacher who had some formal training in his or her certificate on HIV education. Blake, *et al,* (2005) had also found that trained HIV teachers devoted more class periods to sexuality and HIV prevention education and they covered more prevention skills.

Since Life Orientation and Life-Skills programs have been introduced in the recent years, ongoing training of teachers through workshops should be the order of the day, especially to cater for teachers who were originally not trained to be Life Orientation teachers. The lack of training as well as the scarcity of workshops for HIV education implementation impacts on issues of pedagogy (Francis, 2010 & Francis & DePalma, 2015). It came out strongly in this study as the barrier to successful implementation. About 79.5 % teachers reported that they had not had a workshop in the last 12 months on how to implement HIV and AIDS education in schools and these were 0.8 times less likely to implement HIV and AIDS education in schools compared to teachers who reported having attended any workshop on teaching HIV and AIDS.

For the successful implementation of any program, resources, time and support should be provided. Without these, accomplishing the aims of the program would remain a dream. Teachers in this study have reported in both the quantitative and qualitative data sets that they lack resource, time and support to implement HIV and AIDS education. This has had serious impact on quality implementation as can be seen in table 5.36, where a teacher who reported not having enough resources to implement HIV and AIDS was about 0.49 times less likely to implement HIV and AIDS education compared to those who reported having enough resources. Likewise, teachers who did not have time allocated for HIV and AIDS in the time-table were 0.72 times less likely to implement quality HIV and AIDS education compared to teachers who had time in the time-table for HIV and AIDS education. This is supported by Kinsky, *et al*, (2015) and Visser (2005) who found that lack of support, lack of resources and lack of dedicated time were reported by teachers as barriers to implementing HIV care interventions.

5.11.2 HIV and AIDS education implementation and M&E framework-quality of implementation

This study has evaluated HIV and AIDS education in schools using the monitoring and evaluation framework (Marriot & Goyder, 2009). The study revealed that the quality of HIV and AIDS implementation was not only compromised by teacher characteristics but also by schools' quality of HIV and AIDS teaching strategies and by the reported barriers to implementation.

5.11.2.1 Schools quality of HIV and AIDS education and teaching strategies

The quality of implementing HIV and AIDS education in schools was reviewed in terms of input, process evaluation and output stages of the M&E framework. Findings suggest that at the input level, the resources, support, training of teachers and teachers' skills and strategies compromised the quality of the implementation process. In Table 5.38 for the results of the binary logistic regression analysis on the relationship between quality of HIV and AIDS education implementation and teacher characteristics variables of formal training, HIV content, time, enough support and workshop attendance were all positively significantly associated with quality HIV and AIDS implementation. Mathews, *et al*, (2006) had also reported that previous training is a teacher characteristic associated with effective implementation of HIV and AIDS education, whilst Francis & DePalma (2015) have stressed on issues of pedagogy and content knowledge as fundamentals to quality HIV and AIDS education implementation.

Findings on teachers' strategies that teachers utilise in implementing HIV and AIDS education suggest that more training should focus on both the content of HIV and AIDS as well as on the delivery methods thereof. The investigation on the use of the ten strategies yielded the following results:

Strategy	% of teachers reporting good and excellent use
Discussion of sexuality issues	53.6
Messages around risks of HIV infection as prevention strategy	61.2
Assignments and projects on HIV and AIDS related topics	42.4
Debates on HIV and AIDS related topics	37.4
Exercises and quizzes on modes of HIV transmission and myths about HIV	38.3
Use of peer educators for some HIV related topics	41.8
School wide intervention programs including the commemoration of World AIDS Day	38.5
Use of role-play to dramatise key issues of HIV and AIDS	39.9
Playing video clips on HIV topics for learners	19.9
Use of outside speakers to motivate learners to prevent HIV infection	40.7

Teachers seem to favour the use of traditional teaching methods of telling and discussion as can be seen from the results above. These methods are easy to use but with less impact.

5.11.2.2 Schools quality of HIV and AIDS education and reported barriers to implementation

The qualitative data for this study revealed that there were more barriers to the implementation of HIV and AIDS education reported by teachers in schools than the facilitators. It was noted from the results that the reported barriers to implementation confirmed the results of from the quantitative data where issues of knowledge gaps, lack of support and lack of training were cited in both data sets. The reported barriers included:

- Lack of knowledge, support and resources
- Allocation of teachers to the teaching of Life Orientation and its status in schools
- HIV prevalence in schools and the stigma associated with HIV

- Community values and beliefs around the teaching of sexuality and HIV and AIDS in schools
- No provision for content for HIV and AIDS in CAPS and teaching plans documents
- Learners' reactions to: HIV and AIDS related topics
- Life Orientation program overload and lack of monitoring

Teachers' comments brought forth the seriousness of their plight and frustrations that they face on a daily basis as they implement HIV and AIDS education in schools, some of which were:

> "*I am not trained to deal with such a sensitive subject of Life Orientation, and I don't have the information and skills to use"*
>
> *"It is hard to address these issues of HIV and AIDS in class while others are HIV positive because other learners will laugh at them"*
>
> *"If parents do not want their children to be taught about it (sex/HIV), what do we do?"*
>
> *"There is not enough information of HIV and AIDS, not even guidelines, Materials and activities to use"*

These findings on teachers' barriers to implementing HIV and AIDS education are consistent with the findings by Kinsky, *et al,* (2015) and by Visser (2005). Regarding lack of content knowledge, Francis & DePalma (2015) reported that teachers argued that content knowledge specifically relevant to sexuality and HIV and AIDS education was lacking not only for themselves as teachers of Life Orientation but also for their supervisors, who without this knowledge could not support them. As has been mentioned earlier, for the department of education to leave the responsibility of creating the HIV and AIDS curriculum to schools was not only an inefficient act but also it created room for non-implementation of the HIV and AIDS education in schools.

5.12 Summary

In this chapter, the results of the analysis were presented and discussed in relation to literature and the conceptual framework that guided the study. Since the study followed a mixed-method approach, the results were reported on two sections; firstly, the quantitative results according to research questions 1.3.1; 1.3.2; 1.3.3 and 1.3.5 and the qualitative section results based on themes for the research question 1.3.4. For the research questions investigated through quantitative means, results of descriptive analysis were presented by means of frequency tables, cross tabulations and graphs; also binary logistic regression models were used to determine and explain teacher characteristics that influenced quality implementation of HIV and AIDS education in schools. These results were further confirmed in the narrations of the qualitative data set.

The study showed that Life Orientation teachers implement HIV and AIDS education, though not as effectively as intended. This ineffectiveness is not being picked up as there is no monitoring that targets the HIV and AIDS education in schools. It was further found that teacher characteristics that had a positive influence on the implementation are 'having a formal training in HIV teaching, knowing the contents of HIV and AIDS policy and having attended any workshop on the teaching of HIV and AIDS', whilst other studies had reported that even teacher characteristics like having a positive attitude, interest and capability do influence implementation (Helleve, *et al*, 2009; Kinsky, *et al*, 2015 & Mkumbo, 2012). Another finding of this study is that teacher characteristics like demographics (gender, religion, duration of teaching years and HIV policy existence in schools); teacher characteristics (formal training, workshop attendance, time allocation on time-table, confidence, comfort and receiving enough support have an influence in the quality of the implementation of the HIV and AIDS education in schools.

Lack of knowledge and absence of monitoring were among the barriers that were reported to have had a negative influence on the implementation of HIV and AIDS education in schools. In the next chapter, the summary of the main findings, conclusion, study limitations and recommendations are discussed.

CHAPTER 6

MAIN FINDINGS, CONCLUSIONS, STUDY LIMITATIONS AND RECOMMENDATIONS

6.1 Introduction

The preceding chapter presented the results of both the quantitative and qualitative analyses. It highlighted the discussion of results within pertinent literature as well as the conceptual framework for the study. The mixed methods approach (de Vos, *et al*, 2010) as was opted for, allowed for both deductive and inductive data collection and analysis approaches. This enabled the realisation of the aim of the study to evaluate the implementation of HIV and AIDS education in schools. Previous studies (Gallant & Maticka-Tyndale, 2004; Visser, 2005) had recommended that such program evaluation studies should get to deeper understanding of the implementation process through combined approaches, and this study succeeded in that call.

In chapter 6, the researcher answers the research questions that guided this study. It further discusses the study limitation and recommendations put forth by the researcher.

6.2 Main findings

The purpose of the study was to evaluate the implementation of HIV and AIDS education in schools. This evaluation would highlight the strengths and weaknesses in the implementation process, thus enable the researcher to make recommendations for both future research and future practice. The main research findings are discussed below in relation to literature and the conceptual framework so as to justify the conclusions made about the research questions. Using both the deductive and inductive means the researcher was able to answer the following research questions:

1. Who is implementing HIV and AIDS education and what is the impact of the teachers' demographic factors and teacher characteristics on who implements HIV and AIDS education in schools?
2. What is the assessment of the quality of teaching HIV and AIDS education in schools?
3. What is the relationship between the teachers' characteristics and the quality of implementing HIV and AIDS education in schools?
4. What are the facilitators and barriers to the implementation of HIV and AIDS education in schools?
5. What is the teachers' level of HIV and AIDS knowledge and how does it influence their ability to implement HIV and AIDS education in schools?

6.2.1 Research aim 1.3.1: Who is implementing HIV and AIDS education in schools and what is the impact of the teachers' demographic factors and teacher characteristics on who implements HIV and AIDS education in schools?

Of the 371 teachers Life Orientation and Life-Skills teachers who participated in the study, 307 (82.7%) teachers reported that they implement HIV and AIDS education in schools. Mathews, *et al,* (2006) had also found that 70% Cape Town teachers reported implementing HIV and AIDS education in schools in 2003. Whilst most teachers reported implementing the HIV and AIDS education, the qualitative data revealed that the implementation was superfluous, with inconsistencies and not up to required standards due to various problems that were reported. Furthermore, the subject advisors were shocked to learn that 64 (17.3%) teachers did not implement the HIV and AIDS education at all in their schools.

Findings indicate that most Life Orientation teachers and Life-Skills teachers are females, with 86% and 68.9% accounting for female teachers in secondary and primary school teachers respectively. This study did not confirm the findings by Mathews *et al*, (2006), that females were more likely than males to implement the HIV and AIDS education. The only demographic variable that was statistically significant to implementing HIV and AIDS education was the highest qualification. Teachers having the teachers diploma as the highest qualification were about 0.78 times less likely

(p=0.057) to implement HIV and AIDS education when compared to teachers having other higher educational qualifications. This finding could be explained as the gains of the HEAIDS program offered at universities, which included the offering of the HIV and AIDS module in the universities ITE programs including PGCE (Wood, 2011).

The existence of the HIV and AIDS policy in a school impacted on implementation of HIV and AIDS education. Teachers who reported that their schools do not have an HIV and AIDS policy were about 0.6 times less likely (p=0.036) to implement HIV and AIDS education when compared to teachers in a school with the HIV and AIDS policy. Likewise, teachers who reported that they did not know the contents of the HIV and AIDS policy were 0.6 times less likely (p=0.059) implement compared to teachers who knew the contents of the HIV and AIDS policy.

In terms of teacher characteristics as propounded in the CIT; motivation, cognition and power impacted on implementation in various degrees. Teachers expressed very high motivation in terms of interest, capability and attitude (Helleve, *et al*, 2009; Kinsky, *et al*, 2015 & Mkumbo, 2012) towards HIV and AIDS education but these had no impact on implementation. With regard to cognition characteristics; knowledge of HIV and AIDS policy content, having formal training in HIV and AIDS education and having attended any workshop on the teaching of HIV and AIDS in the last twelve months had a positive impact on implementation. This is congruent to the views of Blake, *et al*, (2005) and Mathews, *et al*, (2006).

6.2.2 Research aim 1.3.2: What is the assessment of the quality of teaching HIV and AIDS education in schools?

The quality of teaching HIV and AIDS in schools was assessed by using the elements of the M&E input indicators such as resources, support, guidelines, training and workshops. Findings, where the 'coverage of information topics and prevention messages of HIV in each class per term is enough or not' was used as a proxy for quality implementation suggested that formal training and workshop attendance were positively associated with quality implementation of HIV and AIDS policy (p=0.073 & p=0.004 respectively). Likewise, with 'the number of HIV and AIDS prevention skills

covered in each class per term is adequate or not' used as proxy for quality implementation; still having formal training and having attended a workshop was positively associated (p=0.049 and p=0.014 respectively) with quality implementation.

Some demographic variables influenced the quality of implementation, where 'the coverage of information topics and prevention messages of HIV in each class per term is enough or not'. Quality implementation was influenced by gender; being male was about 0.56 times less likely (p=0.055) to implement quality HIV and AIDS education as compared to the teacher being female (Mathews, *et al*, 2006). Overall, religion did not contribute to the quality implementation, however, the contrast: the teacher being of 'Protestant' religion was about 3.1 times more likely to implement quality HIV and AIDS education compared to teachers of 'other' religions.

Duration of teaching years influenced quality implementation as is reported by Helleve, *et al*, (2009) when they insist that confidence in teaching HIV and education is associated with the duration of teaching years. In this study, at 10% significance level, p=0.073; teachers with a duration of years 0-4 were 2.9 times more likely to implement quality HIV and AIDS education and also teachers with a duration being in the range 16-20 years were about 2.9 times (p=0.047) more likely to implement quality HIV and AIDS education compared to teachers with a teaching duration of over 21 years.

As was expected, the teacher who reported that his/her school did not have the HIV and AIDS policy was about 0.58 times less likely (p=0.052) to implement quality HIV and AIDS education compared to the teacher who reported having the HIV and AIDS policy in his/her school, also Mathews, *et al*, (2006) had made similar conclusions.

Out of ten various strategies of engaging learners when implementing HIV and AIDS education, two strategies; discussion of sexuality issues and 'using messages around risks of HIV infection as a prevention strategy' were used by at most 53. 6% and 61.2% of teachers respectively. The rest of the eight other interactive and participatory strategies were seldom used by at least 40% of teachers and less. In this regard, Visser (2005) states that HIV programs are not implemented as planned in schools and he cites barriers like organisational problems, lack of commitments and lack of resources. Surely, failure to use interactive, participatory and innovative strategies (Ahmed, *et al*,

2006; UNAIDS, 2009b; UNESCO, 2008b) to implementing HIV and AIDS education in the plight of high pregnancy and HIV infection rates is viewed as a gross educational problem and lack of commitment on the part of both schools and individual teachers.

6.2.3 Research question 1.3.3: What is the relationship between teachers' characteristics and the quality of implementing HIV and AIDS education in schools?

In terms of teacher characteristics and quality implementation of HIV and AIDS education, the proxies used for quality implementation were firstly; 'the coverage of information topics and prevention messages of HIV in each class per term is enough or not' (if teacher agreed it was enough coding =1 was allocated for 'high quality' and if otherwise coding =0 was allocated for 'low quality'- table 5.36. Secondly; was 'the number of HIV and prevention skills covered in each class per term is adequate or not' (if 'enough' coded with 1=high quality and if 'otherwise' coded with 0=low quality) – table 5.37.

Where the dependent variable was 'coverage of information topics and prevention messages of HIV, the teacher characteristics that were significant at different levels of significance were; time allocated in time table, confidence, receiving enough support and capability. The variable: 'time allocated in time-table for HIV and AIDS was enough' contributed to the quality implementation, where a teacher who did not have enough time allocated was about 0.8 times less likely ($p<0.000$) to implement when compared to a teacher who had enough time allocated in the time-table.

The variable: 'I am confident that my teaching of HIV and AIDS influences learner's sexual behaviour for the better' contributed to the implementation of quality HIV and AIDS education. The teacher who was not confident that his/her teaching of HIV influences learner's sexual behaviour was about 0.71 times less likely ($p=0.001$) to implement quality HIV and AIDS education compared to a teacher who was confident that his/her teaching of HIV influences the learner's sexual behaviour for the better (Helleve, *et al*, 2009).

The variable: ‘I receive enough support from my colleagues, principal and the district office contributed to the implementation of quality HIV and AIDS education. The teacher who did not receive enough support was about 0.52 times less likely (p=0.032) to implement quality HIV and AIDS education when compared to the teacher who received enough support (Kinsky, *et al*, 2015).

The variable: ‘I am capable of implementing HIV and AIDS education in my school also contributed to quality implementation. The teacher who was not capable of implementing HIV and AIDS education in school was about 0.75 less likely (p=0.012) to implement quality HIV and AIIDS education compared to the teacher who was capable of implementing HIV and AIDS education in schools (Mathews, *et al*, 2006; Visser, 2005).

Likewise, with ‘the number of HIV and prevention skills covered in each class per term is adequate or not’ used as proxy for the quality implementation; time, enough support, confidence, comfort and having attended any workshop on the teaching of HIV and AIDS were significantly associated at different levels to quality implementation as can be seen in Table 5.37 and the discussion thereof.

This study confirmed the notions of the CIT and other studies (Helleve, *et al*, 2009; Mkumbo, 2012; Smith & Harrison, 2013) that had propounded that implementer characteristics influence the implementation of the program. It was however, not confirmed that ‘resources’ as one of the CIT power characteristic and one of the other input in the M&E indicator framework, also influences the quality implementation. It is also noted that currently, HIV and AIDS education is offered as a component of Life Orientation and Life-Skills programs or subjects in public schools in South Africa but some teachers reported having time allocated to the education of HIV and AIDS and may be it is because also private schools were part of the sample.

6.2.4 Research aim 1.3.5: What is the teachers' level of HIV and AIDS knowledge and how does it influence their ability to implement HIV and AIDS education in schools?

Regarding the teachers' level of HIV and AIDS knowledge; 58.2% teachers had their level of HIV and AIDS knowledge 'above average', 37.2% with 'average' level and 4.6% with 'below average' level of HIV and AIDS knowledge. This meant a rejection of the 5th research hypothesis for this study, as it was the assumption of this study that the level of the teachers' knowledge was 'below average'.

The hypotheses testing computed for the relationship between quality attribute: 'The quality of HIV and AIDS education implementation' using different proxies and the level of HIV and AIDS knowledge for teachers as an independent variable proved that the quality of HIV and AIDS implementation is not dependent on the level of teachers' knowledge of HIV and AIDS. At least for the proxies:

- In my school there are enough teachers teaching HIV and AIDS; chi-square 12.002[a] *df* =6 p = 0.062 and therefore Null Hypothesis accepted.
- The number of class periods devoted to sexuality in one class per week is enough; chi-square 5.313[a] *df* =6 p = 0.504 and therefore Null Hypothesis accepted.
- There is enough coverage of information topics and prevention messages of HIV in each class per term; chi-square 7.021[a] *df* =6 p = 0.319 and therefore Null Hypothesis accepted.
- There is adequate number of HIV and prevention skills covered in each class per term; chi-square 10.944[a] *df* =6 p = 0.090 and therefore Null Hypothesis accepted.
- I have been provided with clear guidelines, teaching materials and activities to help me implement HIV and AIDS education; chi-square 7.837a *df* =6 p = 0.250 and therefore Null Hypothesis accepted.
- I am confident that my teaching of HIV and AIDS influences learners' sexual behaviour for the better; chi-square 8.314[a] *df* =6 p = 0.216 and therefore Null Hypothesis accepted.

These results further rejected the second part of the study's 5th research hypothesis that 'teachers' level of HIV and AIDS knowledge negatively influences their ability to implement HIV and AIDS education in schools'. Only when the proxy to quality implementation was 'I am comfortable handling sexuality issues in my class' that the chi-square of 25.309[a] *df* =6 p = 0.000 (with Null hypothesis rejected); was computed and therefore the quality of HIV and AIDS implementation is dependent on the level of the teachers' knowledge of HIV and AIDS only with regards to comfort with handling sexuality issues.

6.2.5 Research aim 1.3.4: What are the facilitators and barriers to the implementation of HIV and AIDS education in schools?

In terms of the national HIV and AIDS policy for schools (DoE, 1999, Visser, 2005), the goals of the national policy were to:

- Provide information about HIV and AIDS to reduce transmission;
- Develop life skills that would facilitate healthy behavior in youth such as communication and decision-making skills; and
- Develop an environment of awareness and tolerance among youth towards those with HIV and AIDS.

Although the department of education had such good intentions, this study showed that the implementation was faced with more barriers than the facilitators. Among the cited facilitators were:

- Curriculum coverage and HIV and AIDS policy prescripts;
- Support and school functionality;
- Teacher characteristics and personal experiences; and
- HIV and teenage pregnancy rates in schools.

This shows that teachers have the intrinsic desire to implement the HIV and AIDS education when given the support by the organisational environment (Francis, 2010; Visser, 2005).

The study also showed that with more support and guidance from the department including monitoring, teachers would be implementing HIV and AIDS more effectively

than what it currently happening. This is in line with the views of (Jacobs, 2011) who contend that Life Orientation does not succeed in accomplishing its aims due to various problems clouding the subject. The barriers to implementation as have been revealed should be taken as areas of refinement if the goals of the national HIV and AIDS policy have to be met.

6.3 Conclusions

The study evaluated the implementation of HIV and AIDS education in schools. It involved 371 teachers of both primary and secondary schools of Umhlathuze district in KZN, South Africa and three officials from the department of education local district office who are responsible for Life Orientation, Life-Skills and HIV and AIDS in Umhlathuze schools. This wider sample of participants provided both quantitative and qualitative data that yielded findings the within the study conceptual framework clearly answered the research questions of the study.

The study showed that the implementation of HIV and AIDS education is associated with : (a) teachers' highest educational qualification; (b) whether the school where the teacher teaches Life Orientation or Life-Skills has the HIV and AIDS policy; (c) the teacher teaches Life Orientation or Life-Skills; (d) the teacher having any formal training on HIV and AIDS education in his/her diploma or degree certificate; (e) whether the teacher knows the contents of HIV and AIDS policy for his/her school and lastly (f) whether the teacher has attended any workshop on the teaching of HIV and AIDS in the last twelve months These variables served as descriptors of teachers who implement HIV and AIDS education in schools, thus answering the first research question that sought to describe teachers who implement HIV and AIDS education in schools.

The study confirmed that teacher characteristics (CIT); influence the quality of implanting HIV and AIDS education in schools. These teacher characteristics were: (a) time; confidence; (c) enough support; (d) capability; (e) comfort and (f) knowing the contents of HIV and AIDS policy. These teacher characteristics answered the research question 2 and 3.

The study showed that teachers have an overall 'above average' knowledge of HIV and AIDS but with serious knowledge gaps. It was also shown that the quality implementation of HIV and AIDS education in schools was not dependent on the level of teachers' knowledge of HIV and AIDS and this answered research question 5. The facilitators and barriers to implementation of HIV and AIDS education were uncovered as the answer to research question 4 (Table below).

Facilitators	**Barriers**
Curriculum coverage and HIV and AIDS policy prescripts	Lack of knowledge, support and resources
Support and school functionality	Allocation of teachers to the teaching of LO and the status of LO in schools
Teacher characteristics and personal experiences	HIV prevalence in schools and the stigma associated with it
HIV and teenage pregnancy rates in schools	No provision of content for HIV education on CAPS and teaching plans documents
	Learners' reactions to HIV and AIDS related topics
	Lo program overload and lack of monitoring

The study revealed that there is no regular in-house monitoring and evaluation of the implementation of HIV and AIDS education and as such a model framework upon which to design the monitoring tool has been developed (see figure 7).

6.4 Study limitations and areas of concern

Working with teachers was a difficult task, as school principals cited upon being approached that teachers were busy and they would not be willing to shoulder any additional tasks of writing for the outsiders including the Department of Education over and above the administrative work at their hand. In most schools, upon insistence, teachers were found willing to complete questionnaires although due to tight school programme, the questionnaires administration was ultimately conducted by the

school's principal, or any other designated member. This might have influenced the responses as some questions were dealing with support for teachers from the managers. Where such biases were explicitly evident, for instance in two schools, all teachers marked 'unsure' as answers to all questions in section C, question 16. All those questionnaires were excluded. When one of the teachers in one of such a school was asked as to how it happened that they gave a similar answer; she explained that they were told to do so by the principal as he didn't want anyone to hang the dirty linen of his school. Two schools declined to participate with both principals citing reasons cited above.

The open ended questions on facilitators and barriers to implementing HIV and AIDS education were also not responded to by so many teachers; for the same reasons of teachers not willing to write. There was some dishonesty in some schools with teachers giving exactly similar answers for the open ended questions. There was also evidence that some teachers, although not many, did not read the questions but simply ticked the answers. For instance, a teacher responding 'no' to a question on whether he/she attended workshops and subsequently responding 'two' to a question on how many times in a year has he/she attended those workshops. In one school, a teacher disclosed that she was not trained to be a teacher, but was only employed as the sports coach and was eventually given a Life Orientation subject to teach and hence feels very uncomfortable handling the Life Orientation subject.

There were also limitations in terms of variables for the demographic factors as they were all categorical in the measurement scale. Also in the binary, for the independent variable 'quality of teaching HIV and AIDS', the researcher had to use three proxy indicators for quality which were: whether the number of class periods devoted to sexuality in one class was enough or not; whether the coverage of information topics and prevention messages of HIV in each class was enough or not and whether the number of HIV prevention skills covered in each class per term was adequate or not. These were used because there was no quantifiable benchmark for 'quality'. The 'quality' proxy indicators were also based on teachers' perceptions as they were asked to state whether they agree or not that the latter are enough.

6.5 Recommendations

The researcher made the recommendations based on the findings of the study that are presented and discussed above. The following sections present recommendations for future research, training and practice by schools and the department of education.

6.5.1 Recommendations for further research

Findings of this study show that teacher characteristics like; confidence, comfort and self-efficacy in the teaching of HIV and AIDS enhanced the quality of HIV and AIDS implementation in schools. Therefore, studies on how to enhance these teacher characteristics should be conducted to help direct the training that needs to be offered to teachers so as to better implement HIV and AIDS education.

This study relied on self-reports with regard to teachers' characteristics like interest, attitude, comfort and confidence. Further studies should measure these so as we do not rely on data clouded with possible social desirability biases.

Learners were not part of the sampling frame in this study and as such, this study could not capture the views and perspectives of learners regarding the implementation of HIV and AIDS education in schools. Comprehensive evaluation studies that will focus on both the implementers and recipients of HIV and AIDS education will help get the full picture.

It will also be important to conduct more evaluation studies on HIV and AIDS implementation on other parts of the country at regular intervals. This study was only a process evaluation study, more of outcome evaluations and impact assessments of HIV and AIDS education implementation should be conducted.

6.5.2 Recommendations for training

Findings of this study showed that lack of training was the barrier for implementing HIV and AIDS education. Moreover, where training had occurred, training was associated with quality implementation, therefore it is recommended that:

- There should be thorough training offered to all teachers and more specifically to teachers of Life Orientation and Life-Skills on HIV and AIDS in general and in HIV and AIDS teaching content and pedagogy thereof. Teacher training on age appropriate content and pedagogy should emphasise interactive and participatory innovative methodologies appropriate for the teaching of HIV and AIDS in schools.
- There should be ongoing training on HIV and AIDS information to keep teachers up to speed with the developments in the field. For example, as of 1 September 2016, all HIV positive testing individuals are eligible for ARV access irrespective of the CD4 count.
- Training on HIV and AIDS should be provided to teachers and communities at large by all stakeholders like CPTD wing of SACE, government departments and NGOs. HIV awareness in communities will help schools to get support with their programs as well as eradicate the stigma that still engulfs HIV.

6.5.3 Recommendations for practice

Currently in public schools, HIV and AIDS education is part of Life Orientation and Life-Skills. Although, because of inclusiveness of our sample some teachers were in schools that have dedicated time for HIV and AIDS teaching; one would recommend for HIV and AIDS education to be a stand- alone examinable subject. This will avoid Life Orientation overload and enable focus, effectiveness as dedicated time will be allocated.

The department of education should supply schools with the content of HIV and AIDS education per grade and in the form of booklets with teaching and assessment activities. External HIV and AIDS experts should be used to develop these. This will avoid the current inconsistencies, and lack of proper implementation as a result of the absence of specific age appropriate content.

This study showed that allocation of teachers to Life Orientation teaching was previously not based on appropriate training. It is recommended that Life Orientation

be allocated to appropriately trained teachers and those who are already in the system should be given training on HIV and AIDS teaching and more support.

There should be monitoring and evaluation of the teaching of HIV and AIDS in schools. Monitoring should be an in-house management activity by teachers themselves, SMT and the subject advisors. On the basis of the monitoring reports, external evaluations should be conducted. Without M&E no one knows who does what and what the problem areas are to be addressed.

There should be a follow-up on the recommendations from studies. For instance, barriers to the implementation of HIV and AIDS education reported by Visser (2005) are also reported 10 years later by Kinsky et al (2015) and by the current study. An M&E directorate in the department of education will be a better solution to this as is happening in the department of health.

It is further recommended that there should be collaboration between schools and local health departments, NGOs to source expertise and assistance with HIV and AIDS topics and materials.

All schools should have the HIV and AIDS policy, and teachers should be part of the process of drawing up the policy so they will know the contents of the policy and their obligations towards meeting the demands of the policy.

6.6 Concluding remarks

As I conclude this study, I look back at how I was prepared to take on this journey. From as far back as when I worked in different high schools and at the combined school Dover. At Dover school I was exposed to the different phases of the basic education. I also had a chance to work at the Africa Centre for Health and Population studies where I had hands on experience with clinical trials which used both quantitative and qualitative methods of data collection and analysis. I was also involved with Monitoring and Evaluation of the ART program at the very same institution.

Alongside these career engagements, I undertook to do two Masters degrees one after the other at the Stellenbosch university and at the University of Zululand. This entire journey better prepared me for the current study and challenging as it was, but my knowledge base, work experience and expertise in the field of inquiry helped me to pull through. I further realise that through this journey I have grown as a researcher and as a scholar.

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ANNEXURES

STUDY QUESTIONNAIRE

Dear Life Orientation and Life- Skills Teacher
You are hereby requested to participate in the research project conducted under the auspices of the University of Zululand research and ethics departments. The additional two pages' leaflet has the brief description of the project and the informed consent form for you to sign before participating by completing this questionnaire. Please note that the Informed consent form will never be linked to your questionnaire and therefore your answers will remain anonymous. We won't even know which answers come from which school. Do not write your name or your school's name on the questionnaire, you and your school are not being graded, so please answer honestly and truthfully. Thank you for agreeing to be part of the project.

QUESTIONNAIRE FOR THE SUDY: Evaluating the implementation of HIV and AIDS education in the Umhlathuze district schools.

SECTION A: Demographic characteristics of teachers

INSTRUCTIONS: Please tick the relevant box on the right that corresponds to your choice in each answer box, use the spaces provided to elaborate on your responses if necessary.

1. **Age**

18-29	1
30-39	2
40-49	3
50+	4

2. **Gender**

Female	1
Male	2

3. **Highest educational qualification**

Teacher's certificate	1
Teacher's diploma	2
Bachelor degree	3
Hons. Bachelor degree	4
Master's degree	5
PhD	6
Other	7

4. **Religion**

Catholic	1
Protestant	2
Charismatic	3
Nazareth	4
Zion	5
Other	6

5. **Duration of teaching years in general**

0-4	1
5-10	2
11-15	3
16-20	4
21+	5

6. **School location**

Urban (Town)	1
Peri-Urban (Township)	2
Rural	3

7. **Type of school**

Primary	1
Secondary	2

8. **Does your school have the HIV and AIDS policy?**

Yes	1
No	2

9. **Are you teaching Life Orientation (Grades 7-12 teachers)/ Life –Skills (Grades 1-6 teachers)? Skills?**

Yes	1
No	2

10. **Teaching phase**

Life Skills	Foundation Phase
Life Skills	Intermediate phase
Life Orientation	Senior phase
Life Orientation	FET

11. Do you implement HIV and AIDS education as a component of your Life –Skills/ Life Orientation in your school?

Yes	1
No	2

12. Duration of years of implementing HIV and AIDS education

0-4	1
5-10	2
11-15	3
16-20	4
21+	5

13. Do you have any formal training (in your certificate, diploma or degree) in implementing HIV and AIDS education as part of Life Orientation / Life Skills?

Yes	1
No	2

Comment_____
_____
_____
_____

SECTION B: Teachers' characteristics
INSTRUCTION: Please tick the box that corresponds to your choice in the 4-point scale where;
Strongly Agree = 1, Agree = 2, Disagree = 3, and Strongly Disagree = 4

	Strongly Agree 1	Agree 2	Disagree 3	Strongly Disagree 4
14.1 I have a positive attitude towards HIV and AIDS education	1	2	3	4
14.2 I have an interest in implementing HIV and AIDS education	1	2	3	4
14.3 I am capable of implementing HIV and AIDS education in my school	1	2	3	4
14.4 I know the contents of HIV and AIDS policy for my school	1	2	3	4
14.5 I have enough resources to implement HIV and AIDS education in my school	1	2	3	4
14.6 The time allocated in the time table for HIV and AIDS education is enough	1	2	3	4
14.7 I receive enough support from my colleagues, principal and the district office to help me implement the HIV and AIDS education	1	2	3	4

SECTION C: Assessment of quality of HIV and AIDS education implementation
INSTRUCTION: Please tick the box that corresponds to your choice in the 4-point scale where
Strongly Agree = 1, Agree = 2, Disagree = 3, and Strongly Disagree = 4

	Strongly Agree 1	Agree 2	Disagree 3	Strongly Disagree 4
15.1 In my school there are enough teachers teaching HIV and AIDS	1	2	3	4
15.2 The number of class periods devoted to sexuality in one class per week is enough	1	2	3	4
15.3 There is enough coverage of information topics and prevention messages of HIV in each class per term	1	2	3	4
15.4 There is adequate number of HIV and prevention skills covered in each class per term	1	2	3	4
15.5 I have been provided with clear guidelines, teaching materials and	1	2	3	4

activities to help me implement HIV and AIDS education				
15.6 I am confident that my teaching of HIV and AIDS influences learners' sexual behaviour for the better	**1**	**2**	**3**	**4**
15.7 I am comfortable handling sexuality issues in my class.	**1**	**2**	**3**	**4**

16. How would you rate your school's quality in using various strategies in engaging learners in the implementation of HIV and AIDS education?
INSTRUCTION: For each statement tick the box that corresponds to your choice in the 5-point scale where:
Excellent =1, Good =2, Unsure=3, Average=4 and Poor =5

	Excellent 1	**Good 2**	**Unsure 3**	**Average 4**	**Poor 5**
16.1 Discussion of sexuality issues	**1**	**2**	**3**	**4**	**5**
16.2 Messages around risks of HIV infection and prevention strategies	**1**	**2**	**3**	**4**	**5**
16.3 Assignments and projects on HIV and AIDS related topics	**1**	**2**	**3**	**4**	**5**
16.4 Debates on HIV and AIDS related topics	**1**	**2**	**3**	**4**	**5**
16.5 Exercises and quizzes on modes of HIV transmission and myths about HIV	**1**	**2**	**3**	**4**	**5**
16.6 Use of peer educators for some HIV related topics	**1**	**2**	**3**	**4**	**5**
16.7 School wide intervention programmes including commemoration of World AIDS Day	**1**	**2**	**3**	**4**	**5**
16.8 Use of role plays to dramatize key issues of HIV and AIDS	**1**	**2**	**3**	**4**	**5**
16.9 Playing video clips on HIV topics for your learners	**1**	**2**	**3**	**4**	**5**
16.10 Use of outside speakers to motivate learners to prevent HIV infection	**1**	**2**	**3**	**4**	**5**
16.11 Other	**1**	**2**	**3**	**4**	**5**

SECTION D: Facilitators and barriers to implementing HIV and AIDS education in schools
INSTRUCTION: Tick the box that corresponds to your choice and in provide spaces write your comments.

17. Have you attended any workshop on the teaching of HIV and AIDS in the last twelve months?

Yes	1
No	2

Comment
_____
_____

18. What has been the frequency of workshop attendance that you received to help you implement the teaching of HIV and AIDS in the last 12 months?

No training	0
1 training per year	1
2 or more training per year	2

Comment_____
_____
_____

19. How adequate do you think your workshop was in helping you teach HIV and AIDS, on a scale of 0 – 3 where 0 is inadequate and 3 is very adequate?

Not at all adequate	0
Somewhat adequate	1
Adequate	2
Very adequate	3

20. Describe the facilitators /things that encourage you to implement HIV and AIDS education in your school.

21. Describe the barriers/things that hinder you to implement HIV and AIDS education in your school.

SECTION E – TEACHERS' KNOWLEDGE OF HIV AND AIDS

A. For each statement, please circle True (T), False (F), or I don't know (DK). If you do not know, please do not guess; instead, please circle "DK".

	True	False	Don't Know
1. HIV and AIDS are the same thing.	**T**	**F**	**DK**
2. There is a cure for AIDS.	**T**	**F**	**DK**
3. A person can get HIV from a toilet seat.	**T**	**F**	**DK**
4. Coughing and sneezing do not spread HIV.	**T**	**F**	**DK**
5. HIV can be spread by mosquitoes.	**T**	**F**	**DK**
6. AIDS is the cause of HIV.	**T**	**F**	**DK**
7. A person can get HIV by sharing a glass of water with someone who has HIV.	**T**	**F**	**DK**
8. HIV is killed by bleach.	**T**	**F**	**DK**
9. It is possible to get HIV when a person gets a tattoo.	**T**	**F**	**DK**
10. A pregnant woman with HIV can give the virus to her unborn baby.	**T**	**F**	**DK**
11. A woman can get HIV if she has anal sex with a man.	**T**	**F**	**DK**
12. Showering, or washing one's genitals/private parts, after sex protects a person from getting HIV.	**T**	**F**	**DK**
13. Eating healthy foods can prevent a person from getting HIV.	**T**	**F**	**DK**
14. All pregnant women infected with HIV will have babies born with AIDS.	**T**	**F**	**DK**
15. Using a latex condom or rubber can lower a person's chance of getting HIV.	**T**	**F**	**DK**

B. Open ended questions:

1. **Describe in a paragraph your own understanding of the difference between being HIV positive and having AIDS.**

_____
_____
_____
_____
_____
_____
_____
_____
_____

2. **Tell the researchers anything that you want them to know about this research topic.**

_____
_____
_____
_____
_____
_____
_____
_____
_____

THANK YOU FOR YOUR PARTICIPATION

PARTICIPANT INFORMATION SHEET

Evaluation of the implementation of the HIV and AIDS education in schools of Umhlathuze circuit

Why is this study conducted?

The study is conducted to uncover the characteristics of the teachers in schools that implement the HIV and AIDS education, and also to determine the quality of this implementation. This is the only way in which we can gather information about best practices that can be shared by teachers with regards to implementing the dictates of the HIV and AIDS policy in schools and disclose omissions and barriers to the implementation of HIV education in schools. This study also hopes to design the monitoring plan and the evaluation tool to be used by teachers and the department of education officials respectively to monitor the progress made by schools to implement the HIV education in schools.

Who is eligible to participate?

Teachers in the Umhlathuze circuit of Uthungulu district in Kwa-Zulu Natal, South Africa. Only teachers that are teaching Life Skills in primary schools and Life Orientation in Secondary schools will participate, and the two district officials managing issues around HIV in schools.

What will happen to the teachers and district officials who are taking part?

Teachers will be given information about the study in the information session and the information sheets will be distributed for teachers to read. Those that are willing to participate will sign the consent forms to participate. Questionnaires will be distributed to teachers that shall have signed the consent forms. Participants will be asked to complete questionnaires. The district officials to respond to the qualitative data section will be interviewed at their scheduled times and will be further asked to consent to the recording of the interviews.

What are the risks and benefits?

The researcher does not anticipate any risks involved in you taking part in this study. However, if you do feel that you have suffered harm of any nature as a result of taking part in this study, you should discuss this with the Ethics Committee of the University of Zululand. Participants will benefit from being exposed to the information contained in questionnaires and interview guide.

Contact person and details: Ms. Zinhle Ntuli +27 (0) 35 902 6244

Will the information that is collected be confidential?

Yes, the questionnaire and the interview guides will not require your name and the name of your school. In no way will the informed consent form that might have your details be attached to your answers.

What will happen to the results of the study?

The results of the study will be shared with the education district officials. District officials will be asked to provide the researcher with a slot in the teachers' meeting to disseminate the findings. This study has a potential of generating three research articles that will be published in peer reviewed journals for a wider readership on the topic. In all such information dissemination opportunities the data will be treated with anonymity.

This study is conducted in accordance with the good ethical guidelines of the University of Zululand Ethics and Research offices.

Thank you for participating.

INFORMED CONSENT FORM

Institution: University of Zululand	**Date of participation: DD/MM/YYYY** …….
Serial Number: 0001	

Evaluation of the implementation of the HIV and AIDS education in the Umhlathuze circuit schools

Informed Consent Form

Please circle the correct answer

1.	Has the study been explained to you and have you been given the participant information sheet of the study?	**YES**	**NO**
2.	Have you received enough information about this study?	**YES**	**NO**
3.	Do you agree to participate by giving correct answers to the questions asked through the questionnaire or the interview with regards to your experiences in implementing the HIV and AIDS education in your teaching?	**YES**	**NO**

If 'NO' to any of the above the volunteer is ineligible to participate

Signature of participant:	**Date of signature:**

INDEPTH-INTERVIEW GUIDE FOR THE STUDY: Evaluating the implementation of the HIV and AIDS education in the Umhlathuze district schools.

INSTRUCTIONS:

There are two levels of questions in this interview guide:

Level 1: Research questions – the questions that the researcher wants to get answers to;

Level 2: Interview questions - the questions that the interviewer could ask participants in order to get answers to the research questions.

The interview schedule is divided into two or three columns.

The left hand column contains the research questions, interview questions and instructions. The interview questions are suggestions for getting answers to the research questions (the probes); because the interview is open and in-depth much of this will be improvised by the interviewer and depends on how the interview actually goes in practice.

The middle column is for probes and some questions for which there is likely to be a yes/no or similar simple answer.

The right- hand column is for summarising the answers. These will be summaries of the research questions. These will be a few sentences of bullet points and do not need to be detailed as the details will be on tape. These summaries will be filled in during the interview and immediately after the interview.

The interview will be recorded if the interviewer gives consent to the recording. The recording will be downloaded into the computer for transcription and coding to proceed.

INTRODUCTION: Thank you for agreeing to be part of this important study. You have been asked to participate because of your valuable expertise with regards to the implementation of HIV and AIDS education in schools. Please note that your input is valuable in this study and the information that you will share will be treated with anonymity and will only be used for the purposes of the study.

Does the participant consent to the recording of the interview? YES/NO

1 Implementation of HIV and AIDS in schools:	**Probes**	**Summary**
1.1 Describe to me your role as the subject advisor for Life-Skills/Life Orientation in Umhlathuze district. 1.2 Specifically, now describe your role in the teaching of HIV and AIDS education in Umhlathuze schools**.** 1.3 Tell me about the implementation of the HIV and AIDS education in schools? 1.4 How certain are you that the schools implement the HIV and AIDS education in schools as is required? Elaborate: 1.5 Talk to me about the training of teachers that are allocated to the teaching of HIV and AIDS in schools?	- Do you think that the resources are adequate to facilitate the teaching of HIV and AIDS in schools? - If you were in total control what would you do to improve the HIV education? - What strategy – infused, one-carrier subject, across-curricular or schools decide? - Elaborate on the differences in the implementation for primary and secondary schools –at what age do primary schools begin to teach about HIV and AIDS? - Who is implementing the HIV and AIDS education in schools? What are the notional hours allocated to HIV and AIDS education? Take me through the preparation process for teachers to be able to accomplish the task of implementing HIV and AIDS education in schools. - Would you say that the pre-service and in-service training offered to Life-Skills and Life Orientation teachers is enough and adequate to help them teach effectively the HIV and AIDS education? - Any on-going support by the district office or Unions or SACE? Explain	

1.6 How has the department of education planned the implementation of HIV and AIDS in schools? 1.7 Do you know why 64 out of 371 teachers would report that they do not implement HIV and AIDS education in schools? 1.8 Do you have an idea why would 54 out of 371 teachers also report that they have no HIV and AIDS policy in their schools? 1.9 We have found that more teachers with duration 0-4 years of teaching are reporting that they are not implementing HIV and AIDS education, to be exact 36,2% are not in this category, do you have an idea why? 1.10 We have also noted that none implementation is associated with having no formal training on HIV and sexuality issues, what is the dept doing about this? 1.11 Characteristics: Teachers are reporting have a positive attitude, interest and capability of implementing	- What about resourcing the schools for this endeavor? Guidelines, teachers' guides and funds for extra-curricular activities that support this endeavor.	

HIV and AIDS education, how does that make you feel? 1.12 There are 23% of teachers reporting that they do not know the contents of the HIV and AIDS policy. Why do you think this is so? 1.13 Workshops - only 79% have attended workshops on HIV and AIDS implementation. What are the plans to cover all teachers and what are the barriers? 1.14 Resources – 50% of teachers are reporting that they do not have enough resources to implement HIV and AIDS education, do you know why and what is the dept doing about this/ - did you know about this shortage? 1.15 Quality – Teachers are reporting that there are not enough teachers dedicated to the implementation of HIV and AIDS education, 55.6% in sec and 37.3% in primary – why are there such claims of shortages? 1.16 Teachers also report that class periods or time devoted to sexuality		

issues is not enough, 51.1% in sec and 41.1% in primary. Are you happy with the notional hours for sexuality education in schools as well as the coverage in the CAPS documents? 1.17 Teachers' general HIV knowledge is above average (58.2%). Do you know why what could be done with the 41.8 % with average and below average knowledge? 1.18 Although in overall teachers' knowledge was above average, there were worrying results where teachers did know some basic HIV transmission and prevention knowledge areas. For instance, 39.6% teachers do not know that coughing and sneezing do not spread HIV, also 93.5% teachers think that HIV is killed by bleach and 59.3% do not know that it is possible to get HIV when a person gets a tattoo. What was also amazing was that 93.5% teachers also do not know that a pregnant woman with HIV can give the virus to her unborn baby and that and the same percentage of teachers think that all pregnant women with HIV will have babies born with HIV. How do you expect these teachers to teach HIV messages to learners?		

2. Quality of the implementation of HIV and AIDS in schools 2.1 How certain are you that the teachers comply with the requirements of the teaching of HIV and AIDS education in schools? Elaborate: 2.3 Are there any monitoring mechanisms instituted by the district office to check if HIV and AIDS education is implemented in schools? Explain: 2.4 Talk about the success stories and the barriers to the monitoring, if any? 2.5 Would you say that the implementation of HIV and AIDS education in schools is of high quality? Elaborate:	Do you carry out any monitoring and evaluation processes to be able to establish if teaching of HIV and AIDS education in schools happen as planned? Take me through the process and if not what are the barriers to M&E?	**Summary**

3. Facilitators and barriers to the implementation of HIV and AIDS education in schools	**Summary**
3.1 Given your experience in working with schools around issues of HIV and AIDS, what would you describe as the facilitators to the implementation of HIV and AIDS education?	
3.2 Given your experience in working with schools around issues of HIV and AIDS, what would you describe as the barriers to the implementation of HIV and AIDS education?	

THANK YOU FOR YOUR VALUABLE INPUT AND TIME

LETTER TO REQUEST PERMISSION TO CONDUCT RESEARCH IN SCHOOLS

University of Zululand

Faculty of Education

Private Bag X1001

Kwa Dlangezwa

3886

25 June 2015

The Head of Department – Dr. Sishi

Department of Basic Education

Pietermaritzburg

3200

Dear Sir

REQUEST FOR PERMISSION TO CONDUCT RESEARCH IN SCHOOLS

I am a Doctoral student at the University of Zululand - Faculty of Education – Department of Educational Psychology and Special Education. The topic of my research project is: **Evaluating the implementation of HIV and AIDS education in the Umhlathuze district schools**. My study focuses on Life Orientation and Life Skills teachers.

I am seeking permission to conduct research in schools in Umhlathuze district, with Life Orientation and Life Skills teachers as units of analysis. Teachers will be asked to answer the questionnaire and two district officials responsible for Life Orientation and Life Skills will be asked to participate in the interviews.

The findings of this study will benefit the HIV field but mostly the Department of Education and the teachers of Life Orientation and Life Skills in teaching the HIV and AIDS related topics.

Yours faithfully

A.M Mzimela

Supervisor

Prof. D.R Nzima

UNIVERSITY OF ZULULAND
FACULTY OF EDUCATION
10 -07- 2015
EXECUTIVE DEAN'S OFFICE

education

Department:
Education
PROVINCE OF KWAZULU-NATAL

Enquiries: Nomangisi Ngubane Tel: 033 392 1004 Ref.:2/4/8/521

Ms AM Mzimela
PO Box 10349
EMPANGENI
3880

Dear Miss Mzimela

PERMISSION TO CONDUCT RESEARCH IN THE KZN DoE INSTITUTIONS

Your application to conduct research entitled: **"EVALUATING THE IMPLEMENTATION OF HIV AND AIDS EDUCATION IN THE UMHLATHUZE DISTRICT SCHOOLS",** in the KwaZulu-Natal Department of Education Institutions has been approved. The conditions of the approval are as follows:

1. The researcher will make all the arrangements concerning the research and interviews.
2. The researcher must ensure that Educator and learning programmes are not interrupted.
3. Interviews are not conducted during the time of writing examinations in schools.
4. Learners, Educators, Schools and Institutions are not identifiable in any way from the results of the research.
5. A copy of this letter is submitted to District Managers, Principals and Heads of Institutions where the intended research and interviews are to be conducted.
6. The period of investigation is limited to the period from 01 September 2015 to 30 September 2016.
7. Your research and interviews will be limited to the schools you have proposed and approved by the Head of Department. Please note that Principals, Educators, Departmental Officials and Learners are under no obligation to participate or assist you in your investigation.
8. Should you wish to extend the period of your survey at the school(s), please contact Miss Connie Kehologile at the contact numbers below.
9. Upon completion of the research, a brief summary of the findings, recommendations or a full report / dissertation / thesis must be submitted to the research office of the Department. Please address it to The Office of the HOD, Private Bag X9137, Pietermaritzburg, 3200.
10. Please note that your research and interviews will be limited to schools and institutions in KwaZulu-Natal Department of Education.

UThungulu District

Nkosinathi S.P. Sishi, PhD
Head of Department: Education
Date: 24 August 2015

KWAZULU-NATAL DEPARTMENT OF EDUCATION

POSTAL: Private Bag X 9137, Pietermaritzburg, 3200, KwaZulu-Natal, Republic of South Africa
PHYSICAL: 247 Burger Street, Anton Lembede House, Pietermaritzburg, 3201. Tel. 033 392 1004
EMAIL ADDRESS: kehologile.connie@kzndoe.gov.za / Nomangisi.Ngubane@kzndoe.gov.za
CALL CENTRE: 0860 596 363; Fax: 033 392 1203 WEBSITE: WWW.kzneducation.gov.za

UNIVERSITY OF ZULULAND
RESEARCH ETHICS COMMITTEE
(Reg No: UZREC 171110-30- RA Level 01)

RESEARCH & INNOVATION
Website: http://www.unizulu.ac.za
Private Bag X1001
KwaDlangezwa 3886
Tel: 035 902 6887
Fax: 035 902 6222
Email: ManqeleS@unizulu.ac.za

ETHICAL CLEARANCE CERTIFICATE

Certificate Number	**UZREC 171110-030-RA Level 01 PGD 2014/64**							
Project Title	**Evaluating the implementation of HIV and AIDS education in the uMhlathuze schools in KwaZulu Natal**							
Principal Researcher/ Investigator	AM Mzimela							
Supervisor and Co-supervisor	Dr. DR Nzima							
Department	Educational Psychology and Special Education							
Nature of Project	Honours/4th Year		Master's		Doctoral	x	Departmental	

The University of Zululand's Research Ethics Committee (UZREC) hereby gives ethical approval in respect of the undertakings contained in the above-mentioned project proposal and the documents listed on page 2 of this Certificate.

Special conditions: (1) The Principal Researcher must report to the UZREC in the prescribed format, where applicable, annually and at the end of the project, in respect of ethical compliance.
(2) Documents marked "To be submitted" (see page 2) must be presented for ethical clearance before any data collection can commence.

The Researcher may therefore commence with the research as from the date of this Certificate, using the reference number indicated above, but may not conduct any data collection using research instruments that are yet to be approved.

Please note that the UZREC must be informed immediately of

- Any material change in the conditions or undertakings mentioned in the documents that were presented to the UZREC
- Any material breaches of ethical undertakings or events that impact upon the ethical conduct of the research

Classification:

Data collection	Animals	Human Health	Children	Vulnerable pp.	Other
X					
Low Risk		Medium Risk		High Risk	
		X			

The table below indicates which documents the UZREC considered in granting this Certificate and which documents, if any, still require ethical clearance. (Please note that this is not a closed list and should new instruments be developed, these would require approval.)

Documents	Considered	To be submitted	Not required
Faculty Research Ethics Committee recommendation	X		
Animal Research Ethics Committee recommendation			X
Health Research Ethics Committee recommendation			X
Ethical clearance application form	X		
Project registration proposal	X		
Informed consent from participants	X		
Informed consent from parent/guardian			X
Permission for access to sites/information/participants			X
Permission to use documents/copyright clearance			X
Data collection/survey instrument/questionnaire	X		
Data collection instrument in appropriate language		Only if necessary	
Other data collection instruments		Only if used	

The UZREC retains the right to

- Withdraw or amend this Certificate if
  - Any unethical principles or practices are revealed or suspected
  - Relevant information has been withheld or misrepresented
  - Regulatory changes of whatsoever nature so require
  - The conditions contained in this Certificate have not been adhered to
- Request access to any information or data at any time during the course or after completion of the project

The UZREC wishes the researcher well in conducting the research.

Professor Rob Midgley
Deputy Vice-Chancellor, Research and Innovation
Chairperson: University Research Ethics Committee
20 August 2014

CHAIRPERSON
UNIVERSITY OF ZULULAND RESEARCH
ETHICS COMMITTEE (UZREC)
REG NO: UZREC 171110-30
20 -08- 2014
RESEARCH & INNOVATION OFFICE