



**HIV/AIDS EDUCATION IN KENYA:
AN EVALUATION OF POLICY, PROVISION AND PRACTICE IN
SECONDARY SCHOOLS**

by

JANE MURURI NGARARI

A Thesis submitted to the University of Birmingham
for the degree of

DOCTOR OF PHILOSOPHY
August 2010

UNIVERSITY OF
BIRMINGHAM

University of Birmingham Research Archive

e-theses repository

This unpublished thesis/dissertation is copyright of the author and/or third parties. The intellectual property rights of the author or third parties in respect of this work are as defined by The Copyright Designs and Patents Act 1988 or as modified by any successor legislation.

Any use made of information contained in this thesis/dissertation must be in accordance with that legislation and must be properly acknowledged. Further distribution or reproduction in any format is prohibited without the permission of the copyright holder.

DECLARATION

This Thesis is the result of my own research and investigation. It has never been accepted in substance for a degree and is not being concurrently submitted in candidature for any other degree.

Signed.....

Date.....

DEDICATION

This thesis is dedicated to my mother,

Naomi Edita Wanjue Mate (R.I.P.)

She was there, before I came. She took the heart, She took the challenge

There were walls to block her way, She brought them down

And now, there is a door that I pass through

Because She was, therefore I am.

ACKNOWLEDGEMENTS

This work is an outcome of a process to which many people have contributed in an academic, personal and practical capacity. My thanks go to them all, and especially to the following:

Professor Steve Rayner:

My supervisor...for the invaluable guidance, support, encouragement, patience, tolerance, mentoring and above all, for making me believe in myself.....I can never thank you enough

D.P.M., Kenya:

My sponsors...for funding this study

Egerton University:

My employer...for giving me the opportunity to pursue this course

Eliezer Ngarari (BABS):

My husband...for your unwavering love and support

Mumbi & Makena Ngarari:

My daughters...you were, are, and will always be my inspiration

Njue Ngarari:

My father-in-law...for your unconditional love. I couldn't ask for more

Michael Mate:

My father, my first teacher. Your value for education has been a constant inspiration

Flora, Peter, Sussy, & Maggie:

My sisters and brother...for being there whenever I needed you

Hon. J.B. Muturi:

For your practical help

Friends and relatives in Kenya and in the UK:

Too many to list...thank you all for your emotional support.

Above all, to God for...

In the beginning was the Word,

and the Word was with God...

ABSTRACT

One of the key responses to the HIV/AIDS crisis has been the provision of School- based HIV/AIDS education, to try and improve teenagers' ability to make wise and sensible decisions regarding their behaviours. The interventions have been premised on links between education and behaviour, the underlying assumption being that teaching young people how to protect themselves from HIV can lead to a reduction in risk behaviour and hence a reduction in HIV incidence (UNAIDS, 1997). An important part of this process has been the development of an education sector policy on HIV and AIDS, aimed at implementing and effecting, among others, the policy goal of Prevention.

This study, with the use of a systems theory as a theoretical framework, examines the policy, provision and practice of HIV/AIDS education in secondary schools in Kenya with the view to informing policy and providing options for re-designing and scaling up (if necessary) the HIV/AIDS program.

A methodology combining literature review, semi- structured interviews and a school survey was adopted. The school survey covered students, teachers and Head teachers; while the semi structured interviews covered policy makers.

Results revealed that there are discordances between national HIV/AIDS policy rhetoric and school realities. There is a general failure of schools to implement the type of detailed HIV/AIDS policy described despite the fact that the demand is high. Although there are merits that the study did not cover a wide enough population to warrant the generalizations it makes, the research findings and recommendations that do exist from previous investigations largely confirm rather than refute these results.

OPERATIONAL DEFINITION OF TERMS

ACU	AIDS Control Unit
AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Clinic
APS	AIDS Programme Secretariat
BERA	British Educational Research Association
CBD	Central Business District
CDC	Centre for Disease Control
CfBT	Centre for British teachers
CIA	Career Improvement Advice
CRE	Christian Religious Education
CREAW	Centre for Rights, Education and Awareness
DfID	Department for International Development
EFA	Education for All
FGM	Female Genital Mutilation
HIV	Human Immunodeficiency virus
IDU	Injection Drug User
ILO	International Labour Organization
K.I.E	Kenya Institute of Education
KAIS	Kenya AIDS Indicator Survey
KDHS	Kenya Demographic Health Survey
KNUT	Kenya National Union of Teachers
MDGs	Millennium Development Goals

MOEST	Ministry Of Education Science and Technology
MoH	Ministry of Health
MSM	Men who have Sex with Men
MTP	Medium Term Plan
MTP II	Second Medium Term Plan
NACC	National AIDS Control Council
NACP	National AIDS Control Programme
NASCOP	National AIDS and STI Control Programme
NCPD	National Council for Population and Development
NGO	Non Governmental Organization
OVC	Orphans and Vulnerable Children
PCA	Population Communication Africa
PEP	Post-exposure Prophylaxis
PLWA	Person Living With AIDS
PSABH	Primary School Action for Better Health
SRGBV	School- related Gender-Based violence
STI	Sexually Transmitted Infection
TOTs	Trainers OF Teachers
UN	United Nations
UNESCO	United Nations Educational Scientific and Cultural Organization
UNGASS	United Nations General Assembly Special Session
USAID	United States Agency for International Development
VCT	Voluntary Counseling and Testing

WHO World Health Organization

LIST OF TABLES

Table 1: The Impact of HIV/AIDS on the Education system	32
Table 2: What HIV/AIDS can do to Education and what Education can do to HIV/AIDS	38
Table 3: Reasons why girls are more vulnerable to HIV/AIDS	54
Table 4: A model for Mainstreaming HIV/AIDS in the Education sector	96
Table 5: A conceptualization of higher-order feedback processes	138
Table 6: Contrasting views underlying the Positivism and Interpretivism Paradigms	146
Table 7: A pragmatic alternative to key issues in social science research Methodology	152
Table 8: Contribution of various methods to study	158
Table 9: Evaluation Indicators	172
Table 10: Teachers who taught HIV/AIDS in the classroom	226
Table 11: Levels of Knowledge about HIV/AIDS among students	229
Table 12: Scoring index for Confidence in correctly held knowledge about HIV/AIDS	232
Table 13: Mean Confidence scores among students	234
Table 14: Factor Analysis of 15 Knowledge of HIV/AIDS items	237
Table 15: Mean score of students' Sexual Behaviour	241
Table 16: Frequency levels of students' Sexual Behaviours	243
Table 17: Descriptive statistics for students' Sexual Behaviours	245

Table 18: Factor Analysis of 11 sexual behaviour items	248
Table 19: Mean scores of students' ability to resist Peer Pressure	255
Table 20: Pearson Correlation Analysis of all variables	259
Table 21: Mean score of Teachers' Instructional Confidence	262
Table 22: Mean score of Teachers' Comfort in handling Sensitive Topics	264

LIST OF FIGURES

Figure 1: Cumulative Proportion of children dying by Mother's HIV status and survival in Uganda, 1989-2000	108
Figure 2: Systems	119
Figure 3: The concept of Feedback	123
Figure 4: The Evaluation Design	162
Figure 5: Students taught HIV/AIDS in school	222
Figure 6: Adequacy of Time and Materials for teaching HIV/AIDS	227
Figure 7: The Impact of type of school on Knowledge about HIV/AIDS	231
Figure 8: Impact of School type on Drugs and Alcohol usage	250
Figure 9: Impact of School type on Sexual Activity	251
Figure 10: Impact of School type on ability to resist Peer Pressure	256

TABLE OF CONTENTS

DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENTS	iv
ABSTRACT	v
OPERATIONAL DEFINITION OF TERMS	vi
LIST OF TABLES	ix
LIST OF FIGURES	xi
CHAPTER 1: PROBLEM SETTING.....	1
1.0 Introduction.....	1
1.1 HIV/AIDS in Kenya	5
1.1.1 Main Modes of Transmission	7
1.1.1.1 Heterosexual contact.....	7
1.1.1.2 Sex between Men (MSM)	8
1.1.1.3 Injecting Drug Use.....	8
1.1.2 Factors influencing the spread of HIV/AIDS in Kenya.....	9
1.1.2.1 Gender factors.....	10
1.1.2.2 Sexual Violence	11
1.1.2.3 Cultural Practices	13
1.2 HIV/AIDS and young people.....	16
1.2.1 What is being done?.....	19
1.2.2 Obstacles	20
1.2.2.1 Social Complexities of sexual behaviour.....	21
1.2.2.2 The propriety of educational messages to prevent AIDS	22
1.3 Statement of the problem.....	23
1.4 Rationale and Significance of study	25
1.5 Research Assumptions	26
1.6 Limitations of the Study.....	27
1.7 Thesis Structure	28
CHAPTER 2: HIV/AIDS AND EDUCATION.....	29
2.0 Introduction.....	29
2.1 The Impact of HIV/AIDS on Education	31
2.1.1 HIV/AIDS and the Supply of Education	32
2.1.2 HIV/AIDS and the Demand for Education.....	35
2.1.3 HIV/AIDS and the Quality of Education.....	36
2.2: The Impact of Education on HIV/AIDS	39
2.2.1 Education as a means to prevent HIV/AIDS	40
2.2.2 Education checks girls' vulnerability to HIV/AIDS.....	44
2.2.2.1 Biological.....	45
2.2.2.2 Gender disparities and power imbalances.....	46
2.2.2.3 Lack of knowledge about HIV/AIDS	47
2.2.2.4 Women constitute the majority of the world's poor	48
2.2.2.5 Women are less likely to seek treatment for STIs	49

2.2.2.6 Traditional norms of virginity and motherhood.....	50
2.2.2.7 Violence against women	51
2.2.3 Education as a readymade infrastructure for HIV/AIDS messages.....	54
2.2.4 Education and cost – effectiveness	58
2.3 HIV/AIDS Prevention Education Strategies.....	58
2.4: Policy and Practice in HIV/AIDS Education.....	59
2.4.1 Fidelity of Implementation	62
2.4.2 Teacher training as a key element of high fidelity of Implementation	66
2.4.3 Impact of HIV/AIDS prevention education.....	70
2.5 HIV/AIDS Education in Schools in Kenya	72
2.5.1 HIV/AIDS pedagogy	74
2.5.1.4. The ideal situation.....	79
2.5.1.5 Barriers.....	82
2.5.2 Stakeholder involvement in the fight against HIV/AIDS	88
 CHAPTER 3: HIV/AIDS MAINSTREAMING IN EDUCATION	 93
3.1: What is Mainstreaming?	93
3.2: Why Mainstream HIV/AIDS?	98
3.2.1: Increased vulnerability/ susceptibility to HIV infection among students.....	99
3.2.1.1 Sexual Culture.....	100
3.2.1.2 Sexual Identity	102
3.2.1.3 Sexual meaning.....	104
3.2.2: The need to realize the Millennium Development Goals	106
3.3: Approaches in Mainstreaming HIV/AIDS in the education system in Kenya ...	108
3.3.1: Programmes for Learners.....	110
3.3.2: Programmes for Teachers	111
3.3.3: Programmes for education managers and support staff.....	112
3.4 Conclusion	114
 CHAPTER 4: THEORETICAL FRAMEWORK.....	 115
4.0: Introduction.....	115
4.1 The Systems Theory	115
4.2 Major concepts of the Systems Theory.....	117
4.2.1 Inputs, Throughputs and Outputs.....	117
4.2.2 Nonsummativity.....	117
4.2.3 Hierarchy.....	118
4.2.4 Boundary:.....	120
4.2.5 Open and Closed system.....	120
4.2.6 Equifinality	120
4.2.7 Interdependence	121
4.2.8 Feedback	121
4.3 A Systems Approach to HIV/AIDS Prevention Education	123
4.4 Input	125
4.4.1 Susceptibility to HIV/AIDS.....	125
4.4.1.1 Young people have sex:	125
4.4.1.2 Young people inject drugs:	126

4.4.1.3 Young girls are very vulnerable:.....	126
4.4.1.4 Young people are more prone to peer pressure:	127
4.4.1.5 Young people lack information:	127
-	127
4.4.1.6 Young people are exposed to risky cultural practices and beliefs	127
4.5 Throughput.....	129
4.5.1 Teacher Preparedness:	129
4.5.2 Head teacher support.....	130
4.5.3 Time and Resources	131
4.5.4 Course content	131
4.6 Output	134
4.7 Feedback	135
4.7.1: Simple feedback:.....	135
4.7.2: Cybernetic:.....	136
4.7.3 Homeostasis	136
4.7.4 Conversion:	137
4.7.5 Higher-order Processes	137
4.8: A justification for Using the Systems Approach	141
CHAPTER 5: METHODOLOGY AND RESEARCH DESIGN	143
5.0 Introduction.....	143
5.1 The Paradigm Debate.....	144
5.2 Choice of Paradigm: Pragmatism (A mixed methodology Approach).....	150
5.3 Combining Qualitative and Quantitative methods: Implications for this study ...	156
5.4 Evaluation Design.....	159
5.4.1 Introduction.....	159
5.4.2 Evaluation Model.....	163
5.4.3 Evaluation Design.....	165
5.5 Focus of the Evaluation	168
5.5.1 Purpose of the Evaluation	168
5.5.2 Objectives of the evaluation.....	169
5.5.3 Evaluation Questions	169
5.5.4 Evaluation Indicators	170
5.5.5 Audience	173
5.6. Data Collection	174
5.6.1 Data sources	174
5.7 Sampling	176
5.8 Procedures and Analysis	178
5.8.1 Document Analysis	178
5.8.2 Self – completion Questionnaire.....	179
5.8.3 Observations	183
5.8.4 Interviews.....	184
5.9 Data Analysis	185
5.10 Dissemination of Findings	187
5.11 Research Ethics Protocol	188
5.12 A Methodological review: research design, data analysis and outcomes.....	191

5.12.1 Research Design: Fitness for purpose.....	191
5.12.2 Evaluative Research: reflexive appraisal of Methodology and Method.....	192
5.12.3 Data analysis: appraisal of method	195
CHAPTER 6: AN ANALYSIS OF THE HIV/AIDS POLICY IN KENYA.....	200
6.0 Introduction.....	200
6.1 Background.....	201
6.2 The Policy	203
6.2.1 Prevention	206
6.2.2 Care and Support.....	207
6.2.3 HIV/AIDS and the Workplace.....	208
6.2.4 Management of the Response	210
6.2.5 Weaknesses of the policy.....	211
6.3 The HIV/AIDS Curriculum	212
6.3.1 Content.....	212
6.3.2 Presentation.....	215
6.5 Conclusion	217
CHAPTER 7: IMPLEMENTATION OF HIV/AIDS EDUCATION IN SCHOOLS	218
7.0 Introduction.....	218
7.1 Mainstreaming HIV/AIDS education into Curriculum and co-curricular activities	220
7.1.1: Student Responses	220
7.1.2: Teacher Responses.....	225
7.2 Education about HIV and AIDS transmission and prevention	228
7.2.1 Knowledge of HIV/AIDS	228
7.2.2: Sexual Behaviour.....	239
7.2.3: Factor Analysis	247
7.2.3.2 Sexual activity.....	250
7.2.3.3 Condom use	251
7.2.4: Peer Pressure.....	253
7.2.5 Overall Correlations.....	257
7.3: Teacher Preparedness in the area of HIV/AIDS	260
7.3.1: Instructional confidence.....	261
7.3.2: Teacher Comfort in handling sensitive topics	263
7.4 Mobilization of support and provision of adequate supervisory systems.....	265
CHAPTER 8: CONCLUSIONS AND RECOMMENDATIONS	269
8.0: Introduction.....	269
8.1 The issue of pedagogy	270
8.2 Lack of capacity	274
8.3 The reality of the classroom.....	275
8.4 Assumptions about young people	276
8.5 Recommendations.....	277
8.6 Conclusion	279

APPENDIX 1- Students' Questionnaire.....	301
APPENDIX 2- Teachers' Questionnaire	307
APPENDIX 3- School Observation Schedule	311
APPENDIX 4- Head teacher Interview Schedule	311
APPENDIX 5-Policy maker interview schedule	312
APPENDIX 6 –Table for determining sample size	313

CHAPTER 1: PROBLEM SETTING

At the end of 2006, an estimated 39.5 million people worldwide were living with HIV, the virus that causes AIDS, including 4.3 million newly affected in 2006 alone. In the same year, nearly 3 million people died from AIDS-related causes, contributing to more than 20 million deaths since the first AIDS diagnosis in 1981. AIDS has also orphaned around 15 million currently living children, and rendered millions of others vulnerable (UNAIDS, 2006). Kenya, experts have warned, is losing the fight against HIV (The Daily Nation, Friday, 1st August 2008).

1.0 Introduction

HIV stands for the '*Human Immunodeficiency Virus*', a virus that causes AIDS (Acquired Immunodeficiency Syndrome), a health condition in which a person is affected by a series of diseases because of poor immunity. HIV by itself is not an illness and does not instantly lead to AIDS. An HIV infected person can lead a healthy life for several years before s/he develops AIDS. Acquired Immunodeficiency Syndrome (AIDS), as the name suggests, is a health condition that results from the deficiency in the body's immunity following HIV infection. HIV attacks CD4 cells, T-cells that also help the body fight disease, and replicates itself, killing the healthy cells. When HIV takes over enough CD4 cells or causes serious infections that do not normally make a healthy person sick, a person then has AIDS. The progression from HIV to AIDS is different for everyone—some people live for 10 years or more with HIV without developing AIDS, and others get AIDS faster (www.womenshealth.gov).

The manifestations of AIDS outwardly include AIDS related illness, weight loss, fever, diarrhoea and opportunistic infections. The public interpretation of these outward manifestations are varied, with most people, for example, associating infection with slim people only and therefore harbouring the misconception that healthy looking people cannot be HIV/AIDS infected. Earlier epidemiological findings generated people's prejudices and discrimination towards those infected with HIV/AIDS, causing fear and phobia. For example, during the early days of the epidemic, people were refused entry into some countries because of their HIV/AIDS status. A case in point here is Magic Jackson who was not allowed to enter Indonesia after he declared that he was HIV positive (Panos World AIDS March, 1995). People living with AIDS in Japan were alienated, and in sub-Saharan Africa HIV/AIDS was seen as a disease of those engaging in prostitution. A poster warning the public about HIV/AIDS in Zambia pointed explicitly at who had it. Young people, on the other hand, perceived themselves as invulnerable and associated HIV/AIDS with adults.

HIV is passed from one person to another through contact with body fluids such as semen and vaginal fluid (passed on through unprotected vaginal, anal and oral sex), breast milk (from an infected mother to child) and blood (through blood transfusions and shared needles). There is substantial risk of HIV transmission whenever infected semen or vaginal fluids enter the mucous membranes or the blood of a sexual partner. Sexual transmission is most likely through receptive anal intercourse, apparently because micro tears in the lining of the rectum are apt to occur. Other body fluids, like saliva, sweat or urine, have not been shown to contain enough of the HIV virus to infect another person (Mann et.al., 1988). Among the adult population, the main mode of transmission is

through unprotected sexual activity. There is a considerable reduction in blood-borne HIV infection in many countries as a result of screening all blood used for transfusion. Vertical transmission, from mother to child, has also been reduced through the introduction and administration of antiretroviral drugs to HIV infected pregnant women and their new born babies.

Globally, HIV incidence rate is believed to have reached its peak in the 1990s. In recent years, though, HIV prevalence (the proportion of people living with HIV) has begun to level off mainly due to related behaviour and prevention programmes, and also due to the rising AIDS mortality. However, the introduction of antiretroviral therapy (ART) has led to an increase in numbers of people living with HIV as a result of the life prolonging effects of the drugs. It also means that HIV infected people are not easily distinguishable from those who are not, and this has led to yet another crisis in the fight against the spread of HIV/AIDS.

The pandemic proportions of AIDS and the devastation it is wreaking in the world and especially in sub-Saharan Africa are widely acknowledged. What is not as often acknowledged is its impact on youth. According to UNAIDS (2001), over 80% of those currently living with AIDS are aged between 15 and 24 and three-quarters of these youth live in sub-Saharan Africa. This is what prompted the call by the UN General Assembly Special Session (UNGASS, 2001) on HIV/AIDS on global targets and principles for young people where it was declared that:

- By 2005, HIV prevalence among youth ages 15 to 24 should be reduced in the most affected countries by 25%; and by 2010, global HIV prevalence among this age group should be reduced by 25% (article 47);
- By 2005, at least 90% of youth ages 15 to 24 should have access to the information, education, including peer education and youth-specific HIV education, and services necessary to develop the life skills required to reduce their vulnerability to HIV infection; and at least 95% access by 2010 (article 53);
- There should be access of both girls and boys primary and secondary education, including HIV/AIDS education (article 63);
- Safe and secure environments should be ensured, especially for young girls (article 63);
- Good quality youth-friendly information and sexual health education and counselling service should be expanded (article 63);
- Young people should be involved in planning, implementing and evaluating HIV/AIDS prevention and care programs (article 63).

To assess progress towards this *Declaration of Commitment*, 35 high-prevalence countries (with national prevalence that exceeded 3%) and four additional countries in Africa with notable prevalence levels were asked to compile data on recent trends in HIV and sexual behaviour among young people. Analysis of trends among 15-24 year old pregnant women in sentinel surveillance systems (2000-2007) and selected sexual behaviours among women and men (1990-2007) showed that HIV infections were falling.

Sentinel Surveillance system is one of the public health surveillance methods for systematic collection, analysis, interpretation and dissemination of data regarding a health action to reduce morbidity and mortality and to improve health (Arita et.al., 2004). The aim of this approach is to obtain high quality and consistent data from a limited number of sites. In Kenya, HIV sentinel surveillance is carried out in order to provide a basis for estimating the extent and pattern of HIV infection for purposes of monitoring the epidemic and designing effective programme strategies. Sentinel surveillance is normally conducted for STD patients and antenatal clinic (ANC) attendees. For ANC sites, blood is drawn and tested from women attending the clinic for the first antenatal visit.

1.1 HIV/AIDS in Kenya

The first case of HIV was officially identified in Kenya in 1984. Prior to this, the epidemic was not considered a serious problem until the late 1980s when the Government launched a comprehensive five-year Medium Term Plan (MTP) in which the AIDS Programme Secretariat (APS) was established to control HIV/AIDS under the guidance of the National HIV/AIDS Committee. In 1991 the Government developed a Second Medium Term Plan (MTP-II), in which it sought to mobilize other sectors in the fight against HIV/AIDS. In 1992, the AIDS Programme Secretariat (APS) was elevated to the status of a National HIV/AIDS Control Programme (NACP). The main strategies pursued by the NACP included the prevention of sexual transmission, prevention of mother-to-child transmission and epidemiological surveillance. The implementation of programme activities resulted in the recognition of AIDS as having a negative impact on various departments. The Government therefore adopted a multisectoral approach in the fight against AIDS.

According to the UNAIDS 2008 Report on the Global AIDS Epidemic, Kenya's estimated population in 2007 was 36,913,721. The number of people living with HIV/AIDS by the end of 2007 was between 1.4 and 1.8 million. Amongst those living with HIV/AIDS, only 7.1%-8.5% were reported to be adults. An estimated population of between 85,000 and 130,000 had died due to AIDS during 2007.

In the World Fact Book (2006), Kenya is ranked 6th on the HIV/AIDS deaths, and yet the epidemic is mostly invisible. Most Kenyans living with HIV do not know that they are infected or show outward symptoms of the disease. As a result, many more people are exposed to the virus through risky behaviour, continuously adding new cases of HIV to the reservoir of those already infected.

It has been reported that the Kenyan AIDS epidemic has gone through three stages. In its first stage, the infection spread rapidly among high risk groups such as commercial sex workers. The next stage was slower and spread into the general adult population, with 20-30% of ante-natal women testing positive, and 10-30% of the adult population being infected (PCA, 1999; NASCOP, 1999). Today, Kenya is said to be in the third stage of the epidemic, which involves the spread to and among the youth and young adults. Almost one third of Kenya's population falls into the teenage adolescent category of 13-19 years (NCPD 1998), and at present, the percentage of new HIV infections among under 20 year olds has been estimated to be 30% for females and 20% for males (PCA 1999; NASCOP, 1999).

The National HIV/AIDS Policy in Kenya was published in the Sessional Paper No. 4 1997 on AIDS in Kenya. In 2000, the National AIDS Control Council (NACC) was founded under the Office of the President and mandated as the institutional framework for the co-ordination and management of the multisectoral National AIDS Control Programme. Several committees were formed on provincial, district and constituency level and the NACC works through these decentralised committees, which co-ordinate the activities on the respective levels. The multisectoral approach of NACC implies the establishment of ‘AIDS Control Units’ (ACUs) in each line ministry, which are responsible to address HIV/AIDS issues within the ministries from the central to the district level through workplace programmes and HIV/AIDS services. To provide for an explicit legal framework for the national response to the HIV pandemic, the government promulgated a bill on HIV/AIDS (The HIV and AIDS Prevention and Control Bill, 2003), and at the programmatic level, the government implemented a new policy on decentralization to focus attention on the need to strengthen action at the community level, with the constituencies serving as the focal points (Investment Programme for the Economic Recovery Strategy for Wealth and Employment Creation 2003-2007).

1.1.1 Main Modes of Transmission

1.1.1.1 Heterosexual contact

In Kenya, most new infections are transmitted through heterosexual contact, and therefore people are at risk of catching the infection as soon as they become sexually active. The Kenya Demographic Health Survey 1998 (National Council for Population and Development, 1998), reports that a very high proportion of Kenya’s teenagers are sexually active, with the median age at first sexual intercourse being 17 for women and

16 for men. This was confirmed in a survey carried out in 2005 (Gouws et.al., 2006), which found that heterosexual contact accounted for 90% of all new infections, while a small but significant number were related to injecting drug use (4.8%) and men who have sex with men (4.5%).

1.1.1.2 Sex between Men (MSM)

In Kenya, statistics of men who have sex with men (MSM) are hard to obtain because homosexuality is a criminal offence (Anonymous, 1998). It is recognised however, that networks of homosexuals are found throughout Africa, although many adopt a heterosexual lifestyle in order to fit in (Kiama, 1999). Reports that male homosexuality is fashionable among young men and is practiced in prisons, boarding schools, and colleges (ibid) as well as studies suggesting homosexual activity among truck drivers, especially between older men and young boys (Fergusson et al., 2004) have provided evidence to suggest that sex between men in Kenya is more common than generally believed. No one knows the extent to which the wives of homosexual men face the risk of HIV/AIDS from their husbands' homosexual behaviour. Several studies have, however, suggested that unprotected anal sex is an important factor in the spread of HIV/AIDS. In the Kenyan port entry of Mombasa, 43% of men who said they had sex with other men were found to be living with HIV/AIDS (Sanders et. al., 2007) The taboos surrounding homosexuality impede the provision of AIDS education and support to homosexuals.

1.1.1.3 Injecting Drug Use

Injecting drug use is another mode of HIV/AIDS transmission that has also received very little mention, because sub-Saharan Africa has generally been considered largely free of

injecting drug use. A review of studies from East Africa has shown, however, that there is an increase in injecting drug use in Kenya. (Beckerleg, Telfer & Hundt, 2005; Odek-Ogunde, Lore & Owiti, 2003). The studies show that heroin is freely available on the Kenya coast, that 45% of heroin users in Nairobi are injectors, that heroin injectors share injecting equipment and have sex with each other and with non-users, and that 50% of injecting drug users interviewed in Nairobi were HIV positive.

The largely unheeded spread of injection drug use in Kenya has wide implications for HIV infection. Many IDU share needles and syringes as well as having unprotected sex, and have been identified as a 'bridging population', speeding the spread of HIV to the general population (Odek-Ogunde, Lore & Owiti, 2003) Although needles and syringes are cheaply available in Kenyan pharmacies, some pharmacy salespeople refuse to sell injecting equipment to those they suspect are using illicit drugs. Possession of used needles and syringes can lead to prosecution. Consequently, many drug users decide not to carry injecting equipment on their person, and therefore borrow from others or use needles that have been left in hideouts by other users. This exposes users to HIV infection.

1.1.2 Factors influencing the spread of HIV/AIDS in Kenya

HIV/AIDS has been described as the plague of the modern era (Renzetti & Lee, 1993) for four main reasons. Firstly, persons carrying the disease cannot be physically distinguished from persons not infected; secondly, HIV's multi-layer latency before the disease is apparent exploits our desire to believe that we and our peers are invulnerable; thirdly, HIV is passed through the most personal, sensitive and secretive behaviours-sexual relations; and lastly HIV inevitably leads to death. This means that the entire

social network can be exposed to the HIV/AIDS virus and be fatally infected before there are signs of danger. Until a vaccine is developed, successful prevention efforts are all that stand between us and a potential plague. The greatest challenge, though, is identifying the drivers of HIV/AIDS with a view to changing people's behaviour patterns to curb further spread of the epidemic. In Kenya several factors, Political, economical, cultural and biological, influence the spread of HIV/AIDS. But perhaps the most prevalent of them all, and need discussing, is the influence of gender, sexual violence and cultural practices.

1.1.2.1 Gender factors

Kenya is a patriarchal society, and the dominance of patriarchy in the society has also led to the acceptance of gender based and sexual violence as normal behaviour (CREAW, 2007). In a country filled with cultural norms, girls in many communities are seen as homemakers and, coupled with the meagre resources that most families have to contend with, the preference is to send boys to school since boys are seen as future wealth sources to their parents. This in itself predisposes girls and women to HIV/AIDS infection because it hinders their access to valuable information and services regarding the epidemic. This situation is echoed by Alloys Orago, Director of Kenya's National AIDS Control Council when he says:

HIV/AIDS continues to take lives across Africa, especially women's lives, not simply because of sexual habits, but because of silent perpetrators that make them more vulnerable to the virus, such as limited access to education, domestic and gender based violence and early marriages (Conference, 6th August 2007, Nairobi, Kenya).

The Kenyan legal system does not provide recourse for Kenyan women and girls either. The system incorporates many laws, including the constitution, which are discriminatory

and have resulted in many women and girls having their rights violated. A case in point is the Succession Act, Cap 160, which discriminates against women when it comes to inheritance of property. As a consequence, many women have been left destitute following the death of their husband, father or after a divorce. This, coupled with the lack of education for many girls and women in Kenya, relegates them to harsh economic hardships. Lack of economic resources has been known to contribute widely to HIV/AIDS infection, where sex is used as a means for survival by poor women.

1.1.2.2 Sexual Violence

Early one evening in Nairobi, while waiting at a bus stop on her way home, Margaret was accosted, dragged behind a bush, and gang raped by 10 men until dawn. When they finally left her, she made her way 400 meters to a petrol station where she was given a sweater to replace her tattered clothing and some money to get home. Filled with shame and blaming herself, she could not face her parents. Her sister accompanied her to one of the largest hospitals in Kenya. When she was finally seen by the doctor after hours of waiting, he instructed her to use her own fingers to remove the semen from her body and place it on a glass slide for analysis, since he did not have gloves and did not wish to go looking for them.

For Margaret, such treatment was a clear reminder of her attackers and it felt like she was being violated all over again. (An article in the spring 2006 Sexual Health and Rights Program (SHARP) Newsletter)

Gender based violence is widespread in Kenya, and has been perceived as normal behaviour for decades. Police statistics indicate 1440, 1305 and 1291 reported cases of rape in 2004, 2005 and 2006 respectively. In the same years, there were 1233, 1067 and 1445 cases of defilement (CREAW, 2007). These figures tell only part of the story, as many women who are raped are too intimidated to report the violation. The Kenya's coalition on violence against women estimates that only 8% of women who are raped

report the attack to the police or health officials, and they estimate the actual number of rapes per year to be approximately 16,500 (Laws of Kenya, Cap 160). The Nairobi Women's Hospital, a gender violence recovery centre that offers treatment to women and girls who have been subjected to gender based violence, has recorded the treatment of over 7,000 rape survivors since 2001 (ibid).

Sexual violence has also been used as a weapon of terror, especially during elections. During the now infamous post election violence in Kenya which started on 27th December 2007, more than 300 women and children sought treatment for sexual assault in a matter of six weeks. One patient was just one year old. (Article in UNFPA, 5th March, 2008). During this time, sexual violence against women was being used to terrorize families and individuals and precipitate their expulsion from the communities in which they were not welcome. The Waki Commission Report (October, 2008), which investigated crimes committed during the election, described sexual crimes that occurred as “under-reported, under-investigated and insufficiently addressed.”

The victims of sexual violence are treated with post-exposure prophylaxis (PEP) to prevent them from contracting HIV/AIDS. This is only effective if the victims are treated within 72 hours of exposure to the HIV/AIDS virus. Unfortunately, PEP is not readily available in all the hospitals in Kenya, and those who cannot access a hospital which offers PEP eventually get infected with HIV/AIDS. In Kenya, only 7 out of 73 government district hospitals, and 1 out of 8 provincial hospitals offer PEP treatment (CREAW, 2007).

1.1.2.3 Cultural Practices

In most communities in Kenya, several cultural and traditional practices that expose people to HIV/AIDS are widely practiced. These include child marriages, female genital mutilation (FGM) and wife inheritance.

Child marriages and forced marriages of young girls to older men is a common practice in some communities in Kenya. A main driver of these marriages is the need for cows; a source of social prestige and wealth among these communities. On 9th September 2005 UNFPA carried a news item about a young nine year old girl who was married off by her father to a 40-year-old man to become his fourth wife. The girl was rescued before the marriage took place, and the father arrested for one year. Stories similar to this occur all over Kenya every day, but many girls are not so lucky. In addition to being forced into child marriage, they are exposed to the risk of contracting HIV/AIDS especially because they are exposed to sexual activity at an age when their vaginal tracts have not fully developed, and are susceptible to tears, leaving a fertile ground for infection with HIV/AIDS.

Female genital mutilation (FGM) is a procedure that involves the partial or total removal of the female genitalia. According to the WHO (2008), an estimated 100 to 140 million girls and women worldwide are currently living with the consequences of FGM. In Africa, about three million girls are at risk for FGM annually.

In communities where FGM is practiced, it is said to be out of respect for and in conformity to society's culture. Traditionally, FGM signals the change of girls to

‘mature women’ and defines a woman’s social standing. It is also considered to increase the likelihood of good marriage prospects, as girls who go through FGM also go through a rigorous training about ‘what makes a good wife’.

The Kenya Demographic Health Survey (2003) statistics show that approximately 32% of women aged between 15 and 49 have undergone FGM, and of these women, 29% have had their eldest daughters circumcised. This is in spite of the fact that FGM is outlawed in the Children’s Act in Kenya.

Although there is no conclusive evidence on the linkage of FGM to HIV transmission, it has been postulated that FGM may play a role in the transmission of HIV. A research study done in Nairobi, Kenya, indicated that FGM predisposes women to HIV/AIDS infection in many ways such as:

- The increased need for blood transfusions due to haemorrhage either during or after the operation. Diriye and Lindmark (1992), in a study of 290 Somali women who had undergone FGM found that the immediate main complication as reported by 112 women was haemorrhage. Five of the women studied reported getting into shock during the operation and two of them only recovering after being treated in hospital with blood transfusion.
- The use of the same instruments for several initiates facilitates HIV/AIDS transmission. In a study performed on 7350 young girls less than 16 years old in Dar es Salaam, it was revealed that 97% of the time, the same equipment could be used on 15-20 girls. Post (1995) describes an incident from a letter sent by the Minority

Rights Group to Amnesty International that read as follows: "While in Malawi a couple of months ago, I came across the story of a 14 year-old girl of Yao tribe that inhabits land in the Southern end of the country. She was diagnosed as HIV-positive although she was a virgin. Blame was laid on the fact that during tribal circumcision, the same razor would be used on any number of children at the same time

- Women who have had FGM done have a small opening, just large enough to permit the passage of urine and menstrual blood. Penetration or intercourse with such women is difficult, often resulting in tissue damage and bleeding. These tears are said to make the vaginal walls similar in permeability to the rectum, thus facilitating the possible transmission of HIV/AIDS (Brady, 1999). Contact with blood during intercourse, as happens with such a small vaginal opening, is believed to be responsible for the transmission on HIV infection among homosexuals (Linke, 1986).

Wife inheritance, like FGM and child marriages, is one of those practices that put people at risk of contracting HIV/AIDS in Kenya. Usually, a woman is inherited by her dead husband's brother or the closest living relative to the dead husband. The main reason given for practicing wife inheritance is to have the family of the dead man taken care of and to have his name continued.

A number of Kenya's 40-plus tribes embrace the tradition of wife inheriting, but it is especially popular among communities that occupy the Western region of the country. The region also happens to have the highest rate of HIV/AIDS in Kenya, and part of it has been due to wife inheritance because the practice allows the disease to grow exponentially. It is a never ending cycle. An inheritor has his own family. He infects his

first wife and the widow he has inherited. Then he dies, and two other men inherit the women he leaves behind. Those men die. And then their widows are inherited. The cycle is usually fed by denial, with widows afflicted with HIV/AIDS saying they are suffering from malaria and inheritors refusing to believe that the widow's husband died of AIDS (washingtonpost.com). Women, of course, die too, but this example is only given to exemplify the act of wife-inheritance and the way in which it exacerbates the spread of HIV/AIDS.

1.2 HIV/AIDS and young people

Young people continue to bear the brunt of the global HIV/AIDS epidemic. HIV/AIDS prevalence among young people is already high in many countries around the world, and young people continue to make up a significant proportion of new infections. According to the UNAIDS (2004) epidemic update, of the estimated 40 million people living with HIV/AIDS worldwide, more than a third (38%) are under the age of 25. These young people (under age 25) also represent more than half of the 4.8 million people estimated to have been infected with HIV in 2003. This amounts to almost 6,000 infections per day among 15-24 year olds, or approximately one every 15 seconds. This confluence of high HIV/AIDS prevalence has, for the most part, been felt in sub-Saharan Africa, where it is estimated that 62% of young people are living with HIV/AIDS, followed by South/South East Asia (18%), Eastern Europe/Central Asia (6%), and Latin America (6%) (ibid).

The impact of the epidemic in sub-Saharan Africa is exacerbated by the fact that over half the population of sub-Saharan Africa is estimated to be under the age of 18 (UNICEF, 2003).

Other factors that make the youth particularly vulnerable to HIV/AIDS include their age, biological and emotional development and their financial dependence. For example:

- The prevalence of sexually transmitted infections (STIs) coupled with a great lack of youth-friendly services for reproductive health and the treatment of STI's increases the likelihood of acquiring and transmitting HIV (UNAIDS, 2004)
- The youth are often subjected to poverty and homelessness which in turn might be associated with sexual abuse and trading sex for money or goods. This is especially so among the 100 million youth under the age of 18 who live or work on the streets. In a camp for displaced people in Kenya, for example, an observer says: *"In some cases, team leaders responsible for handing out food have been making girls give them sex in exchange for the food they are actually entitled to. So even when the sex is consensual, it is often survival sex - the girls and women don't feel they have a choice."* (www.reliefweb.int)
- Surveys also indicate that although many more young people across the world have now heard about the HIV/AIDS epidemic, awareness is not universal and many are still unaware of how to protect themselves or harbour misconceptions about HIV transmission (UNAIDS, 2004)
- The collapse of agricultural economies, which have forced many people to migrate from rural to urban areas especially in Sub-Saharan Africa have caused rapid urbanization that has resulted in unemployment. The predictable consequence of this unemployment has been, for some, the engagement in commercial sex for survival, putting them at risk of contracting HIV/AIDS.

- Civil war and political conflict also foster sexual abuse that could lead to HIV/AIDS infection. For example, widespread sexual assaults during post election violence in Kenya resulted in an estimated 950 new HIV/AIDS cases in a span of two weeks in Nairobi, Kenya ([East African Standard/AllAfrica.com](http://EastAfricanStandard.com), 2008). The political and tribal violence broke out after Kenya's president Mwai Kibaki was declared the winner over Raila Odinga, the opposition presidential candidate, by a narrow margin in January 2008.

- Many sexually active young people at risk for HIV do not perceive themselves to be at risk, even those in countries with very high prevalence. Young people do not personalize HIV/AIDS as a problem that affects them, but one that only happens to other people in other places- a 'them not us' attitude. This has been attributed to what Boler et al (2003) refers to as the paradox of sex. The paradox arises from a tension between two assumptions that ill fit with one another. One is that young people might be having sex, and therefore HIV is a genuine risk; the other results from deep-seated social pressures that 'we do not and will not have pre-marital sex'. Moreover, there is often limited access to information about sexual health, safe sex, risky behaviour and traditional practices, and most young people living with HIV/AIDS do not even know they are infected.

- Myths about youth in some African countries also lead to the proliferation of HIV/AIDS risk. According to a report in the Women's International Perspective of July 2007, for example, the number of children who had been defiled in Zambia had increased dramatically because of a widespread belief that having sex with a virgin would cure HIV/AIDS (www.thewip.net)

1.2.1 What is being done?

Several strategies for decreasing infection rates have been suggested including, among others, social marketing of condoms, peer education for groups with highest infection rates (such as sex workers), mass media concerning social and cultural customs that expose participants to heightened risk (such as wife inheritance or circumcision ceremonies), voluntary counselling and testing (VCT) for those who believe themselves to be infected, and school-based programmes. (Finger, Lapetina & Pribila, 2002; Kaaya et al., 2002a; Grunseit,1997; Barnett, de Koning, & Francis,1995; World Bank,1993). Of these strategies, school-based HIV prevention programmes have been viewed as a necessary step to protect the general population from further infection.

One of the key responses to the HIV/AIDS crisis in Kenya, and indeed in most countries, has been the provision of School based HIV/AIDS education, to try and improve teenagers' ability to make wise and sensible decisions regarding their behaviours. The interventions have been premised on links between education and behaviour, the underlying assumption being that teaching young people how to protect themselves from HIV can lead to a reduction in risk behaviour and hence a reduction in HIV incidence (UNAIDS, 1997). An important part of this process has been the development of an Education sector policy on HIV and AIDS, aimed at implementing and effecting, among others, the policy goal of Prevention. (Government of Kenya, Education Sector Policy on HIV/AIDS, 2004). However, efforts to change sex behaviours to reduce transmission have met with little success. Sexual risk taking among school- going teens appears to be substantial, and there is evidence that preventive behaviours have not generally been

adopted. This has raised concerns about what causes the gap between existing and desired behaviour. Is it that the students do not know? Is it that they do not care? Or is it that they do not do?

This notwithstanding, there are four other reasons that have been commonly articulated in support of School-based HIV/AIDS interventions. First, schools are the single location where the largest proportion of young people (approximately 50%) can be reached (UNICEF, 2001). Second, studies in different locations support the conclusion that most youth in sub-Saharan Africa initiate sexual activity while they are still of school age, whether or not they are in school (Kaaya et al.,2002b; WHO 1992). Third, there is evidence demonstrating that interventions conducted prior to sexual debut are the most effective in reducing rates of sexually transmitted infections (Grunsheit, 1997). Finally, schools provide an established venue for intervention (Barnett, de Koning, & Francis, 1995). Their location is known and they have established mechanisms for introduction of new programmes. They are also linked to communities through families, and other community organizations, extending their reach and enhancing local ownership of interventions. It is for these reasons that Stover and colleagues' recent assessment of the effectiveness of AIDS reduction strategies identified school-based programmes as a necessary basis for other programmes (Stover et al.,2002).

1.2.2 Obstacles

A number of obstacles, however, thwart effective education to prevent HIV/AIDS. These include the biological basis and social complexity of the behaviours that must be changed, disagreement about the propriety of educational messages to prevent AIDS, uncertainty

about the degree of risk, and dual messages of reassurance and alarm from responsible officials (Fineberg, 1988).

1.2.2.1 Social Complexities of sexual behaviour

HIV/AIDS is largely a disease of human behaviours. What renders it complex is the apparent paradoxical fact that individuals keep on exposing themselves to HIV risk, even when they are aware of the nature and the existence of these risks. Campbell (2003) observes that sexuality is shaped and constrained by factors ranging from the deepest psychological needs for intimacy and pleasure, to the complex and unequal relationships between men and women, and rich and poor. She further observes that if prevention efforts are to have optimal impact they need to be informed by sound insights into the determinants of sex and sexuality. This cannot be done by assuming that sexual behaviours are shaped by the conscious decisions of rational individuals, and then assuming that people would be able to safeguard their sexual behaviours if they were told about the dangers of HIV/AIDS and how to prevent it. It is not as easy as A, B, C (Abstain, Be faithful or Condomize), as was often assumed early in the epidemic.

Why do people in AIDS-ravaged countries, for example, continue to engage in unsafe sex, which they know could kill them? And why do programmes designed to prevent this practice so often fail? Campbell's answer is that sexual behaviour is determined as much by its social and economic context as it is by individual will. What people understand about the human immunodeficiency virus (HIV), believe about themselves, and do in their sexual lives is not entirely of their own choosing but, rather, is profoundly shaped by a complex interplay of social norms, opportunities, expectations, and constraints. Past

efforts to combat HIV and AIDS have failed because they have overlooked this fact and relied on narrow biomedical and behavioural interventions, efforts that target individuals but neglect to promote the supportive social processes that empower people to protect themselves. Unless people at risk are involved in nurturing their own "health-enabling community," Campbell writes, information and motivation alone will be insufficient to ensure behavioural change.

1.2.2.2 The propriety of educational messages to prevent AIDS

The question of whether to have sex education in schools and what this education should comprise is a hotly debated issue. Although most governments and communities say sex education should be taught in schools, this has often been met with pockets of controversy regarding what *kind* of sex education should be taught. On abstinence, for example, some people believe that schools should teach only about abstinence from sexual intercourse and should not provide information on how to obtain and use condoms and other contraception. Others believe that abstinence is not the most important thing, and that sex education should focus on teaching teens how to make responsible decisions about sex. In the absence of a cure, though, our best hope for stemming the spread of HIV/AIDS is prevention, and the best preventive method is clearly education. Schools represent important intervention points in attempts to inhibit the spread of HIV/AIDS.

This stance, together with the tenets propagated by the systems theory, are the mainstay of this study.

1.3 Statement of the problem

'Kenya losing the fight against HIV after all, experts warn' (The Daily Nation, Friday, 1st August 2008).

According to the 2007 Kenya Aids Indicator Survey (KAIS) released on Tuesday 29th July 2008, prevalence rates in the national population stands at 8 per cent, indicating an almost four point increase. This is in spite of the various prevention programmes that have been put into place to check the spread of HIV/AIDS in Kenya.

HIV/AIDS first surfaced in Kenya in 1984 – a period after which it rapidly grew, increasing from a 5% prevalence rate in 1990 to an estimated 14% by the end of 1998 (www.twanatwitu.org). It was in November of 1999 that HIV/AIDS was declared a national emergency by the country's then President, Daniel arap Moi. Following this, the country engaged itself to fight the pandemic through the creation of the National AIDS Control Council (NACC), a multisectoral body aimed at coordinating and developing an action plan; constituency AIDS control committees and ministerial faculties dealing with HIV/AIDS. It was hoped that by creating a highly participatory process, the country might in effect combat HIV/AIDS. Drawing from the national HIV/AIDS strategy, the MoE initiated a ministry- specific HIV/AIDS policy for implementation in all its education programmes. The KIE produced teaching recourses for distribution to schools, and teachers were given the mandate to teach HIV/AIDS in schools.

Since its introduction, however, the HIV/AIDS education programme has not been evaluated in terms of the processes involved in its implementation. This is because more often than not, the norm is to wait for a programme to end and then review its outcome.

The current study examines the implementation, or lack of it, of the HIV/AIDS prevention education in secondary schools as stipulated in the education sector policy on HIV/AIDS education. The study specifically explores students, teachers, head teachers and policy makers' perceptions of the implementation of HIV/AIDS education, and examines the synergy that exists in and between the structures that have been put in place for the implementation. Although several evaluations have been carried out in schools regarding provision of HIV/AIDS education, none of the studies, as mentioned above, has employed a system's approach to the evaluation of HIV/AIDS education, and this study emphasizes that it is not sufficient to promulgate mandates such as 'HIV/AIDS education' from the *top* of the education system. The *bottom* of the system (schools) must be supported and activated to carry out those mandates.

In order to evaluate HIV/AIDS education in schools, the present study examines four aspects of the implementation process. To guide the study, the following questions were developed:

- What is the stated policy regarding HIV/AIDS education in Kenyan secondary schools?
- What evidence is there from the schools that the policy is being implemented?
- What institutional support is being provided in schools to promote implementation of HIV/AIDS education?

- Do education sector policies, systems, structures and capacity optimally assist HIV prevention education in schools?

This thesis, with the use of a systems approach, expands its gaze and investigates the interfaces of the range of competing actions and interests amongst the stakeholders involved in the implementation of the HIV/AIDS programme.

1.4 Rationale and Significance of study

In the early years of evaluation research, there was an assumption that policy makers would be grateful recipients of information provided by evaluators. Accordingly, successful programmes would continue to be supported and unsuccessful ones would either be modified or discontinued (Clarke, A 1999). In reality, though, this has not proved to be the case. Indeed, it is highly unlikely to find the future of programmes being based solely on findings from an evaluation because, as Shaddish et. al., (1991:448) observes, *'Evaluation is a political act in a context where power, ideology, and interests are paramount and influence decisions more than evaluative feedback'*. That is not to say, however, that evaluations have no place in decision making and should therefore not be carried out. The current evaluation is necessitated by the following reasons, among others:

1. HIV/AIDS remains a global health problem. In the most recent international epidemiological data (UNAIDS, 2008) the results of the HIV sentinel surveillance in Kenya showed declines had occurred in both urban and rural areas. Although the percentage of both young women and men (15-19) who became sexually active before their 15th birthday had remained unchanged, the proportion of those who had had sex with more than one partner in the 12 months preceding the

survey had declined significantly. Condom use was also shown to increase among men who had more than one partner. On the whole, trends show that reductions in risky behaviour have been occurring. These favorable trends underscore the need for more comprehensive progress in implementing effective policies and programmes. Evaluation of existing programmes will help in assessing effectiveness; so that we do not lose the gains we have already made.

2. Since the introduction of the HIV/AIDS prevention programme, several international organizations and governments (UNESCO, USAID, FHI, CfBT, and DfID) have extended enormous financial Aid to Kenya. If we are going to be able to increase and maintain that kind of global political will and resources directed to our HIV/AIDS programs, we must be able to show that our intervention can make a difference in reducing new infections among the youth, and hence a need for evaluation.

It is important in HIV/AIDS education, therefore, to evaluate existing programmes because it does not appear useful to continue providing programmes about whose outcomes we know little. A lack of systematic assessment of existing HIV/AIDS programmes leads to perpetuation of ineffective educational efforts.

1.5 Research Assumptions

In terms of policy implementation, the researcher assumed that:

- Every school had integrated HIV/AIDS education into the existing school curriculum as had been proposed by the policy
- Schools had allocated a period during which HIV/AIDS instruction was taking place

- Teachers had been trained to teach HIV/AIDS education in the schools
- The MoE had provided materials for dissemination of the HIV/AIDS education
- Head teachers supervised and supported the teaching of HIV/AIDS in their respective schools
- The various HIV/AIDS co-ordinating units at either the ministry, provincial or district levels were in active communication with the schools as implementers of the policy
- Students, as a consequence of receiving HIV/AIDS education, had acquired both the knowledge and skills to protect themselves from HIV/AIDS infection

1.6 Limitations of the Study

Any meaningful change in behaviour can only occur after an intervention has been in place for a considerable period of time. Consequently, the study considered the following drawbacks in order to avoid judging the programme too harshly.

- The programme is relatively new in Kenya
- There is no baseline study or formative evaluation upon which findings of the current study can be measured
- The intervention is a long term strategy and therefore quantifying/ qualifying it in a short spell of time might be difficult
- There are many interventions going on at the same time which makes outcome or impact of any of them difficult to distinguish and measure.

1.7 Thesis Structure

This study is based primarily on an evaluation of the HIV/AIDS education provision and practice in Kenyan secondary schools, as stipulated in the Education sector Policy on HIV/AIDS. The thesis comprises eight chapters. The introductory chapter (chapter1) briefly reviews HIV/AIDS and gives a background to the study by conceptualising HIV/AIDS in Kenya's historical, political and cultural backgrounds, and providing the justification for this study. Chapter 2 (HIV/AIDS and Education), focuses on HIV/AIDS and education sector responses. It places education on an international context and highlights the issues that make HIV/AIDS education an important 'vaccine' in the fight against the spread of HIV/AIDS. Particularly, the chapter looks at education from two perspectives: how it has been affected by HIV/AIDS and how it affects HIV/AIDS. This way, the centrality of HIV/AIDS prevention education is drawn to attention. Chapter 3 (HIV/AIDS Mainstreaming in education) highlights the concept of mainstreaming HIV/AIDS and highlights why there is a need to mainstream HIV/AIDS in schools. The theoretical framework, the Systems Theory, and its application to the current study is then presented in Chapter 4. In Chapter 5 (Methodology and Research Design), the methodology acquired for this investigation is analysed, as well as the research methods used. The findings and discussions are presented simultaneously in chapters 6 and 7. Chapter 6 (Analysis of the HIV/AIDS policy in Kenya) is a document analysis of the education sector policy on HIV/AIDS and an examination of its presentation in the secondary school curriculum. Analysis and discussion of the fieldwork research is what comprises chapter 7 (Implementation of HIV/AIDS education in schools). Finally, Chapter 8 summarises the whole study, drawing conclusions and recommendations.

CHAPTER 2: HIV/AIDS AND EDUCATION

HIV/AIDS is unequivocally the most devastating disease we have ever faced, and it will get worse before it gets better.

(Dr. Peter Piot, executive director of UNAIDS, November 2001)

2.0 Introduction

Numerous declarations, conventions, covenants and constitutions reiterate education's status as a right for every child. What this means is that, firstly, education is an entitlement that is sanctioned by states through legislation and national constitutions. Most states are signatories to the convention on the Rights of the Child, and education forms one of those rights. Education is, therefore, a justifiable right. Secondly, education is a right with correlate agency- specific duties and obligations. Parents have a duty to send children to school, and the state has a responsibility to guarantee access to a basic, quality education, as enshrined in the International Human Rights Law. The right to education is, therefore, of necessity.

Education *'is not only a good in itself. It is also an enabling right...'* (Action Aid 2003)

Education enables individuals to prevent and manage health problems. This is especially crucial at this time when Africa is grappling with the adverse effects of HIV/AIDS. Children of educated mothers are more likely to fall ill less often and less seriously than the children of uneducated mothers (Colclough with Lewin, 1993). In 17 countries in Sub- Saharan Africa, education has been shown to be closely correlated with lower HIV/AIDS infection rates. (World Bank 2002, UNAIDS 2000). Education also enables individuals to exercise their economic rights. More generally, education imparts many of

the skills needed to work and earn a living. With the onset of the information age, education plays an important role in knowledge-intensive production, and places individuals with low levels of education at an economic disadvantage. Politically, education helps foster political participation and empowerment, a tool that gives individuals the confidence and critical ability to not only make informed political choices, but also understand and resort to legal process, and to hold decision makers to account (Archer & Cottingham 1996)

HIV/AIDS has, however, created a host of problems that threaten to overwhelm the very fabric and structure of educational organization, management and provision. The scale of the AIDS epidemic is enormous. By the end of 2001, AIDS was said to have killed 25 million people, over 40 million people were living with HIV/AIDS, and 15.6 million children under the age of 15 had been orphaned (UNAIDS 2001). This notwithstanding, the epidemic is on the upswing globally. More devastating, though, is the impact the epidemic is having on education systems.

This chapter is a review of the literature on, firstly, the impact of HIV/AIDS on Education. It examines the impact that HIV/AIDS has had on the supply, demand and quality of education. The chapter then moves on to examine the impact of Education on HIV/AIDS, and specifically how the education of young people, through the introduction of HIV/AIDS prevention programmes, impacts on HIV/AIDS. It is argued that in the absence of a cure for HIV/AIDS, education is the strongest vaccine against further spread of the epidemic.

2.1 The Impact of HIV/AIDS on Education

The provision and growth of education has been directly linked to positive economic development, emancipation and health dividends (Carr-Hill, 2003). Education in every sense is one of the fundamental factors of development. No country can achieve sustainable economic development without substantial investment in human capital. Education enriches people's understanding of themselves and the world, improves the quality of their lives and leads to broad social benefits to individuals and society. Education raises people's productivity and creativity and promotes entrepreneurship and technological advances. In addition, it plays a very crucial role in securing economic and social progress and improving income distribution.

HIV/AIDS poses a real threat to the education sector and potentially to human resource-based development. For example, an analysis by Robert Hecht and colleagues at the International AIDS Vaccine Initiative and EASE International (2006) of the achievement of the Millennium Development Goals (MDGs) found that the HIV/AIDS epidemic will stall progress toward reaching at least five of these goals. And as more people die of HIV/AIDS related illnesses, this may exert detrimental effects on many of the other goals. This is because HIV/AIDS has been shown to increase poverty and to lower Gross Domestic Product (GDP) by up to 15% annually (Bachmann & Booyesen, 2003).

One of the priorities and goals of the Millennium includes ensuring universal education in all countries by 2015. In an AIDS infected world, this goal is not achievable within the stated timeframes (Badcock-Waiters & Whiteside, 2000) because HIV/AIDS is

draining the supply of education, eroding its quality, and weakening its demand and access (World Bank, 2002). How does it do this? Kelly (2000a) sums it up thus:

Table 1: The Impact of HIV/AIDS on the Education system

HIV/AIDS
↓
EDUCATION SYSTEM
↓
WEAKENING AND DISRUPTION OF SYSTEM
↓
OPPORTUNISTIC PROBLEMS FOR THE EDUCATION SECTOR
↓
REACTIVE CHANGES, ADJUSTMENTS, INNOVATIONS

2.1.1 HIV/AIDS and the Supply of Education

Education is a labour-intensive, service activity, and the more qualified, skilled and experienced the labour, the better the sector will serve the country. The supply of education depends on the availability of teachers and teaching-learning materials, as well as the capability of the education system to man the sector. HIV/AIDS affects the supply of education as a result of the loss through mortality of trained teachers; the reduced productivity of sick teachers; the reduction in the system's ability to match supply with demand because of the loss, through mortality or sickness, of education officers, inspectors, finance officers, building officers, planning officers, management personnel;

and the closure of classes or schools because of population decline in catchment areas and the consequent decline in enrolments (ibid).

Mortality of trained teachers

While many countries lack reliable data on AIDS-related deaths and HIV prevalence among teachers, available evidence points to an increased teacher mortality rate in the presence of HIV/AIDS. Several studies carried out in Africa indicate that the number of trained teachers is declining. In the Central African Republic, for example, 85 percent of teachers who died between 1996 and 1998 were HIV-positive, and on average died 10 years before they were due to retire (UNAIDS 2000). In Zambia 1,300 teachers died in the first 10 months of 1998, compared with 680 teachers in 1996 (Kelly 1999). In Kenya teacher deaths rose from 450 in 1995 to 1,500 in 1999 (reported by the Teaching Service Commission), while in one of Kenya's eight provinces 20 to 30 teachers die each month from AIDS (Gachuhi 1999). HIV-positive teachers are estimated at more than 30 percent in parts of Malawi and Uganda (Coombe 2000b), 20 percent in Zambia (Kelly 2000a), and 12 percent in South Africa (Coombe 2000a).

The death of one teacher deprives a whole class of children of education. Teachers who die should be replaced, but in most countries, the strategy is to wait for annual outputs from teacher training colleges. Even so, there is a limit to the applicability of this strategy. The training colleges are often designed to produce enough teachers to cover projected retirements, meaning that the high rates of deaths from AIDS raises the demand for teachers above supply. This appears to have happened in the Central African

Republic where, in mid 2000, UNAIDS reported widespread closure of schools because so many teachers had died of AIDS-related illnesses (Kelly, 2000a).

Moreover, teacher losses in the higher levels of the education system face a greater problem of replacement due to specialization. This is particularly evident in secondary schools and in higher institutions of learning such as vocational training institutions and universities. Where such losses occur, subject areas would have to be discontinued unless preparations were made for such an eventuality earlier.

Reduced productivity of sick teachers

HIV/AIDS increases teacher absenteeism, leading to less time for teaching and therefore compromising the quality and quantity of education. Several factors contribute to absenteeism. First, for infected teachers the illness itself causes increasing periods of absence from classes because of the progressive nature of the disease. According to a World Bank (1999) analysis, an infected teacher is likely to lose 6 months of professional time before developing full-blown AIDS. This is particularly important as government employees tend to have generous sick leave packages, thus staff may be on the payroll for long periods, but not able to work or be replaced. This erratic school attendance of infected teachers before they develop full blown AIDS means a lowering in their productivity.

Second, in communities where the extended family system is still practiced, teachers take time off to attend funerals or to care for sick or dying relatives, and this can take time

from school activities. A recent survey in Botswana found that funeral attendance was the second biggest factor (after illness) in AIDS-related absenteeism in schools, accounting for 7 to 12 percent of episodes of absenteeism (World Bank, 2002).

2.1.2 HIV/AIDS and the Demand for Education

HIV/AIDS affects the demand for education because of

- fewer children to educate;
- fewer children wanting to be educated;
- fewer children able to afford education;
- fewer children able to complete their schooling (Kelly, 2000b).

As a result of HIV/AIDS, there are relatively fewer children needing education because there are fewer children being born due to the early death of one or both parents. Moreover, if a child is born with HIV/AIDS, the child might die before reaching school going age, or might be kept out of school due to recurrent illnesses. This means lower school enrolments. For instance, a Swaziland Ministry of Education report suggests that because of HIV/AIDS there will be 30 percent fewer children of school entry age in 2016 than if there had been no AIDS (Gachuhi, 1999).

HIV/AIDS also affects the affordability of education. Firstly, the direct loss of family income due to AIDS, from the illness and death of productive members of the family inevitably causes pupils to stop attending school because of school fees and the costs of school requisites (UNICEF, 1996). Secondly, as families succumb to AIDS, fewer of them will be able to release children from domestic and agricultural tasks during the day,

or from duties of caring for ill adults or other family members. Therefore, fewer children will be able to complete their school education. For many of the affected children this inability is AIDS-related. This is confirmed by interviews conducted with teachers in Lusaka, whose classes included pupils whose parents had died of AIDS. All reported that, following the death of the parent, the pupils stopped attending because of school fees. Given the close link between AIDS and orphan hood, it seems clear that one major impact of AIDS on pupils of school-going age is to reduce the likelihood of their school attendance (Kelly 2000a).

2.1.3 HIV/AIDS and the Quality of Education

The epidemic affects the quality of education through several confounding factors, which include:

- The effects of HIV and AIDS on the environment in which learning takes place
- Threatens the resource pool
- HIV affects the quality of educational inputs

Teacher absenteeism and attrition, less time for teaching, and disruption of classroom and college schedules affect the kind of learning that can take place. The quality of education also suffers in the form of teacher education. As the epidemic continues to take its toll, there will be a less qualified teaching force, as trained and experienced teachers are replaced with younger and less well trained teachers.

It is evident that failure to halt or reverse the HIV/AIDS epidemic will continue to jeopardize progress towards achieving Education for All and a wide range of the MDGs.

It is in this respect that the then Secretary General of the United Nations observed that...

We will have time to reach the Millennium Development Goals – worldwide and in most, or even all, individual countries – but only if we break with business as usual... Nothing less will help to achieve the Goals (United Nations Secretary-General)

The only way of avoiding the ‘business as usual’ approach and therefore ensure that the effects of HIV/AIDS are adequately addressed to reduce the pandemic’s negative effects on progress towards achievement of the MDGs is by ensuring that HIV/AIDS is at the centre of overall development strategies, least of all education.

"Mainstreaming" of HIV/AIDS within all components of the education sector and at all levels is imperative to address HIV/AIDS effectively. Importantly, HIV/AIDS presents opportunities, not just a threat. HIV/AIDS reinforces the urgency to address problems and creates opportunities to mobilize support to remove obstacles to efficient implementation.

Table 2 is adopted from Michael Kelly’s article on ‘What HIV/AIDS can do to Education and what Education can do to HIV/AIDS’ (2000c), and summarizes the various ways in which HIV/AIDS continues to undermine Education.

Table 2: What HIV/AIDS can do to Education and what Education can do to HIV/AIDS. Adopted from Kelly (2000c)

What does HIV/AIDS do to Education	How does it (HIV/AIDS) do it?
Reduces the demand for Education	<ul style="list-style-type: none"> ○ fewer children to educate ○ fewer children wanting to be educated ○ fewer children able to afford education ○ fewer children able to complete their schooling
Reduces the supply of education	<ul style="list-style-type: none"> ○ loss of teaching time due to prolonged illness of teachers ○ reduced productivity of sick teachers ○ loss through mortality of trained teachers
Depletion of resources for education	<ul style="list-style-type: none"> ○ diversion of family resources to medical care ○ funds are tied down by salaries of sick but inactive teachers ○ loss of active community members, hence reduced community ability to contribute labour for school developments
Reduced potential clientele for education	<ul style="list-style-type: none"> ○ increase in the number of orphans and vulnerable children who cannot attend school because they have to undertake income generating activities to support their households
Effects on the process of education	<ul style="list-style-type: none"> ○ the new social interactions that arise from the presence of AIDS-affected individuals in schools ○ the erratic school attendance of pupils from AIDS-affected families ○ the erratic teaching activities of teachers
Effects on the content of education	<ul style="list-style-type: none"> ○ the need to incorporate HIV/AIDS education into an already over-burdened curriculum, with a view to imparting the knowledge, attitudes and skills that may help to promote safer sexual behaviour
Effects on the role of education	<ul style="list-style-type: none"> ○ new counselling roles that teachers and the system must adopt ○ the need for the school to be envisaged as a multi-purpose development and welfare institution, delivering more than formal school education as traditionally understood.
Effects on the organization of schools	<ul style="list-style-type: none"> ○ adopt a flexible timetable or calendar that will be more responsive to the income-generating burdens that many pupils must shoulder;
Effects on the planning and management of the education system	<ul style="list-style-type: none"> ○ the imperative of managing the system for the prevention of HIV transmission ○ the need for all capacity-building and human resource planning to provide for (a) potential personnel losses, (b) developing new approaches that will enable the system to cope with the epidemic's impacts

2.2: The Impact of Education on HIV/AIDS

'Education is the world's single most powerful weapon against poverty. It saves lives. It gives people a chance to improve their lives.' (Oxfam, 1999, p.4)

These words by Oxfam about Education and poverty could well be applied, *mutatis mutandis*, to HIV/AIDS. Education, too, can be the world's single most powerful weapon against HIV transmission. It has the capacity to reach very large numbers of people with life-saving information and skills and is therefore a necessary part of any HIV/AIDS prevention campaign, especially among young people who, in many countries, have been reported to comprise 60% of all new HIV infections (UNAIDS/WHO, 2002)

In the same vein, the sixth millennium development goal, adapted by the United Nations in 2000, aims to halt and begin to reverse the spread of HIV/AIDS by 2015.

But since the millennium development goals were set, the incidence of HIV infection and associated mortality has continued to climb, reaching levels of about 5 million new infections and 3 million deaths worldwide in 2004 (UNAIDS 2004). In the absence of a vaccine and widely available treatment, the primary focus for HIV control programmes must be on reducing transmission, and education is an important part of HIV/AIDS prevention. It is a crucial factor in preventing the spread of HIV, and, given the huge numbers of deaths that might still be prevented; the importance of effective education cannot be overestimated. Without a medicine vaccine, education is critically important as the most powerful 'social vaccine' against HIV infection.

2.2.1 Education as a means to prevent HIV/AIDS

Prevention efforts to curtail the spread of HIV/AIDS epidemic have been premised on links between education and behaviour change. It is assumed that teaching young people how to protect themselves from HIV can lead to a reduction in risk behaviour and hence a reduction in HIV incidence (UNAIDS, 1997). A general foundation in education equips individuals with cognitive skills needed to understand, evaluate and apply health information. Recent studies indicate that young people with little or no education may be 2.2 times more likely to contract HIV as those who have completed primary education. Boler & Jellema (2005) observe that if everyone received a primary education, we would expect about 30% of all new infections in this age group to be prevented each year.

The key to arresting the AIDS epidemic is by helping people to change behaviours that put them at risk. The World Bank Research Report *Confronting AIDS: Public Priorities in a Global Epidemic* finds that people who engage in high risk behaviour do act to reduce their risk of contracting and spreading HIV when they have the knowledge to do so. Knowledge of how extensive HIV is in one's community, how the virus is transmitted, and how to avoid contracting it will induce some people to behave more safely; e.g. by using condoms, reducing the number of sexual partners, sterilizing injecting equipment e.g. A basic education has a general preventive impact: it can inform the youth and equip them to make decisions concerning their own lives, bringing about long- term behavioural change – all fundamental to prevention. Studies carried out in Malawi, Zambia, South Africa and Uganda; for example, found a marked decline in HIV prevalence rates in 15-19 year olds who had gone through a formal instruction of

HIV/AIDS education. (Kadzamira et al 2001; Kelly 2000b). In Zambia, where nearly 20% of young people were believed to be infected with HIV/AIDS in 1989, a comparison of sexual behaviour in 1992 and 1998, after prevention programmes were introduced throughout the education system, suggested a decrease in HIV/AIDS prevalence (UNAIDS 2000; Kelly 1999).

Education also provides the young with employment opportunities, removing them from work that involves increased risk of contracting HIV/AIDS, such as drug trafficking. The story of Carlos, a Puerto Rican, shows how a lack of education can affect one's economic status and make one more vulnerable to contracting HIV/AIDS.

Carlos was born in an impoverished family in Puerto Rico, and worked in the fields to help support his large family. However, as years went by, he grew disillusioned by the low wages that he received from the multinational fruit companies that he worked for. As an adolescent, he learned from a neighbour that he could make so much more money by selling marijuana. Within weeks, he had made enough money to warrant his leaving the jobs in the fields. He was also able to support his family better. Soon, Carlos shifted to dealing with 'harder', more expensive drugs owing to the demand from his customers. With time, Carlos became addicted to the drugs he sold. Due to his lack of education, he was not able to assess his own level of risk. Carlos did not also refuse to share needles or even clean them before he used them for fear of offending his clients, on whom he relied for their business. When he was diagnosed with HIV/AIDS in 1996, Carlos did not know when exactly he had got infected. Asked what he thought about his situation, Carlos regrettably says 'Had my parents been able to support our family, I could have gone to school and become an electrician'. (Gupta, 2002 pg 139)

Carlos story shows how the denial of education and economic opportunity can combine to make people more vulnerable to HIV/AIDS infection.

According to the Global Campaign for Education, “research shows that a primary education is the minimum threshold needed to benefit from [health information] programmes. Not only is a basic education essential to be able to process and evaluate information, it also gives the most marginalized groups in society—notably young women—the status and confidence needed to act on information and refuse unsafe sex.” (2004:2).

Some studies have, however, contested the validity of the ‘education vaccine’ against HIV/AIDS (Hargreaves & Glynn, 2002) and data collected in the late 1980s and early 1990s show a positive correlation between level of education and rates of HIV/AIDS infection. The higher socioeconomic status enjoyed by educated people also predisposes them to high HIV infection as a result of their opportunities for travel, delayed first marriage and other factors that accompany education. In Africa, most studies have either shown no association between education and HIV status, or an increase in HIV risk with increasing education. Several large studies showed higher risks of HIV infection among those with more education than among those with less education: general population studies in Mwanza, Tanzania in 1991–1992 (Quigley *et al.* 1997; Grosskurth *et al.* 1995), Rakai, Uganda in 1990–1992 (Smith *et al.* 1999; Kirunga & Ntozi 1997), and Karonga District, Malawi in 1987–1989 (Glynn *et al.* 2001), and studies among women attending antenatal clinics in Fort Portal, Uganda in 1991–1994 (Kilian *et al.* 1999), and both rural and urban areas of Zambia in 1994 and 1998 (Fylkesnes *et al.* 1997; 2001) all cited by Hargreaves & Glynn, (2002).

Later studies have, however, shown a reversal in the trend, with better educated people showing lower rates of infection (Kelly 2000a). There are several explanations for this. Firstly, studies that were conducted in the 1980s and 1990s dealt with people who had become infected in the early stages of the epidemic, before much was known about HIV or its prevention. With time, and with people acquiring more knowledge about HIV/AIDS, change has occurred, with the association between level of education and HIV infection being less in younger than in older age groups. Secondly, evidence has emerged that the social profile of HIV/AIDS changes as infection spreads; with the disease first affecting those with more opportunities, including the more educated, mobile and better-off people (Vandemoortele & Delamonica, 2000). However, this segment of society, although initially most vulnerable, is also the best equipped to protect themselves and change their behaviour. Moreover, it is possible that the positive correlation between HIV/AIDS infection and level of education could have been because the education given did not deal with sexual health, life skills or HIV prevention issues. In recent years, improvement in sexual and/or reproductive health education specifically addressing HIV and sexually transmitted infections (STI) given in schools has been shown to lead to safer sex behaviour among people who have been to school. AIDS-specific information is more easily absorbed by literate people (ibid). This, no doubt, points to the possibility that education is beginning to realize its potential of protecting against infection.

2.2.2 Education checks girls' vulnerability to HIV/AIDS

If it can be said, as it can, that by the year 2020, the number of deaths from AIDS will approximate the deaths, military and civilian combined, in both world wars of the twentieth century, then it should also be said that a pronounced number of these deaths will be women and girls. The toll on women and girls is beyond human imagining; it presents Africa and the world with a practical and moral challenge, which places gender at the centre of the human condition. The practice of ignoring a gender analysis has turned out to be lethal. For the African continent it means compromised economic and social survival, for the women and girls of Africa it is a matter of life and death (Stephen Lewis, 2002: UN Special envoy on HIV/AIDS in Africa)

Holden (2003) outlines the ways in which HIV/AIDS has differential consequences for men and women by considering a pair of twins, a sister and brother, and hypothesizing about how each of them would be affected by HIV/AIDS.

Assuming the twins are both heterosexual, the girl is more vulnerable to HIV infection than her twin brother due to the differences in their genitals and sexual fluids. The girl's genitals are such that they 'hold' men's larger quantities of sexual fluid after intercourse, and due to the girl's greater surface area of mucous membrane, her risk of infection is higher than that of the boy. If both twins contracted a sexually transmitted infection, the girl is more likely to go untreated because STIs are not visible in a woman, and this increases the likelihood of the girl getting infected with HIV/AIDS. On maturity, the girl is more likely than her brother to acquire HIV/AIDS through a blood transfusion because pregnancy and childbirth are associated with anaemia. Moreover, the girl twin is more likely to have older (and sometimes more economically endowed) sexual partners, making it difficult for her to influence sexual decisions such as whether to use a condom or other form of contraceptive, further exposing her to HIV infection. The boy, on the

other hand, is in a position of power, regardless of the age of his sexual partner, and can decide whether to use a condom or not. Furthermore, if the twins become infected, the girl is more likely to get infected first, and would, therefore, develop AIDS first. Her progression from being asymptomatic to developing full blown AIDS might also be faster than that of her twin brother because she is more prone to having a weakened immune system due to the bodily demands of pregnancy and childbirth. Inevitably, the girl will die before the boy.

Why are women more vulnerable to infection? Why is that so, even where they are not the ones with the most sexual partners outside marriage, nor more likely than men to be injecting drug users? Usually, as Kofi Annan (Former Secretary General, United Nations) once said, 'it is because society's inequalities have put women at risk- unjust unconscionable risk'

World- wide, 50% of all adults living with HIV/AIDS are women, and among young people in developing countries who are living with HIV/AIDS, 64% are female (UNICEF 2003). Recent studies in Africa show that teenage girls are five to six times more likely to be infected by the HIV virus than boys their age (UNAIDS, 1999). The reasons are numerous and range from biological, social and economic, and are reinforced by poverty.

2.2.2.1 Biological

Biologically, the risk of becoming infected during unprotected sex is two to four times greater for women than for men (Population Reports, 2002), and it's even higher for younger girls. The female reproductive tract remains immature until at least 18 years of

age (Johnston, 2000), making the walls of the vagina thin, easily ruptured and therefore prone to infection. The female genital tract also offers a large mucosal lining for HIV entry during intercourse. This, coupled with the fact that semen has a higher concentration of HIV than the vaginal fluids facilitates male to female HIV transmission twice as much as from female to male transmission (Sherr et al., 1997).

2.2.2.2 Gender disparities and power imbalances

Socio- cultural norms about masculinity and femininity encourage girls to be non-assertive and accept subordinate status in relation to men. Globally, an estimated 40 million young girls are abused every year (World Health Organization, 2001), and most of these cases go unreported. In Kenya, for example, a national survey of secondary school girls found that 40% of those reporting sexual activity indicated that their first sexual experience was forced or that they were ‘cheated into having sex’ (Mensch et al, 1999).

Marriage on its own offers no protection against HIV for young women, especially if their husband is much older. Another study in Kisumu, Kenya, reported that as many as half of the women with husbands at least a decade older were infected with HIV; by contrast, no women were infected whose husbands were only three years older or less. Another study of nearly 400 women attending the city’s STI clinic in Pune, India, found 25 per cent infected with STIs and 14 per cent positive for HIV; 93 per cent of these women were married, and 91 per cent had never had sex with anyone but their husbands. Lacking the power to negotiate safe sex practices, many young brides may be even more vulnerable to HIV/AIDS and STIs than unmarried girls.

A story is told of Rhaki, a 19-year old woman from an agricultural area of Rajasthan, India, who was married to a man 10 years her senior through an arranged marriage. Although Rhaki had never lived away from her family before, she was forced to travel 350 miles to join her husband and in-laws. As she was 13 when she married, she was considered sexually immature and therefore did not have sexual intercourse with her husband until she was 15. Her husband worked in the capital, Mumbai, to support his impoverished family and only visited during the high holidays.

Under the watchful eyes of her in-laws and neighbours, Rhaki worked in the fields and awaited her husband, who visited every eleven months of the year. Rhaki never had extra-marital sex, did not inject drugs, and had not had a blood transfusion. She assumed that her husband had also been faithful to her. However, unknown to her, her husband had other sexual partners in the city, including two commercial workers.

When Rhaki learned that her husband, her two year old son and she were HIV positive, she was at a loss to explain what had happened. (Gupta, 2002 pg 149)

Rhaki's lower status constrained her ability to negotiate with her husband, who chose not to use a condom. In some regions, older men engage in unprotected sexual activity with young girls in the belief that it is less likely to lead to infection and that intercourse with a virgin will cure HIV/AIDS.

2.2.2.3 Lack of knowledge about HIV/AIDS

In many societies, the dominant ideology of femininity dictates that 'good women' are expected to know little about sex and should be passive in sexual interactions (Gupta & Weiss, 1993). Consequently, women are less informed about risk reduction or, even when informed, it becomes exceedingly difficult for them to be proactive in negotiating safer sex (Carovano 1992).

Recent analyses of surveys carried out in developing countries have shown that levels of HIV/AIDS knowledge among men are almost always higher than that among women

(Gwatkin & Deveshwar-Bahl, 2001, Cited: Gupta & Mahy, 2003) and that although most women had heard about HIV/AIDS, fewer than half could identify the ABCs of prevention: Abstinence, Be faithful, and Using condoms correctly (UNICEF 2003). Women's lack of knowledge or incomplete knowledge has been seen to foster the development of fears and myths about condom use (Gupta & Mahy, 2003). Studies carried out in diverse settings found that women did not use condoms for fear that it would 'fall off inside the vagina and get lost or travel to the throat' (ibid), or that their reproductive organs would come out when the condom was removed. This has, no doubt, made it difficult for women to be proactive in negotiating safer sex.

2.2.2.4 Women constitute the majority of the world's poor

In major urban areas of eastern and southern Africa, epidemiological studies have shown that 17 to 22 per cent of girls aged 15 to 19 are already HIV infected compared with 3 to 7 per cent of boys of similar age (UNICEF, 2002). This indicates a 'sexual mixing' pattern whereby older men are having sex with young girls. In many countries where economic conditions make it difficult for girls to afford school fees, some seek favours of a 'sugar daddy' (an older man who offers compensation in cash or kind in exchange for sexual favours), engage in transactional sex (that is, exchange sex for money or goods on an occasional basis) or enter sex work (willingly or forced) to pay for school, support their families or take care of themselves. This 'age-mixing' is fuelled by the dangerous myth among men in some places that having sex with a virgin can 'cure' HIV. Many men also assume that younger girls are not yet infected. Cultural norms related to sexuality prevent many girls from taking active steps to protect themselves. In cultures where it is

vital for girls to be virgins at marriage, some girls protect their virginity by engaging in unsafe sexual practices such as unprotected anal intercourse.

Women's lack of economic power and opportunities deem them vulnerable to HIV infection. The danger of infection is highest among the poorest and least powerful. Young girls living in poverty are often enticed or coerced into having sex with someone older, wealthier or in a position of authority, such as an employer, schoolteacher or older 'sugar daddy', in order to stay in school or support themselves and their families. Studies from across the developing world indicate that payment for sexual favours is a particularly prevalent practice among poor, unmarried, uneducated and unemployed urban girls, with 55% of Kenyan unmarried adolescents admitting to receiving money, gifts or favours in return for sex (KDHS 1998). Another study in Botswana found about one in five out-of-school adolescent girls reporting that it is difficult to refuse sex when money and gifts are offered; girls as young as 13 had engaged in sex with 'sugar daddies' (UNICEF, 2002). Evidence from all regions of the world shows that the primary motive driving women to engage in unprotected sex is economic hardship. Since this kind of sex is usually with an older man, it is questionable whether older men would use condoms when they know that the girl is uninfected. When sex 'buys' food, shelter, clothing or safety, it is very difficult to follow prevention messages. It becomes 'survival sex' rather than 'commercial sex'.

2.2.2.5 Women are less likely to seek treatment for STIs

Over 100 million new sexually transmitted infections (STIs), excluding HIV, occur each year among young people under 25 years of age (UNICEF, 2002). STIs greatly facilitate

HIV transmission between sexual partners, so treating and preventing them is an important step in breaking the HIV/AIDS chain of infection. This notwithstanding, STIs sometimes remain untreated in women because they can be asymptomatic or produce symptoms so mild that they are often disregarded. Lack of treatment can also be due to lack of access to health services, or even due to cultural reasons. Women are expected to be modest and situations such as exposure of the genitals (during examination) puts off a number of them, deterring them from seeking treatment (McNamara, UNDP, 1995b). This is unlike the situation with men, who seek treatment for STIs without embarrassment because in some cases, infection may be taken to show sexual prowess (Bond et al., 1997).

2.2.2.6 Traditional norms of virginity and motherhood

The traditional norm of virginity for unmarried girls that exists in many societies, paradoxically, increases young women's risk of infection because it restricts their ability to ask for information about sex out of fear that they will be thought to be sexually active. Virginity also puts young girls at risk of rape and sexual coercion in high prevalence countries because of the erroneous belief that sex with a virgin can cleanse a man of infection and because of the erotic imagery that surrounds the innocence and passivity associated with virginity (Weiss, Whelan, & Rao Gupta 2000). Paradoxically, in cultures where virginity is highly valued, research has shown that some young women practice alternative sexual behaviours, such as anal sex, in order to preserve their virginity, increasing their risk of contracting HIV/AIDS.

Motherhood, like virginity, is considered to be a feminine ideal in many societies. A woman who cannot bear children is disrespected and in most cases, the husband divorces her and re-marries in order to pro-create. The burden of pro-creation rests wholly on the woman, and society does not expect that the man in the relationship could have fertility problems. Due to the urge to prove their fertility, and because of the expectations from the society, women avoid using barrier methods or non-penetrative sex, thus exposing themselves to HIV/AIDS infection.

2.2.2.7 Violence against women

Violence against women also contributes, directly and indirectly to women's vulnerability to HIV. In population-based studies conducted worldwide, anywhere from 10 to over 50 percent of women report physical assault by an intimate partner. It has also been reported that one third to one-half of all physically abused women also report sexual coercion (Heise, Ellsberg, & Gottemoeller 1999). A review of literature on the relationship between violence, risky behaviour, and reproductive health, conducted by Heise and others (ibid) shows that individuals who have been sexually abused are more likely to engage in unprotected sex, have multiple partners, and trade sex for money or drugs, thus exposing themselves to HIV/AIDS infection. This relationship is also apparent in the findings from a study conducted in India. In this study men who had experienced extramarital sex were 6.2 times more likely to report wife abuse than those who had not. And men who reported STD symptoms were 2.4 times more likely to abuse their wives than those who did not (Martin et al. 1999). And from other research, it has been shown that due to the fear of physical violence or threat of violence, women do not discuss their partner's infidelity as this could lead to abandonment especially in highly

patriarchal societies. (Weiss & Rao Gupta 1998; Mane, Rao Gupta, & Weiss 1994). Additionally, data from a study conducted in Tanzania by Maman, Mbwambo, and colleagues (2000) suggest that for some women the experience of violence could be a strong predictor of HIV. In that study, of the women who sought services at a voluntary HIV counselling and testing centre in Dar es Salaam, those who were HIV positive were 2.6 times more likely to have experienced violence in an intimate relationship than those who were HIV negative.

Girls' education can go far in slowing and reversing the spread of HIV by contributing to female economic independence, delayed marriage, self-confidence and social status, increased control over sexual choices and most importantly, providing knowledge about ways of protecting themselves against HIV infection. The underlying principle of HIV prevention is that people know how HIV is transmitted and how to prevent infection. Evidence from newly analysed data make a direct link between education and sound knowledge of HIV. In Ethiopia, for instance, four out of five educated young women aged 15 – 24 knew that a healthy looking person could be HIV positive, compared with less than a quarter of women with no education (UNICEF 2004)

Education also promotes and supports the reduction of high risk behaviours such as early initiation of sexual activity and failure to use condoms. Although surveys conducted from 1998 – 2003 by Centres for Disease Control and Prevention indicate that in most parts of the world young people report having their first sexual experience before the age of 15, in a recent analysis of sub Saharan countries, women who had eight or more years of

schooling were 47% to 87% less likely to have sex before the age of 18 than women with no schooling (Gupta & Mahy, 2003). Moreover, higher education levels and more condom use during high- risk sex was seen to correlate positively among educated women.

Education has also played a fundamental role in enabling women to seek treatment for sexually transmitted infections. STIs are linked to increased susceptibility to HIV, but early detection and treatment substantially reduces the risk of infection. Results reported from Cambodia indicate that less than a third of women with no education went for the treatment of STIs, as opposed to two thirds of women with at least a secondary education (UNICEF 2003).

Educating girls and women is critical in turning around the AIDS epidemic, leading to the assertion that education is key to building 'girl power'. Education also has intergenerational benefits, with more highly educated adults having a positive bearing on young women's condom use. Strategies for expanding girls' access to education include the inclusion of gender and power dynamics in comprehensive sex education, fostering gender equality, promoting positive role models, challenging negative gender stereotyping, and the removal of bottlenecks and microeconomic constraints in order to expand access to primary and secondary schooling for girls.

All in all, education, particularly of girls, is fundamental in reversing the spread of HIV/AIDS and, as Peter Piot, Executive Director of UNAIDS quips,

Besides explanations of what the disease is and how its transmitted, it is also important to challenge harmful concepts of masculinity, including the way adult men look on risk and sexuality and how boys are socialized to become men. At the same time, young women must be educated to recognize their vulnerability to infection, their responsibility to protect themselves, and their right to insist upon protection in sexual relationships.

Table 3 summarises the reasons why girls and women are more vulnerable to HIV/AIDS, adopted from Holden (2003).

Table 3: Reasons why girls are more vulnerable to HIV/AIDS infection

- Girls’ genitals have a greater surface area of mucous membrane through which HIV can enter
- Girls’ genitals ‘hold’ men’s larger quantities of sexual fluid after intercourse
- Whereas vaginal fluids of HIV positive women contain less concentrates of HIV virus, the semen of HIV positive men contains high concentrations of the HIV virus
- If a girl contracts STI (sexually transmitted infection), it is more likely to go untreated because it is invisible
- A Girl is less likely to seek treatment for STI because of the social disapproval directed towards her for having contracted a STI
- Girls are more likely to have blood transfusions as a result of pregnancy and childbirth (associated with anaemia)
- A girl’s sexual partners are more likely to be older men, who are able to provide things such as money and goods for sex. Consequently, the decision to use condoms rests on the man
- Girls are more likely to be subjected to sexual abuse, forced sex or rape
- If a girl gets HIV infected, she’s more likely to develop AIDS first (before a boy) because she’s more prone to being undernourished and having a weakened immune system as a result of pregnancy and childbirth.

2.2.3 Education as a readymade infrastructure for HIV/AIDS messages

Educational programmes are seen as providing readily available channels for influencing students through the curriculum. The school system, for instance, is a particularly

appropriate site for HIV/AIDS prevention messages. Well implemented school based HIV/AIDS prevention programmes have been shown to reduce key HIV/AIDS risks, particularly when they go beyond the provision of information, and help young people develop knowledge, attitudes, values and life skills needed to make and act on decisions and opportunities concerning health. School based programmes are particularly important because:

- Students are a captive audience. They are numerous. In 1995, for example, the school age population accounted for 18% of the world's population (Kelly, 2000a), and in sub Saharan Africa, 30% of its people comprised of school going children. Schools are the primary institutions able to reach the great majority of young people at the right time when their beliefs and sexual behaviours are still open to change; and reach them daily over a period of months and years. Research shows that sexual and reproductive health education is likely to be more effective if started before children become sexually active, when they have not yet acquired attitudes and practices that could be counter productive to positive sexual behaviours and attitudes (WHO, 1993). The Education system is, therefore, a potentially important channel for disseminating health knowledge and influencing the attitudes and behaviour of young people. There are many more school teachers than health workers and they are in regular contact, over several years, with school children and their parents.
- Students are a highly vulnerable group. Sexual activity begins in adolescence for the majority of people, and in many countries, girls and boys are sexually active before the age of 15. Recent surveys of boys aged 15 to 19 in Brazil, Hungary and

Kenya, for example, found that more than a quarter reported having sex before they were 15 (UNICEF, 2002). A study in Bangladesh found that 88 per cent of urban boys and 35 per cent of urban girls had engaged in sexual activity by the time they were 18. Adolescents who start having sex early are more likely to have sex with high-risk partners or multiple partners, and are less likely to use condoms. Delaying the age at which young people first have sex can significantly protect them from infection. Lacking the necessary knowledge and skills, younger adolescents are less likely to protect themselves from HIV infection.

- Students have sex intermittently and yet they do not always see themselves at higher risk of being infected. In a baseline study carried out in Mexico, Thailand and South Africa (Stewart et al, 2001), about 20 percent of all respondents in South Africa did not know whether they were at risk. Moreover, students have misperceptions and uneven knowledge about HIV. Although the great majority of students know something about HIV, they are unaware or mistaken about other important information concerning HIV prevention. Many students are not confident that they know how to use a condom correctly and studies have shown that even among those who were confident that they knew how to use a condom, many reported not using them consistently (ibid). UNAIDS estimates that in 1999 alone, 570,000 children under the age of 15 became infected, while by the end of that year, 1/3 of the 33 million people in the world living with HIV were young people aged 15- 24 (Kelly, 2000b). Through relevant educational content, schools are able to help students develop value systems which empower them to

make correct and safe choices that could reduce the likelihood of contracting HIV/AIDS. Most young people view schools as important and trusted places to learn about HIV/AIDS (Boler, et al., 2003) and may well be the only places where adolescents can obtain accurate information on reproductive health. In a study carried out in Vietnam, teenagers complained that discussions about HIV/AIDS outside school almost always focussed on morality issues rather than on the practicabilities of prevention.

- Students are at a period of sexual awakening, learning and experimentation. In a study carried out in Kenya and India, 44% of students in Kenya answered ‘happen a lot’ when asked how common casual sexual relationships among students were (ibid). This is evidenced by the occurrence of pregnancy among school girls, which is one of the clearest indicators of unprotected sex. As a result, young people and their families perceive HIV/AIDS to be a serious threat, and there is a strong belief that education can act to mitigate that threat.
- Students, and indeed all young people, are seen as the ‘window of Hope’ (Kelly 2000a) because although some may already be infected, majority are not yet. The challenge of education is to help this majority of disease- free young people remain so, by providing information and inculcating skills that help in promoting behaviour that would strengthen young people to say ‘YES’ to life and ‘NO’ to sexual experimentation.

2.2.4 Education and cost – effectiveness

Evidence for cost- effectiveness of interventions for HIV/AIDS in Africa is fragmentary (Creese et al, 2002), but it is highly relevant. The scale of the HIV/AIDS epidemic, combined with scarcity of resources, makes cost- effectiveness especially important for African governments who face difficult choices in striking a balance between prevention, treatment and care. Evaluating cost- effectiveness provides useful inputs for policy makers who need to know the cost- effectiveness estimates for different interventions as guidance for priority setting.

Cost –effectiveness has been defined as the ratio of programme costs to health related outcomes such as lives saved, life- years saved, or cases of HIV prevention (Marseille et al, 2001). In practice, cost –effectiveness will need to be balanced with several other considerations such as affordability (a cost –effective intervention is not necessarily affordable). There is overwhelming evidence, though, that HIV prevention strategies can reduce the incidence of new infections and be cost –effective especially when they are targeted at high risk groups. A study carried out in 2000 reported that interventions that focussed on educating the masses , thus sending messages of prevention as opposed to treatment and care, were seen to be more cost- effective.

2.3 HIV/AIDS Prevention Education Strategies

With respect to HIV/AIDS, there are two striking differences between the developed countries and the developing world- access to treatment and the rates of infection. Bluntly put, HIV/AIDS is overwhelmingly located in poor countries and the treatment is overwhelmingly available in rich countries; and whereas the rates of infection are

snowballing in developing countries, the proportion infected in the developed world has remained nearly level for the past decade (UNESCO 2004).

Low infection rates owe much to successful prevention education. Hence, while every effort must be made to develop the medical means for HIV/AIDS prevention, treatment and care, the immediate and overriding priority in most developing countries is prevention education for behaviour change to reduce infection rates. Education can change behaviour by providing knowledge, fostering attitudes and conferring skills through culturally sensitive and effective communication. Currently, prevention is the only way to limit the spread of HIV/AIDS. Education can empower individuals to make free and informed decisions, in particular about sexual negotiation and condom use.

HIV/AIDS prevention education reinforces the development of knowledge, skills, competencies, values and attitudes that limit the transmission and impact of the pandemic.

Crucial to the success of an HIV/AIDS prevention education programme is:

- The quality of the education programme
- An approach that addresses both risk and vulnerability
- Consideration of gender equality /inequality
- Effective communication of information

2.4: Policy and Practice in HIV/AIDS Education

Policies in HIV/AIDS are the foundations for any meaningful and sustained response to the epidemic. A policy provides an operating framework and generally covers directives or recommendations or even outcomes of systems struggles. Policies apply the concept of

intentions- purposes and goals meant to shape the behaviour of actors in the policy arena (Placier et al 2000), a vehicle for realizing purposes, for initiating a response. Wearmouth (2000) describes policy as comprising of the philosophical beliefs underpinning the statement of principles which are intended to guide the actions of people within an institution, the plan drawn up to put these principles into operation. An education policy, for instance, furthers educational improvement by causing something to happen or reinforcing processes towards educational achievement.

An Education sector specific HIV/AIDS policy is vital in addressing the particular needs of education as they relate to the epidemic. Such a policy provides a comprehensive overview of issues in HIV/AIDS, and should be consistent with national laws, guidelines and regulations. The policy should also prioritize the key issues in regard to the effects of HIV/AIDS on Education, and ensure that every stakeholder in education understands their rights and responsibilities.

The frequent tendency is to see policy in a top- down way- government makes it and its bureaucracies implement it. This kind of model assumes that once policy is made by the government, it is adopted as it is and implemented by those it is made for. Fulcher, (1989) however, differs with this perception of what policy is and says that policy is made at different levels, with the various players adjusting or re formulating it to suit their individual needs. She says:

The traditional framework with its top-down model of policy (is) clearly false. If by policy we mean the capacity to make decisions and act on them, whether the action means producing a report, setting out school rules, directions for actions, or making demands on regional offices for resources, policy is made at all levels.

Accordingly, people do not change because they are expected to change.

Policy is not made for policy's sake. Policies need to be disseminated, implemented and enforced. This depends, ultimately, on whether the policies are understood by, are of practical value, and are made accessible to those that can implement them (Gordon & Turner, 2003). Different individuals or groups implement policies differently, depending on how they engage with their practice, what they regard as important and meaningful, and what ideas and values shape their actions and judgements. In schools, for instance, teachers' perceptions of the constraints of the context in which they operate could impact on how they put policy into practice.

Practice occurs at many levels within educational organizations. It occurs at individual, group and organizational levels; beyond them at district and national education ministry level. These 'macro' and 'micro' levels are increasingly intertwined and the provision experienced by students is the result of a complex mix of policy, leadership and management activity at all the levels (Glatter & Kydd, 2003).

Implementation of HIV/AIDS policies is influenced by a number of factors which include budgetary processes, tight control over implementation issues by Central governments and lack of trained manpower. In most developing countries, many institutions are already under considerable stress from other deep-seated structural problems;- classrooms that lack the essential ingredients for successful teaching and learning, classrooms that are too overcrowded, management systems that are too under resourced

and teachers insufficiently trained to deliver HIV/AIDS messages effectively (Boler & Jollema, 2005). All of these hindrances need to be taken into account when considering the concept of practice. Unfortunately, they tend to be seriously underemphasized in much public and popular discussion and in official pronouncements, creating the potential for unrealistic expectations and misleading guidance. This in turn leads to discrepancies between the rhetorics and the practices of HIV/AIDS related policy. Often, this reflects inadequate political will to assure implementation of the policy by providing resources needed for programs and research. It may also reflect biases, fears, stigma and stereotypic thinking at the level of implementation. While the Kenyan HIV/AIDS policy, for example, calls for sexually active learners and students to be counselled at educational institutions about practicing safe sex and using condoms, the lack of this at both the school and home is widespread. Such discrepancies block more effective, just and humane approaches to prevention efforts, and, because they are largely unaddressed, tend to become accepted as inevitable and routine.

2.4.1 Fidelity of Implementation

As more and more programmes and approaches are being disseminated, the field of prevention programmes, such as HIV/AIDS education, now faces new challenges- whether or not these programmes are indeed being implemented as planned because, as Berman and McLaughlin (1976:349) rightly observe, ‘the bridge between a promising idea and its impact on students is implementation’, however, ‘innovations are seldom implemented as planned’. The key to understanding how successful research can be translated into successful practice lies in understanding how programmes and policies can be implemented so that quality is maintained and the objectives intended by the

programme developers are achieved (Dusenbury et.al; 2003). One way of doing this is by examining the implementation fidelity of these programmes.

Fidelity of implementation refers to the determination of how well a programme is being implemented in comparison with the original design, an examination of the degree to which teachers and other program providers implement programs as intended by the program developers (ibid.). Research demonstrates that widespread implementation of effective programs is unlikely to affect behaviour unless there is careful attention given to the quality of implementation, the degree to which a program is delivered as intended (Biglan & Taylor, 2000; American Youth Policy Forum, 1999; Lipsey, 1999). In fact, a high quality implementation of a poor program may be more effective than a low quality implementation of a best practice program (Gottfredson, Gottfredson, & Czeh, 2000). Until recently, though, little emphasis has been given to implementing prevention programs with fidelity, and most people do not recognize the importance of implementation fidelity and feel that implementation of at least some program components will be better than doing nothing (Mihalic, 2002). However, this may be an erroneous belief because, when research studies move from the original trials, where they are well controlled by the designer, to less controlled naturalistic settings, the chances for key program components to be “watered down” increase, and we typically do not know which components of a program may be responsible for the behaviour change (Arthur & Blitz, 2000). Fidelity of implementation of HIV/AIDS policies and interventions is, therefore, important because if schools and agencies are not committed to program

fidelity, they may be utilizing a great deal of valuable time and resources with little to no effect on the behaviours they are trying to change.

There are five primary components examined when considering program fidelity (Dane & Schneider, 1998). These are:

1. **Adherence:** This refers to the way in which implementation of a programme's activities and/or methods are consistent with the way the programme is written. In other words, does the programme meet the objectives? What are the critical elements of the programme, and how are they addressed? In a HIV/AIDS education class, how many activities were taught? How many of these activities achieved the objectives that were stated in the curriculum? It has been noted that assessing adherence may prove difficult in situations where teachers have not been adequately trained in prevention concepts.
2. **Exposure:** Exposure refers to the amount of programme delivery- the number of sessions completed, their duration and intensity. It's directly related to the amount of content received by the participants. Has the programme been implemented as often and for as long as prescribed?
3. **Quality of programme delivery:** This concerns "the manner in which a teacher, volunteer, or staff member delivers a program" (Mihalic, 2004:86). If the content of an intervention is delivered badly, then this may affect the degree to which full implementation is realised. In studies evaluating fidelity the provision of extensive training, materials and support to those delivering an intervention is an implicit acknowledgement that effort is required to optimise the quality of the

delivery of the intervention being evaluated (Hitt et.al, 2006; Elliott and Mihalic, 2003).

4. Participant responsiveness: Participant responsiveness measures how far participants respond to, or are engaged by, an intervention. It involves judgments by participants or recipients about the outcomes and relevance of an intervention. It is, in this sense, what is termed "reaction evaluation" (Dusenbury, 2003:244).
5. Programme differentiation refers to the identification of unique features of the intervention that are distinguishable from other programmes, features without which the programme will not have its intended effect. Programme differentiation is concerned with determining those elements that are essential for a programme's success.

Despite agreeing that implementation fidelity involves measurement of these five elements, the complex nature of the relationships between the five elements has led to the advancement of new different conceptual frameworks for implementation fidelity which not only proposes the measurement of all of these elements, but also clarifies and explains the function of each and their relationship to one another. One such framework has been devised by Carroll et.al; (2007).

According to Carroll (ibid), the most important measure of a programme's fidelity is the measurement of adherence to the programme's objectives, *i.e.*, how far have those responsible for delivering an intervention actually adhered to the intervention as it is outlined by its designers? Adherence includes the subcategories of content, frequency, duration and coverage (*i.e.*, exposure). The degree to which the intended content or

frequency of an intervention is implemented is the degree of implementation fidelity achieved for that intervention. The level of implementation may be influenced or affected, (*i.e.*, moderated) by certain other variables: intervention complexity, facilitation strategies, quality of delivery, and participant responsiveness. For example, the less enthusiastic participants are about an intervention, the less likely the intervention is to be implemented properly and fully. Likewise, the complexity of an idea can present a substantial barrier to its adoption, in the same way that certain strategies can optimize the level of fidelity achieved(e.g. provision of manuals, guidelines, training, monitoring and incentives) (Hermens et al; 2001). An analysis of outcomes may identify those components that are essential to the intervention, and must be implemented if the intervention is to have its intended effects. This evaluation in turn may inform the content of the intervention by determining the minimum requirements for high implementation fidelity, *i.e.*, the implementation of the essential components of the intervention.

2.4.2 Teacher training as a key element of high fidelity of Implementation

Teacher training is viewed as an essential element of program integrity (Payton *et al.*, 2000) and as essential to promoting successful implementation of prevention curricula (Dusenbury and Falco, 1995). Adequate teacher professional preparation for any subject is necessary. This preparation should involve understanding by the teacher of the content, nurturing of positive attitudes to subject matter and acceptable understanding on ‘what it means to teach’ (Akyeampong, 2000). Teacher training is fundamental to the successful delivery of HIV/AIDS education in schools because teachers are gatekeepers of knowledge and skills for the large majority of young people (Tijuana, et al. 2004) most

who attend school at least in their early years, during which HIV infections are highest (UNAIDS, 2006).

Documentation of the effects of training on fidelity show that teachers who received training were more likely to implement the curriculum with fidelity than teachers who did not receive training (Parcel *et al.*, 1991; Perry *et al.*, 1990; Smylie, 1988; Fors & Doster, 1985.) AIDS education requires detailed discussions of subjects such as sex, death, illness and drug use. Teachers are not likely to have experience dealing with these issues in class, and require specialized training so they are comfortable discussing them without letting personal values conflict with the health needs of the students (UNESCO, 2009a).

With regard to this new role of teachers and the new teaching skills required in the face of HIV and AIDS, there is a need to improve in-service and pre-service HIV/AIDS teacher training programmes. HIV/AIDS and sexuality should be integrated into teacher education curricula to enhance teacher effectiveness (Mulama, 2006).

Studies cited in Tijuana *et al.* (2003) which were carried out in various sub-Saharan countries have shown that teacher training on sexuality and HIV positively impacts on teacher sexual health and attitudes, nurtures positive attitudes to issues of young people's sexuality and makes them more committed to teach topics in sexuality. An analysis of 11 school-based HIV prevention programs for African youth also identified teacher training as critical. "If a program is to be faithfully implemented, teachers must be properly trained for and committed to it," the analysis concluded (Gallant & Maticka, 2004). In

Zimbabwe, an evaluation of a four-year HIV/AIDS education given to teachers in training institutions which was aimed at changing the teacher's own behaviour as well as equipping them to teach HIV/AIDS once they had graduated reported that the course had helped teachers to develop confidence in the teaching of sexuality issues and that they had also learnt skills in their negotiation for safer sex (Chifunyise et al., 2002). Likewise, a project in the Soroti district of Uganda with students ages 13 to 14 showed that students whose teachers had received training reported a significant decline both in having sexual intercourse in the past month and in the average number of sexual partners. The study concluded that in order for HIV/AIDS prevention programme to impact on behaviour, the quality of delivery of the curriculum and teaching strategies must be of sufficient quality and intensity, and this can only be achieved by training those involved in the implementation of the programme. (Shuey et al., 1999). Similar findings were recorded in Kenya where, in six rural communities in western Kenya, from 1999 to 2003, about 100 teachers from primary and secondary schools were trained in content and participatory methods. Teachers in the school intervention areas reported that their training had enhanced their ability to carry out the government mandate of teaching life skills and HIV/AIDS education (Tijuana et.al., 2004).

In a world of HIV/AIDS, teacher training geared specifically on HIV/AIDS education is more critical. Skripak (ERIC Digest, n.d) identifies six factors related to HIV/AIDS that make preparation critical:

1. Children infected with the HIV virus are living longer, and the number of children with HIV/AIDS who are attending school is expected to grow. Teachers need an

understanding of the special educational, social, psychological, and medical needs of these students

2. As HIV/AIDS continues to claim the lives of those infected, teachers may expect to confront educational and psycho-social issues among children whose parents have either died of HIV/AIDS or are living with the disease.

3. To prevent the spread of HIV/AIDS in the school environment, teachers must be knowledgeable and skilled in using correct infection control guidelines in and around the classroom.

4. In some instances the teacher may be entrusted with information about a student's, parent's, or staff member's HIV status and must understand ethical and legal requirements for respecting confidentiality.

5. Teachers may be expected to provide HIV/AIDS education and to answer students' questions about HIV disease in a manner that is developmentally and culturally appropriate.

6. Teacher attitudes affect their comfort with and capacity to teach specific subject matter. Teacher training offers an opportunity for teachers to explore their own beliefs and biases toward the disease.

Visser (2005) found that HIV/AIDS programmes failed because of teachers' non-commitment, poor teacher pupil relationships, negative attitudes of teachers about teaching 'sex' as well as the understanding by the teachers that their role was to impart

knowledge and not get emotionally involved with the learners. In their conclusion, Tijuana et al. (2004) offer that an effective HIV/AIDS education training for teachers is fundamental in helping teachers gain the confidence needed to teach topics they consider sensitive and controversial. Moreover, teacher training enables teachers to recognise and address curricula and pedagogic approaches in the classroom that may, unwittingly, privilege boys over girls, dampen girls' participation and motivation, condone the sexual harassment of girls, and reinforce existing gender stereotypes (Mensch, 2001). In this respect, teachers play a key role in development of skills and clarification of attitudes and if properly trained can help mitigate HIV infection among young people. Without capacity building of HIV prevention education in teacher training institutions where future teachers are produced, Education for All (EFA) is not likely to be attained.

2.4.3 Impact of HIV/AIDS prevention education

Despite strong theoretical evidence (Vickerman, et al., 2006; Boily et al., 2002; Yorke et al., 1978) and the existence of many intervention projects targeted at high-risk groups in different countries, there is limited empirical evidence of the effectiveness of specific HIV/AIDS prevention interventions (Ngugi et al., 2007). There is thus a broad interest in understanding the extent to which HIV/AIDS intervention will impact on HIV transmission among young people or other high-risk groups (Boily et al., 2007).

Although, for example, Uganda has compelling evidence for a decline in HIV/AIDS infection founded on sexual behaviour change (Gregson et al., 2006), controversy surrounds both the existence of a decline and its attribution to sexual behaviour change

(Stoneburner & Low-Beer, 2004; Parkhurst, 2002). This controversy has been fed by three factors: (i) doubts surrounding the representativeness of HIV surveillance data drawn from pregnant women attending antenatal clinics at selected sites within the country (Fylkesnes et al., 1998); (ii) the possibility that declines in HIV prevalence could occur in the absence of the deliberate adoption of safer behaviours (UNAIDS, 1999) and (iii) a paucity of data directly linking declines in HIV prevalence to the adoption of safer sexual behaviours (Mwaluko et al., 2003).

HIV/AIDS program evaluation is intrinsically complex, as the impact of a programme depends on the intervention efficacy, as well as on the interaction between coverage and intensity (Boily, et al., 2007). Consequently, the magnitude of impact and how fast a given change can be achieved depend on the natural history of HIV/AIDS and on the epidemiological context (ibid). Determining whether observed changes in HIV/AIDS risk behaviours are a reflection of the natural history of the epidemic or due to the effects of an HIV/AIDS prevention intervention is a critical evaluation issue. It is widely acknowledged that human sexual behaviour is influenced by many factors, and HIV/AIDS intervention is only one of them. For example, having a friend or relative with HIV/AIDS may influence adolescents to delay the onset of sexual relations or motivate those with non-regular sex partners to use condoms (Rehle, et al., 2000).

Beyond attributing reduced HIV/AIDS infection to particular behaviour changes, relating those behaviour changes to particular interventions such as a school based HIV/AIDS education programme requires plausible mechanisms linking the programme and the

observed changes (Hallet, 2007). Such attribution will always be weak if there are multiple interventions and programmes taking place at the same time. Moreover, as a result of the long incubation period of HIV/AIDS, the full potential of an intervention may take decades before it is achieved (Boily et al., 2007).

The totality of evidence, however, indicates that HIV/AIDS prevention programmes have the potential to significantly reduce the rate of new HIV infections, in the same way that antiretrovirals provide treatment for HIV/AIDS (Hallet, 2007). Like antiretroviral therapy, HIV prevention is lifelong, and its impact must be continually monitored. Just as a single pill cannot eradicate HIV, one-shot HIV/AIDS prevention efforts will not achieve the magnitude of behaviour change required to alter the epidemic's course (ibid).

It is argued that although a programme may be implemented, its impact on learners is dependent upon the efficacy of the programme, the intensity of coverage, and most importantly, the programme must be in place for sufficient amounts of time and on a large enough scale to have an impact on personal behaviours, social norms in communities and, ultimately, on the HIV/AIDS epidemic.

2.5 HIV/AIDS Education in Schools in Kenya

HIV/AIDS education for young people is crucial because it plays a vital role in the global efforts to end the HIV/AIDS epidemic. In 2008 alone, there were 2.7 million new HIV infections and almost 1-in-6 of these infections were among young people (UNAIDS, 2009). Young people are particularly vulnerable to sexually transmitted HIV, and to HIV infection as a result of drug-use. Providing young people with HIV/AIDS education

enables them to protect themselves from being infected by giving a clear picture based on accurate information and focusing on reducing sexual behaviours which lead to pregnancy, sexually transmitted infections and HIV. Acquiring knowledge and skills encourages young people to avoid or reduce behaviours that carry a risk of HIV infection (UNESCO, 2009b). Moreover, HIV/AIDS education also helps to reduce stigma and discrimination by dispelling false information which leads to fear and blame. This is crucial in the fight against HIV/AIDS because stigma often makes people reluctant to be tested for HIV/AIDS or even when tested, to fail to disclose their HIV/AIDS status, making it more likely for them to pass it on to others. HIV/AIDS education can help prevent this. Even for young people who are not yet engaging in risky behaviours, HIV/AIDS education is important for ensuring that they are prepared for situations that will put them at risk as they grow older (UNESCO, 2008b). As discussed earlier in this chapter, Schools play a pivotal role in providing HIV/AIDS education for young people because they are a well-established point of contact through which young people can receive HIV/AIDS education.

According to the goals of education in Kenya, HIV/AIDS education aims at inculcating in the youth the value for good health and knowledge to avoid indulging in activities that will lead to physical and mental illness. The general objectives of education states that the learner should improve body physical fitness and maintain good health and this can only be achieved through healthy living with ability to make informed decisions on sexual matters.

The current Kenyan educational curricula, commonly referred to as the 8-4-4 system, consists of eight years of primary education, four years of secondary, and four years of university education. In the curriculum for primary schools, HIV/AIDS education is integrated with other subjects in the syllabus and every teacher is expected to impart HIV/AIDS knowledge to the learners. Topics on HIV/AIDS include definition, transmission, prevention and protection. In secondary schools, these topics are integrated in various subjects related to the human body and behaviour (KIE, 2002). According to HIV and AIDS Control Bill (2002), the Ministry of Education has been bestowed with the responsibility of ensuring that teachers or instructors of HIV/AIDS prevention and control course are adequately trained and duly qualified to teach the course. This has led to the introduction of the programme on primary school known as the Action for Better Health Project, which trains teachers in conjunction with the Ministry of Education Science and Technology (MoEST). The programme aims at equipping teachers with the knowledge and ability to teach pupils on HIV/AIDS education and healthy living (WHO, 2000). There is, however, need to examine the pedagogical traditions that exist in order to determine whether or not the Kenyan secondary school institutions can address the complex and enormous challenge of giving curricular attention to HIV/AIDS.

2.5.1 HIV/AIDS pedagogy

The following is a discussion of the nature of a desirable HIV/AIDS education model of pedagogy, that is, the nature and processes of a classroom that might better facilitate change in behaviour as well as impart knowledge. The section asks the question of what is the current situation, what needs to change, what needs to be done to achieve an effective HIV/AIDS pedagogy and what are the barriers. Three elements of pedagogy,

namely the structure of classroom activity, the curriculum content and teachers' competency are discussed.

2.5.1.1 Classroom Activity

Though notable exceptions exist, most teachers in Kenya maintain very traditional teaching styles, where one speaker addresses several learners and interruption is not encouraged. Teaching in most classrooms tends to be didactic, non participatory, inflexible and assessment driven (Boler & Aggleton, 2005). In a study carried out by Ackers & Hardman (2001), it was observed that classes in Kenya were overwhelmingly quiet and passive but with a strong apparent focus on the teacher, there was little interaction between teacher and pupils, and 'real' discussion in which there was the exploration of a topic and interchange of ideas to enable higher order thinking seemed to be rarely practiced. This unquestioning obedience to the older person is typical of many African societies (Mirembe, 2002), and is viewed as discipline. Consequently, although majority of the classrooms were overcrowded, teachers did not spend a lot of time on control and command as there seemed to be an unspoken respect for the teacher. Sifuna (1997) traces the tradition of strict discipline within Kenyan schools back to British colonial days. He suggests that the passivity and self-discipline of the pupils is both a strength and a challenge to the Kenyan education system in trying to get the pupils to take some responsibility for their own learning, and to think and work independently.

A fundamental problem with such a learning environment is that, in contrast, HIV/AIDS education is intended to be participatory and responsive, raising questions rather than

providing clear cut answers, and challenging young people and adults to find new ways of relating to one another (Boler & Aggleton, 2005). Simply providing young people with information about HIV/AIDS is not enough to ensure that they will absorb and retain that information. Effective HIV/AIDS education encourages young people to participate and engage with the information that is being presented to them by offering them the opportunity to apply it (UNESCO, 2008b). Group-work and role-play are particularly important methods in which students might discover the practical aspects of the information they are given. These methods also allow pupils an opportunity to practise and build skills – saying “No” to sex, for example. Active learning approaches are widely considered to be the most effective way for young people to learn health-related and social-skills (UNICEF, 2009). This style of actively involving learners in the learning process promotes active intellectual engagement between student and teacher, and makes HIV/AIDS education lessons fun.

2.5.1.2 Curriculum Content

One key problem shared by most countries who have introduced HIV/AIDS education in schools is how to integrate HIV/AIDS education in the curriculum so that it is really taught and makes a difference in knowledge, attitudes and behaviours of learners (IBE, 2007). In 1999, the Kenyan government established a national curriculum on HIV/AIDS education. The HIV/AIDS curriculum teaches basic medical facts about AIDS, HIV transmission, prevention, and care for people living with AIDS. Its main concern, it would appear, is to instil morals among young people as a means of preventing HIV/AIDS. Accordingly, the emphasis is on abstinence as the most effective way to

prevent pregnancies and infection with sexually transmitted diseases. The curriculum, however, assumes a homogeneous audience, one that has not experienced any sexual activity. What about those who are already sexually active? This kind of stand promotes marginalisation and makes HIV/AIDS messages irrelevant to the ‘different’ (Kippax & Crawford, 1997). Teaching HIV/AIDS by providing the facts, within scientific disciplines, is not enough. The tendency to present factual knowledge and bio-medical facts runs the risk of being misunderstood as being the answer to HIV transmission and prevention (Gallant & Maticka-Tyndale, 2004). HIV/AIDS education should focus more on life skills such as decision making, an understanding of relationships and rights and respect for the other (IBE, 2007). Otherwise, HIV/AIDS education runs the risk of being viewed by students as being ‘boring’, ‘irrelevant’, and a ‘waste of time’ (Mirembe, 2002; 294).

2.5.1.3 Teachers’ Competency

When HIV/AIDS education was integrated into the curriculum of all learning institutions in Kenya, the Ministry of Education adopted a cascade model to train teachers to teach about HIV/AIDS. The particular cascade model adopted involved teacher training sessions for one week and did not provide adequate modelling and practice sessions for the teachers (Maticka-Tyndale, Wildish & Gichuru, 2007). According to Christie, Harley & Penny, 2004, such ‘one-off short workshops’ do not lead to professional development of teachers (p 177). Indeed research studies carried out in Kenya show that teachers are not only finding it difficult to communicate with their students about HIV/AIDS and sexuality, but are also avoiding engagement with the learners in ways that can draw on

their life experiences and contexts (Njue *et al*, 2009; Boler *et al.*, 2003). In these studies the teachers interviewed cited inadequate teacher preparation to teach about HIV/AIDS and the sensitivity surrounding sexuality education as barriers to teaching (Farah, Kavuma, Mwingi & Onyango, 2009; Boler *et al*, 2003).

Research has found that teacher training can positively affect teacher attitudes toward sexuality education and participatory techniques(Tijuana *et al*, 2004). In Thailand, 35 teachers received training that emphasized a better understanding of young people and their environment, the teachers' own attitudes and values toward HIV/AIDS and sexuality, and learning and practicing key skills in facilitating HIV/AIDS and sexuality training. Using pre- and post-tests and interviews, researchers found that following the training, the teachers had more knowledge and understanding of HIV/AIDS, more positive attitudes toward young people's sexuality, an increased willingness to use participatory methods, stronger facilitation skills, increased communication and a greater commitment toward teaching HIV/AIDS (PATH, 2003). In contrast, a project in Uganda (Kinsman *et al*, 2001) that provided five days of training in HIV/AIDS prevention curriculum to teachers, found that such a short training had very little impact on the teachers and recommended that teachers be trained in participatory methods while still in teacher training college as this took a longer period.

Ideally, teachers are often viewed as trusted gatekeepers of information about HIV/AIDS because they are the main adults, other than family members, with whom young people interact on a daily basis. In an era of HIV/AIDS, teachers play an even more critical role

of being a source of accurate information and a person with whom young people can raise sensitive and complicated issues about sexuality. teachers can be instrumental in imparting knowledge and skills to young people. But to meet these expectations, teachers need skills and knowledge as well as support from the educational system.

2.5.1.4. The ideal situation

The above scenario points to the need for re-thinking the HIV/AIDS education curriculum response. There are evidently weak links in the current design in the areas of design and delivery. Both these areas of the curriculum (design and delivery) rely heavily on a centralized approach, where a program is drawn without the involvement of the teachers and merely handed down to the teacher to implement, and on the teacher as the provider of HIV/AIDS education despite the lack of training in this area.

In the light of these issues, the ideal situation would seem to require that, firstly, that HIV/AIDS education programs in school should learn from and put in practice lessons coming from HIV/AIDS programs for out-of-school youths. These programs involve the young people concerned in the design and delivery of the programmes by having a firm focus on peer education. Peer education typically involves training and supporting members of a given group to effect change among members of the same group. Peer education is often used to effect changes in knowledge, attitudes, beliefs, and behaviours at the individual level, or societal level by modifying norms and stimulating collective action that contributes to changes in policies and programs. Peer education has been widely advocated as an alternative or complementary strategy to interventions presented by adults (UNAIDS, 1999a) and is becoming an increasingly popular method of

promoting behavioural change in HIV prevention programmes (Mantell et al., 2006; Campbell & Foulis, 2002; Finger, Lapetina & Pribila, 2002; Harrison *et al.*, 2000; Sikkema, Kelly, Winett, Solomon, Cargill & Roffman, 2000; Horizons, 1999).

Peer education is a strategy that draws on several well known behavioural theories. For example, Social Learning Theory asserts that people learn by observing the behaviour of others and that some serve as models who are capable of eliciting behaviour change in certain other individuals (Bandura, 1986). The Theory of Reasoned Action states that a person's perception of the social norms or beliefs that people important to them hold about a particular behaviour can influence behaviour change (Fishbein & Ajzen, 1975). The Diffusion of Innovation Theory posits that certain individuals (opinion leaders) from a given population act as agents of behaviour change by disseminating information and influencing norms in their community (Rogers, 1983). Peer education draws on elements of each of these theories in its assumption that certain members of a given peer group (peer educators) can be influential in eliciting individual behaviour change among their peers.

The effectiveness of peer education in an HIV context has been illustrated in a variety of studies and has been proved to contribute to higher levels of knowledge, changed attitudes and self efficacy (Visser, 2007; Cartagena et al., 2006; Borgia et al., 2005; UNICEF Ghana, 2002). This has been especially so because adolescents view their friends/ peers as their main sources of information about sexual practices and more often

than not, peer influence motivates their behaviour (Mukoma, 2001; Dube & Wilson, 1995; Kaya & Mabetoa, 1997). In summary, the advantages of peer education are that:

- Adolescents are more likely to discuss openly sexual practices with their peers than with adults whom they regard as authority figures (Visser *et al.*, 2004).
- Adolescents share their knowledge and experiences in a language understandable to young people because they share a common reality of teenage sexuality (Rashid, 2000).
- Adolescents are more likely to change their behaviour if they observe liked and trusted peers changing their behaviour (Daiute & Fine, 2003).
- Group discussions and debate can contribute to the development of new collective norms of behaviour and relationships (Campbell & Mac Phail, 2002).
- Increased participation in decision making contributes to young people taking ownership of their own health and taking the initiative to address some of the problems they experience. This contributes to higher levels of empowerment (Aggleton & Campbell, 2000; Finger *et al.*, 2002;)
- Peer education can improve relationships and the climate in a school (Campbell & Mac Phail, 2002). When peers work together, everyone is allowed to tell their own story and in the process, gender needs and inequality issues are raised and possible remedies recommended (Mirembe 2002).

Carr and Kemmis (1986) are of the view that transformation of social reality cannot be achieved without engaging the understanding of the social actors involved. Pupil participation in the design and delivery of a HIV/AIDS curriculum offers the opportunity

for a democratic pedagogy and learning (Mirembe, 2002), which is fundamental to young people's response to the HIV/AIDS curriculum and the eventual adoption of safer sexual practices. Mirembe (1998) demonstrated that young people's involvement in curriculum formulation, delivery and content positively influenced their response to the HIV/AIDS curriculum. It was found that involving pupils in the planning of a HIV/AIDS curriculum was an acknowledgement of the diversity of knowledge and of possible plans to address the issues that affect the youth. Different people have different perceptions of sex and HIV/AIDS and young people's judgement is fundamental in bringing about transformation in an HIV/AIDS classroom. It's by engaging the young people for whom the curriculum is intended that the curriculum is better able to address specific issues that relate to the realities of teenage sexuality and HIV/AIDS.

2.5.1.5 Barriers

Research carried out in schools in an urban region in Kenya discovered that in primary schools, 17 percent of the 22,139 pupils involved were HIV positive and in secondary schools, 22 percent of 5,531 students had tested HIV positive. (Mumero & Onunga, 2001). These findings might have shocked many people because as Kelly (2002) observes, when society encounters a problem affecting the young, it tends to turn to its schools, and ask what they are doing about it. For example, schools are expected to teach practical skills to enable young people to get more employable. They are also required by many societies to give more attention to the teaching of values with a view to arresting the decline in moral standards. In relation to HIV/AIDS, the same tendency appears with schools expected to communicate knowledge, instil values and promote behaviours that will enable students to protect themselves against HIV infection (Wane, 2009). These

expectations are legitimate given that, in the absence of a vaccine, other preventions involve some learning (Kelly, 2002). Whereas it seems reasonable to expect schools to deliver HIV/AIDS education programs, there are reasons for caution. An appreciation of these problems will make it possible to be more realistic about what schools can and cannot accomplish in the field of HIV prevention.

Firstly, schools are not idyllic HIV-free institutions (ibid). Many schools are themselves sites of high levels of sexual violence, most often directed at girls, who are particularly vulnerable to HIV infection (Wane, 2009). In a literature review of School-related Gender-Based violence (SRGBV) carried out by USAID (n.d.), it was reported that for many young women, the most common place where sexual coercion and harassment are experienced is in school. School-related gender-based violence takes place in a context of gender inequality and appears to be rife in Africa, probably because of specific cultural beliefs and attitudes about gender roles, especially those concerning male and female sexuality (ibid). This sexual violence is mainly from teachers, peers and even strangers and stems from skewed power relations and concepts of masculinity that undermine young girls' rights and ability to make their own decisions in the family and in society in general (Owinyo & Wildemeersch, 2005 & Dunne et al., 2003). In Kenya, for example, there have been a number of cases of school violence reported by the media. Some of the reported incidents include: The St. Kizito tragedy on July 13, 1991, where 71 girls aged between 14-18 years were raped, leading to the deaths of 19 of them following strangulation and being crushed under iron bunk beds in the ensuing violence; Kaveye Girls' School (1996) where three male teachers were implicated with impregnating 12

girls; Mareira Mixed Secondary School on July 7, 1996, where a number of girls were attacked and raped by their male colleagues and villagers; and in 2006 in Kangumbiri Girls' High School where 3 girls were raped (Wane, 2009). Other studies on HIV/AIDS in sub-Saharan Africa (e.g. Bennell *et al.*, 2002, on Botswana, Malawi and Uganda; Mirembe and Davies, 2001, on Uganda) have similar findings which expose adolescent sexual violence in schools.

Moreover, intense competition for academic success and progression to the next higher educational level may lead to sexual relationships (heterosexual or homosexual) with teachers or brighter fellow students (Kelly, 2002). Long walking distances to and from a school that is located far from one's home, and travelling always by the same route, contribute to the risk of sexual harassment from school mates or from strangers

Also, in many countries in the developing world, those attending school are of very mixed ages. Most children begin school late, and therefore older than they should be for their classes. This situation is further compounded by the practice of repeating one or more grades. The practice in most schools is to allow only those students who attain a certain cut-off mark to proceed to the next grade. This is because schools are graded according to their performance in National examinations. Due to this type of competition between schools, it can be expected that at least half of those in school will have repeated some grades, thereby extending the within-class age range. This management and organisational feature means that the same class may contain pupils ranging from the sexually naive and innocent to the knowledgeable and experienced (*ibid*).

Leach et al. (2003) explored some of the implications of sexual violence within schools for the teaching of HIV/AIDS and observed that ‘... *a school culture that encourages stereotypical masculine and feminine behaviour makes girls particularly vulnerable* (2003:viii). This has been the case in Kenya, as evidenced by COVAW’s report on the St. Kizito incident which documents the then deputy head teacher, commenting on the incident, as having said that ‘*the boys never meant any harm against the girls, they only wanted to rape.*’ The report further states that a probation officer, shortly after the incident, quipped that ‘*if you are a girl, you take it and hope that you don’t get pregnant*’ (COVAW, 2005, p. 6). The dominant tendency here has been to individualise and infantilise the violence which occurs within schools and/or to blame the peer group, family and/or the media for violence both in schools and beyond. Schools in many countries turn a deaf ear to the female student’s complaints and many girls do not even complain because of a fear of reprisals, especially from teachers, but also because they believe that nothing will be done USAID (n.d.). In many countries SRGBV goes unchecked in the face of indifference from school administrators, the larger community, and the ministries of education. Such approaches have not encouraged schools to see themselves as amongst the many institutions which are complicit in the production of violent behaviour. As a result, schools permit and shape violent attitudes and behaviours and they encourage students to accept that certain levels and orders of violence are normal and natural. This means that violence often goes unrecognised and unaddressed. The implications of such a situation is echoed in a report from Human Rights Watch (2001) that notes that:

Left unchecked, sexual violence in schools has a negative impact on the educational and emotional needs of girls and acts as a barrier to attaining

education... Rape and other forms of sexual violence place girls at risk of contracting the HIV/AIDS virus [which has in turn] taken its toll on the educational system and disrupted education ...especially for girls (2001:5).

The school, as a location for high risk sexual practice militates against the school as an ‘effective forum for teaching about and encouraging safe sex’ (Leach et al., 2003:viii).

This would be seen to be encouraging rather than discouraging high risk sexual behaviour and contributing to the spread of HIV/AIDS rather than to its reduction. Sexual harassment and violence against girls in schools threatens to undermine the advancement of girls’ education as schools become increasingly unsafe environments (Human Rights Watch 2001). It also threatens attainment of education for girls if parents withdraw their daughters from school to protect them from sexual violence. ‘How can a parent want to educate his daughters when learning institutions have become places and sites of rape and HIV/AIDS infection?’ Deputy Regional Director of UNHCR, Anousviran Deneshvar, speaking at a UNHCR meeting quoted in *The East African* under “Kenya, Rape, Gender Violence Victims Narrate Tales,” November 23, 2001.

Furthermore, many students in schools are sexually active, and yet schools do little to help their pupils develop understandings and behaviour patterns for the responsible management of their emerging sexuality (Kelly, 2000b). ActionAid’s report (Boler et al. 2003), for example, demonstrates that the high expectations placed on school-based HIV/AIDS education may be misplaced. Almost a quarter of the students in the Kenya study stated that teachers did not set good role models when it comes to sexual behaviour. One of the main reasons respondents felt teachers were lacking as role models was the level of hypocrisy between what some teachers said and what they did. As one

government teacher training representative in Kenya said, *'The same teachers who are supposed to pass information to children, seduce them and therefore face the challenge of being good role models. They are not good examples, which is a greater threat for children who may take after the behaviour of the teachers'* (2003:44).

The negative role of schooling is summarised by Kenway & Fitzclarence (Cited: Harber, 2004: 110) thus:

If schools implicitly subscribe to and endorse hegemonic versions of masculinity, particularly in their more exaggerated forms, then they are complicit in the production of violence. If they fear the 'feminine' and avoid and discourage empathetic, compassionate, nurturant and affiliative behaviours and emotional responsibility and instead favour heavy-handed discipline and control then they are complicit. If they seek to operate only at the level of rationality and if they rationalise violence then they are complicit. If they are structured in such a way as to endorse the culture of male entitlement and indicate that the needs of males are more important than those of females then they are complicit. If they are repressive in their adult/child relations and do not offer adolescent students in particular opportunities to develop wise judgements and to exercise their autonomy in responsible ways then they are complicit. If they operate in such a way as to marginalize and stigmatize certain groups of students then they are complicit.

Schools clearly have the potential to positively influence the health of their students. However, if schools are to fulfil that mandate, significant changes in how schools operate must take place first. For successful behaviour change to occur, for example, adolescents need to observe and imitate the behaviours of others, see positive behaviours modelled and practiced, increase their own capability and confidence to implement new skills, gain positive attitudes about implementing new skills, and experience support from their environment in order to use their new skills (Human Rights Watch 2001). Making

schools safe and equitable for both girls and boys is critical to achieving both education for all and HIV/AIDS prevention.

2.5.2 Stakeholder involvement in the fight against HIV/AIDS

Despite the proliferation of national HIV/AIDS strategies, central coordination mechanisms and increased funding in the fight against the HIV/AIDS epidemic, there is still a huge implementation gap (UN AMICAALL, 2005). There is a growing gap between HIV/AIDS planning and resources that exist at the national level, and the human resources and capacity available at the local government and community levels. The findings drawn from the responses of the key stakeholders at a data-gathering workshop in Kenya, for example, reveal that consultations about policy formulation and implementation had only been held at National, provincial and district levels rather than at grassroots levels, leading to a lack of ownership and support by the ultimate implementers and beneficiaries of the policy (Ndambuki et al., 2006). By using the ACU structure, the process had excluded other structures and departments who are key to the formulation, dissemination, interpretation and implementation of the HIV/AIDS policy.

Yet, both needs assessment and literature reviews highlight the importance of stakeholder involvement in HIV/AIDS education in order to ensure both programmatic and financial continuity (Centers for Disease Control and Prevention, 1999). Stakeholders include funders and administrators of programs, but also include staff, program participants and their peers, family members, and the wider community. Stakeholders offer important insight into each phase of program planning, implementation and evaluation and have the potential to illuminate issues and needs during the course of program implementation

(Banach & Gregory, 2001), providing on-going feedback and keeping lines of communication open. By engaging various stakeholders such as civil society groups, the private sector, municipal and/or national governments, local knowledge can be drawn from the community and assimilated into policy-making activities. In this context, successful programs that are focused on behaviour modification require the approval and participation of local leaders and public figures influencing popular opinion (Sivaram et al., 2007; Woelk et al., 2001; Sikkema et al., 2000; Kelly et al., 1992;). For instance, effecting behavioral change in the workplace, such as convincing people to step forward for voluntary HIV testing requires the involvement of the management.

Stakeholders can be gatekeepers (e.g. government officials, members of parliament, civic and community leaders, health practitioners, youth leaders, brothel owners) as well as people who have a vested interest in the HIV/AIDS education program such as the intended audience (students, teachers, commercial sex workers, and alcohol consumers). Government officials have been documented in the literature as key stakeholders who wield power in terms of allocating financial resources, setting laws and policies, and providing access to health services and important outcome data. Unfortunately, governments in many countries are reluctant or even unwilling to address HIV/AIDS as a matter of urgency, and other stakeholders are called upon to contribute to prevention, treatment, and/or education within areas relevant to their core business interests and activities. The ‘Superstar’ and ‘Model Brothel’ programmes of Chiang Mai, Thailand (Visrutaratna et al., 1995 Cited: Kerrigan et al., 2001) are often cited as examples of how HIV/AIDS education programmes that integrate stakeholders increase programme

effectiveness. The programmes trained sex workers as peer educator ‘superstars’ and encouraged brothel owners to insist on mandatory condom use through a ‘model brothel’ programme component, while the Thai government provided condoms. The proportion of sex workers refusing sex with clients who did not want to use a condom (even when the client offered more money) increased from 42% before the intervention to 78% one year afterwards (ibid). In another intervention programme that targeted patterns of alcohol purchases and drinking in the Indian city of Chennai, community-based HIV educational interventions led by local opinion leaders targeted wine shops (Sivaram et al., 2007) in order to address and reduce the role risky drinking plays in transmitting HIV (Weir et al., 2003).

An important stakeholder in the fight against HIV/AIDS in most African countries is the church. As a 1995 UNICEF report notes, *‘Religion plays a central, integrating role in social and cultural life in most developing countries . . . there are many more religious leaders than health workers. They are in closer and regular contact with all age groups in society and their voice is highly respected. In traditional communities, religious leaders are often more influential than local government officials or secular community leaders’* (Cited: Okaalet, 2002: 275). With sexuality in the forefront of HIV and AIDS transmission, it confronts religious teachings like no other disease. Religions have always been important forms of social control, especially in the area of sexuality. As seen by several researches, religion has been shown to have a great influence on people's perceptions and ultimately influence their motivation towards behaviour and setting up of cultural and social environments that have a bearing on health. Even though many

religions have ambivalent attitudes toward sexuality they still have abundant teachings which can be explored and adapted in campaigns related to the fight against the spread of HIV/AIDS.

In the HIV/AIDS field there is now general recognition that HIV-prevention efforts need to go hand in hand with parallel efforts to promote social environments that are supportive of safer sexual behaviour (Campbell et al., 2005). Attempts to promote contexts that support HIV-prevention efforts are most likely to succeed where it is possible to build ‘bridges’ between small local projects and more powerful National actors or agencies in the public sphere (e.g. health and education departments), the private sector (e.g. employers and funding agencies), the civil society (e.g. national youth organisations or activist groupings) and faith-based organizations (e.g. churches) who have the political or economic influence to assist in achieving programme goals (Woolcock, 1998). This is particularly important for a challenge such as HIV/AIDS because the problem of HIV/AIDS, with its complex mix of biomedical, behavioural and social roots, is too complex for any one constituency to deal with. The importance of involving different players in HIV/AIDS education is echoed by a respondent on a UNESCO HIV and AIDS Education Clearinghouse forum (18-29 May 2009) who says:

As a biology teacher in secondary school in Kenya I taught HIV education as it was part of STIs sub-topic. The content was mainly biomedical hence I feel others should teach the other aspects as well. The head teacher can teach the policy aspects that deal with stigma and discrimination and thus provide leadership by making the school a safe place inclusive. The healthcare workers can help with care and support for those infected and affected as they need medication and assistance. Since the HIV/AIDS issue is more complex, the school cannot have all the expertise required hence there is even need to include other stakeholders who

can provide referral services like guidance and counselling and part-time and vocational skills for those who need to support family members.

Clearly, if education is to play its role in promoting knowledge and awareness about HIV/AIDS, there is need for greater synergy between the formal and non-formal systems of education.

CHAPTER 3: HIV/AIDS MAINSTREAMING IN EDUCATION

'The potential of HIV/AIDS to devastate the lives of individuals, the economies of countries, and education systems themselves, is too great for the disease and its consequences to be merely bolted on as some additional consideration within the programmes of already overworked education ministries, departments and institutions.....Responding to it is not an optional extra, but must be an integral and accountable part of concerns and programmes at all levels, from the office of the minister down to the humblest village school' (Kelly, Cited: Coombe, 2004 p. 42)

3.1: What is Mainstreaming?

The concept of mainstreaming has appeared relatively recently in the field of HIV/AIDS, and it borrows heavily from Gender mainstreaming. Conceptually, mainstreaming is a process meant to bring HIV/AIDS to the centre of the agenda, so that plans and decisions are informed by, and take full account of, the relevant HIV/AIDS considerations. In the context of education, mainstreaming is basically an attempt to systemically integrate HIV/AIDS issues in education policies, programmes and projects (Rugalema & Khanye, 2004). It is the process of analyzing how HIV/AIDS impacts on the education sector, and, based on the sector's comparative advantage, designing programmes and putting in place structures to deliver those programmes.

At the operational level, mainstreaming should respond to questions of impacts of HIV/AIDS and address issues of strategies and actions that need to be taken to minimize negative and enhance positive impacts. Management commitment and development of

monitoring indicators are critical to the success of HIV/AIDS mainstreaming. Ideally, a good mainstreaming exercise should be:

- Systemic: it should affect all segments of the system. Mainstreaming should involve all those included as active participants. In a school system, for example, it should involve both the teachers and the students. The government cannot make mainstreaming happen by simply instructing schools to mainstream. This initiative can only be effective if the ‘benefactors’, in this case the schools, are involved in the planning, design and delivery of the programme. They must identify with, and own the programme in the sense of believing that HIV/AIDS is relevant in the schools. This way, they will feel more empowered to act (Barnett and Whiteside, 2002)
- Based on a good situation analysis: there is need to have a good evidence base in order to determine what causes the spread of HIV/AIDS; how the spread is likely to affect educational goals, objectives and programmes; and what action is necessary to mitigate that effect. The various implementing bodies need to share their training curricula and lessons in order to reduce duplication of effort, and to make the process of mainstreaming more effective. Different organizations should share their experiences of what works and what does not.
- Dynamic: it should not be an end to itself, but rather an evolving process in which policies are adjusted according to emerging reality. This should involve regular monitoring and evaluation (see Table 4 below). Mainstreaming should be viewed as a learning process rather than a one-off event. Organizations need to keep track of changes that occur in the environment, and adapt their perspectives to

accommodate these changes (Holden, 2003). For example, patterns of HIV infection, or impacts of HIV/AIDS on a school community might alert an organization to change its approach to HIV/AIDS education and concentrate on those areas which it deems practical to improve the situation.

Table 4: A model for mainstreaming HIV/AIDS in the education sector

HIV/AIDS and the Education Sector

- Impact
- Policies/Strategies/Actions
- Susceptibility to HIV/AIDS



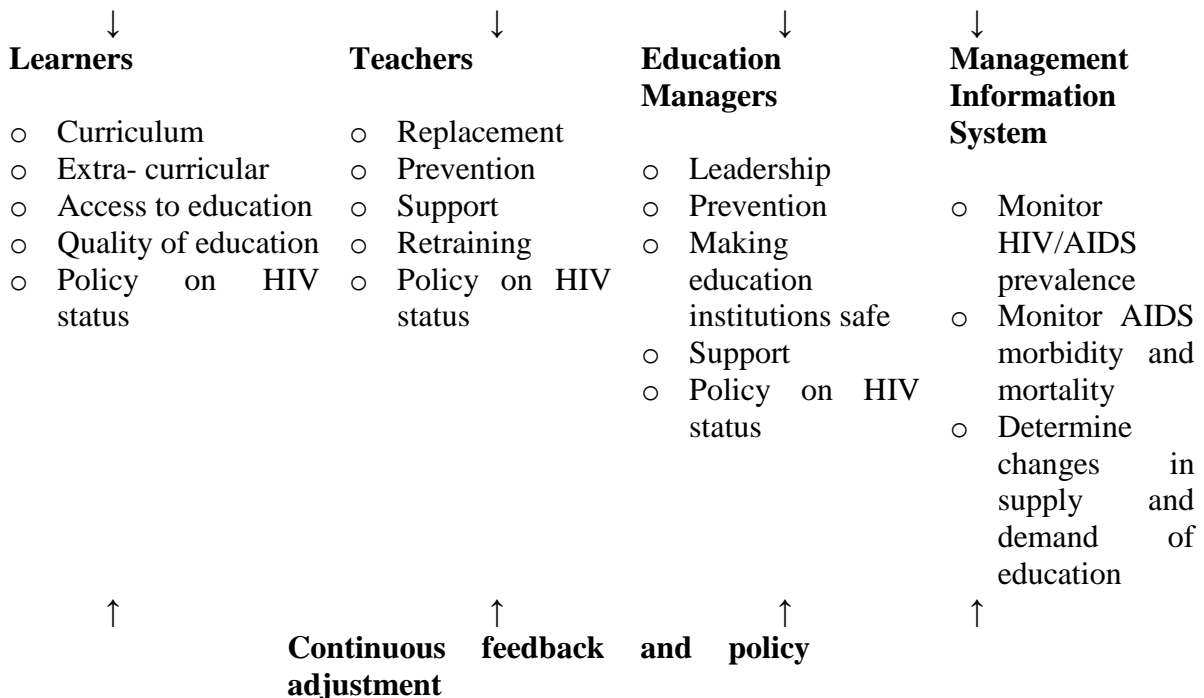
Establish Structures to facilitate mainstreaming process

HIV/AIDS Units

- Ministry headquarters
- Provincial Level
- District Level
- School Level

Allocate necessary Resources

- Human
- Equipment
- Financial



Adapted from: <http://www.unesco.org/iiep>

Table 4 shows a model for mainstreaming HIV/AIDS in the education sector. It is argued that the process of mainstreaming should be systemic and follow certain procedures.

Firstly, mainstreaming HIV/AIDS involves responding to a number of questions:

- How does HIV/AIDS impact on the education sector?
- What policies, strategies and actions are needed to mitigate this impact?
- Does the policy consider, for example, the subtle relationships regarding the unequal access to education between girls and boys, poverty, lack of employment etc and their effect on susceptibility to HIV/AIDS?

Mainstreaming also requires that a structure should be established to co-ordinate HIV/AIDS activities from the ministry down to the school level; and to provide technical expertise to ensure that the activities are implemented effectively. An HIV/AIDS unit at the Ministry level is necessary but not sufficient to ensure implementation. Such units should be established across all the administrative levels. It is also important that all HIV/AIDS units are adequately and properly staffed and equipped to operate.

Most importantly, mainstreaming should cut across four levels of the system:

- Learners: through the introduction of curriculum and extracurricular activities that ensure the integration of good quality skills-based sexual health and preventive HIV/AIDS education, including life skills
- Teachers: there should be teacher preparation programmes so that every teacher has the knowledge and skills needed for teaching and responding to HIV/AIDS in school situations

- Education managers: there should be a sustained top level leadership to ensure that policies are implemented, and that all forms of HIV denial, stigma and discrimination are eradicated
- Management information systems: this refers to the need to have monitoring and evaluation systems in place to help the ministry of education gather information on the effects of the programmes already in place in order to design comprehensive sectoral responses

3.2: Why Mainstream HIV/AIDS?

Mainstreaming HIV/AIDS in Education is the key to promoting preventative education which is a crucial factor in reducing vulnerability to HIV, discouraging high-risk behaviour, and mitigating the impacts of HIV/AIDS. Given that many problems arising from the epidemic are not specific to HIV/AIDS, policy and programme responses need not be HIV/AIDS specific but must address the root causes and consequences of the epidemic. HIV/AIDS has brought devastating consequences for virtually every sector of society, the education sector notwithstanding. As the epidemic gathers pace, it poses increasing risks to education, threatening to stop children from enrolling, teachers from teaching and schools from functioning. There is an increasing recognition that the education sector has an important role to play in the prevention of HIV infection, in the support of infected and affected people, and in maintaining service delivery despite the impact of AIDS. More specifically, mainstreaming of HIV/AIDS in the education system is essential due to: Increased vulnerability/susceptibility to HIV infection among students; AIDS undermining education; The need to realise the Millennium Development Goals, and Capacity building.

3.2.1: Increased vulnerability/ susceptibility to HIV infection among students

The terms vulnerability and susceptibility are used interchangeably here, to refer to the likelihood and impact of HIV infection. It is argued that vulnerability is determined by several factors including biological, culture, livelihood strategies and balance of power (Holden, 2003). Amongst young people, vulnerability to HIV infection is particularly due to risk taking in sexual relations.

Despite the near universal knowledge of the basic facts of HIV/AIDS, and the strong level of support from governments and international agencies, young people remain the most vulnerable to the disease. Sexual risk taking among young people assessed in a number of studies (AIDS and Behaviour, 1994; KDHS, 2000) appears to be substantial, and there is evidence that preventive behaviours have not generally been adopted. Several other studies (Mulatu and Haile, 1996; Teka, 1993; Pattuto et al., 1994; Egger et al., 1993) have generally and consistently revealed the well known disparity between levels of knowledge about HIV/AIDS transmission (usually good) and changes in risk taking practices in response (usually less good). The general lack of behavioural change was once attributed to scant information. Over time, this explanation has become less tenable, as ongoing studies demonstrate a combination of adequate knowledge with continued high-risk behaviour. Today, there is hardly any doubt that more intensive or better constructed information campaigns will do little to change behaviour. This has raised concerns about what causes the gap between existing and desired behaviour. Is it that young people do not know? Is it that they do not care? Or is it that they do not do?

Recent research has found that there are important factors which influence sexual conduct among young people, and that these factors play an important role in shaping the social contexts within which different kinds of sexual conduct occurs. Consequently, it is becoming increasingly important to recognise those contextual factors which render the youth more vulnerable than others to HIV/AIDS. These factors include, but are not limited to:

1. Sexual culture
2. Sexual identity
3. Sexual meaning

3.2.1.1 Sexual Culture

Sexual culture refers to the combination of beliefs, values, knowledge and practices that make up sexual lives. It is the historically formed and trusted patterns of conduct and of relating to one another. It is a term that suggests that there is more to sexual activity than the manifestation of biological drives. Rather, it is a social product, made and re-made in daily life and therefore adaptable to changing pressures and circumstances.

The concept of sexual culture allows us to understand the origin and source of information about sex and specific expectations of it (Dowsett and Aggleton, 1999). It also helps us to recognize cultural differences in the expression of sexuality and in the traditions and customs regulating them.

Evidence that has been gathered since the AIDS epidemic began on the sexual culture that characterizes much of sub-Saharan Africa, specifically with regard to levels of premarital sexual relations. For example, it is consistently suggested that sex is regarded

by the young as necessary, natural and an expression of love, as well as an activity that their peers expect of them if they are to be considered 'normal'. In a study carried out in Kenya (Maticka-Tyndale, 2004), it was found that boys felt forced by not only their sexual urges but also their peers and by what they perceived to be the expectations of their community to engage in sexual activity. Young men claimed that they feared exclusion, stigmatization and rejection by their peers for refusing to play sex, while young women felt forced by material needs, their peers, requirements of reciprocity and by the actions of boys. The imbalance of power between girls and boys, expectations of female acquiescence to male authority, and the acceptance or lack of opposition to sexual coercion are seen as root causes of what is described as an inability of young girls to negotiate sexual relations with boys and men. Rather than providing support and protection for the girls, the family system becomes complicitous in creating a situation where boys are expected to be sexually aggressive and girls are expected to comply (UNAIDS, 1999). Myths abound about girls being sexually active to avoid having their 'vagina blocked', or boys being unable to impregnate a wife if they did not engage in sexual activity at an early age (Maticka-Tyndale, 2004).

Marston and King (2006), in a similar study investigating why young people engage in risky behaviour even with high levels of knowledge, identify seven common themes that can be used to help explain why, for instance, some young people are inconsistent condom users. Young people may choose not to use a condom with a partner they perceive to be "clean", that is, depending on how well they know them or just their physical appearance. Likewise, the social importance for men of achieving penetrative

sex, particularly for the first time, may mean they prioritize the experience of sex over any risks.

What emerges most clearly from all these studies is the fact that there is need to recognize and accept the nature and shape of sexual practices that have dire consequences in the wake of HIV/AIDS. By turning our attention to academic debates on the sexual practices of young people, or how many sexual partners they have, or how frequently they engage in sexual activity, we are conveniently avoiding facing up to sensitive issues around sexual culture. We simply cannot afford to get lost among the trees and lose sight of the forest, the latter being the socio-cultural-sexual context that provides such a fertile breeding ground for HIV/AIDS.

3.2.1.2 Sexual Identity

Sexual identity is a matter of finding one's place in society. It is the realization that comes about by comparing one's feelings, interests, attitudes and preferences with those of male or female peers and judging whether one's life is a good 'fit' with the reality one sees and comes to know as identifying one's sexuality. One's sexual identity is tangentially related to a person's sexual orientation and,

This inner conviction of identification usually mirrors one's outward physical appearance and the typically sex-linked role one develops and prefers or society attempts to impose....the distinction between boy and girl and man and woman are of age and usually again represent differences in societal expectations that go along with increases in maturity (Wren and Tasker, 2002)

Society dictates how boys or girls or men or women are expected to behave and should be treated. In most African communities, boys are presented with messages to 'prove

their manhood' through heterosexual experiences. Society condones the male 'prowess' in boys in sexual matters but prescribes docility for girls who are socialized to be 'feminine' and submissive to males.

Most African societies have initiation rites (from tattooing, removing of the front teeth, circumcision) that clearly identify the boys and girls from the men and women, and literally give the latter a passport to engage in pre-marital sex. Male circumcision, for instance, bequeaths the status of 'man' to the individual. It is seen to create in the boy the capacity to experience manhood, and it is this capacity which critically marks the divide between boys and men. In Kenya, for instance, there is frequent use of the metaphor 'sharpened spear' used specifically for the circumcised penis, carrying with it the idea that the penis was forged and fashioned for use against women in sexual combat.

The patriarchal societies in Africa set the values to define sexual identity and men meet these expectations at the risk of their health. Questions of masculinity and male sexual power are key to understanding the HIV/AIDS epidemic especially in African setups. We need to consider the salience and centrality assumed by male sexuality, and focus on actions that do not categorize it as 'a problem' but rather devise programmes that gain cooperation and are designed in the light of the larger issues of building more respectful masculinities. Programmes that are geared towards revalidating the role of the community in relation to young people's sexuality and developing attitudes of respect for women will go a long way in changing young people's assessment of their sexual identity vis-a vis the risk in relation to potential HIV/AIDS infection.

3.2.1.3 Sexual meaning

This notion refers to the significance of sexual activity to young people. Sexual and drug –related matters can be swayed by circumstance, and hence differ in meanings according to the given contexts in which they operate. What sex signifies, for example, can influence whether or not someone engages in it. These meanings change and shift depending on one’s circumstances. Notions of ‘honour’, for example, are central to sexual self-understanding for some young men and women (Aggleton, 2002). It is ‘honourable’, for example, for some young men and women to show that they are sexually experienced; for some sex workers to send money to their parents in the villages; or even to remain faithful to sexual partners. These ‘honours’ differ according to circumstances. Likewise, the issue of ‘love’ in relationships differs considerably among different individuals. Whereas there are those who associate sexual activity with love, others associate it with lack of love.

Clearly, only young people can successfully articulate sexual meanings that are relevant to their own lives. AIDS prevention programmes must resist making generalizations about these meanings based simply on dominant discourses because they only partly explain social reality.

The demand for school based AIDS education is closely tied to perceived risk behaviour. As more and more young people get sexually active and hence increase their risk of infection, educational institutions, which can reach the majority of these young people fairly easily and in large numbers, are called upon to promote messages of prevention, care, and health promotion. This is based on the theoretical premise that young people are

more likely to change their behaviour as a result of education than any other group. At a time when, globally, more children are in school than ever before, it is important that countries invest in schools as a means of informing young people about how they can avoid HIV and AIDS before it is too late. Besides, studies have shown sex education is most effective when taught long before the first sexual encounter (Gachuhi, 1999), that the HIV prevalence of an area is likely to decrease as education increases, that primary education can half the risk of infection amongst young people (Boler and Jellema, 2005), and that reduced vulnerability to HIV is observed in people with secondary or higher education (Kelly 2000).

Prevention efforts to curtail the spread of HIV/AIDS epidemic have been premised on links between education and behaviour change. The underlying assumption is that teaching young people how to protect themselves from HIV can lead to a reduction in risk behaviour and hence a reduction in HIV incidence (UNAIDS, 1997). Having accurate information about how the virus is passed is undoubtedly a necessary part of protecting oneself against the virus.

The school is seen as the ideal place to disseminate AIDS education programs because it reaches most young people, who are seen as a 'window of opportunity' and 'our hope for an AIDS-free generation' (Bundy, 2002). Boler et al (2003), in a study carried out in Kenya and India, reported that in both countries, young people and their families perceive HIV/AIDS to be a serious threat, and that there is a strong belief that education can act to mitigate that threat.

Through mainstreaming HIV/AIDS, the education sector may be able to avoid or at least reduce the negative implications of risky behaviour among young people. Mainstreaming HIV/AIDS into the education systems calls for all those concerned to realise what it is like to be young today, and to remember and understand that young people do not engage in risky behaviour- they experiment and explore. They are trying out something new, in search of their self- image. It is a call to put greater emphasis on the ways in which young people understand their social and physical worlds, and to the social and cultural processes that make them make sense of sexual desires, feelings and interests because as Dowsett and Aggleton, 1999 observe,

Young people's sexual conduct, the meanings they generate concerning sex, and the individual and shared investment they have in sexual exploration, pleasure and activity, must be represented in a plausible and respectful manner if we are to convince young people everywhere that HIV/AIDS is a real danger to them (ibid. p12)

3.2.2: The need to realize the Millennium Development Goals

In September 2000, 189 governments committed to achieving eight development goals to improve living standards worldwide. But as pointed out earlier, the HIV/AIDS epidemic will stall progress toward reaching at least five of these goals.

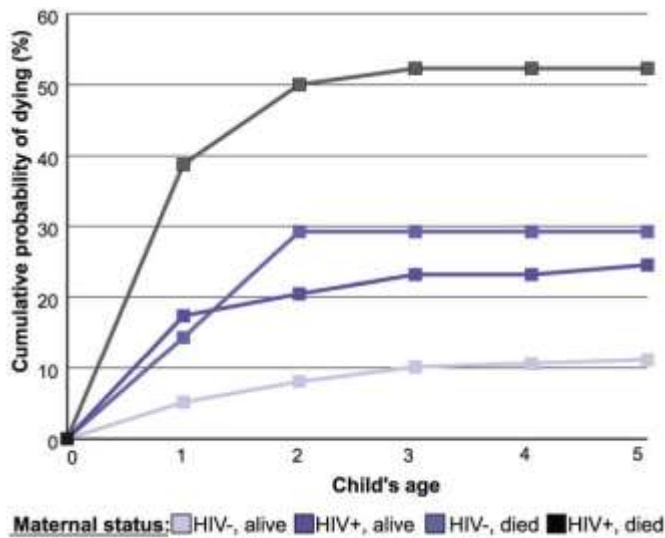
HIV/AIDS has been shown to increase poverty. Studies carried out in Thailand and South Africa show that poverty is higher in households affected by HIV/AIDS than amongst unaffected families (Bachmann and Booyesen, 2003). They have also shown that AIDS lowers Gross Domestic Product (GDP) by up to 15% annually. This could be attributed to

the fact that declining family incomes force affected households to choose immediate consumptions such as food and medication as opposed to long term investments.

Worldwide, 53% of annual deaths amongst children under five are associated with malnutrition (WHO, 2005), which has been significantly negatively correlated with HIV prevalence (Stillwaggon, 2002).

Moreover, AIDS has been shown to increase child mortality both directly and indirectly. About 60% of children with HIV die before their fifth birthday (UNAIDS, 2005); and those whose parents are infected are made vulnerable to a range of economic and social ‘injuries’ that eventually result to loss of life. Nakiyingi et. al (2003) have shown that children born of mothers who are HIV/AIDS positive are more likely to die than children born to mothers who are not infected (see figure 1)

Figure 1: Cumulative Proportion of Children Dying by Mother's HIV Status and Survival in Uganda, 1989–2000. Derived from Nakiyingi et.al. (2003)



One of the priorities and goals of the Millennium includes ensuring universal education in all countries by 2015. In an AIDS infected world, this goal is not achievable within the stated timeframes (Badcock-Waiters and Whiteside, 2000). HIV/AIDS negatively affects both the demand and supply of education. It prevents children from enrolling in school or cause them to be taken out of school (because they or their families cannot afford school fees; or because the children have to work to contribute economically to the household or to care for ill members.

3.3: Approaches in Mainstreaming HIV/AIDS in the education system in Kenya

Mainstreaming of HIV/AIDS is a process of policy change in a systemic manner in order to achieve the broad goals of controlling the epidemic and mitigating its effects. The Kenya government has moved very fast to implement an HIV/AIDS education policy, and there has been an introduction of several education programmes across the board,

targeting various groups within the education system. The MoE has focussed more on educational programmes for learners, through curriculum based and extra-curricular activities. The curriculum approach is one of integration, where HIV/AIDS messages are conveyed as integral parts of other school subjects such as biology, and religious studies.

According to Schenker (2001), MoEs are in the fifth generation of the school based programmes for HIV/AIDS. In the first generation, programmes were local, non-organized and driven mostly by fear. Education materials were produced to give only the basic facts about HIV/AIDS, without paying attention to gender, age or vulnerabilities of groups or learners. This was evident in the mid 80's. The second generation of school-based programmes was characterized by more organized responses from governments and agencies, and a new curriculum was drawn up that was premised on the belief that 'knowledge' would prevent people from HIV/AIDS infection. These curricular were, however, designed in a vacuum as no needs assessments had been carried out. In the third generation programmes in the early 90's, curricula were designed to surmount the problems and shortcomings observed in the first two generations. Prevention education moved from mere presentation of facts about HIV/AIDS to include knowledge about attitudes and skills. This was carried on in the fourth generation programmes which became multi-dimensional, and began to include peer education and skills building activities. The fifth generation, where most programmes are currently, is characterized by 'further improving what works' (Schenker, 2001: 3) The HIV/AIDS programmes in Kenya are a mixture of all the various phases, as discussed below.

3.3.1: Programmes for Learners

Kenya, like most ministries of education in sub-Saharan Africa, has focussed more on education programmes for learners. This is based on the theoretical premise that young people are more likely to be affected by HIV and AIDS than any other age group, but they are also more likely to change their behaviour as a result of education than any other group. At a time when, globally, more children are in school than ever before, it is important that countries invest in schools as a means of informing young people about how they can avoid HIV and AIDS before it is too late. Besides, studies have shown sex education is most effective when taught long before the first sexual encounter (Gachuhi, 1999), that the HIV prevalence of an area is likely to decrease as education increases, that primary education can half the risk of infection amongst young people (Boler and Jellema, 2005), and that reduced vulnerability to HIV is observed in people with secondary or higher education (Kelly 2000).

In the year 2000, a national HIV/AIDS curriculum in the Kenyan formal education system was launched. All primary and secondary schools were expected to implement the curriculum through infusion (incorporating HIV/AIDS messages in regular subjects) or integration (teaching HIV/AIDS as a stand alone subject). In 2004, the Kenya Institute of Education (KIE) revised the National curriculum and integrated HIV/AIDS into the new curriculum. A weekly compulsory HIV/AIDS lesson was inserted into all primary and secondary state curricula. Concern has been expressed, however, that although there is a comprehensive guideline for HIV/AIDS curriculum, there is very little evidence of actual progress (Boler & Jellema, 2005; Ndambuki et al, 2006). HIV/AIDS is a non examinable

subject and it has been left at the margins of the curriculum or restricted to extra-curricula activities.

3.3.2: Programmes for Teachers

The responsibility of implementing the HIV/AIDS education policy falls on the shoulders of teachers. The WHO has stipulated that teachers

...should be willing and interested in teaching about HIV/AIDS; have sufficient and appropriate knowledge about HIV/AIDS; be accepted by the school staff, the community, and the pupils; be able to maintain confidentiality and objectivity; be familiar with and at ease when using sexual terminology and discussing sexual issues; be respectful of students' and family values; be an effective communicator and facilitator of classroom learning; and be accessible to pupils and parents for discussion. (Boler & Jellema, 2005; p.24)

With these expectations being demanded of the teacher, it is only realistic to invest in the teacher as an AIDS educator. The case is, however, different. Evidence from country case studies show that the reform of the school curriculum to integrate HIV/AIDS has not been followed by concerted and consistent efforts to re- train teachers to deliver the new curriculum (Rugalema & Khanye, 2001).

In Kenya, re-training of teachers to offer an HIV/AIDS curriculum has progressed haltingly. In 2001, the ministry of education in conjunction with UNESCO developed a training programme for TOTS (Trainers of Teachers), who were expected to be deployed into schools to train other teachers. Initially, 30 TOTS from Nandi District in the Rift Valley province were trained. In an appraisal carried out to review the training in 2003, most of the teachers interviewed claimed that the TOTS had merely briefed them about the training and had not actually trained them. Those teachers who had received any

training at all had done so through NGOs rather than the TOTS. Consequently, few teachers were involved in HIV/AIDS teaching in schools (MOEST/UNESCO, 2004). This shortcoming will have to be overcome in order for teachers to play an active role in the delivery of HIV/AIDS information and knowledge in schools. Currently, there is not much of a formal structure in teaching HIV/AIDS in most schools, and teachers have been left to develop their own initiatives to teach the subject. This, coupled with the lack of training and lack of teaching materials evident in many schools, renders teaching HIV/AIDS unrealistic.

One of the success stories of HIV/AIDS education in Kenya, though, is the school based Primary School Action for Better Health (PSABH) programme, which was started in 1999 with financial support from DfID. The programme started in the high prevalence area of Bondo District in Nyanza province, and following its success, it now covers 5,000 primary schools in seven out of the eight provinces in Kenya. The PSABH aims at training teachers in conjunction with the Ministry of Education Science and Technology (MoEST). The programme aims at equipping teachers with knowledge and ability to teach the pupils on HIV and AIDS education and also health living. In conjunction with the Ministry, it is also developing a guide in order to assist teachers in teaching the HIV/AIDS course (WHO, 2000).

3.3.3: Programmes for education managers and support staff

The pillars of any education system are the learners, teachers and education managers. It is the interaction between these pillars that ensures that the wheels of the system keep on turning. In order to respond to HIV/AIDS in a systemic manner, it is important to

appreciate the key role that education managers play in strengthening HIV/AIDS programmes. Yet, little or no evidence from case studies emerge to show that ministries of education have or are setting up programmes to ensure the survival of these key people in the ministry.

Efforts to train education managers on HIV/AIDS in Kenya have been met with resistance and a general lack of interest from the managers. In most cases, this is because managers view the task of disseminating HIV/AIDS information as purely a teachers' job. The MOEST/ UNESCO (2004) programme mentioned earlier, for instance, included head teachers and education officers from the same district as the teachers who, it was hoped, would supervise and advise teachers on the HIV/AIDS curriculum implementation after completion of their training. The 2003 appraisal, however, revealed that only 2 out of 7 head teachers in the district received the training. The 1 education officer who benefited from the training said he had not used the training to assess implementation of HIV/AIDS education because he was not adequately sensitized and knowledgeable about HIV/AIDS education in schools.

The lack of HIV/AIDS programmes for education managers is a worrying situation. It is a threat to the very foundation of the education system (management of the system) and it can be tackled by looking at HIV/AIDS as a problem that is not 'out there' among learners, but one that requires knowledgeable managers to ensure that there is current and quality information to guide policy and programmes. While programmes for learners

are justified, their success depends on teachers (to offer the curriculum) and education managers (to monitor programmes and offer necessary support).

3.4 Conclusion

HIV/AIDS is having a devastating impact on the education system. There is need to support a strengthened response to the reduction of risk, vulnerability and impact of HIV/AIDS by mainstreaming HIV/AIDS in all work plans and strategies related to education, be they teacher education or curriculum development. To do this, there is need to learn that mainstreaming requires commitment and close collaboration with other stakeholders. Addressing the HIV/AIDS needs of every stakeholder is paramount if we were to ensure that HIV/AIDS transmission is prevented in schools. Teachers, learners and even those planning for schools as well as the communities around schools need to be HIV aware if they are to protect themselves from getting the virus and provide care and support for those already affected and infected by HIV/AIDS.

CHAPTER 4: THEORETICAL FRAMEWORK

4.0: Introduction

"...there are many instances where identical principles were discovered several times because the workers in one field were unaware that the theoretical structure required was already well developed in some other field. ...Systems theory will go a long way towards avoiding such unnecessary duplication of labour." Bertalanffy (1968, p. 33)

The systems theory is used as the theoretical underpinning with which to understand the implementation of the HIV/AIDS education in schools. It is an approach that is based on the General Systems Theory posited by Ludwig von Bertalanffy(1968), who claims that there are common elements to all systems and that these elements can facilitate understanding of complex phenomenon and offer useful clarification of relationships that work within and between a variety of systems.

This chapter presents a discussion of the systems approach, with the aim of presenting a basis for the interpretation of the results of this study. A discussion of the basic concepts of the systems theory is first presented followed by a discussion of the application of Systems approach in HIV/AIDS prevention education.

4.1 The Systems Theory

'A system can be defined as a complex of interacting elements. Interaction means that elements, p , stand in relations, R , so that the behaviour of an element p in R is different from its behaviour in another relation, $R1$. If the behaviours of R and $R1$ are not different, there is no interaction, and the elements behave independently with respect to the relations R and $R1$ '. (Bertalanffy, 1968:55-56)

The system has also been defined in a variety of ways by different scholars. Whereas Bertalanffy in the above definition sees it as a set of elements standing in interrelation

among themselves and with the environment; Littlejohn (1983) defines a system as '*a set of objects or entities that interrelate with one another to form a whole*'; and Constantine (1986) sees a system as one that is bound by '*...elements exhibiting coherent behaviour as a unit*'.

Systems thinking is an approach which views the world in terms of models which have the common property that, in Aristotle's phrase, '*the whole is greater than the sum of its parts*'. As Senge (1990:68) puts it, '*Systems thinking is a discipline for seeing wholes- a framework for seeing interrelationships rather than things, for seeing patterns of change rather than snapshots*'. A system can, therefore, be said to be a set of elements that interact to achieve a specific goal. Systems theory not only provides an analytical framework for viewing an organization/ system, but also seeks to explain the 'Synergy' and 'Interdependence' of the individuals in an organisation, and analyses actions and outcomes that emerge from the actions and interactions of the individuals who make up the collective.

The Systems theory is premised on the assumption that:

The smallest appropriate unit of analysis is not an individual's behaviour but an interactional sequence involving a pattern of exchange that occurs between individuals- in a word, the unit of importance is the system of members in mutual and interdependent relationships with one another, not individual behaviour in isolation of context (Jacob & Tennenbaum 1988 cited: Jurish 1998).

The theory is, therefore, based on a structure that reflects the pattern or organisation among components comprising a whole and views phenomenon in terms of the interrelated components.

4.2 Major concepts of the Systems Theory

4.2.1 Inputs, Throughputs and Outputs

Input refers to the energy imported from the environment, throughput refers to the process by which the system acts upon this energy, and output refers to the product exported into the environment (Hagan and Potts, 2000). Consequently, inputs can shape the way a system functions, just as much as outputs from the system may shape the environment. For example, boys may portray high risk behaviours based, in part, on the images of manhood portrayed in their communities. Similarly, system outputs (HIV/AIDS prevention education) may shape the environment and the system's place in it. Responsible sexual behaviour amongst boys may cue the environment that responsible behaviour is a sign of maturity and manhood.

4.2.2 Nonsummativity

The principle of nonsummativity, which is also referred to as holism, asserts that the system is a separate entity which is greater than the mere sum of its parts (Littlejohn, 1993). According to Whitchurch & Constantine (1993, p. 328), *"a system must be understood as a whole and cannot be comprehended by examining its individual parts in isolation from each other."* Thus, the relationship among the individual parts rather than the characteristics of the parts alone becomes the focus of attention when using a systems framework, and the qualities of the whole emerge from this pattern among the parts.

By working together, members of an organization can do far more to achieve organizational goals than they could by working independently. There are things that

emerge only together and therefore cannot be taken apart and put back together. The principle of nonsummativity points out that things emerge when two parts act together that are not seen in those parts alone (Hanson, 1995). Synergy is the positive side of nonsummativity. It means that the whole (group) comes up with a better product or outcome than the best individual person in the group could come up with on their own. For example, the relationship among musical notes creates the melody of a song. If the order of the notes is changed, even if the same notes are used the same number of times, it becomes a different song (Nichols & Schwartz, 1991). Thus, "the whole is greater than the sum of its parts."

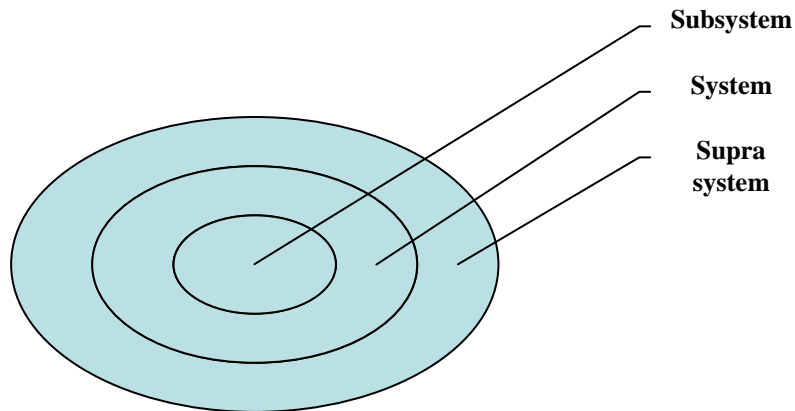
An important implication of the concept of nonsummativity is the importance of context. Just as a system must be understood by examining the relationship among the parts, a part can be understood only in the context of the whole (Bochner & Eisenberg, 1987; Constantine, 1986; Galvin & Brommel, 1996; Nichols & Schwartz, 1991: Cited: Jurish).

4.2.3 Hierarchy

Systems are hierarchically organized. They are nested within systems (von Bertalanffy, 1968). For example, students, teachers, and school programs may be thought of as components comprising a school system. Schools may be thought of as components comprising an education system. An education system may be thought of as comprising a government system, and so on. At each level, the encompassing system emerges from the mutual interactions among the components, with the whole being greater than the sum of the parts. In turn, the broader system provides the context within which the meaning of the components may be understood.

Typically, the smaller units comprising a system are called subsystems, and the larger unit enclosing a system is called a suprasystem or environment (see figure 2). The subsystems identified within a particular system depend on one's perspective (Ruben, 1972). For example, a school system may be viewed as containing a student subsystem, a teacher subsystem, and an administrative subsystem. Similarly, the targeted suprasystem of a school may be the surrounding community or the government department to which the school falls. The beliefs of the community affect the school and sometimes dictate whether or not sex education should be offered to students in the school.

Figure 2: Systems



4.2.4 Boundary:

Boundaries define what is part of a system and what is excluded from the system (Klein & White, 1996). Boundaries of a system will necessarily be set in such a way that the system contains one of many possible sets of elements. Where the boundary lies between the system and its environment, what elements are seen as belonging to the system rather than to its environment may be decisive for the analysis of a system's behaviour.

4.2.5 Open and Closed system

This refers to the relation between the system and its environment. A closed system is totally sealed off from its environment; the interaction between the agents of the system is all that matters. Open systems, on the other hand, are, as von Bertalanffy says (1968:39)

....systems which by their very nature and definition are not closed systems. Every living organism is essentially an open system. It maintains itself in a continuous inflow and outflow, a building up and breaking down of components, never being, so long as it is alive, in a state of chemical and thermodynamic equilibrium but maintained in a so-called steady state which is distinct from the latter. This is the very essence of that fundamental phenomenon of life which is called metabolism, the chemical processes within living cells.

Equifinality can only be a process of open systems. The final state of a closed system is entirely determined by the initial conditions- in open systems, the same final state can be reached from different initial conditions and in different ways.

4.2.6 Equifinality- to signify the fact that, in contrast to machine-like structures, which follows a fixed path way reaching different final states with changes in the initial conditions, in organismic processes the same final state, or the same goal may be reached

from different initial conditions and through different pathways. Systems with different initial conditions may evolve to the same point in a variety of ways.

4.2.7 Interdependence

Because the components of a system are interrelated, the behaviour of each component affects all other components (Galvin & Brommel, 1996; Hanson, 1995; Littlejohn, 1989). This mutual influence is called interdependence. An important implication of interdependence is that the parts of a system constrain each other through their mutual influence (Littlejohn, 1989). This notion is especially useful in understanding why, for example, boys have been shown to have increased vulnerability to HIV/AIDS than their girl counterparts. Prevailing norms of masculinity coerce them into experimenting with sex in unsafe ways to prove their manhood. Understanding the interdependence of these different aspects of the boys' socialisation will facilitate successful HIV/AIDS prevention education.

A more elaborate discussion on the concept of feedback follows, because feedback links these major concepts of systems theory.

4.2.8 Feedback

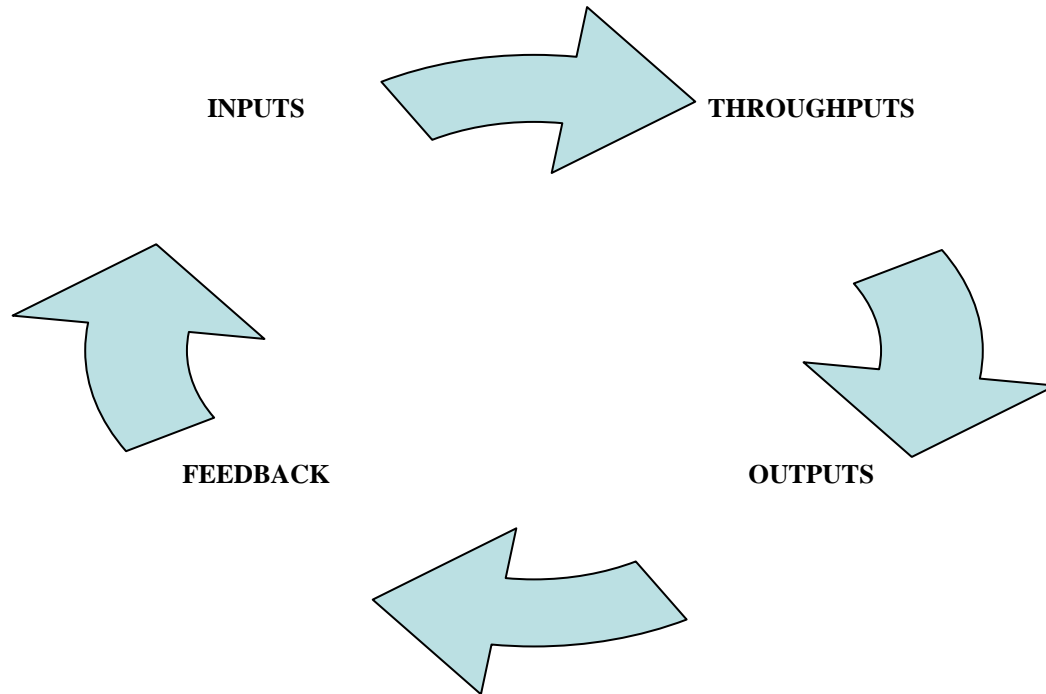
Feedback, as exemplified in figure 3, refers to the circular process in which input is transformed by the system into output, and output brought back into the system as input (Ruben, 1972). This simple stimulus-response (input-output) mechanism becomes arbitrarily more complex when a 'monitoring mechanism' is introduced allowing an

assessment of the produced response (output) to influence the response in the systems' next 'round of action'.

Feedback has been categorised as two types, negative and positive. Negative feedback serves to maintain the state of the system. When the system is disturbed by internal or external factors, it acts to bring itself back to its original state. For example, upon discovering that HIV/IDS is ravaging the education system and that students are vulnerable, the MOEST drafts a policy paper for the introduction of HIV/AIDS education in the schools. Due to lack of training, though, the teachers fail to implement this policy. Thus the prior state of student vulnerability is re-established.

In contrast, positive feedback serves to promote change in a system. Rather than avoiding teaching HIV/AIDS education due to lack of training, the school might decide to sponsor one of the teachers to act as a teacher trainer for the others, leading to implementation of the policy.

Figure 3: The concept of Feedback



4.3 A Systems Approach to HIV/AIDS Prevention Education

Implementation of the HIV/AIDS education program can be seen as applying to different parts of the systems model. As mentioned earlier, Systems thinking is an approach which views the world in terms of models which have the common property that, in Aristotle's phrase, 'the whole is greater than the sum of its parts' (Cited: Senge, 1990). It is argued that there are properties of the entity that can only be found by considering the whole rather than the constituent parts of that entity. A good example is provided by Lewis (1994) who considers a bicycle. A bicycle is composed of different parts- two wheels, a frame, handlebars, the chair, saddle etc. Taken separately, none of these parts has any particular meaning. However, by combining the pieces together in the right way, we may

create a system that affords transport. In the same way, systems thinking looks at interrelationships between different parts in order to map out patterns of change.

A system has been defined by Anderson and Carter (1990) as an organized whole made up of components that interact in a way which is distinct from their interaction with other entities and which endures over a period of time. A social system is a structure of interacting and interdependent persons, such as students, teachers, head teachers and policy makers. These interacting persons belong to different systems and these systems have boundaries- constructs that define what is inside or outside the system. Although boundaries may be permeable, as in the case of open (as opposed to closed) systems, there is more interchange between components within a boundary than across it. This notwithstanding, open systems continuously exchange information with the environment, The Kenyan education system, from which the HIV/AIDS education policy emanates, can be said to comprise several systems, subsystems and suprasystems. For purposes of this analysis, the MoE is the suprasystem which contains the school system which in turn comprises of the subsystems of the student, teacher and head teacher.

The implementation of the HIV/AIDS education policy is supported by communication and coordination. The policy is here seen as part of a system, co-equal with the human structures necessary for its implementation. The role of the system is the facilitation of implementation. It is a means to an end. That end is HIV/AIDS prevention. For implementation of the policy to take place, therefore, there must be cooperation between all stakeholders: Policy makers, Head teachers, Teachers, Students, who represent the different parts that make up the whole. The nature of this cooperation may be

conceptualised as the process by which the education system models itself in order to perform its distinctive information processing activities. In this way, the interaction of the various levels of feedback and control become important.

In order to evaluate the implementation of the school based HIV/AIDS education from a systems approach, a model of inputs, throughputs, outputs and feedback is conceptualized.

4.4 Input

Input includes the various factors that necessitate the need for HIV/AIDS education in secondary schools. The major factor that determines the need for the HIV/AIDS program in schools stems from students' susceptibility to HIV/AIDS.

4.4.1 Susceptibility to HIV/AIDS

Young people have been referred to as 'the AIDS generation' (Kiragu.2001:1), because they have never known a world without AIDS. With some 12 million young people being infected with HIV/AIDS, almost one third of those currently living with the disease are aged 15-24 (UNAIDS 2001a). What makes young people so susceptible to HIV/AIDS? [Susceptibility refers to the likelihood of infection (Holden, 2003)]. Drivers of susceptibility to HIV infection in young people include:

4.4.1.1 Young people have sex: Sexual activity begins in adolescence for the majority of people. Students engage in sex intermittently and yet they do not always see themselves as being at higher risk of being infected, thus making them a highly vulnerable group. In many countries, boys and girls are sexually active before the age of 15. Recent surveys in

Kenya, for example, show that more than a quarter of the boys aged 15-19 reported having had sex before they were 15 (UNAIDS, 2002).

4.4.1.2 Young people inject drugs: Injecting drug use (IDU) is one of the many addictions that often begin during adolescence. Injecting of drugs transmits HIV readily because it introduces the virus directly into the blood stream. Moreover, a young person's first drug injection can be particularly risky, since the new drug user is likely to lack equipment and to need help with injection- often sharing contaminated equipment (Turner, Miller and Moses; eds., 1989).

4.4.1.3 Young girls are very vulnerable: The risk of becoming infected with HIV after unprotected sex is four times greater for a girl than it is for a boy (Ainsworth and Over, 1997). The reason lies in girls' greater biological and social vulnerability. During intercourse, a woman has a larger surface area of her genital tract exposed to her partner's sexual secretions than a man. Also, HIV concentration is generally higher in a man's semen than in a woman's sexual secretions (Lawrence, 1999), making women more susceptible to HIV infection than men. Moreover, hormonal changes associated with the menstrual cycle are often accompanied by a thinning of the mucus. Such thinning can allow HIV to pass more easily. Whereas these conditions affect all women in general, young women are especially susceptible because, firstly, their reproductive tract is tighter and more prone to tears during intercourse and, secondly, young women produce scant vaginal secretions, providing little barrier to HIV transmission. Moreover, young girls are

more prone to being lured into unprotected sex by older men with promises of gifts or money (as exemplified in the picture below from an HIV/AIDS campaign).

4.4.1.4 Young people are more prone to peer pressure: Most young people are very sensitive to peer pressure. Among adolescents, perceptions of what peers think often have a great influence on sexual and other risk taking behaviours. Adolescents are more likely to engage in sex or drug injecting if they believe that their peers think that such behaviour is not risky (Boyer and Keggles, 1991). According to a survey carried out in Kenya, for example, it was found that adolescent boys whose friends were sexually active were seven times more likely to be sexually active themselves (Kiragu and Zabin, 1993).

4.4.1.5 Young people lack information: Many adolescents are at risk because they have only limited opportunities to learn about HIV/AIDS. Consequently, they have insufficient knowledge about the disease or harbour serious misconceptions about HIV transmission and prevention.

-

4.4.1.6 Young people are exposed to risky cultural practices and beliefs: A variety of cultural practices and beliefs such as circumcision and female subordination increase young people's risk for HIV/AIDS. Circumcision, which is performed as a rite of passage from childhood to adulthood, can increase HIV/AIDS risk if it is carried out with unsterilized equipment. Likewise, in many societies, women are expected and taught to subordinate their own interests to those of their partners, often leading to sexual abuse and coercion.

SUPPORT YOUR FRIENDS



HELP THEM TO REMAIN **AIDS** FREE



MEMBER OF THE NATIONAL COMMISSION ON AIDS
Funded by the United States Agency for International Development

4.5 Throughput

Throughput involves a variety of factors related to implementing the HIV/AIDS program, including Teacher preparedness, Time and Resources, Head teacher support, course content, and implementation process.

4.5.1 Teacher Preparedness:

Gallant & Maticka-Tyndale (2004), after carrying out an analysis of 11 school based HIV prevention programs for African youth concluded that,

If a program is to be faithfully implemented, teachers must be properly trained for and committed to it (p.1340)

Similarly, according to two exhaustive reviews of studies by the World Health Organization (WHO) and the U.S National Campaign to Prevent Teen Pregnancy, teacher training was found to be a key component of a successful school-based HIV/AIDS program (Tijuana, et.al. 2003). Ideally, training provides the teacher with a teaching approach that actively involves students, imparts requisite skills and knowledge so that the teacher may feel confident to discuss sensitive and controversial topics, provides the teacher with the know how to relate to students of different ages, and most importantly, helps teachers to examine their own attitudes towards sexuality and behaviours regarding HIV/AIDS prevention.

There has been increasing interest in teachers' comfort teaching sex education and the impact of this on what is actually implemented in the classroom. Research has shown that the success of HIV/AIDS education programmes depends upon the extent to which

teachers are provided with suitable training and support in the participatory teaching methods required for this type of education (Paulussen, Kok and Schaalma, 1994).

4.5.2 Head teacher support

Every successful programme depends on strong administrative support, especially from school principals because decisions about implementing a programme are usually made at the administrative level (Mihalic et.al., 2004). It is important that principals support provision of HIV/AIDS in their schools for the following reasons:

- In communities where sex education (and by extension HIV/AIDS education) is culturally highly sensitive, principals can turn the community around towards embracing and supporting HIV/AIDS education, as they are often respected opinion leaders
- In the event that the curriculum is overloaded, principals can be instrumental facilitators in the establishment of ‘youth clubs’ or other forms of extra-curricular activities. This was found to be the case in some of the schools where the principals invited and paid outside speakers to give talks on HIV/AIDS. Principals had failed, however, to make organizational changes that could have facilitated the success of the programme as none of them had made any changes in the work routine of teachers in order to accommodate the programme.
- Principals are also responsible for following up on policies and guidelines from the central government. This was not shown to be the case in the current study. All the principals interviewed did not know who the provincial or district HIV/AIDS education focal point was; some of the principals did not have the policy document on HIV/AIDS education, and none of the principals had the KIE

syllabus on HIV/AIDS education. In other words, the principals did not, as instructional leaders, provide the curricular direction that was needed to inspire and energise the teachers to implement the HIV/AIDS policy.

4.5.3 Time and Resources

The objective of an HIV/AIDS education programme is to help students adopt behavioural practices that will reduce their susceptibility to HIV/AIDS infection. To do this, programs need adequate time to enable students to not only collect information relevant to their own situations, but also to apply the knowledge presented and practice the skills learned. Some may need encouragement and support in the form of more information, guided practice, and affirmation that they are making progress as they move toward integrating the new competency into their daily lives. This complete adoption of practice does not usually take place in a "one-shot" presentation or workshop, but instead over a period of time. Likewise, there is need for supporting resource materials for reference, such as policies, guidebooks, teaching and learning materials appropriate to students' environments.

4.5.4 Course content

An HIV/AIDS curriculum's quality is judged by its impact on students. According to the Centres for Disease Control (1992), there are seven characteristics that an HIV/AIDS curriculum should embody. These include:

- Sound Instructional principles of teaching HIV/AIDS
- Functional knowledge about HIV/AIDS
- Discussion of issues that create vulnerability perceptions in pupils

- HIV-related attitudes
- Interpersonal skills
- involvement of parents and guardians
- adequate duration of programme

It is against these principles that the AIDS Education syllabus for schools in Kenya is evaluated in the following section. This is deemed important because as observed earlier, the syllabus is the gateway through which the policy is implemented in schools.

- *Sound Instructional Principles* of teaching HIV/AIDS are grounded in the fundamentals of instructional psychology. Effective teaching methods employed in educating about HIV/AIDS prevention differ from more traditional subject areas. Teachers need to learn additional skills, instructional methods and models, and perhaps change some of their old ways of teaching in order to effectively deliver school-based AIDS education using many different channels (Schenker & Nyirenda, 2002). A number of studies have shown, for example, that students who receive more ‘time on task’ out perform those who do not (CDC, 1992). In relation to HIV/AIDS, it means that the curriculum should provide ample opportunities for the students to practice the skills they learn. For example, if a teacher attempts to promote students’ ability to resist peer pressure, he is likely to have little impact on the students’ acquisition of the skills unless sufficient amounts of relevant practice are provided.
- *Functional knowledge* refers to practical knowledge about HIV/AIDS, such as the methods of infection, how HIV/AIDS is transmitted, information about

identifying risk behaviour and information about misconceptions about HIV/AIDS. Functional knowledge is contrasted with general knowledge, which consists of information such as how HIV affects the immune system, the history of AIDS, or information about the global AIDS pandemic. An effective AIDS education curricula should provide learners with problem- solving skills, decision-making skills, communication, refusal and negotiating skills, as well as skills that help them avoid sex, alcohol and drugs use. General knowledge is not essential in helping prevention.

- *Vulnerability perception* is an area that an appropriate curriculum should address because it deals with equipping students with the knowledge and motivation to assess their personal vulnerability to HIV infection. If students believe they are personally vulnerable, they stand a better chance of changing their behaviours. The curriculum should therefore include lessons that enable students to assess their own risk.
- *HIV- related attitudes*: An appropriate HIV curriculum promotes positive attitudes towards methods of avoiding HIV-risk behaviours. It encourages students to adopt behaviours such as sexual abstinence for those who have not engaged in sexual practices and condom use for those who are sexually active. Such a curriculum also tries to convince students of the dangers of injected drug use and needle sharing.
- *Interpersonal skills*, such as refusal skills and communication skills have been known to have a great likelihood of modifying students' risk related behaviours. Therefore, an appropriate HIV/AIDS curriculum should emphasize these skills.

- *Parent involvement:* HIV/AIDS education should focus on the specific student population of each school, while maintaining close links with their parents and the community at large. These links allow for the strengthening of protective influences on young people from both the school and the home; they also help teachers gain support for introducing and sustaining education for HIV/AIDS prevention in school.
- *Adequate duration:* Effective HIV/AIDS programmes ought to last long enough to achieve their objectives. They should not be based on a one-time, quick-fix approach. Experience with successful programmes suggests that spending at least four hours in the classroom over a period of time is essential to achieve even a minimal impact on students' knowledge, attitudes and behaviour-changing intentions; subsequently, ten to fourteen sessions will provide better results (Schenker & Nyirenda, 2002).

4.6 Output

Output factors are seen as the indicators of the success or otherwise of the HIV/AIDS programme, and are assessed by means of Students' HIV/AIDS Knowledge and 'safe' sexual behaviours.

The role of HIV/AIDS prevention education has been widely acknowledged, with evidence that adolescents who receive HIV/AIDS education are less likely to engage in sexual activity and more likely to engage in safer sexual activity (Jemmott, Jemmott and Fong, 1992). Unless we follow up with program participants to determine behavioural change, we cannot show that our programmes are successful. The pertinent question here,

however, is, ‘What constitutes change? Does change only occur when the intended behaviour change has been achieved?’

Prochaska, Norcross and DiClemente (1994) suggest six stages of change: precontemplation, contemplation, information gathering, action, adoption and internalization. According to these authors, if we can document movement from one of these stages to another, then we have produced behaviour change.

For example, a student may move from not considering using a condom during a sexual encounter (precontemplation) to gathering information about how to use a condom effectively. The move from one stage of change to another indicates that HIV/AIDS education has made an impact on the student, even though the practice has not been completely internalized.

4.7 Feedback

Feedback encompasses implications for improvement of the programme in view of the output. A system’s ability to regulate itself depends on the complexity of its feedback structure (Broderick &Smith, 1979, Cited: Jurish, 1998).

Broderick and Smith delineated four types of feedback representing increasing levels of complexity as follows.

4.7.1: Simple feedback: Inputs are simply transformed into outputs without comparison to any standards or goals. For instance, schools might introduce HIV/AIDS education because the MOEST directs so. After a while, teachers might become reluctant and stop

teaching HIV/AIDS altogether, bringing the system back to its prior state (negative feedback). Alternatively, teachers might continue teaching HIV/AIDS and generate behavioural change amongst the students (positive feedback). However, because there is no standard or comparison to indicate when the process should stop, the change generated by the positive loop continues to escalate.

4.7.2: Cybernetic: The second level of feedback is known as *cybernetic control*. At this level, the output is compared to a criterion such as a goal, resulting in the system re-adjusting itself to correct any departure from this goal. Instead of being content with drafting a policy on HIV/AIDS, for example, the MOEST should monitor and evaluate the program to ascertain whether the goal of reducing students' high risk behaviours is actually being met. If that is not the case, questions about what could be contributing to the anomaly should be asked. It might occur that teachers need to be trained, that HIV/AIDS needs to be included in the general and examinable curriculum, or that there is need for more time. At this level, a system is said to have stability.

4.7.3 Homeostasis: In the event that the system does not attain its goals despite the readjusting to meet the criteria, it moves to the third level of feedback- *homeostasis*. At this level, the system creates new strategies in order to meet its goals. In terms of HIV/AIDS education, this could mean changing the curriculum content, or changing instruction methods by, for example, using more peer teaching than teacher teaching; or even re examining the theories that underpin the curriculum.

4.7.4 Conversion: At the fourth level of feedback, *conversion*, the system changes its goals. For instance, instead of teaching students about sex abstinence, they could be taught about having protected sex. Both approaches lead to the same results- that of preventing HIV/AIDS.

The notion of feedback links the basic notions of systems theory. In addition to incorporating the concepts of input, throughput and output, feedback also illustrates other assumptions and concepts such as nonsummativity (HIV/AIDS education implementation can be understood only in the context of the patterns of interaction from and between the various players); interdependence (Implementation is dependent on the behaviour of the stakeholders: Students for learning, teachers for teaching; head teachers for offering support, and policy makers for offering the training and resources required for the effective teaching of HIV/AIDS); subsystems (students and teachers are subsystems of the school system); boundaries (the school system is distinct from the system at the Education headquarters); and open systems (the school consults with others outside the system to create new rules of transformation).

4.7.5 Higher-order Processes

Feedback, in relation to HIV/AIDS education implementation, can also be conceptualisation in terms of higher-order feedback processes (Bateson, 1979), which look at how different levels of implementation impact on the levels below or above them. This is exemplified in Table 5.

Table 5: A Conceptualization of higher-order Feedback Processes

<p>4th Order Processes</p> <p>Positive: those that maintain rules for positive 3rd order processes or change rules for negative 3rd order processes e.g. development of policies to promote HIV/AIDS education</p> <p>Negative: those that maintain rules for negative 3rd order processes or change rules for positive 3rd order processes e.g. lack of commitment by the Education department</p>	<p><i>EDUCATION SYSTEM PROCESSES THAT IMPACT ON 3RD ORDER PROCESSES</i></p>
↑	↓
<p>3rd Order Processes</p> <p>Positive: those that maintain positive rules for positive 2nd order processes or change rules for negative 2nd order processes e.g. support from the Head teacher</p> <p>Negative: those that maintain rules for negative 2nd order processes or change rules for positive 2nd order processes e.g. School's failure to allocate time for AIDS education</p>	<p><i>PROCESSES THAT IMPACT ON THE INTERVENTION TO CHANGE LEARNER BEHAVIOUR PATTERNS</i></p>
↑	↓
<p>2nd Order Processes</p> <p>Positive: those that maintain rules for positive 1st order processes or change rules for negative 1st order processes e.g. provision of AIDS education, Teacher training</p> <p>Negative: those that maintain rules for negative 1st order processes or change rules for positive 1st order processes e.g. lack of resources, failure to implement AIDS education</p>	<p><i>INTERVENTION TO CHANGE LEARNER BEHAVIOUR PATTERNS</i></p>
↑	↓
<p>1st Order Processes</p> <p>Positive: Learners are sexually responsible e.g. learners use condoms during a sex encounter</p> <p>Negative: Learners engage in high- risk sexual behaviours e.g. learners have multiple sex partners</p>	<p><i>LEARNER BEHAVIOUR PATTERNS</i></p>

(Adopted from Bateson, 1979)

In this model, first-order processes can be seen as those behaviour patterns among students that determine whether or not there is need for a school-based HIV/AIDS education. These are processes that look at how students navigate through their relationships with each other, and how effectively they can resist social inducements to potentially risky behaviour. Positive first-order processes would refer to effective self-regulation resulting in 'safe' sexual behaviour, whereas negative first-order processes would be the engagement in risky sexual behaviour, or the lack of skills for recognizing and aborting potential entanglement scenarios before they lead to risky behaviour. There are rules that maintain each of these processes, and a change in these rules would also change the behaviour pattern. For example, safe sexual behaviour may be related to factors such as:

- Perceived threat that one is potentially at risk of exposure to AIDS virus
- Degree of peer support at adopting safer sexual behaviour
- Social skills necessary to negotiate protective sexual behaviour
- Level of self-esteem
- Perceived self-efficacy that one can take protective actions that lessen the risk of AIDS infection

High risk sexual behaviour may be related to peer-pressure, lack of knowledge about HIV/AIDS, wrong attitudes and lack of self-esteem. When the rules underlying these processes change, behaviour change is also possible.

Second- order processes are processes maintaining rules underlying first- order processes. Positive second- order processes can be defined as those processes that either maintain rules for positive first- order processes or change rules for negative first- order processes. For example, the provision of AIDS education in schools can equip learners with decision making skills that would eventually help them to adapt or maintain ‘safe’ sexual behaviour.

Negative second –order processes are those processes that maintain rules for negative first order processes or change rules for positive first order processes. An AIDS education that does not equip learners with life skills, or a complete lack of AIDS education, for example, can contribute to high risk behaviour.

Third-order processes are the processes that impact on the implementation of AIDS education in schools, allowing some schools to implement the program and others not to do so. Like the other processes, positive third-order processes maintain rules for positive second- order processes or change rules for negative second- order processes; whereas negative third- order processes maintain rules for negative second- order processes or change rules for positive second- order processes. Positive processes can involve school heads who support the implementation of the program and allocate time for AIDS education, while negative processes would involve lack of resources or time to implement the program.

Like the other processes, fourth order processes impact either positively or negatively on third- order processes. Fourth –order processes would refer to the interaction between the school and the educational authorities, educational policy, training, and provision of resources. Development of policies to promote HIV/AIDS education (positive fourth-order processes) or lack of commitment by the education department (negative fourth-order processes) can impact on the organization of the school and the attitude of the school principal, which would then impact on the teachers and therefore, on the overall intervention.

This model is important as it gives space for the various stakeholders to have different outcomes from the evaluation. Each of the four stages signifies a different group of stakeholders, with the previous one affecting the next one and vice-versa. In that way, we are able to make sense of the way in which different people’s actions contribute to patterns of interrelated actions.

By structuring the evaluation into stages, each stage becomes as important as the other, and each stage provides a unique experience which culminates into the overall picture.

4.8: A justification for Using the Systems Approach

The systems approach offers a holistic way of carrying out an evaluation, creating legitimacy for the process and outcome of a study. It allows for the identification of a system and the breaking up of that system into manageable components for analytical operation. By using a systems approach, for example, the researcher was able to get a more detailed account of the implementation process as a result of breaking it up into inputs, throughputs, outputs and feedback. Moreover, it enabled for the selection of

specific relationships for further analysis. Furthermore, the knowledge that the researcher was looking for could only be reached through the study of the relationships between the various players in the implementation process. By using the systems approach, these relationships and inter relationships were more evident.

There were, however, problems with using the systems approach, one being the question of system. What kind of system was going to be studied? The education system? The school system? Once the system was identified, the tendency was to look for questions and answers that were within the framework of the identified system. The other problem was in determining the boundaries of the system. What is a school system, for example? Does it include the parents or the community around the school? Does it include curriculum planners, or policy makers? Deciding the boundaries of the system to be studied was crucial because including or excluding an important boundary could have had adverse effects on the outcome of the study.

CHAPTER 5: METHODOLOGY AND RESEARCH DESIGN

5.0 Introduction

An important convention of all research endeavours is that the problem or purpose to be addressed determines the methodology and design of the research. This study was an evaluation of the HIV/AIDS prevention education programme in Kenyan secondary schools, to '*assess the worth or value of (the) intervention* (Robson, 2002: 202). It was conducted in natural settings where history and context mattered, and where what was meaningful to those in the setting arose from both lived experiences and from the societal institutions that shaped those experiences. Engaging in such an evaluation required not a privileging of just one way of knowing and valuing, but rather a marshalling of *all* of the ways of understanding in order to honour diversity and respect difference. To do this, a mixed-method way of thinking was adopted that aimed at gaining an in-depth comprehension of different people's experiences of the implementation of the HIV/AIDS Education policy (through interviews); and the use of statistical analysis for generalization. The mixed methodology aimed to theorize the interdependence between the various stakeholders in the implementation process in order to offer an understanding of the process based on the interaction of those involved: students, teachers, head teachers and policy makers. In this kind of inquiry, individual experiences were investigated in order to explain experience and behaviour, with a view to providing details of the policy and implementation.

This chapter presents a justification for the choice of methodology by firstly contrasting two dominant paradigms in Education research -Positivism and Interpretivism - then

discussing the paradigm of choice, pragmatism, after which the reasons for mixing the two paradigms are given. The research design of the study (Evaluative Design) is then presented and each step discussed separately.

5.1 The Paradigm Debate

Researchers have, in recent years, raised questions about different approaches to Educational Research and about how research bears upon the practice of Education (Huberman, 1987). They have also engaged in the sometimes contentious debate about the grounding of scientific knowledge claims, about what constitutes knowledge. This has been borne out of the broader debate about paradigms.

Kuhn (1970, Cited: Cody & Kenney, 2006), who popularised the term paradigm, failed to precisely define it and this has given rise to a multitude of definitions, with Webster defining it as *'an overall concept accepted by most people in an intellectual community...because of its effectiveness in explaining a complex process, idea or set of data'*. In an effort to resolve the confusion that arose from his varying uses of the term, Kuhn later provided two definitions for a paradigm. Firstly, he says, a paradigm is a *'disciplinary matrix'*, the ordered elements of which are held by the practitioners of a discipline. According to this definition, a paradigm refers to the shared beliefs and values of a group. In an alternate use, Kuhn defines paradigms as shared examples or exemplars; that is the disciplinary matrix by which students learn to solve problems through the application of concrete solutions (Cody& Kenney, 2006).

A paradigm, according to Husen (1997), determines the criteria according to which one selects and defines problems for inquiry and how one approaches these theoretically and methodologically. It is, as Bernstein (1976) puts it, a framework within which inquiry

operates, one which provides the terms of disagreement. It is a shared sense of what scientific inquiry is, of what inquiry ought to be, a sense of what kind of reality is being investigated, and a sense of proper objects of inquiry and their character.

Paradigms are important to scientific communities because they shape the way researchers 'do' research. Methodologies for research are based on the ontological and epistemological assumptions of a paradigm. Researchers who share a paradigm... *'are committed to the same rules and standards for scientific practice'* (Kuhn, 1970, Cited: Cody & Kenney, 2006:40). Paradigms are therefore useful because they direct the perspective from which research questions are asked; problems are investigated, research is designed as well as what methods are used and how data are collected, analysed and interpreted (Cody & Kenney, 2006).

Educational research is characterised by two predominant paradigms that have been employed in educational research planning and with different epistemological bases.

Husen (1997:32) sums them up thus:

The one is modelled on the natural sciences with an emphasis on empirical quantifiable observations which lend themselves to analyses by means of mathematical tools...The other paradigm is derived from the humanities with an emphasis on holistic and qualitative information and to interpretive approaches

These two paradigms are Positivism and Interpretivism, broadly grouped under the terms *Quantitative* and *Qualitative* research respectively. The two paradigms differ on basic underlying assumptions that ultimately guide choices about research methodology and methods. The cardinal features of the two paradigms are presented in the table 6, adopted from Guba (1988).

Table 6: Contrasting views underlying the Positivism (Quantitative) and Interpretivism (Qualitative) research paradigms (Guba 1988)

Underlying assumptions and beliefs about:	Positivism	Interpretivism
Purpose(s) of research	Discover laws and generalisations that explain reality and allow to prediction and control	Understand and interpret daily occurrences and social structures as well as the meanings that people give to phenomena
Nature of reality	Single, given, fragmentable tangible, convergent, measurable	Multiple, constructed through human interaction, holistic, divergent
Nature of knowledge	Events are explained by knowable facts, real causes or simultaneous effects; law- like regularities exist	Events are understood through mental processes of interpretation, which is influenced by and interacts with social context- mutual, simultaneously shaping
Relationship between the knower and the known	Independent, dualism	Interrelated, dialogic
Roles of value(s) in research	Value free	Value bound

Positivists, on one hand, assume that there is a reality that exists beyond the human mind, a reality that is separate from the individual who observes it, and that it is this reality that provides the foundation for human knowledge. This reality is perceived as being lawful

and orderly, and through systematic observation and correct scientific methods, i.e. by being '*objective*', it is possible to discover this lawfulness and explain, control and predict phenomena (Usher 1996). Positivists try to stand back and not affect their research findings. They attempt to identify the key elements that need to be measured and demonstrate the validity of so doing.

The strengths of a positivist view lies in their emphasis on careful sampling, specifying what data is collected, how it is analysed, and objectively collecting evidence. The paradigm's value is its emphasis on validity, reliability and comparability. Its particular advantage is that with careful sampling, the findings can be generalised and comparisons can be made.

Positivism does, however, present a series of limitations and is said to be inadequate when dealing with educational or social subject matters. It does not make possible the usage of personal knowledge and insight gained in social interaction. Atkinson (1987, Cited: Sparkes, 1991), observes that the discourse of the paradigm is '*inappropriate for the representation of complex and multiple social realities*', to which Sage (1989) adds,

Perhaps the most persuasive objection to standards of methodology developed by the natural sciences for use in the social sciences is based on the obvious fact that humans are different from the typical objects of study in the natural sciences

On the other hand, Interpretivism, unlike positivism, holds that reality is constructed. In fact, '*inquiry is not a matter of offering interpretations of reality, but one of offering interpretations that become reality, to the extent they are agreed upon*' (Smith, 1989). A reality exists that is influenced by social, cultural, ethnic, and gender factors. In contrast with positivist, interpretivists seek subjective perceptions of individuals. In order to

uncover people's beliefs and meanings, interpretive researchers often interact dialogically with the participants. Within this interrelationship, interpretivists accept the inseparable bond between values and facts and attempt to understand reality within a social context.

From a positivist perspective, however, Interpretivism is vulnerable to the criticism that the influence of the researcher is primarily related to their debating skills rather than to their expertise. Although an ontological position of social constructivism does not deny the existence of substantive data, the interpretive paradigm severely underplays its importance. Furthermore, in seeking to construct a shared social reality, interpretive methodologies do not distinguish between a biased interpretation of data and an unbiased interpretation.

Interpretivism has also been criticized of engaging itself in a tremendous linguistic and conceptual fallacy. If reality is reduced to our meanings, what actually is it, especially if there are different groups in society that have opposing understandings of the same social phenomenon? Does the mere agreement of a collectivity on what something is, necessarily mean that it is?

This debate about the relative merits of qualitative and quantitative methods has found its way into evaluation literature, given the extent to which evaluation research has utilised both methods (Gage, 1989; Chambers et al., 1992).

According to Patton (1996), the two methodologies of qualitative and quantitative research have certain implications for evaluation research:

'...in evaluation the classic deductive approach is measuring relative attainment of predetermined clear goals in a randomised experiment that permits precise attribution of goal attainment to identifiable program treatments. In contrast the

classic inductive approach is goal-free evaluation, in which the evaluator gathers qualitative data on actual program impacts through direct observations of program activities and in-depth interviews with participants, all without regard to stated, predetermined goals' (p.194)

Consequently, evaluators need to have a clear understanding of the fundamental features of the competing paradigms in order to make suitably informed methodological decisions. Knowledge of the paradigmatic nature of decision-making will *'help make evaluators more aware of their methodological biases and paradigmatic assumptions so they can make flexible, sophisticated and adaptive methodological choices'* (Patton, 1988:119). An insight into the paradigm debate is essential to ensure that the methodology chosen is determined by the nature of the research problem and not by methodological prejudices.

The consideration used for choosing a methodology for this study is that there is basically not such an unbridgeable gap between the two paradigms as is often purported by the representative camps. Like Keeves (1986) argues, the various research paradigms employed in education are, in the final analysis, only one paradigm but many approaches. It is the *objective* of a particular research project and the *kind of knowledge* one is searching for that determines the paradigm on which one lays an emphasis. As researchers, our ultimate goal is to improve our knowledge of some phenomena. Different research methods and different data analysis methods will provide us with different types of knowledge about the phenomena that are our focus.

The goal of any HIV/AIDS prevention programme is to reduce the number of any new infections. Determining whether observed changes in HIV/AIDS incidence and

prevalence are a reflection of natural history or an intervention is a critical evaluation issue that should incorporate a methodology that enhances decision-making and application of knowledge, a methodology that enables the evaluator to infuse into the social policy making in order to determine criteria used for passing judgements. It is, however, a common agreement that although there are different questions for different evaluation programs (Rehle et al, 2001), they can be equally well addressed by the same evaluation methodology, and only differ in the methodology approach used.

5.2 Choice of Paradigm: Pragmatism (A mixed methodology Approach)

This study has been, to a large degree, inspired by the pragmatic stance of the mixed method approach. Pragmatism is a school of philosophy developed by, among other philosophers, Charles Peirce (1839-1914), William James (1842-1910), and John Dewey (1859-1952). While explaining what pragmatism is, James (2003) describes a hypothetical situation in which a man is trying to see a squirrel that is clinging to a tree. The man tries to get sight of the squirrel by moving rapidly round the tree, but no matter how fast he moves, the squirrel moves as fast in the opposite direction and always keeps the tree between himself and the man. The problem for discussion is, Does the man go round the squirrel? According to James, there is no right or wrong answer, it depends on ones definition of the word 'to go round'. Pragmatism is a method that has no principles that it privileges. It...

...stands for no particular results. It has no dogmas, and no doctrines save for its method. . . . [I]t lies in the midst of our theories, like a corridor in a hotel. Innumerable chambers open out of it. In one you may find a man writing an atheistic volume; in the next some one on his knees praying for faith and strength; in a third a chemist investigating a body's properties. In a fourth a system of idealistic

metaphysics is being excogitated; in a fifth the impossibility of metaphysics is being shown. But they all own the corridor, and all must pass through it if they want a practicable way of getting into or out of their respective rooms. (Konvitz & Kennedy eds., 1960: 33, Cited: James, 2003).

The pragmatic school of philosophy sees life as a process of discovering truths of how our actions work for us. The question is not so much about ‘*what is true?*’ or ‘*what ought we to believe*’ [sic], but ‘*what, if we believe it, will work best for us?*’ (ibid: 33). Pragmatism is a method of thought with sufficient flexibility to appeal to individuals who have divergent views in many respects, as noted above. Pragmatists reject a theory of knowledge that sees knowledge as a mere reflection of the natural world. Instead, knowledge is a social product of communities engaged in dialogue about common problems. Conflicting perspectives are useful for advancing knowledge, but fruitful conflict requires cooperation to clearly set the terms of joint inquiry. Pragmatism emphasizes on cooperative inquiry. It acknowledges the distinct features of a qualitative or quantitative study, but proposes that we should not treat these two broad tendencies as absolute, but instead seek out ways of working back and forth between the two extremes. It is this stand that makes pragmatism an attractive philosophical starting point for this study.

This study’s methodological underpinning has been influenced by the framework proposed by Morgan (2007), which analyses research in terms of the three choices that are central to both purposes and procedures of a research process. (See Table 7).

Table 7: A Pragmatic Alternative to the Key Issues in Social Science Research Methodology

	Pragmatic Approach	Qualitative Approach	Quantitative Approach
Connection of Theory and Data	Abduction	Induction	Deduction
Relationship to research process	Intersubjectivity	Subjectivity	Objectivity
Inference from Data	Transferability	Context	Generality

Whereas, for instance, the qualitative approach views the process of connecting theory and data as *Inductive*, with the opposing quantitative approach taking the *deductive* stance, pragmatism is of the view that it is impossible to be purely inductive or deductive. Pragmatism seeks to reconcile these competing philosophies. Alternatively, Peirce proposed “abduction” as a moving back and forth between deduction and induction, suggesting that inductive results from a qualitative approach can serve as inputs to the deductive goals of a quantitative approach and vice versa. Rather than dismissing either approach as being incompatible, the researcher keeps looking for useful points of connecting the two approaches. This iterative relationship between meaning and action also informs Dewey’s argument that “ends” and “means” must be understood as continuously interacting.

One of the goals of this study was to analyze different people’s perspectives of HIV/AIDS education, and to do so, the researcher preferred abductive rather than deductive or inductive approach, because this allowed for deeper prodding of issues,

‘reading’ nonverbal as well as verbal communication from participants, and also applying theory to the findings.

A distinction has often been made between *subjectivity* and *objectivity* when talking about the relationship between the researcher and the research process, with quantitative researchers claiming that quantitative data yield more objective and accurate information because they are collected using standardized methods, can be replicated, and can be analyzed using statistical techniques, making them the most suitable to judge the ultimate value of any project. Pragmatism finds it hard to imagine ‘absolute objectivity’ or ‘absolute subjectivity’ and emphasizes *intersubjectivity*, an approach that captures this duality.

Whereas the notion of objectivity might hold true of most quantitative data, it is also becoming increasingly evident that some quantitative data may not be accurate and valid, because some survey respondents may not understand the meaning of questions to which they respond, or respondents might give the responses they think the researcher is looking for. This is especially evident in studies, such as the one in question here, where students are asked to respond to questions which are not only of a very personal nature but also questions that could be used to judge one’s character as being either virtuous or not. It is also likely that respondents answer questions selectively. In this way, quantitative data may not satisfy the canons of scientific rigor. On the other hand, qualitative researchers have developed better techniques for classifying and analyzing large bodies of descriptive data (Frechtling & Sharp (Eds), 1997). Boundaries between numerically and textually

based researches are becoming less distinct: data may be readily transformed from one type to another, making achievable integration of data types and methods (Neto, 1997). It is also increasingly recognized that all data collection - quantitative and qualitative - operates within a cultural context and is affected to some extent by the perceptions and beliefs of investigators and data collectors. Pragmatism suggests a 'reflexive' orientation where as researchers; we pay more attention to the social processes that produce both consensus and conflict within our field, rather than dwelling on issues of whether our research is objective or subjective.

The qualitative and quantitative methodologies have also been distinguished philosophically, based on what proponents of each consider as being the best way to acquire knowledge. Many qualitative researchers argue that there is no objective social reality, and that all knowledge is 'constructed'- it is *context dependent*. Quantitative researchers, however, adhere to a strict scientific model and argue that there is a reality that exists beyond the human mind, a reality that is separate from the individual who observes it, and that it is this reality that provides the foundation for human knowledge. The pragmatic approach rejects the need to choose between a pair of extremes where research results are either completely specific to a particular context or an instance of some *generalized* set of principles. Instead, pragmatism is concerned with the issue of *transferability* and how much our existing knowledge might be usable in a new set of circumstances, for '*it is not possible for research results to be either so unique that they have no implications whatsoever for other actors in other settings or so generalized that they apply in every possible historical and cultural setting*' (Morgan, 2007:72)

Suffice it to say, research is conducted within a theoretical and methodological framework, the validity of which depends on underlying assumptions about the nature of reality (Ontology) and knowledge (Epistemology). Researchers with different worldviews may, therefore, see very different things in the same phenomenon, and it would be erroneous for one to be judged as not making any knowledge claims, because there are alternative ways of understanding the world and what it is to be human (Smith 1988). This view is also shared by a good number of researchers (Denzin, 1978; Greene & Caracelli, 1997; Greene et al 1989 Cited: McConney, 2002) who posit that rather than limiting method to epistemology, evaluation pragmatists should be more concerned with informing stakeholders and policy makers by using whatever data and method that best answers evaluation questions.

Qualitative and quantitative methods have different strengths, weaknesses, and requirements that affect decisions about which methodologies are best suited for particular programs. The techniques provide a trade-off between breadth and depth and between generalizability and targeting to specific populations (Frechtling & Sharp (Eds), 1997). Whereas, for example, the survey of secondary school students (quantitative technique) indicated the number of respondents who reported having been taught HIV/AIDS in school, and we might be able to come up with broadly generalizable information about the proportion of students who are engaged in HIV/AIDS high risk behaviour, the survey could only, at best, elicit only a few reasons for this behaviour. On the other hand, the interviews (a qualitative technique) conducted with head teachers

provided many more clues about why teachers might choose to either teach or fail to teach HIV/AIDS in the classroom, or even why a school might choose to implement the program or not.

The researcher acknowledges the differences between the quantitative and qualitative philosophical paradigms, but like Patton (1988), argues that the different tools and techniques associated with various paradigms can be mixed in a way that is best adapted to the Evaluation in question. Moreover, the different paradigms are concerned with the rigour and trustworthiness of research findings, with each employing different lens to evaluate the defensibility of knowledge generated through different research methods. No approach prescribes or automatically rejects any particular method, as observed by Guba and Lincoln (1989: Cited *Casebeer& Verhoef*, 1997) that,

Both qualitative and quantitative methods may be used appropriately with any research paradigm. Questions of method are secondary to questions of paradigm, which we define as the basic belief system or world view that guides the investigator.

The current study accepts the need for being eclectic in the evidence collected when the research questions warrant it. The following section describes the researcher's perspective on the usefulness of a mixed- method approach to the current study.

5.3 Combining Qualitative and Quantitative methods: Implications for this study

An important step in mixed-method planning is to give considered attention to the reasons for mixing or the purposes to be achieved. As noted earlier, the overall purpose for mixing methods is to afford a greater reduction in uncertainty and to attain a better understanding of the social phenomena being studied. Here, drawing from Cook (1985)

and Greene et al. (1989), a more detailed explication of how the mixed method affords a ‘better understanding’ to this study is given. But first, a brief explanation of how the methods were mixed.

Firstly, the study begun with a qualitative exploration of the HIV/AIDS education policy (textual analysis) so that measurement instruments for the survey (quantitative method) could be developed. An exploratory study of the policy and how it should be implemented was used to inform the construction of both the quantitative methods of data collection (questionnaires) and the qualitative methods (the interviews).

Secondly, one method was used to collect data for the other method. The quantitative method (Questionnaire) was used to collect qualitative data (open-ended response questions in survey). Both methods were also used in the interpretation and explanation of data. The quantification of data showed that, for instance, head teachers were not ‘actively’ supportive of the programme, judging from the rate of teachers who said they did not receive support from their head teachers. The rates left the researcher with many questions about why it was so. Qualitative interviews with the head teachers were used to tell the story behind their seemingly lack of support. By so doing, the researcher was able to get a more comprehensive range of information regarding the role of the head teachers in the implementation.

Combining qualitative and quantitative methods in this study also enhanced the validity and credibility of the study and provided a greater comprehensiveness of the findings. Using different methods to measure the same phenomenon helped in ruling out threats to

validity. Moreover, the different methods offered different lenses on the HIV/AIDS education programme (for example, the perspectives of the administrators and the experiences of the students). This way, the researcher was able to capture different dimensions of the program and to study different facets of the program (the policy, the school, the district, the implementation structure). Table 8 illustrates how the different types of evidence obtained from qualitative and quantitative methods contributed to the current study.

Table 8: Contribution made by the various methods to current study

Qualitative methods investigate/ understand	Quantitative methods measure
The nature of HIV/AIDS education	The extent to which HIV/AIDS education is taught
The experience of being taught HIV/AIDS education	The content of the program
Circumstances that hinder the teaching of HIV/AIDS education	Factors associated, statistically, with teaching HIV/AIDS
Why HIV/AIDS is taught (or not)	Characteristics/ circumstances that correlate with length of time of intervention
Different stakeholders' perspectives/ experiences of the intervention	Extent to which schools teach HIV/AIDS education
Influential factors in implementing HIV/AIDS education	Extent to which policies have an impact on HIV/AIDS education in school
Suggestions / strategies for supporting the teaching of the HIV/AIDS education	Prediction of resources required for effective implementation of HIV/AIDS education

It is acknowledged that while mixed-method approaches have great promise for enhanced understanding of HIV/AIDS programs, they are not a panacea. Because methods ‘take a different picture’ of the same social phenomenon, results obtained from a mixed methodology may converge but offer a substantially more complex portrayal of this phenomenon (Green et.al.’1989). Moreover, the demands of a mixed-method design are different from the demands of a single-method study because methods and underlying paradigms are being compared and contrasted in one study. (Creswell, 1994; Greene et al., 1989; Smith, 1989; Tashakkori & Teddlie, 1998). This calls for a heightened awareness on the part of the evaluator of the assumptions that undergird the methods as well as the epistemological assumptions that shape knowing within a paradigm.

These limitations should not, however, be viewed as ‘downsides’ of mixed –method inquiry but rather as ideas to reinforce the importance of purposeful, thoughtful planning that must accompany all such inquiry.

5.4 Evaluation Design

5.4.1 Introduction

Program evaluation is a unique form of social inquiry mainly due to its political inherency, and the ‘*recognition that politics and science are both integral aspects of evaluation*’ (Cronbach & Associates, 1980: Cited Denzin & Lincoln 1998). Evaluations are conducted on social programs that are:

...the creatures of political decisions...proposed, defined, debated, enacted,

and funded through political processes, and in implementation remain subject to (political) pressures- both supportive and hostile (Weiss, 1987 p.47)

So, program evaluation is integrally intertwined with political decision- making, and evaluation results enter the political arena of social program as practical knowledge claims, as justified value judgments about the merit and worth of the program evaluated. At root, evaluation is about valuing and judging (Scriven, 1967; Stake, 1967: Cited Denzin & Lincoln 1998).

The design of this evaluation offered the opportunity to maximize the quality of the evaluation, and helped to increase the strength of the key findings and recommendations by ensuring that threats to valid results were minimized. The design was intended to help answer three basic questions:

Why was the evaluation carried out?

What was evaluated?

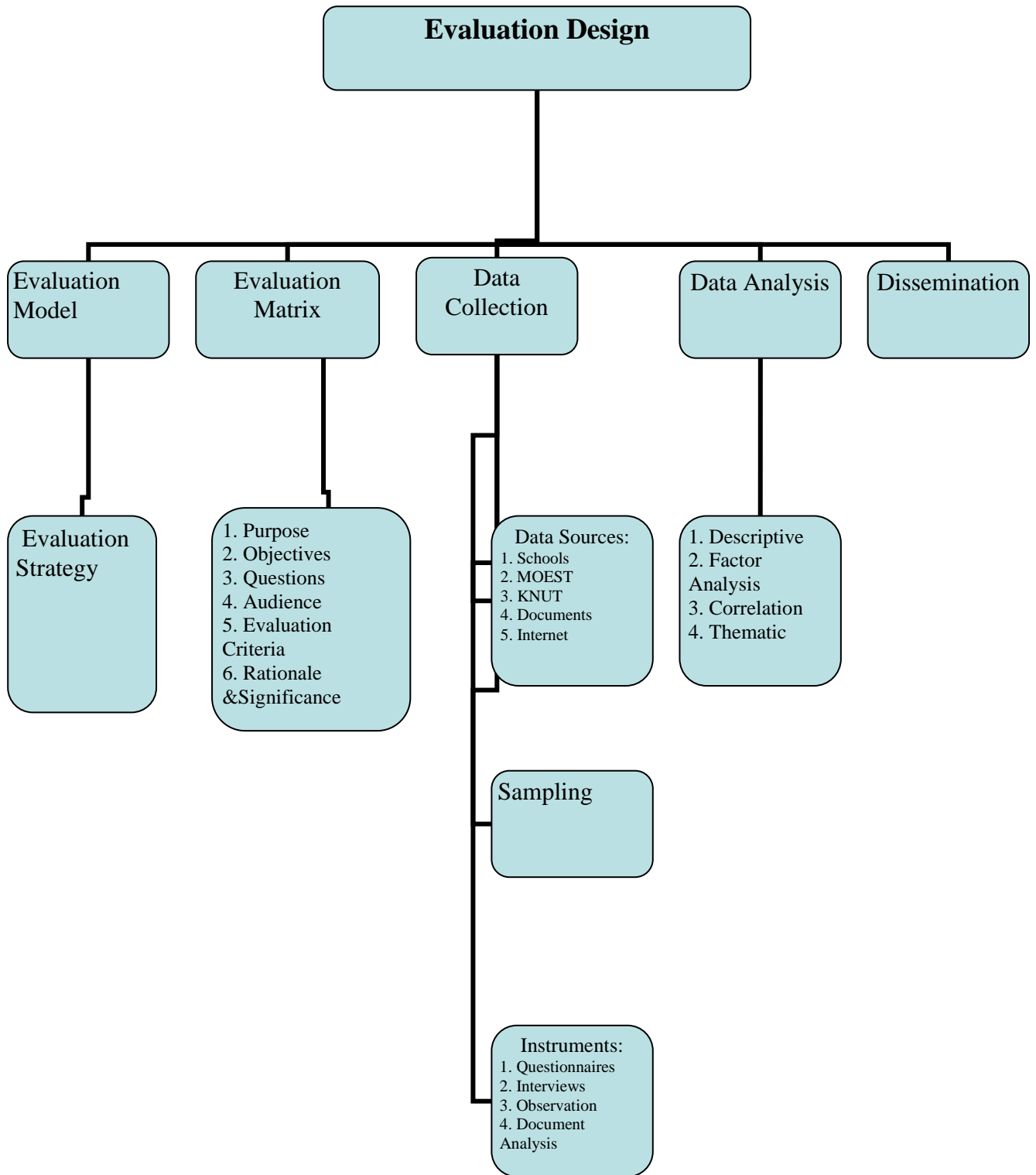
How was it evaluated?

In an effort to answer these questions, the design was divided into a series of sequential evaluation steps which represented a series of decisions and actions that were taken during the investigation. These steps are presented in Figure 4, and are discussed in detail subsequently.

This section outlines the evaluation design that was adopted for the study. It contains an evaluation strategy that includes a narrative description of key evaluation models, the evaluation strategy adopted for this study, an evaluation matrix outlining the key

evaluation issues and questions that were addressed in the evaluation; the key indicators or measures against which the programme was evaluated in relation to each issue; data collection and data analysis strategies employed in the evaluation; and proposed dissemination strategies for the study.

Figure 4: The Evaluation Design



5.4.2 Evaluation Model

An evaluation model stipulates the question that a given type of evaluation seeks to answer, as well as specifying how to set up the criteria for assessment. The literature on programme evaluation offers several typologies of evaluation models and the one used in this study is borrowed from Rehle et. al (2001), who distinguish between four evaluation models thus:

Formative Evaluation

This is evaluation that should be ideally conducted during the planning (or replanning) of a prevention program. It explores the need for intervention and helps programme planners to make tentative decisions about effective, feasible intervention strategies. It also provides useful feedback information to help planners adjust programs to changing situations. It is also useful in identifying unacceptable or ineffective intervention approaches, designs and concepts. However, due to the urgency of the HIV/AIDS problem, many interventions have been introduced without conducting a formative evaluation. The effect of this has been felt particularly in interventions designed to reduce sexual transmission of HIV. Literature on such cases has shown examples of ideas that made perfect sense in the abstract but failed in the ‘real world’.

Process Evaluation

This kind of evaluation answers the question, ‘To what extent are planned intervention activities actually realised?’ Both input and output are key elements of process evaluation. It is this type of evaluation that provides an understanding of the processes through which

intervention activities achieve effects and can help explain the outcome of an intervention. It does not, however, demonstrate the effectiveness of an intervention.

Effectiveness Evaluation

Like the name suggests, this type of evaluation assesses the extent to which objectives of a program have been achieved. Effectiveness evaluation is used to answer the questions, ‘what outcomes were observed?’ ‘What do the outcomes mean?’ and ‘Does the program make a difference?’ Considering the fact that new age cohorts become sexually active at different times, it is important to stratify effectiveness evaluation into short-term effects (program outcome) and long term effects (program impact). Examples of short term effects are attitude change, reduction of risk behaviour; while long term effects would include sustainability issues and improved societal responses.

Cost-effectiveness Analysis

This kind of evaluation, like effectiveness evaluation, also measures program effectiveness but expands the analysis by adding a measure of program cost per unit of effect, e.g. per number of HIV infections averted.

This study is a Process Evaluation. Process evaluation concerns assessment of factors that affect or reflect how an intervention was conducted and received, and thereby has the potential to help understand the internal and external validity of the evaluation (Cook & Campbell, 1979, Cited: Baranowski & Stables, 2000). The ‘process’ focus implies an emphasis on answering a ‘how?’ or ‘what is going on?’ question rather than looking at

the product itself, in order to unravel the ‘official’ view of what should be going on and what is actually taking place (Robson 2002). The study tries to find answers to questions such as: ‘To what extent is HIV/AIDS education provided in schools? Are the intervention activities actually realised? What services are provided, to whom, when, how often, for how long, and in what context?’ It is a measurement of the products and services provided by the HIV/AIDS education program in secondary schools and the quality of those services and programs. The evaluation endeavours to gain an in-depth understanding of the program by examining the existing initiatives and what they mean in terms of concrete opportunities for action related to the needs and gaps specifically relevant to HIV/AIDS prevention.

5.4.3 Evaluation Design

The three types of evaluation designs commonly used by evaluators are:

- randomized experiments
- quasi-experiments
- non-experimental designs

In evaluations using the randomized experiment design, participants are randomly assigned to a group that will receive an intervention (called the *intervention group*) or to a group that will not receive the intervention (called the *control group*). Quasi-experiments use similar experimental groups (intervention and control groups), but unlike in the randomized experimental design, the groups are selected through non-random

methods which ensure that the groups selected have matching characteristics. Non-experimental designs, on the other hand, do not use control or comparison groups.

The type of design used in an evaluation has been linked to the validity of the evidence obtained, with a growing tendency to embrace experimental and comparative work—as some sort of ‘gold standard’—as the only appropriate way to evaluate HIV/AIDS interventions. This push has come from several quarters, mainly in the UK (Oakley et al., 1995; Oakley and Fullerton, 1996; Cited: Van de Ven & Aggleton, 1999) and in the US (Aral and Peterman, 1996; O’Leary et al., 1997; Cited: Van de Ven & Aggleton, 1999). Despite this, however, the question of what constitutes evidence in HIV/AIDS education has shown that successful approaches to HIV/AIDS education have been determined by bringing together evidence collected in different ways (Auerbach *et al.*, 1994; Coates *et al.*, 1996; Aggleton, 1997), and that no source of evidence should be devalued. Experimental researchers are not the sole repository of knowledge, nor indeed are comparative evaluations the only way in which we have come to know about the world of HIV prevention. Much of what we know in HIV/AIDS education depends on insights from practitioners, programme managers, community members, theorists and scholars from non-experimental traditions (Van de Ven & Aggleton, 1999). In the words of Oakley (1990:193), one of the strongest present day advocates for experimental designs, an experimental design is not ‘...*the only means to reliable knowledge, is sufficient in itself, or is always the right approach*’.

Endorsing the view that we should not ‘privilege’ certain kinds of evidence above others because there exists several ways of understanding what works best in HIV/AIDS

education, the current study adopted a non-experimental evaluation design for the following reasons:

- Provision for a control or a comparison group was not part of the evaluation plan
- The evaluation took place in the midst of ongoing education programs, and the choice of a data-gathering design was influenced by what was realistically implementable under the circumstances
- The nature of the evaluation was such that it was not intended to investigate outcomes of the intervention but rather the process of the intervention
- It was logically infeasible to have a control or comparison group because the intervention evaluated was assumed to have reached the entire target population.
- The programme was not new (a condition that could have lend itself easily into an experimental design), and there was no baseline data that had been collected beforehand (to necessitate a quasi-experimental design)
- Controlled trials take time to set up, conduct, analyse and report, conditions which were not feasible with the limited time and resources available for this study.

5.5 Focus of the Evaluation

5.5.1 Purpose of the Evaluation

The study was, generally, an evaluation of the implementation of the HIV/AIDS Education policy in the Kenyan secondary school and specifically, an examination of the processes of implementation and the extent to which the intended policy theories were being translated into practice. The investigation looked at existing initiatives and what they mean in terms of concrete opportunities for action related to the needs and gaps specifically relevant to the HIV/AIDS program in Kenyan secondary schools. The main focus was on the internal dynamics and actual operations of the program in order to understand its strengths and weaknesses.

The study was, therefore, a Process Evaluation. A process evaluation is an evaluation that aims at elucidating the internal dynamics of program operations (Patton 1980). It is an evaluation that typically requires detailed descriptions of a program in order to provide an understanding of the processes through which intervention activities achieve effects. This involved not only looking at the program and how it was being implemented, but also looking at the various players and determining how each of them worked in synergy with the rest in order to enhance implementation.

The evaluator's main purpose in this investigation was, therefore, to unravel the 'official' view of what should be going on and what is actually taking place (Robson 2002) in a search for major patterns that give the programme its character.

5.5.2 Objectives of the evaluation

The objectives of this study were to:

- Assess students' engagement in HIV high-risk behaviours
- Collect evidence from policy makers on both stated policy and current implementation of AIDS education in schools
- Compare this evidence with data collected directly from schools (students, teachers and Head teachers) to see whether policies are actually put into practice
- Collect evidence from various role-players on their perceptions of the process of implementation

5.5.3 Evaluation Questions

The key to good research, observes Bouchard (1976; Cited: Edmondson &McManus 2007), lies not in choosing the right method, but rather in asking the right question. With this in mind, this study addressed the following questions:

1. What is the stated policy of HIV/AIDS education in secondary schools in Kenya?
2. What evidence is there from schools to show that the policy is actually being implemented?
3. What institutional support is provided in schools to promote implementation of HIV/AIDS education?
4. Do education sector policies, systems, structures and capacity optimally assist HIV prevention education in schools?

5.5.4 Evaluation Indicators

An Indicator is the measure of the progress made towards the achievement of an objective, and it provides the basis or criteria for making judgement about the quality of an intervention. An Indicator describes a behaviour, concept, or phenomenon that captures or gives an indication of all the aspects of the phenomenon to be measured. (Bertrand & Solis 2000).

Selection of Indicators for this study was based on the following criteria:

- The extent to which the indicator provided an accurate or true measure of the phenomenon under study (Validity)
- Feasibility to collect data for reporting the indicator.
- The ability of the indicator to produce data which was easily interpreted (Utility)
- The program was expected to effect change on the indicator (there is no point in measuring something that is not expected to change).

Key indicators used in this study (Table 9) were divided according to research questions and were used to provide answers to the questions and to help explain how decisions about the program were reached.

Whereas indicators regarding the stated policy, institutional support and structures may appear straightforward, behavioural indicators can be complex and do present a number of drawbacks worth mentioning. Ideally, indicators most relevant to programming for HIV/AIDS are those that provide information on every sexual partner and every sexual

act over an extended period of time but this ideal scenario was unrealistic both in terms of the capacity of human memory and the logistical limitations of the study.

Thus, the indicators related to sexual behaviour presented in this study were a compromise between the ideal and the practical. The Indicators were related to the percentage of respondents who were sexually active, who had had sex in the last six months, and had had sex with more than one partner.

Information on condom use and injecting drugs was considered critical in assessing the students' engagement in HIV high-risk behaviours. Aside from abstinence, consistent condom use represents the only certain means of preventing the sexual transmission of HIV. Thus, tracking indicators of condom use represented an important means of assessing levels of risk (Rehle et.al. 2001).

Likewise, Knowledge indicators were included although, while being generally useful in measuring overall awareness of HIV/AIDS information, they did little to indicate risk levels amongst the respondents. This is because, for example, though students may know that condoms can prevent the transmission of HIV, this knowledge may not mean they correctly or consistently use condoms.

Table 9: Evaluation Indicators

Research Question	Indicators
What is the stated policy of HIV/AIDS education in secondary schools in Kenya?	<ul style="list-style-type: none"> ○ Content of policy document ○ Content of HIV/AIDS education syllabus
What evidence is there to show that the policy is actually being implemented?	<ul style="list-style-type: none"> ○ Process of policy execution ○ Students' Knowledge of HIV and reproductive health issues ○ Students' sexual behaviours ○ Students' attitudes towards safe sex behaviours ○ Students' use of alcohol and drugs ○ Condom use ○ Students' ability to say 'no' to peer pressure
What institutional support is provided in schools to promote implementation of AIDS education?	<ul style="list-style-type: none"> ○ Designated co-ordination for HIV/AIDS education ○ Designated time for HIV/AIDS education ○ School policy on HIV/AIDS ○ Learning materials/resources (e.g in school library) ○ Teacher training AND External support ○ Positive Head teacher attitude ○ School assemblies or programs designed to promote HIV prevention ○ Display of posters and relevant materials in the school
Do educational sector policies, systems, structures and capacity optimally assist HIV prevention education in schools?	<ul style="list-style-type: none"> ○ Process of policy execution ○ Prioritisation of HIV/AIDS education in schools ○ Provision of teaching materials/resources ○ Teacher pre- and in- service training ○ Inspection and feedback processes

5.5.5 Audience

In designing this research, several audiences are kept in mind: the academic audience (by virtue of this being a doctoral thesis) and a Kenyan audience comprising of the policy makers, head teachers, teachers and students i.e. education stakeholders.

The Academic audience serves as professional evaluators and is concerned to maintain quality standards for research, especially as regards the research design, methodological rigor, reliability and validity. For this reason, a detailed explanation of the methodology and design in this study was found necessary. The study is also a scholarly endeavour that seeks to engage with evaluation as a knowledge-building exercise and to improve knowledge and understanding of the HIV/AIDS education intervention in Kenya.

Policy makers need to be able to judge the likely effectiveness of the HIV/AIDS education programme to enable them make decisions about the most efficient and effective deployment of public resources. They need answers to the question, ‘what is working/ not working, and why/ why not?’, and they need to be able to understand the results. Consequently, the findings of this study are presented in a manner most appropriate to yield understandable results for decision makers. Easy –to-read indices such as percentages and mean scores, and easily understood data representation graphs and tables are used extensively throughout the analysis.

Head teachers and teachers, who are the programme implementers in schools, are also an important audience for this study. For them, this evaluation provides a feedback on the success of the HIV/AIDS prevention activities in the schools. Here success is assessed in terms of the level of engagement in high risk situations by the students, and the extent to which individual teachers have integrated the teaching of HIV/AIDS in their core subjects. This will enable the head teachers and teachers to engage with the practicalities of the implementation process and identify areas for change or improvement.

Lastly, the study also provides a feedback to the *students*, who are the beneficiaries of the programme, of their involvement in behaviours that put them at risk of contracting HIV/AIDS.

5.6. Data Collection

According to Casley and Kumar (1988), the data gathering process in an evaluation should serve three purposes; description, explanation and prediction. Descriptive data answers questions of who, when, where; explanation data answers questions of how or why; while predictive data helps to assess or predict the effect of a program. Different data collection methods should, therefore, be employed in order to fulfil the different purposes of an evaluation.

5.6.1 Data sources

In selecting the sites for fieldwork, I followed Honigmann's (in Burgess, 1992) criteria for selecting research sites: the research problem, research mobility, and research accessibility. Consequently, the following sources were used:

- Schools
- Ministry of Education offices in Nairobi
- The Ministry of Education library in Nairobi
- District Education offices
- The Kenya National Union of Teachers office in Nairobi
- Written materials and internet sources

Following from the research problem, all the schools sampled were public schools. They are, firstly, run by the government but most importantly; admit the vast majority of all students in secondary schools. This being the case, it was expected that these schools would be at the forefront of implementing any government policies and directives, and were therefore an ideal place to find out whether or not the HIV/AIDS policy had been implemented.

Research mobility, as suggested by Spradley (1980: Cited Burgess, 1992) was a prerequisite for selecting research sites. In each of the regions that I collected data, all the schools visited were in close proximity of each other, and this enabled the researcher to cover more ground within a short period of time. Moreover, most sources of data were centrally located in Nairobi, thus enabling the researcher to move back and forth from one source to the other within the shortest time possible.

Consideration was given to accessibility of the sources. In schools, both geographical accessibility and the level of cooperation from the school head teacher and teachers was considered. All the schools visited were within easy reach of the main road, but most

importantly, I was accepted as a researcher to carry out my research. Having been a secondary school teacher previously, I relied on the good will of former colleagues to gain access into their schools. I had also obtained a Research permit from the Ministry of Education and this also helped with access, because it legitimised my visits to the schools. This notwithstanding, gaining the cooperation of teachers was greatly influenced by my research topic, as most teachers were very passionate about the issue of HIV/AIDS.

5.7 Sampling

The process of selecting respondents was carried out in an equitable and just manner. Since the goal of the research was to identify patterns in comments across groups, participants were selected based on characteristics. All participants were therefore involved either directly or indirectly in the implementation of HIV/AIDS in schools.

The schools sample was stratified by several factors and spread over three stages.

i) The administrative classification of schools and/or geographical situatedness

All public secondary schools in Kenya are classified as National, Provincial, or District schools, and they are spread (albeit unevenly) across the eight (8) geographical regions or provinces. National schools admit students from across the country, and are concentrated in Nairobi and Central provinces; Provincial schools admit 80% of their students from their geographical regions and can be found in every province; and District schools are ideally community schools and are almost always homogeneously made up of students from the same geographical area. The schools sampled included a national school, a provincial school, and a district school. By so sampling the schools, I was able to get a

diversified sample in terms of not just geographical situatedness, but also in regard to student achievement, as those who achieve highly are admitted to national schools before lower cadre schools can pick their students.

Of the schools that were chosen from Nairobi, most of them were in the Central Business District (CBD) and some were located on top of night clubs or near very busy roads. Evidently, students attending these kinds of schools were vulnerable and susceptible to HIV/AIDS infection, and it was interesting to find out whether indeed the policy to teach HIV/AIDS education had been implemented in these schools.

ii) How individual schools were sampled

Two indices, the total number of students in a school and the composition of the school - whether single or co- educational - were considered. Those schools that had a high student population were chosen over the smaller schools for purposes of representation. Single and co- educational institutions were equally represented. Out of the 12 schools visited, 4 were boys' only schools, 4 girls' only schools and 4 mixed schools. Choosing more would have been too costly in terms of resources and time.

iii) Age / grade range

Students who had attained the age of 16 -17 were selected. This was necessitated by the nature of the questions that they were expected to respond to. Since different and younger age groups are likely to be in the lower forms, the survey was administered to pupils in forms 3 and 4.

Within the schools, as many teachers as possible were randomly interviewed, regardless of the subjects that they taught. This is because all teachers are expected to integrate HIV/AIDS education messages in whatever subjects they teach. In total, 71 teachers filled-in questionnaires.

Key informants, who included 12 head teachers and 5 policy makers, were sampled purposively. Purposive sampling is done to select individual cases that might provide the most illuminating and useful data addressing the research questions. It is deliberately picking participants for who they are (Burgess, 1982) in order to get particular data. The Heads of schools and the government officials sampled for this research were deemed to have expert knowledge that was relevant for the research.

5.8 Procedures and Analysis

5.8.1 Document Analysis

Documents play an important, though sometimes unacknowledged, role in educational research. Indeed, 'the use of documents' is often always a topic ignored or skated over in educational research methods course and textbooks and content analysis in particular tends to get played down. This is also reflected in the scant attention it has so far received in books on education research methods. Yet...a great deal of communication about and within education comes in a written form and ...can itself be the major focus of a piece of research (Harber, 1997:130)

Documentary analysis formed an important dimension of the research. Findings from the documentary analysis were used to inform interviews with key informants in the study. Documents from schools, MOEST, KNUT, newspaper articles, the policy document,

syllabi, textbooks and websites provided invaluable data for this research. Through the documents, I was able to:

- supplement information which would otherwise not be traceable
- track the policy processes over a period of time
- inform the design of research questions and other data collection methods used in this study
- triangulate evidence, thus enhancing validity of results

5.8.2 Self – completion Questionnaire

The self- completion questionnaire was deemed an appropriate instrument due to the nature of the research. In Kenya, the issue of HIV/AIDS is a highly ‘moralised’ issue especially because it is mainly spread through heterosexual contact. The use of the questionnaire removed any interviewer- interviewee interaction and therefore gave the interviewee a sense of privacy to enable them to respond to even those questions that could have caused embarrassment (e.g. number of sexual partners, frequency of risky sexual behaviour)

The questionnaire was preferred because it was cheaper to administer, while at the same time affording me the opportunity to gather information from a large sample and within the shortest time possible. (Moses and Kalton, 1971).

The questionnaires were also beneficial in checking interviewer variability (Cohen et al, 2000), making it possible for all respondents to answer the same questions, asked in the

same way, and in the same order (which made analysing easier), and they provided both informational and attitudinal aspects of the interviewees.

There were, however, drawbacks associated with the questionnaire. There was missing data which could have been caused by either a respondent not understanding a question and therefore choosing to skip it; or a respondent skipping a question that they thought was not salient to them; or respondents not finding a satisfactory option to choose from. This could have been avoided had a different instrument which allowed the researcher to prompt or probe the respondent been used.

ii) Design of the Questionnaire

The Student questionnaire was divided into two parts. The first, which comprised open-ended questions, asked students whether they had been taught HIV/AIDS in school, what they had been taught, how often, and what their attitudes were towards this education.

The second part was close-ended and was divided into three sections. The first section comprised of a 15- item instrument that was used to measure, firstly, the accuracy of students' knowledge about HIV/AIDS and, secondly, their confidence in that knowledge. The second section had 11 questions seeking respondents' rating of the sexual behaviours of their closest friends while the third section presented and asked students to respond to six vignettes dealing with peer pressure situations aimed at measuring students' confidence in avoiding risk behaviours (Appendix 1).

Likewise, the teacher questionnaire was divided into two parts. The first contained open-ended questions which sought answers relating to their perspectives about HIV/AIDS education and their preparedness to offer it. The second part was a series of statements that required the teachers to state how comfortable and confident they were in handling them (Appendix 2).

Both questionnaires were adopted from a collection of measuring devices distributed by the Centres of Disease Control for use in HIV education program evaluations. Using standardized questionnaires has many advantages. First, questionnaire development is a difficult process, and already developed instruments such as those used in this study are known to produce high-quality data. Second, because such instruments have been used in numerous settings throughout the world, their continued use allows for the results to be compared internationally to determine differences in the dynamics of behaviour change among different people.

Piloting the Questionnaire

The term 'pilot studies' refers to mini versions of a full-scale study and are '*...done in preparation for the major study*' (Polit et al., 2001: 467). Although they are a crucial element of a good study design, conducting a pilot study does not guarantee success in the main study, but it does increase the likelihood.

Pilot study involves the pre-testing or 'trying out' of a particular research instrument (Baker 1994: 182-3). One of the advantages of conducting a pilot study is that it might give advance warning about where the main research project could fail, where research

protocols may not be followed, or whether proposed methods or instruments are inappropriate or too complicated. In the words of De Vaus (1993: 54) "*Do not take the risk. Pilot test first.*"

The Student Questionnaire was piloted using 12 undergraduate Kenyan students at the University of Birmingham, aged between 18 and 25 years. The group method of piloting, where a group of respondents sit together and discuss the questionnaire, as opposed to individual interviewing, was used (Bowden et al, 2002). The students were asked not to respond to the questions through answers, but rather to read and discuss what type of information they thought the questions were eliciting. This was necessitated by the fact that most of the questions were of a very personal nature and were actually targeted at a much younger audience. The circumstances surrounding a University student studying away from home are obviously very different from those that face a secondary school student who is still viewed as a 'child' and lives under the watchful eye of the community. For this reason, responses would differ considerably. Therefore, rather than use the pilot as a 'dummy' field study, it was used to give the researcher the opportunity to listen to opposing suggestions debated.

Through discussion of the questionnaire, the researcher was able to find out the extent of sexual information that young people from a Kenyan background would be willing to divulge, and also the sources of embarrassment or discomfort that one needed to be aware of. It also gave a forum for the researcher to ascertain popular understandings of particular sexual terms, but most importantly, the researcher was able to review questions

for inclusion in the final survey, revise the questions or intended meanings, or drop certain questions altogether.

After reviewing the questionnaire, the researcher then gave the same to the Career Improvement Advice Centre (CIA) based at the University of Birmingham's student's guild, and asked them to 'tear it apart'. The CIA looked at the questionnaire's physical structure and advised on areas of question sequencing, punctuation, diction, and general grammatical correctness. The researcher found this second phase of piloting necessary because the personnel at the CIA have special training in proof reading and advising researchers on general presentation of Questionnaires. The same procedure was applied to the teacher questionnaire.

5.8.3 Observations

What a science is, you should look in the first instance not in theories or its findings, and certainly not what its apologists say about it; you should look at what the practioners of it do (Clifford Geertz 1973:5, Cited: McKernan 1991)

Observations were made of the school environment to complement existing evidence and to gather information for making inferences concerning whether or not there was provision of HIV/AIDS education in the school. Observations were also made of any grafitti on the school walls and in classrooms to check for any messages relating to HIV/AIDS prevention. Specifically, observations were made in order to:

- Study school culture
- Complement existing evidence, thereby increasing validity (Burgess, 1989)
- Observe behaviour of students inside and outside the classroom

- Gather literature around the school
- Observe the environmental conditions of the school, from which I was going to make inferences.

To do this, an observation schedule that was used in every school that was visited was drawn (Appendix 3). This, however, was done with a lot of caution because as Cohen and Manion (1980) observe, observation as a research instrument can be subjective, impressionistic and, therefore, biased.

5.8.4 Interviews

Woods (1986) observes that using interviews is often the only way of finding out people's perspectives about an issue and is also beneficial in stimulating the flow of information. With this in mind, the researcher used interviews with the main objective of collaborating issues which had been raised in the questionnaires. Interviews also enabled the researcher to collect evidence from various role-players on their perceptions of the process of implementation and to find out, from the role- players, likely constraints to future development of HIV/AIDS education.

Two types of interviews were used: face-to face interviews and e-mail interviews. E-mail interviews were used with officials who could not be available for face-to face interviews due to their busy schedule. Amongst the people for whom interviews were used were officials from the Ministry of Education's AIDS Control Unit (ACU) and the Kenya National Union of Teachers (KNUT), and head teachers of all the schools under study.

The need to use interviews was prompted by the desire for ‘depth’ of discussion (Descombe, 1998), and the lack of time on the part of the interviewees to engage in writing answers to questionnaires.

The face-to-face interviews took place in the interviewees offices, and with the permission of the respondent, the researcher took notes of the discussion. This was made possible by the nature of the questions- they were structured and required short precise answers.

E-mail interviews were preferred to telephone interviews firstly because of the cost involved in making a telephone call, but most importantly because, E-mail provides a non-coercive dialogue characterized by equality of opportunity and reciprocity in roles assumed by participants (Boshier 1990, p. 51)

5.9 Data Analysis

Data analysis is concerned with the description and explanation of variance, explaining why there is variability in some particular characteristics in a population or sample (Rose and Sullivan, 1993). It is a discussion of the nature of variables and the different levels at which they can be measured.

The Data Analysis procedures that were carried out were determined by the intended audience, the objectives for which the research was carried out, and the initial data construction procedures (Kent 2001). The analysis did not, therefore, employ sophisticated statistical analysis which might have rendered the study’s results

incomprehensible. Rather, practical, simple and easy to understand procedures that lead to readily interpretable information regarding program effectiveness were used. Both quantitative and qualitative methods of data analysis were used. They included the following.

i) Descriptive Analysis: overall means were computed for the scores attained by each category on all the instruments and each of these means transformed into a percentage for ease of reporting. This data was then displayed through the use of tables and graphs, to enable the readers to ‘eyeball’ the pattern of relationships.

ii) Factor analysis was used to yield a typology or a set of related variables from the data generated by the questionnaire for students. This approach was adopted in order to generate categories or distinct variables from within the data set. Factor analysis, then, proved very useful in the identification of the variables contained in each of the sections analysed, and these variables formed a framework applied in further analysing the data. The three main steps in conducting factor analysis namely; assessment of the suitability of the data; factor extraction, and factor rotation and interpretation (Pallant, 2006) were followed. This procedure is outlined by Hair *et al.*, (1998) and Pallant (2006). The 11 Sexual Behaviour and 15 Knowledge of HIV/AIDS items used in this study were therefore subjected to principal component analysis (PCA) using SPSS. All the items had Eigen values exceeding 1 and were therefore retained for further analysis. In this regard, items on Sexual Behaviour loaded on three Factors, while items on Knowledge of HIV/AIDS loaded on four Factors. (See details in Chapter 7).

iii) Correlation coefficients: A correlation coefficient is a number between -1 and 1 that measures the degree to which two variables are linearly related. If there is a perfect linear relationship with a positive slope between the two variables, then the correlation coefficient is 1. If there is a perfect linear relationship with a negative slope between the two variables, the correlation coefficient is -1. A correlation coefficient of 0 means that there is no linear relationship between the variables. A number of different correlation coefficients could be used, depending on the kinds of variables being studied. In this study, the Pearson's product moment correlation coefficient was used to give an indication of both the strength and the direction of the relationship between the variables.

iv) An analysis of variance (ANOVA) was used to test for differences among students in the three school categories (Boys only, Girls only and Mixed schools).

The researcher used SPSS to do the above mentioned statistical measures.

5.10 Dissemination of Findings

Evaluation does not end with a report. To be effective, the results must feed back into the intended audience as it is an essential part of the evidence required to make policy decisions, to maintain and improve performance of interventions, to share the lessons learnt and to identify weaknesses and improve processes.

Dissemination of the results of the current study will be tailored for each audience in terms of scope and presentation format (Fitzpatrick et al., 2003; Patton, 1997; Rossi et al., 1999), paying attention to the diverse information needs of the key stakeholders so that

the likelihood of use is increased. The dissemination techniques will include a full report, an executive summary, a PowerPoint presentation, a fact sheet and a statistics sheet.

A full report of the evaluation will be provided for both the academic audience and for the sponsor, the Ministry of Education, to be used as the audience sees fit. An executive summary, providing only the highlights- namely, the evidence that bears most directly on the decisions at issue- will be designed to accompany the full report submitted to the sponsor.

It is hoped that the evaluator will seize opportunities such as district school board meetings or teachers' organizations meeting, and give oral presentations of the findings. A PowerPoint presentation will be created to enhance such oral presentations. The PowerPoint presentations will also be used in academic seminars and conferences.

Head teachers, teachers and students also need to be provided with insights into the program because they are directly affected. Fact sheets containing, for example, the misconceptions about HIV/AIDS infection or students' ability to resist peer pressure will be produced for display on schools' notice boards, to serve as techniques of disseminating important information to the school community. Likewise, statistics sheets showing, for example, the actual number of teachers who teach HIV/AIDS in the classrooms will be given to head teachers.

5.11 Research Ethics Protocol

Conducting HIV/AIDS studies poses particular ethical challenges because of the stigma and human rights issues surrounding HIV/AIDS. A key element in obtaining permission

to conduct this research was its ethical considerations. There was awareness, from the very beginning, that researching sexual matters would be a challenge, since ‘ anything having to do with sex causes a great many people to feel embarrassed’ (Kelley & Byrne, Cited: Frith 2000, 281). This is because sexual practices always involve a degree of privacy. There was need, therefore, to put every effort to ensure the safety and protection of all participants involved in the data collection activity. Therefore, prior to the fieldwork research, the researcher drew up a research protocol in line with the University of Birmingham’s School of Education Research Ethics guidelines, which borrow heavily from recommendations of BERA.

All respondents were given clear objective information about the research project and the purpose for which data were being collected in order for them to give their informed consent to participate in the research. It was explained that participation was entirely voluntary, and that adequate measures would be taken to ensure the confidentiality of the participants’ records. Moreover, the teacher participants were required to sign a consent form that was attached to the questionnaire, and were given the option of providing an e-mail address in order to receive a copy of the findings. For students, approval of data collection was sought in advance from the Ministry of Education and from the school authorities. In all cases, every participant was made aware of their right to either participate or not.

The issue of confidentiality, especially with heads of schools and with the Ministry’s management team posed a real problem during the research. Some respondents found it

totally implausible that the information they provided would be kept secret from government authorities, especially because the researcher was on a government scholarship. Moreover, some of the interviewees were highly placed government officials who felt that their opinions might not sit well with the establishment.

Since this study was about young people's sexually risky behaviours, most of the information sought was very sensitive and highly personal. It was essential that the respondents' confidentiality and privacy were maintained. To ensure strict confidentiality, instruments were completed anonymously. Students used check marks as opposed to complete words, seating was arranged in such a way that no one was able to peep at the other person's responses, and non-identifiable pens were used by everyone. After the exercise, all completed booklets were placed in one large envelope to avoid identifying the respondent.

The question of confidentiality is, in itself, paradoxical as the researcher's job is essentially that of generating information from respondents and, after due analysis, passing this on to others (Walford, 2005). As this was an evaluation project, information obtained from respondents was vital for improving and sustaining good practices in HIV/AIDS prevention efforts. All participants were informed that the study was being conducted for academic purposes and that findings would be widely available once the material was published or presented in seminars and conferences. Utmost anonymity was, however, promised. The researcher would ensure the anonymity of participants by:

- Not providing any names or personal information about participants

- Not naming the regions from where the participants came, as this would make tracing the information back to particular people easy.
- Ensuring that data collected was only accessible to the researcher who converted it into electronic data and disposed of it adequately.

5.12 A Methodological review: research design, data analysis and outcomes

5.12.1 Research Design: Fitness for purpose

The choice of a non-experimental evaluation design was chosen for this study because it offered more explanatory power of the social and relational factors involved in behaviour, for example, the effect of peer pressure, which tends to become obscured in an experimental design. Besides, as observed elsewhere in this thesis, there is now growing evidence that an experimental design is not '*...the only means to reliable knowledge, is sufficient in itself, or is always the right approach*'. (Oakley 1990:193). This is further supported by Auerbach *et al.*, (1994); Coates *et al.*, (1996); and Aggleton (1997), who posit that successful approaches to HIV/AIDS education have been determined by bringing together evidence collected in different ways and that no source of evidence should be devalued.

Endorsing the view that we should not 'privilege' certain kinds of evidence above others because there exists several ways of understanding what works best in HIV/AIDS education, the research design in this thesis adopted a non-experimental evaluation design for the following reasons:

- The evaluation took place in the midst of ongoing education programs, and the choice of a data-gathering design was influenced by a consideration of the social and educational contexts operating at an individual, local and national level of programme implementation. An experimental design was therefore rejected as not fit for purpose within the research intention summarised in section 5.5.2
- The nature of the evaluation was such that it was not intended to investigate outcomes of the intervention but rather the process of the intervention, thereby indicating the relevance for using survey by questionnaire and interview tools to elicit data as part of a mixed methodology.
- The programme was not new (a condition that might have justified further consideration of an experimental design, or quasi-experimental design)

5.12.2 Evaluative Research: Reflexive Appraisal of Methodology and Method

A difficulty related to evaluation as a critical methodology is the wide range of different perspectives and understandings of the process, as well as the underlying imperative for value-judgments about efficacy that need to be brought to bear upon the research as part of a relationship between the researcher and the researched. This study as an ‘evaluation’, addresses several audiences: the academic audience (by virtue of this being a doctoral thesis), the wider professional and public audiences as a piece of research looking at educational intervention to combat the spread of HIV/AIDS, and in the context of the Kenyan educational system, policy makers, head teachers, teachers and students. A framework based on multiple perspectives and methods that capture and reflect this complexity of function is therefore part of considering the research design. Consequently,

although policy evaluations traditionally collect quantitative data (Jacobs, 2003), this study has adopted a design intended to capture ‘thick’ qualitative data rich with context specific qualities as well as quantitative data enabling more generalized information to assist an evaluation of implementing the specific educational programme .

Mixed methods research is increasingly articulated and recognised as a third major research approach, along with qualitative and quantitative research (Johnson et al., 2007;). It is, therefore, in itself a major approach to evaluative design and as described by some researchers, the reason why “we currently are in a three methodological or research paradigm world, with quantitative, qualitative, and mixed methods research all thriving and coexisting” (Johnson *et al.*, 2007, p. 117). The strength of mixed methods research and use of methodological triangulation as a technique is that it enables the researcher to use one or more methods of data collection to corroborate findings from data collected using a different technique (Johnson *et al.*, 2007). This, arguably, has strengthened the evaluative research design, research process and project underpinning the thesis as presented in this discussion.

Implementing the research design: strengths and limitations

The research data for this study were collected using four different methods, namely; a) secondary data from journals, books, government documents and electronic materials; b) self-administered questionnaires to collect data from the field; c) semi-structured interviews and d) observations. By using mixed methods, the researcher was able to use excerpts from the qualitative interviews to support the findings from the statistical data

analysis, and hence giving a clearer understanding of the results from the statistical analysis (Johnson *et al.*, 2007). Further, by combining qualitative and quantitative methods, the researcher was able to enhance the validity and credibility of the study and thus provide a greater comprehensiveness of the findings (Easterby-Smith *et al.*, 2002; Gill & Johnson, 2002; Remenyi *et al.*, 1998).

In other words, as Rossman and Wilson, in their article ‘Number and Words Revisited: Being ‘Shamelessly Methodologically Eclectic’ (Rossman and Wilson, 1994 Cited: Jacobs 2003) observe, the advantages of combining the two techniques were:

- Corroboration: The quantitative method (Questionnaire) was used to collect qualitative data (open-ended response questions in survey).
- Elaboration: one method enhanced and clarified the findings of the other method
- Development: An exploratory study of the policy and how it should be implemented was used to inform the construction of both the quantitative methods of data collection (questionnaires) and the qualitative methods (the interviews).
- results of one method were used to shape the other method
- Initiation: the different methods offered different lenses through which to study the HIV/AIDS education programme (for example, the perspectives of the administrators and the experiences of the students). This way, the researcher was able to capture different dimensions of the program and to study different facets of the program (the policy, the school, the district, the implementation structure).

5.12.3 Data analysis: appraisal of method

The Data Analysis procedures as previously explained were determined and shaped by the intended audience, the objectives of the research and the initial data construction procedures (Kent 2001).

Qualitative methods included interviews and observations, and were used to gain an in-depth understanding of the intervention. They were found valuable in answering questions like:

- Is the intervention being implemented according to plan?
- What are some of the difficulties faced by staff?
- Why were there disparities in implementation?
- What is the experience like for participants?
- Were there any unexpected impacts?

Quantitative analysis, on the other hand, involved school surveys and was used to answer questions like:

- What is the percent distribution?
- What is the average?
- How do participants rate the usefulness and relevance of the intervention?
- How much variability is there in the data?

- What is the relationship between program objectives and its outcomes? How can we measure the strength of that relationship?
- Are the results statistically significant?

The collected data therefore involved participants in the research providing a range of perceptions, understandings, attitudes and perspective on the actual implementation of policy in the form of the educational programme aimed at changing student behaviour.

As a research study, the design poses a number of methodological limitations. Firstly, the programme under review is relatively new and therefore quantifying/ qualifying it in so short a time proved difficult. In most of the schools visited, the programme had either not been started or it was being undertaken at a ‘pilot’ level. Any meaningful change in behaviour can only occur after an intervention has been in place for a considerable period of time.

Secondly, there are many interventions going on at the same time which makes outcome or impact of any of them difficult to distinguish and measure. Other than the Ministry of Education programme, KNUT (Kenya National Union of Teachers) was running a programme of training teachers to teach HIV/AIDS; USAID, through the Centre for British Teachers (CfBT) had also started a pilot study in secondary schools which is an extension of the well established programme they offer in primary schools; the Girl Guide Association also had a programme for teachers. Besides, the media transmits programmes on HIV/AIDS on all radio and television stations. There are Ministry of

Health billboards and leaflets available in all social places, which the students can access. It was therefore, not easy to determine whether the HIV/AIDS education students had was a direct consequence of the introduction of HIV/AIDS education in schools or not.

Another major drawback for this study emanated from the apparent difficult to directly observe and measure HIV/AIDS risk and protective behaviours related to sex because they are private. Consequently, most of the data used was obtained from self-reports, as opposed to biological markers such as incidents of STIs, or actual usage of condoms during a sexual encounter. This could have led to a high probability of a social desirability bias, which could occur if participants did not answer questions honestly because they perceived the truth as socially unacceptable or undesirable. This is a common risk with studies requiring self reports of sexual involvement as these behaviours are seen as socially undesirable and therefore are under- reported (Catania et al., 1990).

In order to reduce social desirability bias, the following steps were taken:

1. the goals of the research were fully explained before the exercise, and the importance of honest reports emphasized
2. all respondents were assured of the highest level of confidentiality of any information obtained from them
3. the design of the questionnaire/ interviews was such that questions that might lead to greater social desirability bias were not asked at the beginning, but later when the respondent had become more familiar with and trusting of the interview process.

The piloting of the instruments, too, was not as effective as it could have been because the limited time and resources meant that convenient samples were used (University students rather than Secondary school students), and they generally did not reflect conditions in the field. Whereas, for example, all questions appeared to be clear and straight forward for the University students, the same was not the case with secondary school students and this could have led to misinterpretation of the questions. Moreover, some data was not sought that with hindsight could have been useful. For example, demographical data (age, sex, marital status, educational qualifications, years of teaching experience) might have given a better insight into why there were disparities in the provision of HIV/AIDS education across the schools.

Additionally, the teacher questionnaire had open-ended items which asked the teacher whether they taught HIV/AIDS in school. With hindsight, a more focussed question and related methods of contextual or individualized gathering of experience and perspective on this issue would have added to an evaluation of teachers' knowledge and attitudes about HIV/AIDS and, for example, their own sexual behaviours.

Generalizability of findings at the level of scholarly work is constricted by an evaluative design and the size of sample which is necessarily context-dependent and resource-limited. However, although the sample might seem un-representative of the entire student/teacher population in Kenya, the validity and reliability of the data gathered from

this sample was enhanced by the fact that the characteristics of the sample used were consistent with those of the population of interest. As observed earlier in this chapter, consideration was made of whether schools were National, Provincial or District in the sampling. Consequently, the sample reflected a cross-section of students from all parts of the country (see pg 176). Besides, the sample size for this study was obtained using a formula developed by Krejcie and Morgan (1970), that created a table based on the formula which shows the population of a study and the expected sample size thus ensuring that the researcher obtained a representative sample for the study (see Appendix 7). Krejcie and Morgan (1970) state that, “as the population increases the sample size increases at a diminishing rate and remains relatively constant at slightly more than 380 cases” (p.608).

To sum up: the questions and decisions relating to research design, methodology and method in this thesis reflect an intent to capture data and understandings situated in a specific context as a part of an evaluative framework. There are strengths and limitations involved in such a design but it has proven to be robust as an approach and I would claim constructive in providing useful and worthwhile evaluative insights into the work of implementing the HIV/AIDS Educational Programme in Kenya. It has also, at a second level, opened up methodological issues and understandings of the researcher around the work of evaluative research that will hopefully contribute to further development in the field.

CHAPTER 6: AN ANALYSIS OF THE HIV/AIDS POLICY IN KENYA

6.0 Introduction

The main concern of this study was to find out how the policy on HIV/AIDS education in Kenyan secondary schools was being implemented. To do this effectively, various documents relating to the Education sector policy on HIV/AIDS were analysed, and field surveys were conducted with key stakeholders (students, teachers, head teachers and Ministry officials). Typically in writing up the report of a study, the results are first cumulatively presented then discussed. However, the following two chapters of this study provide the results and their discussion simultaneously in order for the audience to interpret the results as they come. That way, the results can make more sense to the reader.

This chapter presents findings from the document analysis of both the Kenyan education sector policy on HIV/AIDS and the HIV/AIDS education curriculum in secondary schools. This is intended to establish not only what the stated policy regarding HIV/AIDS in secondary schools is, but how it is operationalised. Therefore, the HIV/AIDS education policy and the AIDS education syllabus are used as the empirical basis for this section because they signal the intentions of the Kenya government, and, specifically, the Ministry of Education, to provide HIV/AIDS education in schools.

6.1 Background

The gravity of AIDS as a medical and social problem and the consequent concern of the government to intervene in the processes regulating desire and sexual practice have been reflected not only in the production of public information but more significantly in the production of an education sector specific policy on HIV/AIDS.

Although the first case of HIV/AIDS in Kenya was diagnosed in 1984, it was not until later, in 2004, that the HIV/AIDS education policy was launched. The policy formalises the rights and responsibilities of all the persons involved, directly or indirectly, in the education sector with regard to HIV and AIDS.

Kenya was slow to come up with proper guidelines regarding an education policy on HIV/AIDS because different stakeholders were engaged in what Fineberg (1988) describes as a fundamental disagreement about the propriety of educational messages to prevent AIDS. Fineberg goes further to describe these differences thus:

For some, the only socially acceptable change is to have people altogether abandon certain behaviours. In this moralistic view, it is wrong to have sexual relations outside of marriage and it is wrong to use drugs, hence it is wrong to advocate or even discuss anything (such as use of condoms or sterile needles) that would appear to condone these activities. Others take what might be called a rationalistic view: behaviours that will occur and are dangerous should be modified so as to make them safer' (Fineberg 1988: 593)

Such philosophical differences underlay the reticence of many national leaders and church ministers about AIDS education, and there was even controversy over the propriety of specific educational materials with debates among catholic prelates

prohibiting any teaching about condoms. The debate of what approach HIV/AIDS should take was therefore characterised in terms of two opposing viewpoints: ‘health advocates’ and ‘moralizers’. The beliefs of these two positions are summarised by Eisenberg (1989: 759-60) when he says that to moralizers, *‘sex education is the primary responsibility of family and church. If it is permitted in schools, moral content must take precedence over physiology’*. Those, on the other hand, who adopt a ‘pragmatic’ position, are of the opinion that:

The consequentialist position on sexuality begins with the recognition that pre-marital experimentation is widespread in contemporary society...Because ignorance about sex not only fails to delay sexual expression but transmutes it into a high risk activity, public health advocates focus on what is feasible, namely, the provision of full information about how disease transmission can be minimised, and ready access to condoms to increase their use when sexual intercourse does occur.

As different people argued about what should or should not be, so did the rate of HIV/AIDS infection peak. According to the Kenya AIDS Control Programme, the national HIV prevalence rose from 3.1% in 1990 to 9% in 1998. The total number of reported HIV/AIDS cases was said to be 49,879 in 1994 (NAS COP, 1994), but the number had risen to 78,000 cases by 1998 (DHE, 1998). In the same year, over 250,000 people had died of AIDS and an estimated 1.5 million were reported to be HIV positive (ibid). Over 90,000 of those infected were children (NAS COP, 1997).

It was against this backdrop that in 1999, the then president of the Republic of Kenya, Honourable Daniel Toroitich Arap Moi, declared HIV/AIDS a national disaster. The president’s declaration became significant as it paved the way for various ministries to

address the issue of HIV/AIDS. The ministry of education embarked on the process of developing a sector specific policy on HIV/AIDS and the policy was launched in July 2005.

6.2 The Policy

The Policy document attributes the problem of AIDS prevention to exacerbated unsafe behaviour by the sexually active population in Kenya (DEH, 1998:8)

The Education Sector Policy on HIV/AIDS in Kenya was developed by the Ministry of Education with the central aim of energizing and mobilising an intensification of HIV/AIDS prevention and treatment. The policy defines the actions that must be taken to arrest the spread of HIV infection and to turn the tide against AIDS. It identifies what needs to be done to effectively bridge the HIV prevention gap. It highlights the role of schools in relation to HIV prevention, and points to ways in which supportive action can be achieved.

The policy was developed with the participation of and in consultation with a wide range of stakeholders. The policy applies to learners, employees, managers, employers and other providers of education in all public and private, formal and non-formal learning institutions at all levels of the education system in Kenya.

The main objectives of the policy are to:

- develop a shared vision on HIV/AIDS for the education sector
- come up with a deeper understanding of the HIV/AIDS interventions required
- develop implementation processes

- agree on monitoring and evaluation indicators
- guide implementers on implementation of HIV/AIDS activities (Kelly, 2000)

This is in recognition of the devastating consequences that HIV/AIDS has for virtually every sector of society, the education sector notwithstanding. As the epidemic gathers pace, it poses increasing risks to education, threatening to stop children from enrolling, teachers from teaching and schools from functioning. There is an increasing recognition that the education sector has an important role to play in the prevention of HIV infection, in the support of infected and affected people, and in maintaining service delivery despite the impact of AIDS. Moreover, as more and more young people get sexually active and hence increase their risk of infection, educational institutions, which can reach the majority of these young people fairly easily and in large numbers, are called upon to promote messages of prevention, care, and health promotion. The Education sector policy on HIV/AIDS in Kenya cannot be timelier.

More specifically, the policy stipulates that it is the responsibility of all learning institutions to address HIV and AIDS through education, developing skills and values and changing attitudes to promote positive behaviours that curb the spread of HIV/AIDS. The policy anticipates that each institution will be able to mobilise different stakeholders such as local communities, religious groups, leaders, parents, caregivers and guardians to support and ensure success of the HIV and AIDS prevention and control programmes within the learning institutions. It endorses a curriculum with content guidelines that address HIV/ AIDS but is sensitive to cultural and religious beliefs and appropriate to age,

gender and special groups. It describes how life skills will be mainstreamed into the existing curriculum and co-curricular activities at all levels and encourages all learning institutions to use co-curricular activities such as clubs, drama groups and sports events to inform and educate on HIV/AIDS.

The policy requires pre-service and in-service programmes for teachers to prepare them to respond more effectively to HIV/AIDS issues and the mobilisation of different stakeholders to ensure the success of the intervention within the institutions. Head teachers are mandated to ensure that supervisory systems and measures are in place, and to provide a safe teaching and learning environment for both teachers and learners.

The policy states that relevant and suitable teaching and learning materials for HIV prevention will be developed for use by all institutions and workplaces. It requires that research on levels of HIV prevalence, orphan hood, vulnerability, access to education and other relevant areas will be undertaken, and managers at all levels in the education sector should put in place mechanisms for monitoring and evaluating the quality of HIV programmes.

In summary, the policy is based on four main goals, discussed separately on the following pages:

- *Prevention*: An environment in which all learners and education sector personnel are free from HIV infection.

- *Care and support*: An education sector in which care and support is available for all, particularly, orphans, vulnerable children and those with special needs.
- *HIV and AIDS and the workplace*: Non - discriminatory labour practices, terms and conditions of service frameworks are in place that are sensitive and responsive to the impact of HIV and AIDS.
- *Management of response*: Management structures and programmes are in place at all levels of the education sector to ensure and sustain quality education in the context of HIV and AIDS. (Education Sector Policy on HIV/AIDS, Republic of Kenya, 2004).

6.2.1 Prevention

Based on UNAIDS data, a 2003 report from the Global HIV Prevention Working Group (UNAIDS, 2003) reviewed the most recent evidence on HIV prevention needs. The report revealed that less than one person in five at risk of HIV had access to basic HIV prevention services globally (www.kff.org/hivaids/200305-index.cfm), and only about 5% of pregnant women living with HIV in sub-Saharan Africa have access to services which would prevent the virus from infecting their children. This notwithstanding, HIV prevention has led to decreases in the incidence of HIV infection in numerous populations and it is now evident that the AIDS epidemic can be reversed if effective HIV prevention measures are intensified in scale and scope. Prevention depends very heavily on education. Every prevention effort, the majority of coping strategies, activities directed towards mitigation of impacts, and virtually every programme designed to outwit and get ahead with HIV/AIDS, depends in one way or another on education (Kelly 2004). Preventive education has been described as a ‘social vaccine’ against the spread of HIV/AIDS and is an important strategy in the fight against HIV/AIDS.

The Kenyan Education Sector Policy on HIV/AIDS is a wake-up call for the education sector in Kenya to rise to the fundamental challenge of tackling the disease head-on. It provides the impetus for educational efforts to improve knowledge about the disease, develop the skills needed to act responsibly and creatively against it, promote living and co-operating with others in a caring, non-stigmatizing way, and foster the ability to make healthy and life-affirming choices. The insistent plea of the policy is for every individual in the education system to ensure that the education sector realizes its potential as one of humanity's most powerful agents in combating the spread and impact of HIV/AIDS. Education, especially school education, is seen as playing an even more crucial role in the combat against HIV/AIDS.

In order to realize this goal, the education sector sets out to promote prevention through:

- Education on HIV/AIDS through the development of skills and values that promote positive behaviours (through the school curriculum, co-curricular activities, Teacher education curriculum and mobilization of local communities and religious groups)
- Provision and access to current, accurate factual and comprehensive information on HIV/AIDS
- Peer education
- Mainstreaming of teaching and learning about HIV/AIDS in all education institutions (Education Sector Policy on HIV/AIDS, Kenya, 2004)

6.2.2 Care and Support

When AIDS education with HIV positive people is considered at all, it is frequently seen only in terms of preventing new infections by teaching HIV positive people about the

importance of not passing on the virus. An important and commonly-neglected aspect of AIDS education with HIV positive people is enabling and empowering them to improve their quality of life. HIV positive people have varying educational needs, but among them are the need to be able to access medical services and drug provision and the need to be able to find appropriate emotional and practical support and help.

The Education Sector Policy on HIV/AIDS in Kenya recognises the need to establish mechanisms to address the psycho- social, physical, emotional, educational and spiritual needs of affected and infected individuals through:

- Access to health services for employees and learners
- Provision of on-going professional counselling
- Material and moral support especially for Orphans and Vulnerable Children (OVCs)
- Financial support through a bursary scheme to cover educational needs of deserving affected (Education Sector Policy on HIV/AIDS, Republic of Kenya, 2004)

6.2.3 HIV/AIDS and the Workplace

HIV and AIDS is a workplace issue, and should be treated like any other serious illness/condition in the workplace. This is necessary not only because it affects the workforce, but also the workplace, being part of the local community, has a role to play in the wider struggle to limit the spread and effects of the epidemic. (ILO. ILO Code of Practice, Geneva, ILO, 2001)

HIV/AIDS threatens productivity, profitability and the welfare of employees and their families. Workplace HIV/AIDS policies and programmes can play a vital role in raising awareness around HIV, preventing HIV infection and caring for people living with HIV. They also serve to promote equality and non-discrimination between individuals with

HIV infections and those without, and between HIV/AIDS and other comparable health/medical conditions. Despite the prevalence of HIV infection in sub-Saharan Africa, the stigma associated with AIDS is still very real and tangible. Actual or imagined HIV-positive people are denied social, emotional, economic and educational support. This fear is too often accompanied by ignorance, resentment and ultimately, anger. Sometimes the results of prejudice and fear can be extreme, with HIV positive people being denied basic human rights. Workplace HIV/AIDS policies help to create a supportive environment for all employees regardless of their HIV status, and protect their human rights and dignity. In order for these policies to be effective, they should be protected by relevant and legally-binding regulations and procedures. The Kenyan Education Policy sets out guidelines that are aimed at ensuring that all employees have the same rights and obligations regardless of their HIV/AIDS status. More specifically, the policy states that:

- No one in the education sector will be discriminated against in access or continued employment, training, promotion or employee benefits on the basis of their HIV status
- There will be no compulsory HIV testing in the workplace
- Employees living with HIV/AIDS have the right to confidentiality
- All employees should be familiarised with the education Sector Policy on HIV/AIDS, and they should have access to copies of the policy
- No learners or teachers shall refuse to study with, teach or be taught by persons living with HIV/AIDS

- All school managers are accountable and responsible for implementing the policy in the workplaces under their control (Education Sector Policy on HIV/AIDS, Republic of Kenya, 2004).

6.2.4 Management of the Response

HIV/AIDS is a development issue and the largest single management challenge facing education (Badcock-Waters, 2001). It impacts on every aspect of management, teaching and learning. It has dramatically exacerbated the scale of existing systemic and management problems in education and the education sector can only mitigate the impact of HIV/AIDS through the creation of well managed learning environments. Research suggests that implementation of educational policies depend on ‘confidence, motivation and capability (knowledge and skills previously acquired), which in turn depend on how [staff] are managed and on the micro culture of their immediate work environment’ (Eraut, 1999: 118). In the first instance, it is necessary to identify the key decision makers at all levels and initiate a strategic response that is participative and interactive with and among those directly affected.

The current Education Sector Policy on HIV/AIDS in Kenya recognises HIV/AIDS as a serious problem in the education sector that requires an appropriately high level commitment of management at all areas of responsibility. It identifies Planning, Training and Development Research and Monitoring and Evaluation as key to the management of the HIV/AIDS response. Also important is continued and sustained policy review and advocacy strategies that support implementation of the education policy.

6.2.5 Weaknesses of the policy

The Education sector policy on HIV/AIDS, though comprehensive, lacks in certain areas that could impede effective implementation. These are;

- It is superimposed on structures which are already overstretched.
- It lacks clear implementation guidelines. The policy is non-committal rather than authoritative, and leaves various implementers with the option to either implement it or not. It appears to suggest that institutions should implement HIV/AIDS education, rather than requiring them to do so.
- The policy has not created clear implementation structures at all levels with specific mandates. This explains why no one was taking responsibility for implementation in the District Education offices.
- The policy does not provide a framework for follow up and supervision.
- While the policy states that ‘Life Skills’ shall be mainstreamed into the existing curriculum and co-curricular activities, it does not elaborate on how this mainstreaming should be done.
- The policy does not set a time frame within which its implementation should occur
- The policy does not elaborate on the mandates, duties and responsibilities of the various stakeholders in the interpretation and implementation of the policy.
- As the study revealed, there has not been adequate dissemination and education on the policy among key stakeholders, rendering it unusable as no one was able to provide the curricular direction that was needed to implement the policy.
- The policy does not include issues and concerns of people living with disabilities

6.3 The HIV/AIDS Curriculum

To operationalise the education sector policy on HIV/AIDS in school, the Kenya Institute of Education (K.I.E) developed a national curriculum on HIV/AIDS education, through which HIV/AIDS messages are transmitted to students. The major resources developed for use in secondary schools are the ‘Secondary AIDS Education Syllabus’ and ‘Bloom or Doom-Your Choice’. Both these resources are meant for use by teachers or facilitators.

6.3.1 Content

An HIV/AIDS curriculum’s quality is judged by its impact on students. According to the Centres for Disease Control (1992), there are seven characteristics that an HIV/AIDS curriculum should embody. These include:

1. Sound Instructional principles of teaching HIV/AIDS
2. Functional knowledge about HIV/AIDS
3. Discussion of issues that create vulnerability perceptions in pupils
4. HIV-related attitudes
5. Interpersonal skills
6. involvement of parents and guardians
7. adequate duration of programme

These principles have been discussed previously (in Chapter 4), and form the basis for evaluation of the AIDS Education syllabus for schools in Kenya in the following section. This is deemed important because as observed earlier, the syllabus is the gateway through which the policy is implemented in schools.

The AIDS education syllabus in Kenya is based around a ‘life skills’ approach – that is, an approach that focuses on relationship issues and the social side of HIV, as well as simple scientific facts about infection. The syllabus recognizes that it is not enough to simply give students information about HIV/AIDS for them to learn, and therefore places emphasis on active learning where students are engaged in group work and role-play to enable them discover the practical aspects of the information they are given. Objectives to each lesson are stated in clear, measurable terms, and attempts are made to use students’ prior knowledge. The time provided for student practice is likely to be sufficient for the objectives involved. The syllabus does appear, therefore, to be consistent with what is currently known about effective instruction.

This notwithstanding, results from this study (chapter 7) show that most teachers who are mandated to teach HIV/AIDS are not trained specifically in methodologies suitable for teaching the subject. Most teachers in Kenya are more used to teaching subjects in a factual, academic fashion, inundating students with facts and figures, especially because school education in Kenya is focused on examinations (www.avert.org/aids-schools). Such teachers might have problems teaching HIV/AIDS as it requires that they engage pupils in active learning sessions.

The national curriculum also provides for practical information about HIV/AIDS and covers topics that promote awareness. It addresses risk behaviour such as drugs, pre marital sex and alcohol and looks at ways of avoiding such behaviour. The curriculum does not, however, address young people who might have engaged in sexual intercourse

or have injected drugs to the extent that there is no mention of using condoms or sterilized needles for protection.

In order to equip students with the knowledge and motivation to assess their personal vulnerability to HIV infection, the curriculum provides for peer education, video tapes of accounts of people living with AIDS, and face-to-face presentations by people living with AIDS. The curriculum also maintains linkages with parents and the wider community through encouraging students to participate in AIDS prevention cultural activities and also through analyzing the AIDS situation in their immediate environs.

However, the affective dimensions of HIV/AIDS have been underemphasized in the curriculum. There are no segments of the lessons that directly address the promotion of student affect. The curriculum assumes that the students have not had sexual relations, and therefore advocates abstinence, disregarding condom-use for those who are already sexually active. There is also no mention of injected drug use and needle sharing, although students should be made aware of their dangers. Moreover, the area of interpersonal skills is not exhaustively addressed. Assertiveness and communication skills lessons are only given twice in the whole 4-year syllabus.

Overall, the AIDS education curriculum in Kenya is well-designed and incorporates knowledge about what works in HIV/AIDS education.

6.3.2 Presentation

HIV/AIDS Education is presented through infusion and integration into the existing school curriculum. *Infusion* refers to the process of incorporating AIDS education content in the existing subjects, while *Integration* is the inclusion of AIDS messages in co-curricular and other activities in and out of school (K.I.E, 1997). To infuse, a teacher requires, firstly, a copy of the AIDS syllabus in order to decide the most appropriate point in a topic or subject (referred to as the plug-in point) where a specific message in AIDS can be passed with ease. Secondly, a teacher needs to have a sound knowledge about HIV/AIDS, and lastly, up-to-date- resource materials and other references.

Infusion need not occur in the main carrier subjects only. HIV/AIDS messages can also be incorporated in subjects which would not be viewed as suitable to teaching about AIDS. For instance, an English teacher could ask students to write a composition on a disease they know, and give them lead questions such as:

What is the name of the disease?

What part of the body does it attack?

How can you tell that a person is infected with the disease?

How does it enter the body?

Does it have a cure?

Some students may write about AIDS, giving the teacher the opportunity to talk about AIDS. Even if no-one writes about AIDS, the lead questions would still bring up the subject of AIDS. In the same way, a teacher of Mathematics can use existing AIDS

figures to teach students simple line graphs and bar graphs, and seize the opportunity to discuss the effects of HIV/AIDS on society.

Integration, on the other hand, calls for incorporation of HIV/AIDS messages in co-curricular activities such as Drama, Debate, Painting, and Essay Competitions. This can take place in clubs and societies, during school assemblies, on school open days or even on Sundays during a church service.

The infusion and integration methods are favoured approaches because they do not require a revision of the structure of the curriculum or a reallocation of time between the different teachers. These approaches are thus technically and administratively simpler and more feasible to accomplish.

However, this approach has several limitations. Firstly, no teacher will feel responsible for teaching the part of the subject assigned to him/her. It is also increasingly true that very often no specific allocation of time and no formal assessment of learning outcomes are defined or imposed. It is therefore easy to ignore the HIV/AIDS topic especially when curricula are already over crowded. With regards to teacher training, the infusion approach is extremely costly because it requires that all the teachers in a school have to be trained to teach HIV/AIDS.

6.5 Conclusion

This chapter presents an analysis of the Education sector policy on HIV/AIDS in order to ascertain what the stated policy in Kenya is. It begins with a history of the formulation of the policy before proceeding to a discussion of the specific goals of the policy. The AIDS education syllabus is then reviewed using the CDC-supplied programme characteristics. The analysis that emanates from this chapter provides an essential basis for the discussion of the results presented in the following chapter.

CHAPTER 7: IMPLEMENTATION OF HIV/AIDS EDUCATION IN SCHOOLS

Where there is a publicised statement of government policy, what has followed in various arenas looks more like a series of power struggles and policy reformulations rather than policy implementation (Fulcher, 1989)

7.0 Introduction

Pressed to delineate the essential differences between a novel and a play, one Australian writer, Robert Drew, seized upon the interpretive relationship between the text and the reader (Slee, 1993). According to Robert, the distance between the intended meaning and the eventual understanding becomes greater as the play moves from the page to the performance.

Unlike a finished, published book, a play metamorphoses constantly as the players interact with the director, stage and writer. You give up all thought of control (Drew, 1991:52)

Drew touches upon a central issue for educational policy makers. Between the formulation and implementation of policy, we encounter numerous ‘intruders’ who reinterpret, distort or even misrepresent policy. Like a play, policy is not delivered in static contexts, nor do we have control over all the players. Consequently, policy enacted may lurch in directions opposite to the intentions of the original policy statements. These distortions in part stem from the silences in policy that allow for divergent agendas to be inserted and pursued at various levels of policy implementation.

This chapter presents and analyzes the current practices in the provision of HIV/AIDS education in secondary schools. It presents the results of evaluation data with the aim of ascertaining whether or not secondary schools were addressing HIV/AIDS as stipulated

in the policy document (discussed in chapter 6). The four content areas under which the policy goal of prevention falls were used as measures of curriculum implementation.

These four content areas are:

1. Mainstreaming HIV/AIDS education into the existing School Curriculum and co-curricular activities
2. Education about HIV and AIDS transmission and prevention through the school curriculum
3. Teacher Preparedness in the area of HIV/AIDS in order to respond appropriately to HIV/AIDS issues
4. Mobilization of support and provision of adequate supervisory systems.

These analyses were carried out using the following statistical tools:

- descriptive statistics -for purposes of showing the distribution of data, and for calculating standardized values
- Factor Analysis -for creating a set of substantive categories for further analysis
- Pearson product-moment correlation- to show the strength and direction of the relationships between the various variables
- One way analysis of variance (ANOVA), to establish whether differences existed according to school type.

From the quantitative and qualitative data obtained, it was found that the HIV/AIDS policy document had not been used, or had only partially been integrated into actual practice in most schools. Consequently, it was found that although most learners had high

levels of knowledge regarding HIV/AIDS, and equally high confidence levels in the knowledge that they held, this was not reflected in their sexual behaviour patterns and in their ability to resist peer pressure. The research also identified processes in the education system that obstructed the implementation and effectiveness of the HIV/AIDS education program from the perspective of the various role players.

7.1 Mainstreaming HIV/AIDS education into Curriculum and co-curricular activities

In this section, student and teacher responses to the school survey questionnaires (Appendices 1&2) on whether HIV/AIDS is taught are presented. The school survey was administered to a total of 457 students from various schools, comprising 137 from Boys only schools; 132 from Girls only schools and a further 188 from mixed schools. The study also sampled 71 teachers.

7.1.1: Student Responses

A four section questionnaire was distributed to a total of 457 students. The first section, which comprised one closed and several open-ended questions, sought to find out whether the HIV/AIDS education policy goal of mainstreaming HIV/AIDS education into the school curriculum and co-curricular activities had been met. To do this, students were asked:

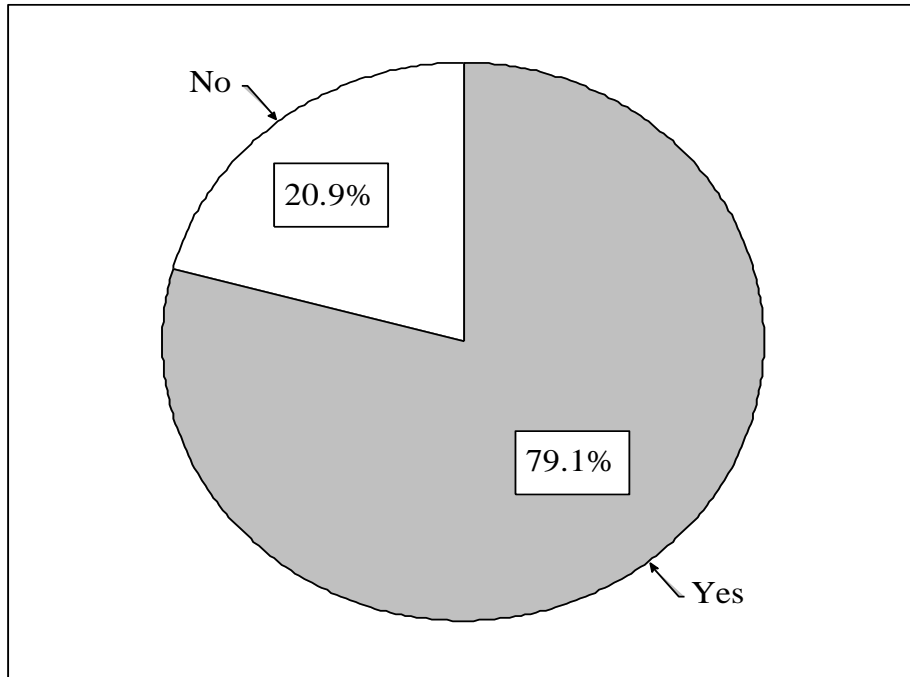
Are you taught about HIV/AIDS?

What classes does this teaching take place in?

How often are you taught HIV/AIDS in the classroom?

Out of the 447 students who responded to the question on whether they had ever been taught anything on HIV/AIDS in school, 79.1% (354) responded positively, while 20.9% said they had never been taught about HIV/AIDS in school (Figure 5 depicts their responses). Out of the 354 students who had been taught, only 37 (10.3 %) claimed to have been taught in regular classes, while the other 317 students said that all the teaching had occurred outside the classroom. In regular classes, HIV/AIDS was said to have been taught during biology, Christian Religious Education (CRE) and social education and ethics lessons. Special classes outside the regular ones were reported to include school assemblies, Sunday (church) service sessions, clubs time, and through visiting counsellors. Guidance and counselling programmes in the schools also offered information on HIV/AIDS to students.

Figure 5: Students taught HIV and AIDS in school



When asked what they were taught about HIV/AIDS, most students said that they had been taught what HIV/AIDS was; how it is transmitted; and how it affects the body. On prevention, most students said they had been told that abstinence was the best way of avoiding contracting HIV/AIDS, alongside controlling one's sexual urges, and avoiding irresponsible behaviour such as involvement with sugar mummies and daddies, homosexuality and premarital sex. None of the students mentioned the use of condoms as a preventative measure. Clearly, the content was highly moralised and assumed that most students had not been involved in any sexual activity. The notion of chastity was mentioned by all students as the most predominantly taught aspect in HIV/AIDS

education. From the student responses, it was evident that the emphasis was on more formal education than ‘skills-based’.

Various studies have established that students require more than general knowledge to prevent becoming infected with HIV/AIDS. Functional knowledge helps students to recognize high-risk behaviours and can provide the information base that students need to avoid these behaviours. Therefore, the inclusion of functional knowledge should be considered an integral part of any HIV/AIDS curriculum (CDC, 1992).

The study also sought to establish how often HIV/AIDS was taught. Students’ responses were collated into 5 categories ranging from ‘All the Time; Most of the time; Sometimes; Never’. Results showed that the frequency of learning about HIV/AIDS education, whether in the classroom or during special classes/meetings was low (0%, 6.4%, 72.7%, 20.9%) respectively. Students indicated that HIV/AIDS education depended on the few related topics in their syllabi. For example, they were receiving HIV and AIDS-related education only when covering topics such as sexuality in CRE or Immunity in Biology. Special classes or meetings covering topics on HIV/AIDS-related education were few as they depended on the prioritization of the school.

The findings from this study indicate that there was no scheduled lesson for HIV/AIDS instruction in any of the schools visited. This shows a lack of prioritization of the program by the Ministry of Education. The failure of the MoE to integrate HIV/AIDS curriculum into the compulsory and examinable general curriculum sends the unspoken message that HIV/AIDS is less important than other subjects, especially so because the

Kenyan education system is exam driven. This confirms findings from several studies undertaken in other parts of Africa including Zimbabwe, Uganda and South Africa (Ayo-Yusuf, Naidoo & Chikte, 2001; Kinsman et.al, 1999; Chifunyise, Benoy & Mukiibi, 2002) which showed that teachers were reluctant to teach HIV/AIDS because they correctly perceived that they would not be penalized for doing so as the subject was not examinable. In Kenya, although the MoE has produced very comprehensive guidelines for HIV/AIDS curriculum, it has been left to schools to decide whether or not to follow it. And with increasing pressures on the teacher to meet certain targets in the examinable subjects, HIV/AIDS education has been relegated to second place.

The results also show that there are virtually no written materials to support the teaching of HIV/AIDS. In some schools, principals did not even have the policy document on HIV/AIDS education. Consequently, many teachers opt not to teach HIV/AIDS because they are used to following and working with written materials, rather than thinking of and creating materials from a guideline.

Consequently, most of the teaching of HIV/AIDS occurs outside of the classroom, and is mainly done by visiting counsellors who are invited to give talks by the school. Whereas this might bring the reality of HIV/AIDS closer to students, especially if a speaker is a person living with AIDS (PLWA), it poses the danger of providing conflicting messages to students, which can leave them confused. Moreover, such talks are sporadic and may not be adequate to foster behaviour change.

Observations of the school environment were also used to gauge the existence or otherwise of HIV/AIDS education in the schools. Out of the 12 schools visited, none of the girls' schools had any posters or HIV/AIDS materials displayed around the school, unlike in all the boys only and mixed schools, which had HIV/AIDS posters on the main school notice board and in one mixed school, on a 'special' information students' board. The board was also used to display the 'Health Dialogue', a newsletter produced and distributed by the PSABH. In the same mixed school, there was graffiti on the inside walls of the classroom which read:

- 'Time- Robbers: Unhealthy relationships'
- 'Being educated is not to speak English but being able to solve the problems around you'
- 'The more man loves, the more he suffers'
- 'No pain without gain and strain'
- 'Everything happens for a reason'

No graffiti was found in any of the other 11 schools.

7.1.2: Teacher Responses

In order to back up students' responses on whether they had been taught HIV/AIDS in school or not, the study sampled 71 teachers who were asked whether they had taught HIV/AIDS in the classrooms. Table 10 illustrates their responses.

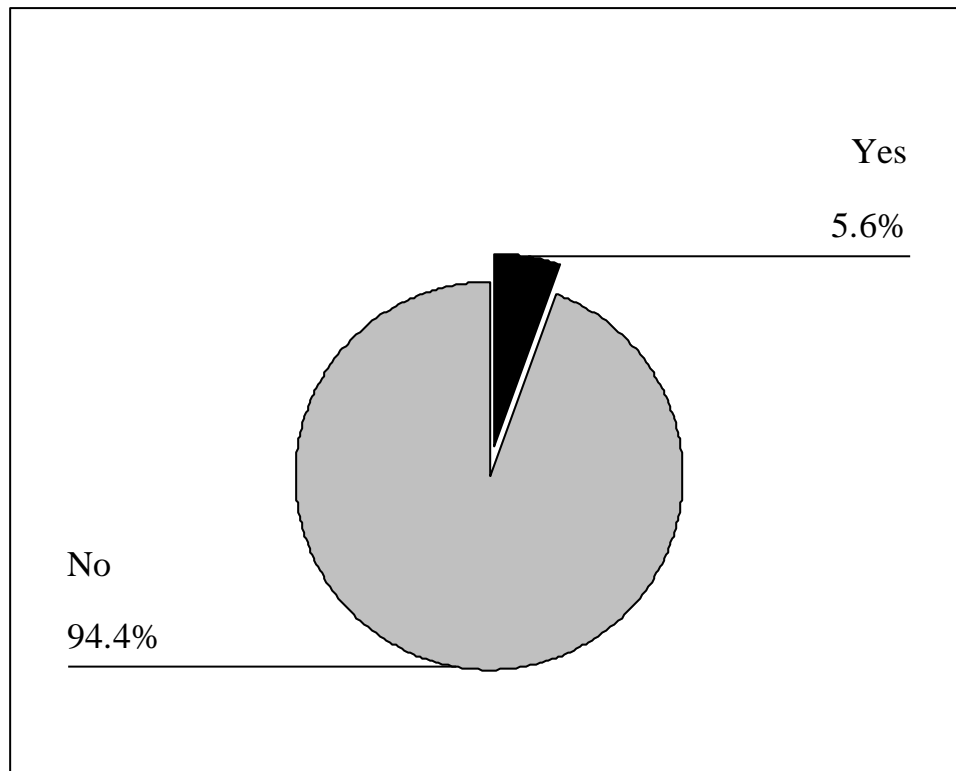
Table10: Teach HIV and AIDS in classroom

<i>Teach HIV and AIDS</i>	<i>Frequency</i>	<i>Percent</i>
Yes	36	50.7
No	35	49.3
Total	71	100.0

Responses showed that 50.7% of the teachers claimed to have taught HIV/AIDS-related topics while 49.3% said they had not. This notwithstanding, 97.2% (69) of them reported that HIV/AIDS education was very helpful to students in schools. This implies that the teachers understood and appreciated the importance of the programme in a school. The remaining 2.8 percent (2) considered HIV/AIDS education as not helpful.

The teachers were also asked whether there was sufficient time and materials for HIV/AIDS education in their schools. Figure 6 highlights the adequacy of time and educational materials for HIV/AIDS in schools as reported by the teachers.

Figure 6: Adequacy of time and materials



From Figure 6, it was observed that 94.4% (67) of the sampled teachers considered the time and materials allocated for HIV/AIDS education in their schools as insufficient to effectively handle the programme. Only 5.6% (4) considered the time and materials allocated to the programme as adequate. This could be attributed to the fact that HIV/AIDS is not a time-tabled subject, and teachers have to look for their own time to teach the subject. With the exam-oriented Kenyan system, this is not easy as teachers' and schools' effectiveness are judged from examination results. Since HIV/AIDS is not an examinable subject, it is relegated to second place in the school. All the 12 head teachers were also unable to rate the adequacy of the time and educational materials

provided for the programme. They noted that integration of the programme into other subjects had made it impossible to gauge the adequacy of these vital requirements.

7.2 Education about HIV and AIDS transmission and prevention

The survey also sought to establish whether students had been educated about HIV/AIDS transmission and prevention through the school curriculum, and whether this education had manifested itself in their behaviours and relationships with others. To do this, three (3) instruments were used namely:

1. Knowledge of HIV/AIDS (15 items used to measure, firstly, factual knowledge about HIV/AIDS and secondly, Confidence in correctly held knowledge).
2. Perceptions of peers' behaviours and values related to the possibility of being infected with HIV/AIDS (11 questions seeking respondents' rating of the sexual behaviours of their closest friends)
3. Confidence in social interactions (6 vignettes dealing with peer pressure situations aimed at measuring students' confidence in avoiding risk behaviours)

7.2.1 Knowledge of HIV/AIDS

a) Factual Knowledge about HIV/AIDS

The section comprised of a 15- item instrument that was used to measure, firstly, the accuracy of students' knowledge about HIV/AIDS and, secondly, their confidence in that knowledge. The individual statement scores were summed up to form a knowledge index score for each respondent, with scores ranging from 0 (no correct items) to 15 points (all items correct). The index score was then collapsed into three ordinal categories in order

to differentiate between the levels of knowledge about HIV/AIDS among the sampled respondents. This included a score of between 0-5 indicating a low level of knowledge, a score of between 6-10 (average level of knowledge) and a score of between 11-15 indicating high level of knowledge. Table 11 summarizes the findings.

Table 11: Levels of knowledge about HIV/AIDS

<i>Level of knowledge</i>	<i>Frequency</i>	<i>Percentage</i>
Low (0-5)	10	2.2%
Average (6-10)	144	31.5%
High (11-15)	303	66.3%
Total	457	100.0%

Evidently, the levels of knowledge of HIV/AIDS amongst the respondents was relatively high (66.3%). This confirms previous findings that have reported that generally, young people are considerably highly knowledgeable about facts relating to HIV/AIDS. Most of the information on HIV/AIDS transmission in Kenya has been on air, in newspapers, and in public meetings for over a decade now, and most of it is regarded as general knowledge. The responses from the questionnaire are indicative of this.

A one way between groups of analysis of variance (ANOVA) was conducted to explore the impact of school type on Knowledge about HIV/AIDS. There was a statistically significant difference at the $p < .05$ level in the scores on knowledge about HIV/AIDS. Despite reaching statistical significance, however, the difference in mean scores between students from girls' only schools and those from mixed schools was quite small, although

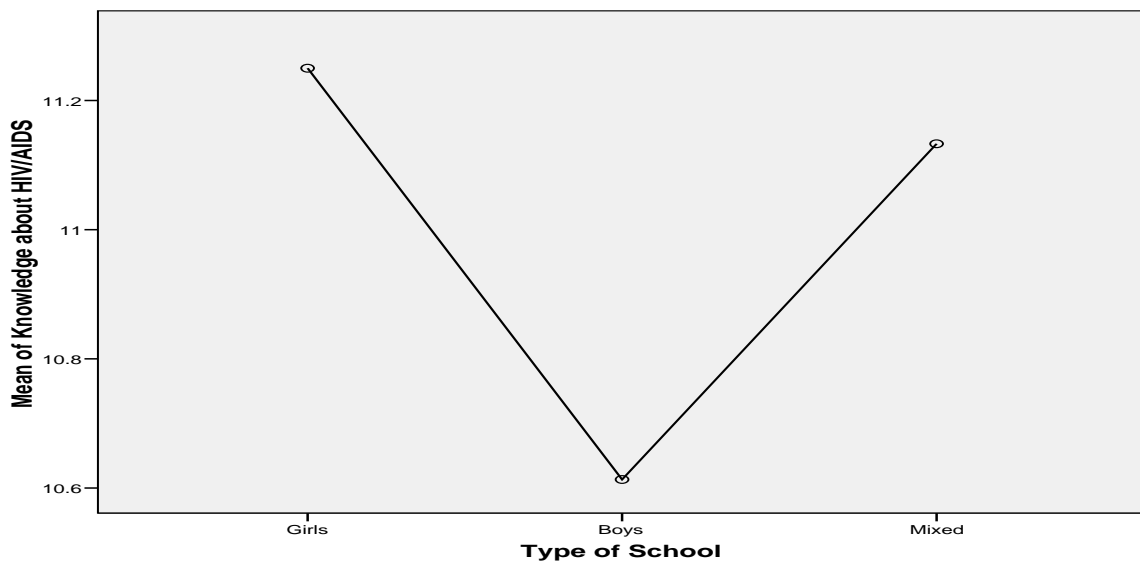
a considerably higher difference was recorded with students from boys' only schools. The effect size calculated using eta squared was .01 (this effect size is evident of the small difference in the mean scores of the groups). Post hoc comparisons using Tukey HSD indicated that respondents from girls schools ($M = 11.25$) and mixed schools ($M=11.13$) had significantly higher mean scores than respondents from boys only schools ($M = 10.61$, $p < 0.05$).

At a glance, this might suggest that students attending Boys' only schools are less knowledgeable about HIV/AIDS than their counterparts in Girls' only and mixed schools. However, if we consider the commonly accepted benchmarks that differentiate between small, medium and large effects (Cohen, 1988), whereby 0.2 equates to small effect; 0.5 to medium effect and 0.8 to large effect, it could be argued that there is a relatively very small disparity between the levels of knowledge between the three groups of students (0.01). This contradicts recent analyses of surveys carried out in developing countries which have shown that levels of HIV/AIDS knowledge among men are almost always higher than those among women (discussed in chapter 2).

This notwithstanding, examination of the raw difference between the means of the groups indicates that girls exhibited less knowledge in the area of condom use. The data shows that 63.5% of respondents from girls schools had the knowledge that it was possible to be infected with HIV/AIDS after having sex only once or twice without a condom as compared to 73.9% from mixed schools and 64.9% from boys only schools respectively (Pearson chi-square = 16.183, $df = 8$, $p = 0.040$). In addition, 86.4% and 80.3%

respondents from girls only schools and mixed schools respectively were sure that condoms are not 100% effective in preventing HIV/AIDS transmission as compared to 70.8% of respondents from boys only schools (Pearson chi-square = 33.835, df = 8, p = 0.000). This illustrates that although more girls had incomplete knowledge about condom use in comparison to boys, this lack of knowledge fostered positive fears about the condom. The mean plot in Figure 7 illustrates the levels of knowledge according to school type.

Figure 7: The impact of type of school on Knowledge about HIV/AIDS



b) Confidence in correctly held information about HIV/AIDS

The 15-item knowledge instrument was further scored for confidence in correctly held knowledge about HIV/AIDS. Each item was assigned 5 points, the highest score (5) being that of an answer that was correct and with a high degree of confidence. Responses indicating a lower degree of confidence, e.g. 'I Don't Know' and 'I Think...' received a lower number of points. If, for example, a statement was true, points were assigned to responses as indicated on Table 12. For false answers, the points were reversed.

Table 12: Scoring index for Confidence in correctly held Knowledge about HIV/AIDS

5 points	I'm sure it's true
4 points	I think it's true
3 points	I don't know
2 points	I think it's false
1 points	I'm sure it's false

Total scores for confidence in correctly held knowledge about HIV/AIDS ranged from 15 points (all answers incorrect, with a high degree of confidence) to 75 points (all items correct, with a high degree of confidence). The Confidence scores were then collapsed into three ordinal categories to differentiate between the levels of confidence in correctly held knowledge about HIV/AIDS. Scores of between 15-34 points indicated low confidence; 35-54 indicated an average level of confidence while 55-75 indicated a high level of confidence. From the analysis, 84% of the respondents were found to have a high level of confidence in correctly held knowledge about HIV/AIDS while only 14.4% and 1.5% had average and low levels respectively.

The data was then analyzed according to type of school, in order to ascertain whether the type of school one attended had any influence on the level of confidence that one exhibited. A table of summary statistics showing the mean and standard deviations of the responses to individual questions was then obtained and results recorded as shown in Table 13.

Table 13: Knowledge confidence of HIV/AIDS

	Girls		Boys		Mixed	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
You can't get AIDS if you have sex only once or twice without a condom	3.62	1.626	3.71	1.554	3.99	1.553
A person can 'pass' an HIV test (i.e. test negative) but still be infected with HIV	4.03	1.248	3.74	1.395	3.98	1.324
Condoms are 100% effective in preventing HIV	4.28	0.999	3.91	1.300	4.22	1.138
A person can get HIV by sharing drug needles	4.66	0.940	4.58	1.103	4.56	1.119
People infected with HIV are usually very thin and sickly	4.00	1.414	3.88	1.471	4.02	1.389
You can get HIV from a mosquito bite	4.48	1.023	4.14	1.324	4.27	1.281
Someone with AIDS can spread HIV by coughing and spitting	4.12	1.278	4.13	1.253	4.22	1.229
There is no way to kill HIV on a drug needle	2.92	1.483	3.00	1.576	3.06	1.524
Some people have gotten HIV by swimming in the same pool as someone with AIDS	4.30	1.070	4.43	1.035	4.35	1.149
You can get HIV by seating on the seat of a toilet that a person with AIDS has used	3.83	1.320	4.00	1.361	3.82	1.465
You can be cured of HIV if you are careful to take the medicine the doctor gives you	4.27	1.078	4.07	1.293	4.04	1.397
HIV is spread through semen (sperm), vaginal fluids and blood	4.69	0.848	4.60	1.018	4.62	1.056
The same condom can be safely used two times	4.53	0.903	4.34	1.046	4.52	0.978
People who choose only healthy looking partners won't get HIV	4.72	0.775	4.53	1.001	4.51	1.062
If you want to keep from getting HIV, using 'lambskin' condoms is just as good as using latex condoms	3.58	1.042	3.68	1.104	3.72	1.145

The analysis in Table 14 reveals that there were fluctuations in the means from respondents from different schools, with those from Boys only schools recording a

relatively lower mean score(60.68) than those from Girls' only (61.95) and Mixed schools (61.84). Moreover, respondents exhibited lower confidence means in certain statements than in others. Responses to 'There's no way to kill HIV on a drug needle', for example, recorded the lowest means from respondents across the three categories (Girls=2.92; Boys=3.00; Mixed= 3.06), while the statement on how HIV/AIDS is spread recorded the highest means from all respondents (Girls= 4.69; Boys= 4.60; mixed= 4.62). This goes to show that students are more confident about the scientific facts about HIV/AIDS and less confident about non-scientific facts. The statement about killing the HIV germ on a drug needle can cause confusion and uncertainty among respondents, as it is common knowledge that sterilization can kill germs. Before the advent of HIV/AIDS, most hospitals in rural Kenya would kill germs on injecting needles by boiling the needles over a long period of time before using them on other patients. Besides, there is literature that suggests that using bleach on a needle can kill the HIV germ. The notion that germs can be got rid through boiling is a principle even health practitioners uphold. The same uncertainty is also evident on statements relating to condom use. Would skipping a condom once or twice lead to infection? If one used condoms made of thicker material (such as lambskin), would one be more protected than one who uses latex condoms?

Factor analysis, using the rotated component matrix, was performed on the 15 items on Knowledge of HIV/AIDS in order to group variables that were related together for further analysis. Items which had correlation coefficients of more than 0.3 were picked

and clustered together and sorted in order of the size of their correlations. The items clustered themselves into four factors.

The rotated component matrix shows that items in Factor 1 are distinct from items in Factor 4. Other Factors are shown to overlap in some items (e.g. Factor 1 overlaps with Factor 2 on items K6 and K13; Factor 2 overlaps with Factor 3 on item K13). Where there was an overlap, items were grouped with the Factor in which they showed a stronger correlation (See Table 14). The 15 items on Knowledge of HIV/AIDS produced four variables, namely:

1. Factor 1: Myths about HIV/AIDS Transmission (K9, K7, K10, K11, K6)
2. Factor 2: Misconceptions about HIV/AIDS Prevention (K15, K3, K14, K13)
3. Factor 3: Ways of Spreading HIV/AIDS (K12, K4, K2, K8)
4. Factor 4: Misconceptions about HIV/AIDS Infection (K1, K5)

Table 14: Factor analysis of 15 Knowledge of HIV/AIDS items using Varimax rotation

		Factor1	Factor2	Factor3	Factor4
K9	Some people have gotten HIV by swimming in the same pool as someone with AIDS	0.678			
K7	Someone with AIDS can spread HIV by coughing and spitting	0.664			
K10	You can get HIV by seating on the seat of a toilet that a person with AIDS has used	0.587			
K11	You can be cured of HIV if you are careful to take the medicine the doctor gives you	0.456			
K6	You can get HIV from a mosquito bite	0.448	0.312		
K15	If you want to keep from getting HIV, using 'lambskin' condoms is just as good as using latex condoms		0.753		
K3	Condoms are 100% effective in preventing HIV		0.619		
K14	People who choose only healthy looking partners won't get HIV		0.479		
K13	The same condom can be safely used two times	0.302	0.413	0.354	
K12	HIV is spread through semen (sperm), vaginal fluids and blood			0.667	
K4	A person can get HIV by sharing drug needles			0.641	
K2	A person can 'pass' an HIV test (i.e. test negative) but still be infected with HIV			0.426	
K8	There is no way to kill HIV on a drug needle			0.381	
K1	You can't get AIDS if you have sex only once or twice without a condom				0.765
K5	People infected with HIV are usually very thin and sickly		0.345		0.617

Extraction Method: Principal Component

Rotation Method: Varimax with Kaiser Normalization.

Misconceptions about HIV/AIDS

Despite high knowledge levels about HIV transmission, HIV/AIDS misconceptions continue to be prevalent among many young people. Although the majority know that HIV/AIDS can be transmitted through risky sexual and drug-using practices, many are

not clear about how it is not transmitted. Hence the belief that HIV can be spread through casual contact (e.g. swimming in the same pool as someone with AIDS or using the same toilet, utensils etc) has not dissipated. This poses one of the greatest obstacles to mobilization against HIV/AIDS. To act effectively, people must have sound knowledge as misconceptions are extremely dangerous because those who believe them remain uneducated about actual prevention methods. Knowledge of how the HIV/AIDS virus is transmitted and how to avoid contracting it is seen as an important factor in inducing people to behave more safely, e.g. by using condoms, reducing the number of sexual partners and sterilizing injecting equipment. Misconceptions about HIV/AIDS can, however, have the opposite effects.

Using the variables gathered from the factor analysis, mean scores of the various misconceptions about HIV/AIDS were obtained. The items in each of the four factors were assigned 5 points, the highest score (5) being that of an answer that was correct and with a high degree of confidence;; the lowest score (1) being that of an answer that was incorrect with a high degree of confidence (I'm sure it's True/ I'm sure it's False). Results indicated that respondents had the lowest mean scores on Factor 4 (Misconceptions about HIV/AIDS Infection; M= 2.61). Other scores were: Factor 1 (Myths about HIV/AIDS Transmission) M= 2.87; Factor 2: (Misconceptions about HIV/AIDS Prevention) M=2.89 and Factor 3 (Ways of Spreading HIV/AIDS) M= 2.85.

As mentioned elsewhere in this study, the issue of HIV/AIDS is highly moralized in Kenya, with people assuming that only the sexually promiscuous can get infected. It is no wonder, then, that students assume that having sex only once or twice without a condom

cannot lead to infection. Likewise, pictures of HIV/AIDS victims depict them as frail and skeletal, always sick and unable to perform their day-to-day chores. Indeed, when one hears of an infected person, the mental picture they form is one of a very thin person. Nowadays, though, HIV/AIDS positive people can live for years without any noticeable symptoms, and may completely be unaware of the infection themselves. These misconceptions could have far reaching effects on students' behaviours and expose them to infection.

The relationship between the Confidence of a respondents' knowledge of HIV/AIDS and misconceptions about HIV/AIDS was investigated using Pearson product-moment correlation coefficient. The correlation analysis showed a strong positive and significant relationship between Knowledge confidence and Misconceptions about HIV/AIDS Transmission ($r=0.688$, $p<0.01$); Misconceptions about HIV/AIDS prevention ($r=0.644$, $p<0.01$) and Misconceptions about HIV/AIDS infection ($r=0.444$, $p<0.01$). The positive correlation suggests that the more confident one is about their knowledge about HIV/AIDS, the more they are aware and able to distinguish between facts and misconceptions about HIV/AIDS. As Irwin, Millen and Fallows (2003) observe, accurate knowledge about HIV/AIDS may awaken a sense of urgency about AIDS and enable effective action.

7.2.2: Sexual Behaviour

This section of the questionnaire sought to establish students' perceptions of peers' behaviours and values related to the possibility of being infected with HIV/AIDS. A series of 11 questions seeking respondents' rating of the number of closest friends in

schools engaged in certain aspects related to sexual activities was used. The sexual behaviour of friends was used as the nearest proxy measure of the actual behaviour of the respondents. This is because, as most participants in a workshop convened by the U.S Board on Children, Youth, and Families (1998) noted, young people believe that more of their peers than really do engage in smoking, drinking and sex. This misperception encourages young people to engage in these 'peer sanctioned' risky behaviours because they perceive that everyone is doing it. The assumption that the study made was, therefore, that the respondents were engaged in the activities that they reported their friends as being engaged in.

The responses to the eleven questions about sexual activities of their closest friends in schools were measured on a four-point likert scale ranging from 1 to 4 (where, 1= None, 2 = Some, 3 = Most and 4 = All). Results were recorded as follows (Table 15).

Table15: Students’ sexual behaviour

Question	Mean
About how many of your friends believe that teenagers should use a condom if they have sex?	2.85
About how many of your friends use a condom when they have sex?	2.60
About how many of your friends believe it is okay for teenagers to have sex before they’re married?	2.37
About how many of your friends are trying to change their sexual behaviours because they believe they might get infected with HIV?	2.30
About how many of your friends have never had sex?	2.23
About how many of your friends have had sex during the last six months?	1.91
About how many of your friends drink alcohol or use drugs before they have sex?	1.81
About how many of your friends use drugs?	1.80
About how many of your friends have had sex with more than one partner during the last six months?	1.77
About how many of your friends believe that it is okay for teenagers to use needles to inject drugs?	1.40
About how many of your friends use needles to inject drugs?	1.36

N = 457

Table 16 indicates that the respondents rated all the eleven questions concerning the sexual behaviour of their closest friends in schools below a mean score of 3.0. This suggests that majority of the closest friends of the respondents were not very much involved in the mentioned sexual activities. This indicates relatively good sexual behaviour among closest friends of the respondents. Being in the adolescent stage where peer pressure plays a crucial role in creating identity and influencing group behaviour, the respondents were more likely to behave in the same manner.

However, a closer examination of Table 16 reveals that the respondents recorded the least mean scores (between 1.36 and 1.81) in the questions concerned with alcohol and drugs. This suggests that very few, if not almost none, of the closest friends of the respondents were engaged in alcohol and drug-related activities. This was likely to reduce their vulnerability to sexual coercion or engagement as a result of the influence of alcohol and drugs. Alcohol and drug-use are associated with high-risk sexual behaviours. People who abuse alcohol and drugs are more likely to engage in behaviours that place them at risk of contracting HIV/AIDS. For example, a history of heavy alcohol use has been correlated with a lifetime tendency toward high-risk sexual behaviours, including multiple sex partners, unprotected intercourse, sex with high-risk partners (e.g., injection drug users, prostitutes), and the exchange of sex for money or drugs (Windle, 1997). Drugs and alcohol can change the way the brain works, disrupting the parts of the brain that people use to weigh risks and benefits when making decisions, consequently reducing inhibitions and diminishing risk perception (MacDonald et.al. 2000).

The same respondents, though, recorded the highest mean scores (between 2.23 and 2.85) in the questions concerned with sexual intercourse. This suggests that some of the closest friends of the respondents were engaged in sexual activities while still in school. This may increase their vulnerability to HIV and AIDS infections. The engagement of the closest friends in sexual intercourse may be attributed to their biological age of development and the desire to engage and experiment with sex.

The responses to each constituent question were then scored on a scale of 1, indicating the least number of friends engaged in the activity, to 4, indicating highest number of friends engaged in the activity. The individual question scores were summed up to form a

sexual behaviour index score for each respondent (reliability coefficient, $\alpha = 0.633$). It should be noted that this reliability was realized after removing question 2 from the measurement as it was considered to measure something different to the scale (it was worded negatively, unlike all the other items). The sexual behaviour index score varied between 10, indicating the least number of friends engaged in the ten activities, and 40, indicating the highest number of friends engaged in the ten activities. The higher the score, the higher was the number of friends engaged in the ten activities and thus the more were the risky sexual behaviours of the friends, and vice versa. The index score was later collapsed into four ordinal categories in order to differentiate between the levels of sexual behaviours among the sampled respondents. This included a score of 10 meaning very low risk sexual behaviour, a score of between 11-20 indicating low risk sexual behaviour, a score of between 21-30 for average risk sexual behaviour and a score correct responses/answers 31-40 meaning high risk sexual behaviour. Table 16 summarizes the levels of sexual behaviour of the closest friends.

Table 16: Levels of sexual behaviour of the closest friends

<i>Sexual behaviour</i>	<i>Frequency</i>	<i>Percent</i>
Very low risk	29	6.8
Low risk	225	52.7
Average risk	170	39.8
High risk	3	.7
Total	427	100.0

Table 17 indicates that 39.8% of the respondents rated the sexual behaviour of their closest friends as average. The average sexual behaviour of the closest friends may be

used as a proxy indicator of the behaviour of the respondents. This suggests that the HIV/AIDS programme in schools has a chance of achieving the desired effect of assisting young people to make informed decisions on sexual matters.

Further analysis to determine the difference in mean scores for the various school categories was done and findings are recorded in Table 17.

Table 17: Descriptive statistics for sexual behaviours

	Girls		Boys		Mixed	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
About how many of your friends believe it is okay for teenagers to have sex before they're married?	2.10	0.680	2.76	0.802	2.23	0.767
About how many of your friends have never had sex?	2.36	0.757	2.16	0.654	2.20	0.835
About how many of your friends have had sex during the last six months?	1.83	0.730	2.01	0.736	1.89	0.803
About how many of your friends have had sex with more than one partner during the last six months?	1.72	0.747	1.82	0.778	1.76	0.831
About how many of your friends believe that teenagers should use a condom if they have sex?	2.81	0.986	2.84	0.897	2.89	0.907
About how many of your friends use a condom when they have sex?	2.68	0.862	2.60	0.794	2.55	0.946
About how many of your friends use drugs?	1.57	0.728	2.02	0.883	1.78	0.839
About how many of your friends drink alcohol or use drugs before they have sex?	1.69	0.801	1.98	0.790	1.73	0.794
About how many of your friends are trying to change their sexual behaviours because they believe they might get infected with HIV?	2.42	0.995	2.32	0.925	2.22	0.906
About how many of your friends use needles to inject drugs?	1.35	0.710	1.37	0.615	1.45	0.758
About how many of your friends believe that it is okay for teenagers to use needles to inject drugs?	1.30	0.608	1.32	0.560	1.43	0.682

The analysis shows that respondents from boys' only schools reported having significantly higher numbers of friends who engaged in HIV/AIDS risk behaviours. Whereas, for instance, respondents from Girls only and Mixed schools recorded mean scores of 2.10 and 2.23 regarding friends who believed that it was okay to have sex

before marriage, those from Boys only schools recorded mean scores of 2.76. This suggests that majority of those who went to Boys only schools believed in having sex before marriage. This is further supported by the mean scores recorded for the question, ‘About how many of your friends have had sex during the last six months?’ Mean scores of respondents from Boys only schools (2.01) were much higher than those from Girls and Mixed schools (1.83; 1.89). A similar trend was seen in the mean scores of friends who had had sex with multiple partners. Boys recorded a mean of 1.82; Girls 1.72 and mixed school respondents 1.76. Just like Maticka-Tyndale (2004) found out in a study carried out in Kenya, more boys than girls engage in sexual activities because they feel compelled to do so by their peers and by what they perceive to be the expectations of their community. Besides, previous findings have shown boys to have increased vulnerability to HIV/AIDS as a result of the power imbalance that exists between boys and girls. Prevailing norms of masculinity demand that boys are more knowledgeable and experienced about sex, and this puts them at risk of infection because they prevent them from seeking information or admitting their lack of knowledge about sex or protection, and coerce them into experimenting with sex in unsafe ways to prove their manhood (UNAIDS 1999). Also, in many societies worldwide, it is believed that variety in sexual partners is essential to men’s nature as men and that men will seek multiple partners for sexual release (Mane, Rao Gupta, and Weiss 1994; Heise and Elias 1995). This seriously challenges the effectiveness of prevention messages that call for fidelity in partnerships or a reduction in the number of sexual partners. Furthermore, men in many societies are socialized to be self-reliant, not to show their emotions, and not to seek assistance in times of need or stress (WHO 1999). This expectation of invulnerability associated with

being a man runs counter to the expectation that men should protect themselves from potential infection and encourages the denial of risk.

7.2.3: Factor Analysis

In order to explore and analyse further students' engagement in specific activities related to HIV/AIDS sexual behaviour, Factor analysis was used to group related activities together. The rotated component matrix was performed on the 11 items on sexual behaviour and the items loaded on three Factors. Factors that had correlation coefficients of more than 0.3 were picked and included in that factor. The items which loaded on each Factor were clustered together and sorted in order of the size of their correlations. The rotated component matrix for items on sexual behaviour revealed that items in Factor 1 were distinct from items in Factor 3. However, some items in Factor 2 were found to overlap with Factor 1 (B7 & B8). The two items were moved from Factor 2 because they showed a stronger correlation in Factor 1 than in Factor 2 (0.704 and 0.628 as opposed to 0.326 and 0.345 respectively).

The items were grouped into three variables as illustrated in Table 18. These are:

1. Factor 1: Use of Drugs and Alcohol (B11, B10, B7, B8)
2. Factor 2: Sexual Activity (B3, B1, B4, B2)
3. Factor 3: Condom Use (B5, B6, B9)

Table 18: Factor analysis of 11 sexual behaviour items using Varimax rotation

		Factor 1	Factor 2	Factor 3
SexB11	About how many of your friends believe that it is okay for teenagers to use needles to inject drugs?	0.857		
SexB10	About how many of your friends use needles to inject drugs?	0.831		
SexB7	About how many of your friends use drugs?	0.704	0.326	
SexB8	About how many of your friends drink alcohol or use drugs before they have sex?	0.628	0.345	
SexB3	About how many of your friends have had sex during the last six months?		0.745	
SexB1	About how many of your friends believe it is okay for teenagers to have sex before they're married?		0.736	
SexB4	About how many of your friends have had sex with more than one partner during the last six months?		0.668	
SexB2	About how many of your friends have never had sex?		0.525	
SexB5	About how many of your friends believe that teenagers should use a condom if they have sex?			0.830
SexB6	About how many of your friends use a condom when they have sex?			0.828
SexB9	About how many of your friends are trying to change their sexual behaviours because they believe they might get infected with HIV?			0.373
Extraction Method: Principal Component				Analysis.
Rotation Method: Varimax with Kaiser Normalization				

One-way analysis of variance (ANOVA) was conducted to explore the impact of school type on the three variables of Drugs and Alcohol Use, Sexual activity and Condom use and results were as follows.

7.2.3.1 Drugs and Alcohol Use

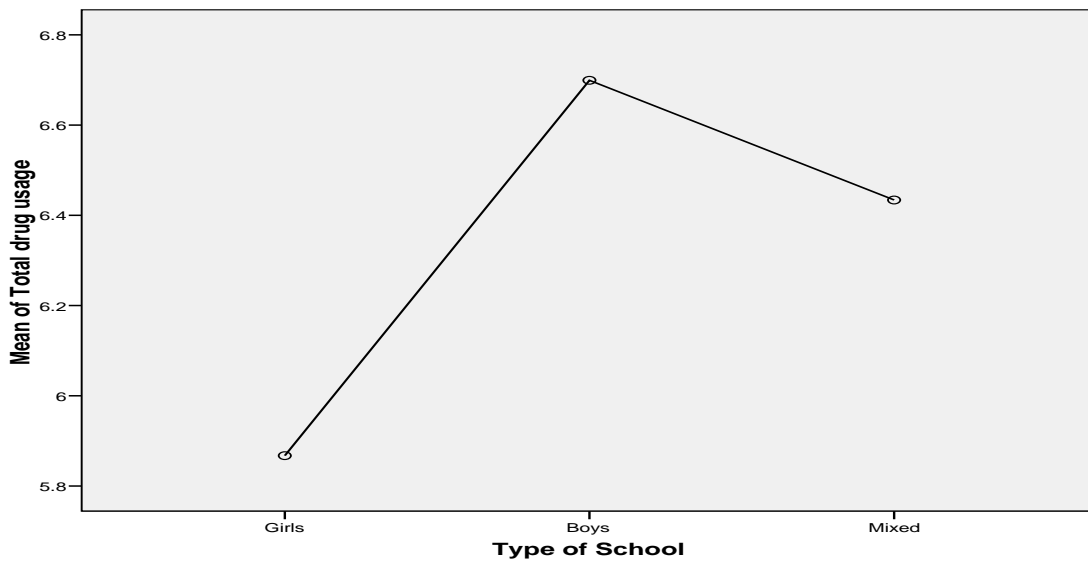
A one way between groups of analysis of variance (ANOVA) was conducted to explore the impact of school type on Drugs and Alcohol Use. There was a statistically significant

difference at the $p < .05$ level in the scores. Post hoc comparisons using Tukey HSD indicated that the mean scores between students from boys' only schools and those from mixed schools were considerably higher ($M = 6.70$ and $M = 6.45$ respectively) than those recorded with students from girls' only schools ($M = 5.87$). The effect size calculated using eta squared was .42 (this effect size is evident of the small difference in the mean scores of the groups). If we consider the commonly accepted benchmarks that differentiate between small, medium and large effects (Cohen, 1988), whereby 0.2 equates to small effect; 0.5 to medium effect and 0.8 to large effect, it could be argued that there is a considerable strength in the relationship between drug and alcohol use and the type of school one attends. Those attending boys' only schools are more likely to engage in drug and alcohol usage than those attending either girl's only or mixed schools. While this is in tandem with findings of earlier studies carried out among high school students in developing countries, which indicated that alcohol consumption was more prevalent among boys than girls (Kokkevi et.al., 2000), it contradicts the findings from The National Survey on Drug Use and Health in New York released by John Walters on February 9th 2006 which indicated that girls were using drugs and alcohol more than boys.

In the current study, for example, only 10.3% of respondents from girls only schools believed that their friends used drugs as compared to 24.2% of boys and 18.0% of respondents from mixed schools (Pearson chi-square = 18.712, $df = 6$, $p = 0.005$). Similarly, only 15.4% of girls and 16.6% respondents from mixed schools indicated that their friends used drugs and alcohol before engaging in sex (Pearson chi-square = 13.718,

df = 6, p = 0.033). Figure 8 illustrates the impact of school type on students' drugs and alcohol usage.

Figure 8: Impact of school type on drugs and alcohol usage.

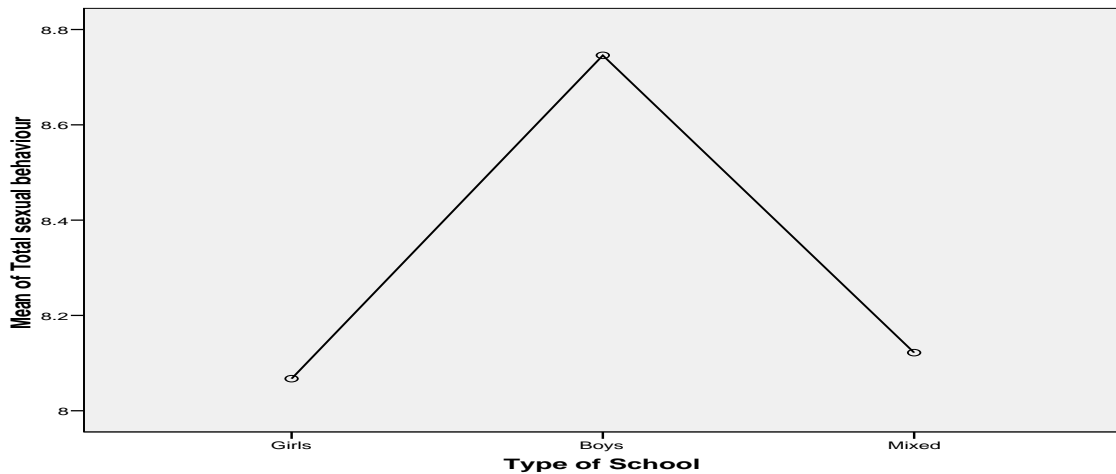


7.2.3.2 Sexual activity

School type was also shown to affect the sex behaviour of respondents ($p < 0.05$). Post hoc comparisons using Tukey HSD indicated that respondents from mixed schools ($M = 8.12$) and girls schools ($M = 8.07$) had significantly lower mean scores for sex activity than respondents from boys only school ($M = 8.75$, $p < 0.05$). The data shows that 61.1% of respondents from boys only schools believed that it was okay to have sex before marriage whereas only 23.5% and 34.5% of respondents from girls and mixed schools respectively held the same view (Pearson chi-square = 51.205, df = 6, $p = 0.000$). This is further supported by the data which shows that 78.6% of the respondents from boys only

schools had engaged in sex as compared to 62.8% of girls and 68.2% of mixed school respondents (Pearson chi-square = 17.766, df = 6, p = 0.007). Moreover, 25.6% of respondents from boys only schools indicated that they had engaged in sex within the last six months as compared to 15.8% and 17.6% of respondents from girls and mixed schools respectively (Pearson chi-square = 12.796, df = 6, p = 0.046). See Figure 9.

Figure 9: Impact of school type on sexual behaviour



7.2.3.3 Condom use

Only two items (SexB5: About how many of your friends believe that teenagers should use a condom if they have sex? and SexB6: About how many of your friends use a condom when they have sex?) were used to analyze ‘Condom use’ amongst the respondents. Post hoc comparisons using Tukey HSD indicated significant differences between beliefs and actual usage of condoms ($p < 0.05$). For instance, students from all

categories indicated higher mean scores for those who believed that condoms should be used but a significantly lower mean score for those who actually used condoms (Girls: Belief M=2.81, Usage M = 2.68; Boys: Belief M=2.85, Usage M=2.61; Mixed: Belief M=2.89, Usage M=2.55). This confirms previous research findings that Sexual activity and inconsistent condom use occur frequently among high-school students (George, Alary and Otis, 2007). Other studies have observed that among young men, girls who use condoms are thought to be promiscuous and that a boy using a condom would be thought stupid because he would not be getting full value for the cost of having sex with a girl (ibid). This kind of risk taking has been mentioned elsewhere in this thesis. For young people, risk taking is an outgrowth of the development of individual identity and the testing of social conventions (Hoffman and Futterman, Cited: Mann and Tarantola, 1996). Conventional knowledge of risk generates a counter-knowledge or alternative and opposed knowledge, based on one's health perceptions and experiences. A smoker who has not had any problems relating to smoking may not heed any warnings about lung cancer. Likewise, not everybody who has un-protected sex becomes infected with HIV. This perhaps explains why condom usage is so much lower than knowledge about use.

Another explanation is likely to be sexual abuse or coercion, leading to a girls' lack of control over the sexual activity (Elze et.al. 2001). Girls who are coerced into having sex are less likely to use a condom. Likewise, many girls do not have the skills to negotiate safe sex, especially with an older boyfriend (Vanoss Marin et.al., 2000).

7.2.4: Peer Pressure

On this measure, students were asked to respond to 6 vignettes dealing with peer pressure situations by indicating their confidence in avoiding risk behaviours. Points were assigned to response options as follows:

Completely Confident	5
Very Confident	4
Somewhat Confident	3
Not Very Confident	2
Not at All Confident	1

Total scores for confidence in resisting peer pressure ranged from 10 points (low degree of confidence) to 50 points (high degree of confidence). The maximum score, out of a possible 50, was recorded as 30. This indicates that most of the respondents were not confident about resisting peer pressure. The scores were then collapsed into three ordinal categories to differentiate between the levels of confidence in resisting peer pressure with scores of between 0-18 points indicating low confidence; 19-34 indicating an average level of confidence and 35-50 indicating a high level of confidence. From the findings, none of the respondents was found to have a high level of confidence in resisting peer pressure (0%), but majority, (78.1%) had an average level of confidence. This confirms previous studies (Cohn et al., 1995) that suggest that young people see occasional or experimental involvement in health threatening activities as less dangerous than adults. Larson (1980) points out that young people report feeling bored much of the time, but they report feeling very happy and motivated when with their friends. From a systems

theory perspective, groups that provide a lot of positive feedback- such as the experiences of young people with their friends- encourage actions to maintain those feelings. Those actions could entail risky behaviours to keep the fun going.

Further analysis of the data was done to establish whether peer pressure differed according to school type. (See Table 19). Results revealed that respondents who attended Boys only schools differed significantly in their mean scores ($M= 21.37$) than those from Girls' only schools ($M=22.83$) and mixed schools ($M=23.27$).

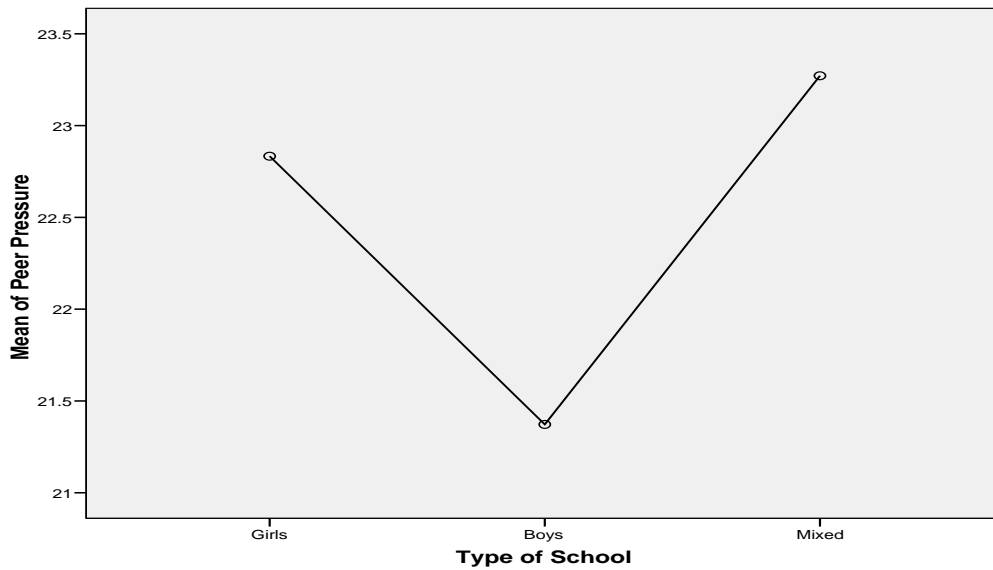
According to the data, 72.3% of respondents from girls only schools and 74.7% of those in mixed schools were confident that they would not be pressurised into drinking by friends as opposed to 56.2% of respondents from boys only schools (Pearson chi-square = 20.561, $df = 8$, $p = 0.008$). In addition, 71.2% and 74.5% respondents from girls only schools and mixed schools respectively were confident that they would resist being pressurised into having sex with a partner as compared to only 47.1% of those who went to boys only schools (Pearson chi-square = 33.835, $df = 8$, $p = 0.000$). The same trend was recorded regarding engaging in sex with a new partner despite knowledge about HIV/AIDS. Only 59.8% of respondents from boys only schools were confident that they would rethink their sexual habits as compared to 79.2% and 78.2% of respondents from girls and mixed schools respectively (Pearson chi-square = 20.485, $df = 8$, $p = 0.009$).

Table 19: Peer pressure

	Girls		Boys		Mixed	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
You are at a party where some of your friends are drinking. They want you to join them and are pressuring you to do so. <i>If you didn't want to join your friends in drinking, how confident are you that you could refuse?</i>	3.98	1.168	3.53	1.430	4.02	1.275
You have been going out with a girl/boy friend for sometime, and you like each other very much. Your partner really wants to have sex with you. <i>If you didn't want to have sex with him/her, how confident are you that you could refuse?</i>	3.96	1.256	3.28	1.528	3.99	1.292
You are on a sports team that has a good chance of making it to the championships. Some of the team members decide to inject steroids to make themselves stronger and faster. They want you to join them. <i>If you didn't want to use steroids, how confident are you that you could refuse?</i>	4.12	1.220	4.23	1.207	4.31	1.112
You have recently broken up with your steady girl/boy friend. You start to date someone new who knows you had sex with your old steady and wants to have sex with you. You have heard a lot about HIV, and you decide to rethink your sexual habits. <i>If you didn't want to have sex with your new partner, how confident are you that you could refuse?</i>	4.15	1.178	3.68	1.377	4.10	1.277
It's a Sunday afternoon and you've been putting off your homework all weekend. You've got enough homework to fill the rest of the day. Your best friend calls to invite you to a movie that you've both been wanting to see. <i>If you didn't want to go with your friend, how confident are you that you could refuse?</i>	3.09	1.417	3.08	1.539	3.08	1.448
You are going out with someone, and you've been having sex without condoms. You have heard that using a condom is a good way to keep from getting infected with HIV. Your partner doesn't like condoms. <i>If you didn't want to have sex anymore without a condom, how confident are you that you could refuse?</i>	3.90	1.388	3.71	1.418	3.88	1.418

These results on students' confidence in avoiding peer pressure are further illustrated in Figure 10.

Figure 10: The impact of type of school on confidence in avoiding peer pressure



Mixed school respondents attained a significantly higher mean score than respondents from the other categories, probably because in a mixed school, boys and girls mix freely and are therefore able to say 'No' to one another.

It was also noted that different situations indicated different levels of confidence in resisting peer pressure. Whereas, for instance, most respondents were confident that they could resist having sex with a new partner, their confidence level was much lower when they were asked about having sex with a partner they had known for some time. This supports previous research which has found that those partners who are regular are perceived to be 'safe' from HIV point of view (Shrestha et.al., 2004). All in all,

respondents would be able to resist using steroids and having sex with a new partner more than they would having sex with a steady boy/girl friend, drinking, having sex without a condom or failing to do homework.

7.2.5 Overall Correlations

Pearson correlation analysis was used to examine the strength and direction of the relationships between Knowledge about HIV/AIDS, Knowledge Confidence, Sexual Behaviour and Peer Pressure. Results indicated that there was no significant correlation between any variable on Knowledge about HIV/AIDS and Sexual Behaviour or Condom Use. This confirmed previous results in this study that the respondents' knowledge about HIV/AIDS did not translate into reported accounts or assertions of low risk sexual behaviours. The respondents still engaged in high risk behaviours despite the knowledge they had about HIV/AIDS. This knowledge, however, greatly enhances Confidence.

Ability to resist peer pressure was shown to correlate negatively with Drugs and Alcohol Use ($r=-0.21$, $p<0.01$) and Sexual behaviour ($r=-0.186$, $p<0.01$), suggesting that the less the ability one had to resist peer pressure, the more they engaged in Drugs, alcohol and sex. Peer pressure also had a significant positive correlation with Misconception about HIV/AIDS prevention ($r=0.177$, $p<0.01$), meaning that an increase in peer pressure also increased one's misconceptions about how HIV/AIDS can be prevented. This suggests that young people believe what their peers tell them, regardless of whether the information is factual or not.

Condom use was found to correlate negatively with Drugs and Alcohol Use ($r=-0.103$, $p<0.05$) and positively with the Knowledge of how HIV/AIDS is spread ($r=0.106$, $p<0.05$). This suggests that those who engaged in drugs and alcohol were less likely to use Condoms during sex, while knowledge about how HIV/AIDS was spread led to increased used of Condoms during sex. These results are summarised in Table 20.

Table 20: Pearson correlation analysis of Knowledge about HIV/AIDS, Confidence in that Knowledge, and Sexual Behaviours.

	Knowledge confidence	Peer Pressure	Drug and alcohol usage	Sex behaviour	Condom use	Myths about HIV/AIDS transmission	Misconception about prevention of HIV/AIDS	Ways of spreading HIV/AIDS	Misconceptions about HIV/AIDS infection
Knowledge confidence	1	.132(*)	-.108(*)	-.037	.091	.688(**)	.644(**)	.428(**)	.444(**)
Peer Pressure	.132(**)	1	-.231(*)	-.186(**)	.046	.091	.172(**)	.024	-.015
Drugs and alcohol usage	-.108(*)	-.231(*)	1	.397(**)	-.103(*)	-.143(**)	-.090	.025	.030
Sex behaviour	-.037	-.186(*)	.397(*)	1	.008	.019	-.109(*)	.028	-.023
Condom use	.091	.046	-.103(*)	.008	1	.072	-.007	.106(*)	-.017
Myths about HIV/AIDS transmission	.688(**)	.091	-.143(*)	.019	.072	1	.264(**)	-.047	.089
Misconceptions about prevention of HIV/AIDS	.644(**)	.172(*)	-.090	-.109(*)	-.007	.264(**)	1	.085	.141(**)
Ways of spreading HIV/AIDS	.428(**)	.024	.025	.028	.106(*)	-.047	.085	1	-.046
Misconceptions about HIV/AIDS infection	.444(**)	-.015	.030	-.023	-.017	.089	.141(**)	-.046	1

** Correlation is significant at the 0.01 level; * Correlation is significant at the 0.05 level (2-tailed).

7.3: Teacher Preparedness in the area of HIV/AIDS

Teacher Training

Teachers provide valuable information about HIV/AIDS. To do this effectively, they need to understand the subject, acquire good teaching techniques and explore their own beliefs and concerns about HIV/AIDS topics in order to increase their competence and confidence in their teaching. The study, however, established that only 5.6% (4) of the teachers involved considered their training in HIV/AIDS as adequate while 94.4% (67) rated it as inadequate. This is a clear indication of the lack of priority in investing in teachers as HIV/AIDS educators, despite the well documented evidence that teacher training is a key component of a successful school-based HIV/AIDS program (Tijuana, et.al. 2003). Ideally, training provides the teacher with a teaching approach that actively involves students, imparts requisite skills and knowledge so that the teacher may feel confident to discuss sensitive and controversial topics, provides the teacher with the know how to relate to students of different ages, and most importantly, helps teachers to examine their own attitudes towards sexuality and behaviours regarding HIV/AIDS prevention (ibid).

This notwithstanding, when the programme was initiated in schools, the government assumed that teachers teaching subjects that were more related to the disease would automatically and sufficiently handle it. However, in most cases, their teacher training programme had no specific component on HIV/AIDS to prepare them to adequately handle the subject in school. Despite admitting that they did not have adequate training in teaching HIV/AIDS, most teachers, however, said that they had taught HIV/AIDS in the

classroom. Was it effective? Did they use the participative teaching methodologies that HIV/AIDS education requires? Can we assume that since they are teachers, they can teach any subject regardless of their training?

7.3.1: Instructional confidence

Instructional confidence was assessed from a series of 10 questions seeking respondent's rating of their confidence in handling various aspects of HIV/AIDS education in schools. Responses to these questions were measured on a five-point likert scale ranging from 1 to 5 (where, 1= Not at all confident - NAC, 2 = Not very confident - NVC, 3 = somewhat confident - SC, 4 = Very confident - VC and 5 = completely confident - CC). Table 21 shows the distribution of their responses on the ten questions.

Table 21: Teachers' instructional confidence

Question: How confident are you that you can.....	Response (%)					Means
	NAC	NVC	SC	VC	CC	
Present accurate information about HIV infection and AIDS to students?	1.4	2.8	19.7	45.1	31.0	4.01
Help students to refrain from injecting drugs?	1.4	7.0	18.3	40.8	32.4	3.96
Explain to students at appropriate ages how a condom should be used?	2.8	5.6	21.1	36.6	33.8	3.93
Answer parents' questions about HIV infection?	1.4	11.3	19.7	40.8	26.8	3.80
Help students develop skills they need to refrain from engaging in intercourse?	1.4	5.6	25.4	50.7	16.9	3.76
Obtain up-to-date information about HIV?	1.4	5.6	38.0	28.2	26.8	3.73
Discuss high-risk sexual behaviours with students?	4.2	14.1	22.5	42.3	16.9	3.54
Help students reach more accurate perceptions of their own vulnerability to HIV infection?	7.0	12.7	29.6	35.2	15.5	3.39
Discuss high- risk drug behaviours with students?	4.2	21.1	29.1	32.4	12.7	3.28
Increase students' tolerance towards people with HIV/AIDS?	22.5	22.5	26.8	15.5	12.7	2.73

N = 71

Further, the responses to each constituent question were scored on a scale of 1 to 5, 1 indicating lack of confidence, and 5 indicating complete confidence in handling that aspect of HIV/AIDS education. The individual question scores were summed up to form an instructional confidence index score for each respondent (reliability coefficient, $\alpha = 0.8483$). The index score varied between 10, indicating a low degree of confidence in handling all the ten aspects, and 50, indicating a high degree of confidence in handling all the ten aspects of HIV/AIDS education. The higher the score, the more confident were

the teachers in handling all the ten aspects of HIV/AIDS education in their schools, and vice versa. The index score was later collapsed into three ordinal categories in order to differentiate between the levels of instructional confidence among the sampled respondents. This included a score of 10-24 meaning low; 25-39 indicating average and a score above 39 (40-50) showing a high level of instructional confidence. Results indicated that majority of the respondents (62%) rated their level of instructional confidence as being average, while 33.8% and 4.2% rated their levels as being high and low respectively.

7.3.2: Teacher Comfort in handling sensitive topics

Teachers' *comfortability* in handling sensitive topics was also assessed from a series of 10 topics related to HIV/AIDS education. Respondents were asked to rate their level of comfort in discussing these topics with students in schools, and the responses were measured on a five-point likert scale ranging from 1 to 5 (where, 1= Not at all comfortable - NAC, 2 = Not very comfortable - NVC, 3 = somewhat comfortable - SC, 4 = Very comfortable - VC and 5 = completely comfortable - CC). Table 22 below shows the distribution of their responses on the ten questions.

Table 22: Teachers' comfort in handling sensitive topics

Topics	Response (%)					Means
	NAC	NVC	SC	VC	CC	
How HIV is transmitted	1.4	1.4	8.5	40.8	47.9	4.32
AIDS	0.0	1.4	22.5	29.6	46.5	4.21
Alcohol use	0.0	2.8	25.4	21.1	50.7	4.20
Sexual abstinence	1.4	4.2	21.1	35.2	38.0	4.04
Injected drug use	1.4	8.5	23.9	26.8	39.4	3.94
Non sexual ways of displaying affection	7.0	14.1	19.7	32.4	26.8	3.58
Sexual intercourse	4.2	19.7	29.6	19.7	26.8	3.45
Male genitalia	7.0	25.4	21.1	28.2	18.0	3.25
Condom use	12.7	23.9	26.8	16.9	19.7	3.07
Female genitalia	8.5	31.0	26.8	23.9	9.9	2.96

N = 71

The responses to each constituent question were then scored on a scale of 1, indicating not comfortable, to 5, indicating completely comfortable in handling sensitive topics in HIV/AIDS education. The individual question scores were summed up to form a comfortable index score for each respondent (reliability coefficient, $\alpha = 0.8746$). The index score varied between 10, indicating not comfortable in handling all the ten topics, and 50, indicating completely comfortable in handling all the ten topics of HIV/AIDS education. The higher the score, the more comfortable were the teachers in handling all the ten topics of HIV/AIDS education, and vice versa. The index score was later collapsed into three ordinal categories in order to differentiate between the levels of comfort. A score of between 10-24 meant that the respondents were not comfortable dealing with the topics, while scores of between 25-39 and 40-50 indicated average and high levels of comfort respectively.

It was found that there were various interacting factors that form a dominant ideology that influences the teacher on what to teach: the appropriateness of sexuality and related issues, which finds its roots in the moralistic view of the society. Coupled with the limited time in which to teach, a teacher would select what is considered appropriate. Accordingly, most teachers are more confident and comfortable with issues related with the 'science of HIV/AIDS'.

7.4 Mobilization of support and provision of adequate supervisory systems

School support

Every successful programme depends on strong administrative support, especially from school principals because decisions about implementing a programme are usually made at the administrative level (Mihalic et.al. 2004). Results from this study indicate that the school principals interviewed claimed to be supportive of the teaching of HIV/AIDS in their schools, a view which was echoed by a small minority of the teacher respondents.

The study established that only 5.6 percent (4) of the teachers reported receiving adequate support in their HIV/AIDS education responsibilities, while 94.4 percent (67) lacked adequate support. Most teachers cited the lack of inclusion of HIV/AIDS in the school curriculum as one example of lack of a supportive head teacher. Teachers voiced concern over making Physical Education (P.E) compulsory and not HIV/AIDS education. One teacher, particularly, felt frustrated by the general view that 'secondary school students are already spoilt' and therefore would not benefit much from HIV/AIDS education. Teachers, however, applauded head teachers for occasionally inviting and paying speakers to pass HIV/AIDS messages to students. In situations where teachers felt a lack

of support, they were more likely to be demoralized in their responsibility of delivering the programme. In most cases, however, provision of HIV/AIDS education was characterised by administrative apathy. Although principals voiced support for the programme, the lack of tangible actions on their part demonstrated otherwise.

When asked whether or not they had supported implementation of HIV/AIDS in their own schools, majority of the head teachers claimed not to have seen a copy of the policy. Those who had a copy claimed to have received one after attending a head teachers' meeting. Even then, the policy had just been distributed to the head teachers and no one had given them any information, guidelines or sensitisation about how it should be implemented. As a result, most head teachers, as instructional leaders, were not able to provide the curricular direction that was needed to inspire and energise the teachers to implement the HIV/AIDS policy and therefore were not supportive of implementation.

Supervisory structures

The AIDS Control Unit (ACU) was established in 2001 to lead and co-ordinate all AIDS programmes in the Ministry of Education. The unit comprises of 5 Programme officers, all of whom are trained teachers. At the time of the research, two of these officers had been newly recruited and were said to be in the process of acquiring experience in matters relating to HIV/AIDS in education. The five programme officers were each responsible for a certain area of the policy, namely: Prevention, Voluntary Counselling and Testing, Care and support, Workplace, or Management of response. There were also two support staff and a team leader. The core functions of the ACU were said to be:

- a. Mainstreaming HIV/AIDS into all the core functions of the ministry
- b. Co-ordinating HIV/AIDS curriculum implementation including life skills education
- c. Implementing behaviour change and prevention programmes in the education sector
- d. Ensuring care and support for affected and infected learners and workers
- e. Mobilising of resources and advocacy

Most officials at the ministry, when asked whether or not the programme was being implemented in schools, claimed that the activities of the ACU had been decentralized and that there were structures in place at the provincial and district levels that were responsible for implementation. The case was, however, different. Most of the teachers and head teachers interviewed reported that the role of district and provincial co-ordinators was purely cosmetic, and that most of these co-ordinators had remained ‘invisible’ in their areas of jurisdiction. When the researcher visited the district headquarters, no one wanted to take responsibility of being the focal point, so it was not possible to interview any of the people said to be responsible for the implementation of the programme at the lower levels. Clearly, although there seemed to be a well structured and coordinated team at the top, the same could not be said of the reality at the grass roots. This was seen to hamper implementation of the programme because as Rugalema and Khanye (2002) observe, having an HIV/AIDS unit at the ministry headquarters is necessary but not sufficient to ensure that activities permeate all levels of the system. It is important to have such units at administrative levels (regional, district, and even school

level) and to make sure that they are functional. That is, they should be properly staffed and equipped to operate. In the absence of such structures, monitoring and evaluation exercises are rendered difficult to carry out.

The Ministry of Education should put in place a strong system that flows smoothly from the national, provincial, district, zonal, village and school levels for distribution, dissemination, interpretation, implementation, AND monitoring and evaluation of the HIV/AIDS policy and school-based education activities. In order to put this comprehensive system in place the Ministry of Education should involve other stakeholders in the field (teachers, head teachers, provincial co-ordinators, district co-ordinators) and facilitate a dialogue with them in order to identify the best way forward for the enhancement of the policy.

The dialogue should involve identification, access and sharing of resources among the key implementers of the policy and the interventions drawn from it. It should involve discussions on collaboration and partnerships. It should lead to self-evaluation, peer evaluation and collaborative evaluation. Under the leadership of the MoE, the stakeholders should determine what resources are available for effective implementation of the HIV/AIDS policy and related interventions, what needs to be strengthened, and what structures need to be put in place. The stakeholders will variously contribute information, knowledge and technical support .

CHAPTER 8: CONCLUSIONS AND RECOMMENDATIONS

8.0: Introduction

There is an implicit assumption that once a policy has been formulated, it will be implemented. This is, however, not the case in many instances. Policy implementation is often a tension generating force in society, with different stakeholders pulling in different directions. These tensions result in transaction patterns which may or may not match the expectations of outcome of the policy formulators, necessitating a re-consideration of the policy guidelines. From a systems approach, the successful implementation of an HIV/AIDS policy requires a delicate balance between strong leadership on the one hand, and on the other hand a recognition that no government can do the job alone and responsibility and authority must sometimes be delegated. Where a sympathetic and cooperative relationship between all of those who will be implementing the policy does not exist, the cohesion of the national policy is lost and the focus is inclined to shift away from the real objectives.

The findings from this study indicate that whereas there is need and/or demand for HIV/AIDS education (input); the processes of disseminating that education (throughputs) are inadequate and hence students continue to engage in high risk behaviours (outputs) that expose them to HIV/AIDS infection. Moreover, feedback that is currently evident is negative and seems to propagate the status quo no matter the need for change. Evidently, then, the fidelity of implementation of the secondary school HIV/AIDS prevention programme has been compromised. HOW?

This chapter explores some of the reasons that have rendered implementation of the programme difficult and proposes remedies. Specifically, the chapter addresses the issues of:

- The issue of pedagogy
- Lack of capacity
- The reality of the classroom
- Assumptions about young people

8.1 The issue of pedagogy

Many existing HIV-prevention efforts in sub-Saharan Africa have been dominated by the very biomedical and behavioural understandings of sexuality and health that allowed the epidemic to develop in the first place (Campbell, 2003).

HIV/AIDS prevention programmes have been, for a long time, conceptualized within a rationalist framework which is based on the idea that an individual has control over his/her actions, and therefore Life skills education, if taught and learnt, would be able to be applied in order to reduce their risk of HIV infection. Consequently, HIV/AIDS education has focused heavily upon knowledge, attitudes and behaviour, and the target group has been taught the ‘facts’ in the belief that they will act upon what they acquire and change those high risk behaviours that make them susceptible to contracting HIV/AIDS. But the results of this study, as do others that have been carried out over time, have shown that students knowingly engage in sexual behaviour that places them at risk of contracting HIV/AIDS. With full knowledge of the dangers of the epidemic, students continue to engage in unprotected sex, and with multiple partners. This suggests

that although they have the necessary information, they are either unwilling or unable to turn that information into action. Why is this the case?

With respect to sexual behaviour, school based HIV/AIDS education has been based on the assumption that sexual encounters are regulated by self-formulated plans of action, and that individuals are acting in an intentional and volitional manner when engaging in sexual activity (www.nap.edu/openbook/0309050936). This is the same notion that dominated HIV/AIDS education early in the epidemic. It was often assumed that sexual behaviour was shaped by the conscious decisions of rational individuals, and that by locating the cause of sexual behaviour at the individual level, this could lead to individual behavioural interventions (Campbell, 2003). However, sexual behaviour is often impulsive. Rarely does one weigh the pros and cons of having sex before the encounter. More often than not, sexual encounters are responses to opportunity and chance. In a study carried out with young people attending primary school (Maticka-Tyndale et.al. 2004), for example, the writers report '*a sense of inevitability and a lack of personal responsibility among young people for the sexual act that ultimately resulted*'.

The issue of love, for example, is a concept that has a very different meaning to most Kenyans. The terms 'love', 'lover' and 'love affair' are commonly used to describe a 'sexual relationship' (ibid) between a man and a woman. Dating and sexual intercourse are also spoken of synonymously, as dating is simply a prelude to having sex. It is expected that a dating couple (a relatively new phenomena), engages in sexual activity.

Another reason students are unable to turn information into action is because HIV/AIDS education has emphasized too much on individual behaviour, ignoring the broader social and cultural setting which is also an essential determinant of behaviour. Social and relational factors such as the role of peer pressure, emotions, cultural beliefs and organizational structures of communities should form the basis of HIV/AIDS education pedagogy if behaviour change is to occur. In order for young people to be able to use the information that HIV/AIDS education gives them, there is need to address not only risk but also the deep-seated causes of vulnerability which reduce the ability of young people to protect themselves and others against infection. HIV/AIDS prevention education must put greater emphasis on the ways in which young people understand their social and physical worlds. Instead of focusing heavily on knowledge, attitudes and behaviours, HIV/AIDS education must explore the various meanings attributed to sex and drugs by young people and realize that these meanings change and shift depending on circumstances. For example, the importance of virginity to young women and men has changed, and so has attitudes of masculinity among young men. It is 'honourable' for many young men and women to be sexually experienced, just as it is 'honourable' for many young people in Thailand to send money earned through sex work to their parents (Aggleton, 2002). Likewise, it is necessary to change the messages and approaches that have seemed to work with HIV/AIDS education, in view of the changing face of HIV/AIDS. Some other identifiable needs are:

- Motivation. Students need to know that what they are learning about the epidemic is personally relevant to them. They need to know that they can themselves be affected by HIV if they do not take steps to protect themselves. Sometimes this motivation

comes only when people see their friends dying, and it would be preferable if education could persuade people to act before they are frightened into doing so.

- Empowerment is also crucial to students' ability to protect themselves. They must be in a position where they are able to take control of their sexual behaviour or methods of drug use. As discussed earlier in the literature review, there are gender differences in Kenya that inhibit women's roles in decision-making and sexual negotiation, giving them limited control of when and with whom they have sex, and less control of whether condoms are used. This may be because they are poor, because they are less educated, or simply that such a situation is endemic to the society they live in. AIDS education needs to help such women to take control of their sexual and drug-using behaviour, and to help both men and women to act responsibly and evolve strategies to avoid risky situations and to say no to sexual encounters which are risky or unwelcome.
- Condoms should be available. There is little point in teaching young people about the need to practice safer sex if they are unable to access condoms. Ideally, condoms should be freely available, and should be accessible to young people, regardless of whether they are over the age of consent or not.
- Needles and injecting equipment need to be made available in the same way, regardless of legislation prohibiting drug use. As mentioned elsewhere in this thesis, a person found by the police in possession of drug injecting equipment in Kenya can be prosecuted, which tends to encourage injecting drug users to share equipment. This is clearly unsatisfactory, and people need not only to be taught how to inject without

risking the transmission of HIV, but to have access to the equipment they need to do so, without fear of prosecution.

There is need, therefore, to realize that the forces that shape sexual behaviour are far more complex than individual rational decisions based on simple factual knowledge about health. Successful interventions are based on people's own positions in life and HIV/AIDS education is no exception. Like Aggleton (2002) observes, there is need to radically re-new and upgrade HIV/AIDS education interventions if we hope to reduce HIV/AIDS related vulnerability among the youth. HIV/AIDS education strategies should act from the basis of what young people know and what they do, not merely from a model of 'liberal enlightenment' where those who know best intervene to correct the 'bad' thoughts and actions of others. Young people have proved that they are rarely taken in by such formal pedagogical approaches.

8.2 Lack of capacity

Results from this study also indicate that the program is not being implemented as intended for lack of capacity in terms of knowledge, skills, information and attitudes for the interpretation and implementation of the policy on the part of stakeholders. Teachers and head teachers, the main implementing agents at the school level, were generally not familiar with the HIV/AIDS policy, did not have access to copies of the policy document, and had generally not been sensitized and trained on the interpretation and implementation of the policy. Moreover, they did not know their mandate, duties and responsibilities in the implementation process, and although most of them were aware of the policy's existence, most were unfamiliar with its contents. How, then, could they be

expected to implement a programme that they were not familiar with? In order to allow for effective implementation, and for stakeholders to be able to adhere to a programme, there has to be specific sensitization and training to educate stakeholders on their role in the implementation process.

8.3 The reality of the classroom

The reality in the school is that HIV/AIDS curriculum is incompatible with the formal education system that most schools follow. To begin with, HIV/AIDS education demands a participatory and responsive approach, while the existing approach in many classrooms tends to be didactic, non participatory and examination driven. HIV/AIDS education is also, generally, donor-driven and is ‘bolted on’ to the main curriculum, hence lacks a sense of ownership among teachers. In an environment where schools are judged by how well they perform in national examinations, and a teacher’s worth is pegged on how many students pass his/her subject, there is bound to be conflict between teaching what one must teach, and offering HIV/AIDS education which is neither compulsory nor examinable. To expect teachers to adopt a different type of teaching without even a minimal package of training is unrealistic and it only increases the pressure on the teacher and the curriculum (Aggleton 2004).

To compound these problems, there is a wider crisis in formal education. Schools are under-resourced, classes are often too large, teachers are often under-paid, over-worked and under-trained (ibid). This produces a weak platform upon which to adhere to the objectives of HIV/AIDS education.

8.4 Assumptions about young people

Several misconceptions and assumptions abide about the youth that are counterproductive in HIV/AIDS interventions targeting them. Interventionist discourse concerning the vulnerabilities of young people to HIV/AIDS obscures the ways in which they share similar circumstances with other people as well as the strengths they bring to bear on their circumstances. It is assumed that:

- Young people are ignorant and need to be ‘enlightened’
- Youth prevalence drives adult prevalence
- Young people form an undifferentiated category
- Controlling young people’s prevalence has a positive ‘knock-on’ effect on individual HIV risk later on in life, so they must be targeted
- HIV/AIDS prevalence among the youth can be rapidly reduced through intensive campaigns

Consequently, most programmes have persistently delivered messages of abstinence-until-marriage for youth as a proven prevention strategy; have failed to provide the youth with information about condoms for fear that it would encourage them to have sex; and have presented marriage as a protective factor against HIV infection. By so doing, HIV/AIDS prevention programmes thwart any genuine attempts of change from the young people. The rigid conception of roles- that the young don’t know and those older than them know- blocks new ways of thinking from taking root. Educators and policy developers in general fail to take responsibility for the role that their own institutions could be playing in enabling or obstructing individual change. This patronizing approach

does little to encourage the participation of young people in preventing HIV/AIDS. Young people need to be treated as agents of their own development.

8.5 Recommendations

Stemming from the findings that:

- although there is a comprehensive policy on HIV/AIDS education, implementation is largely uncoordinated. The MoE has not sensitized stakeholders on the content of the document, or on their role in the dissemination and implementation of the policy. Consequently, there has been a lack of widespread support for the programme, impeding its implementation. Teachers have been left to decide what, how and when to teach, and this has gone on unabated as no attention has been given to who should monitor and evaluate the policy implementation process.
- teachers lack training and skills to handle HIV/AIDS education
- although head teachers claim to support implementation of the HIV/AIDS education program, provision of HIV/AIDS education is characterized by administrative apathy
- the ACUs both at the ministerial and district levels are invisible
- implementation of the program is not backed up with monitoring and evaluation
- students, consequently, continue to engage in high risk sexual behaviours that could expose them to HIV/AIDS infection, despite their seemingly high knowledge about HIV/AIDS,

The following conclusions and recommendations are made:

- There is need for hierarchical integration of dialogue within and among implementing institutions in order to address the fragmentation and lack of coordination of

HIV/AIDS education. Like the old adage goes, it is necessary that the right hand knows what the left hand is doing. There is need for strengthened open communication and partnerships between policy makers and implementers in order to not only review needs and gaps that are specifically relevant to policy implementation, but also to map out strategies and concrete opportunities for action related to these needs and gaps at both the school and national levels. HIV/AIDS prevention efforts should be seen to devolve from the national level to schools because school administrators are important in mobilizing support for the successful implementation of national policy.

- In order to continually reinforce implementation of HIV/AIDS prevention education, there is need for capacity building. As it is, the current curriculum is overloaded, and besides a lack of teaching materials for HIV/AIDS inherent in most schools, teachers also lack training and skills to tackle HIV/AIDS education. It is prudent that the Ministry trains teachers and provides adequate teaching materials. It is also necessary that staff in general is empowered, even more so, school heads, in order to enable them to bring about a more comprehensive approach of HIV/AIDS education at school level.
- HIV/AIDS education programs should encompass both knowledge and skills. Functional information should constitute the core of the program. It is increasingly clear from the research that young women in Kenya are at particularly high risk of infection. Although there is now a better understanding of the determinants of risk for young women--gender inequality, a lack of power in decision making, and social coercion--how to address these issues is still not clear. Behavioural interventions for

young women should include empowerment and the development of negotiation skills. For young men, respect and support for women and for gender equality, needs to be taught.

- Most students, as the study reveals, are now aware of the dangers of HIV/AIDS, and yet many of them continue to engage in high risk behaviours. HIV/AIDS prevention education must put greater emphasis on the ways in which young people understand their social and physical worlds. Instead of focusing heavily on knowledge, attitudes and behaviours, HIV/AIDS education must explore the various meanings attributed to sex and drugs by young people and realize that these meanings change and shift depending on circumstances
- Implementation of the HIV/AIDS education program should be backed up by monitoring and evaluation systems. Schools inspectors should not only be concerned about inspecting other subjects, but also ascertain whether or not HIV/AIDS is being taught in schools. It is unthinkable how we all view HIV/AIDS education as important and yet there is very little being done to put checks and balances to ensure that it is provided to those who deserve it most.

8.6 Conclusion

The HIV/AIDS education policy implementation in secondary schools in Kenya raises a number of conceptual and practical challenges, as discussed in the foregoing sections of this thesis. While this thesis has highlighted a number of these challenges, the intention has not been to undermine the importance of the HIV/AIDS policy. On the contrary, the analysis offered here is recognition of the practical difficulties of the successful

implementation. It is hoped that such an analysis will bring about greater understanding of the challenges facing even the best-intentioned and technically well –informed HIV/AIDS prevention interventions and policies. More importantly, though, it is a reminder that our work in preventing further spread of HIV/AIDS is not done. It is not yet time to go back to ‘business as usual’.

In Kenya, many young men and women report high rates of risky sexual behaviour, including multiple partners, unprotected sexual intercourse and drug injecting. Women, and especially young girls, have been shown to be particularly vulnerable because of the socio-cultural norms that prevail in their communities. HIV/AIDS education policies and interventions have been initiated but they have tended to be on the assumption that people are rational – that with accurate and appropriate information they will protect their lives by modifying their behaviour and practicing safe sex or abstaining. All this makes complete sense. But it has become abundantly clear that people are sometimes irrational, and therefore that although knowledge is critical and necessary, it is not sufficient to induce behaviour change.

It is the contention of this thesis that if interventions and policy are to make a difference in changing the sexual behaviour of young people to reduce the spread of HIV/AIDS, they must be informed by social reality. In other words, there is now adequate data on what young people do and what they are doing ‘wrong’. What policy and interventions need to address is ‘why’ they (young people) continue to engage in high risk behaviours that put them at risk of contracting HIV/AIDS. Why is there a disconnect between

knowledge and behaviour? To answer this question, we must look into the social context of HIV transmission, and follow through on the assumption that “risk behaviours” are located in, emerge from and are reinforced by the environment in which persons live.

BIBLIOGRAPHY

- ACKERS, J. & HARDMAN, F. 2001. Classroom Interaction in Kenyan Primary Schools. *Compare: A Journal of Comparative and International Education*, 31, 245-261.
- ACTION AID 2003. Education in Africa: Responding to a Human Rights Violation. Action Aid.
- AGGLETON, P. 1997. Success in HIV Prevention: some strategies and approaches. Horsham, West Sussex: AIDS Education and Research Trust.
- AGGLETON, P. 2002. HIV/AIDS prevention and sexuality education must change to meet their promise. *SIECUS Report*.
- AGGLETON, P. & CAMPBELL, C. 2000. Working with young people – towards an agenda for sexual health. *Sexual and Relationships Therapy*, 15, 283-296.
- AINSWORTH, M. & OVER, M. 1997. *Confronting AIDS: Public priorities in a global epidemic. World Bank Policy research Report*, Washington DC, Oxford University Press.
- AKUKWE, C. 1999. HIV/AIDS in African children: A major calamity that deserves urgent global action. *Journal of HIV/AIDS Prevention and Education for Adolescents and Children*, 3, 5-24.
- AKWARA, P., MADISE, J. & HINDE, A. 2003. Perception of risk of HIV/AIDS and sexual behaviour in Kenya. *J. biosoc. Sci*, 35, 385-411.
- AKYEAMPONG, A. K. & FURLONG, D. 2000. Ghana: A Baseline Study of the Teacher Education System. *MUSTER Discussion Paper*. University of Sussex, Centre for International Education.
- ANDERSON, G. 1999. *Children and HIV/AIDS*, London, Transaction Publishers.
- ANONYMOUS 1998. HIV and Kenya's homosexuals. *African Health*, 20.
- APPLEGATE, M. 1998. AIDS education for adolescents: A review of the literature. *Journal of HIV/AIDS Prevention and Education* 2, 5-29.
- ARCHER, D. & COTTINGHAM, S. 1996. The reflect mother manual- a new approach to adult literacy. London: ACTION AID.
- ARITA, I., NAKANE, M., KOJIMA, K., YOSHIHARA, N., NAKANO, T. & EL-GOHARY, A. 2004. Role of sentinel surveillance system in the context of global surveillance of infectious diseases. *The Lancet*, 4, 171-177.
- ARKEL, J. 1991. *Living in an AIDS Culture*, Pretoria, University of South Africa.
- ARTHUR, M. & BLITZ, C. 2000. Bridging the gap between science and practice in drug abuse prevention through needs assessment and strategic community planning. *Journal of Community Health Psychology*, 28, 241-255.
- AUERBACH, J., WYPIJEWSKA, C. & BRODIE, H. 1994. *AIDS and Behaviour: An Integrated Approach*, Washington, DC, National Academy Press.
- BACCHUS, M. K. 1996. The role of teacher education in development in south countries. *Alberta Journal of Educational Research*, XLII 77-86.
- BACHMANN, M. & BOOYSEN, F. 2003. Health and the Socioeconomic Impact of HIV/AIDS on South African Households: Cohort Study. *BMC Public Health*, 3.
- BADCOCK-WALTERS, P. & WHITESIDE, A. 2000. Planning for Practical HIV/AIDS Interventions in Education. *Paper presented at the IIEP HIV/AIDS Impact on Education Workshop*. Paris.

- BALLARD, C., GUBBAY, J. & MIDDLETON, C. 1997. *The Student's Companion to Sociology*, Blackwell Publishing.
- BALTAZAR, G., OKEYO, T. M., STOVER, J. & JOHNSON, A. 1998. The HIV sentinel Surveillance system in Kenya: monitoring HIV levels and trends. *Int Conf AIDS*, 12, 934-5.
- BANACH, M. & GREGORY, P. J. 2001. Essential tasks, skills, and decisions for developing sustainable community-based programs for children, youth, and families at risk. *Journal of Extension*, 39.
- BANDURA, A. 1986. *Social foundations of thought and action; A social cognitive theory*, Prentice Hall, Englewood Cliffs, N.J.
- BARANOWSKI, T. & STABLES, G. 2000. *Health Education & Behavior*, 27, 157-166.
- BARBARA, A., SCHULZ, A., AND, E. P. & B, A. 1998. Review of Community - based research: Assessing Partnership Approaches to Improve Public Health. *Health Behaviour and Health Education*, 19, 173-202.
- BARNETT, E., DE KONING, K. & FRANCIS, B. 1995. Health and HIV/AIDS education in primary and secondary schools in Africa and Asia. In: OVERSEAS DEVELOPMENT ADMINISTRATION & EDUCATION RESOURCE GROUP (eds.). Liverpool, England.
- BATESON, G. 1979. *Mind and nature: A necessary unity*, New York, E.P. Dutton.
- BECKERLEG, S., TELFER, M. & HUNDT, G. 2005. The act of Injecting drug use in East Africa: a case study from Kenya. *Harm Reduction Journal*, 2, 12.
- BENNEL, P., HYDE, K. & SWAINSON, N. 2002. *The Impact of the HIV/AIDS Epidemic on the Education Sector in Sub-Saharan Africa*, Brighton, Centre for International Education, University of Sussex.
- BERMAN, P. & MCLAUGHLIN, M. W. 1976. Implementation of educational innovation. *The Educational Forum*, 345-370.
- BERMAN, P. & MCLAUGHLIN, M. W. 1978. *Federal Programs Supporting Educational Change, Vol. VIII: Implementing and Sustaining Innovations*, Santa Monica, CA, Rand Corporation.
- BERNSTEIN, R. C. 1976. *The restructuring of social and political theory*, Philadelphia, University of Pennsylvania Press.
- BERTALANFFY L. VON 1968. *General System Theory: Foundations, Development, Applications. Revised edition*, New York, George Braziller.
- BERTRAND, J. & SOLIS, M. 2000. Evaluating HIV/AIDS Prevention Projects: A Manual for Nongovernmental Organizations. *MEASURE Evaluation Manual Series*.
- BOILY, M. C., LOWNDES, C. & ALARY, M. 2002. The impact of HIV epidemic phases on the effectiveness of core group interventions: insights from mathematical models. *Sexually Transmitted Infections*, 78, 78-90.
- BOILY, M.-C., LOWNDES, C. M., VICKERMAN, P., KUMARANAYAKE, L., BLANCHARD, J., MOSES, S., RAMESH, B. M., PICKLES, M., WATTS, C., WASHINGTON, R., REZA-PAUL, S., LABBE, A. C., ANDERSON, R., DEERING, K. N. & ALARY, M. 2007. Evaluating large-scale HIV prevention interventions: study design for an integrated mathematical modelling approach. *Sexually Transmitted Infections* ;83, 582-589.

- BOLER, T. & AGGLETON, P. 2005. *Life Skills education for HIV prevention: a critical analysis*, London, Save the Children and ActionAid International.
- BOLER, T., IBRAHIM, A., ADOSS, R. & SHAW, M. 2003. *The Sound of Silence: difficulties in communicating on HIV/AIDS in schools*, London, ActionAid.
- BOLER, T. & JELLEMA, A. 2005. *Deadly Inertia: A Cross-country Study of educational responses to HIV/AIDS*, Brussels, Global Campaign for Education.
- BORGIA, P., MARINACCI, C., SCHIFANO, P. & PERUCCI, C. A. 2005. Is peer education the best approach for HIV prevention in schools? Findings from a randomized controlled trial. *Journal of Adolescent Health*, 36, 508-516.
- BOSHIER, R. 1990. Socio-psychological Factors in Electronic Networking. *International Journal of Lifelong Education*, 9, 49-64.
- BOWDEN, A., FOX-RUSHBY, J., NYANDIEKA, L. & WANJAU, J. 2002. Methods for Pre-testing and piloting survey questions: illustrations from the KENQOL survey of health- related quality of life. *Health Policy and Planning*, 17, 322-330.
- BOYER, C. & KEGGLES, S. 1991. AIDS risk and prevention among adolescents. *Social Science and Medicine*, 33, 11-23.
- BRADY, M. 1999. Female Genital Mutilation: Complications and Risk of HIV Transmission. *AIDS Patient Care and STDs*, 13, 709-716.
- BUNDY, D. A. P. 2002. *Education and HIV/AIDS: A window of hope*, Washington, DC, The World Bank.
- BURGESS, R. G. 1985. *Issues in Educational Research: Qualitative Methods*, Lewes, Falmer Press.
- CAMPBELL, C. 2003. *Letting Them Die: Why HIV/AIDS Intervention Programmes Fail*, Indiana University Press.
- CAMPBELL, C. & FOULIS, C. 2002. Creating contexts that support youth-led HIV prevention in schools. *Society in transition*, 33, 339-356.
- CAMPBELL, C., FOULIS, C., MAIMANE, S. & SIBIYA, Z. 2005. The Impact of social environments on the effectiveness of youth HIV prevention: A South African case study. *AIDS Care*, 17, 471-478.
- CAMPBELL, C. & MACPHAIL, C. 2002. Peer education, gender and the development of critical consciousness: participatory HIV prevention by South African youth. *Social Science and Medicine*, 55, 331-345.
- CAROVANO, K. 1992. More than mothers and whores: Redefining the AIDS prevention needs of women. *International Journal of Health Services*, 21, 131-142.
- CARR, W. & KEMMIS, S. 1986. *Becoming Critical: education knowledge and action research* Lewes, Falmer Press.
- CARR-HILL, R. 2003. Briefing note on Resource Allocation for John Wyn Owen, Nuffield Foundation.
- CARR-HILL, R., KATABARU, K. J. & RUHWEZA, A. 2002. *The Impact of HIV/AIDS on education and institutionalizing preventive education*, Paris, UNESCO.
- CARR-HILL, R., KATABORO, J. K. & KATAHOIRE, A. 2000. HIV/AIDS and Education. Education and International Development, Institute of Education, University of Dar-es-Salaam.
- CARROLL, C., PATTERSON, M., WOOD, S., BOOTH, A., RICK, J. & BALAIN, S. 2007. A conceptual framework for implementation fidelity. *Implementation Science*, 2, 40.

- CARTAGENA, R. G., VEUGELERS, P. J., KIPP, W., KHISHGEE, M. & LAING, L. M. 2006. Effectiveness of an HIV prevention program for secondary school students in Mongolia. *Journal of Adolescent Health*, 39, 925.e9-e16.
- CASEBEER, A. L. & VERHOEF, M. J. 1997. Combining Qualitative and Quantitative Research Methods: Considering the Possibilities for Enhancing the Study of Chronic Diseases. *Chronic Diseases in Canada*, 18.
- CASLEY, D. & KUMAR, K. 1988. *The Collection, Analysis, and Use of Monitoring and Evaluation Data*, London, John Hopkins University Press.
- CATANIA, J., GIBSON, D. & CHITWOOD, D. 1990. Methodological problems in AIDS behavioral research: influences on measurement error and participation bias in studies of sexual behaviour. *Psychological Bulletin*, 108, 339-362.
- CENTER FOR RIGHTS EDUCATION AND AWARENESS (CREAW) 2007.
- CENTERS FOR DISEASE CONTROL AND PREVENTION 1999. Framework for program evaluation in Public health. *Morbidity and Mortality Weekly Report*, 48, 1-40.
- CHIFUNYISE, T., BENOY, H. & MUKIIBI, B. 2002. An impact evaluation of student teacher training in HIV/AIDS education in Zimbabwe. *Evaluation and Program Planning*, 25, 377-385.
- CHRISTIE, P., HARLEY, K. & PENNY, A. 2004. Case studies from sub-Saharan Africa. In: C.DAY & SACHS, J. (eds.) *International Handbook on the Continuing professional Development of Teachers* London: Open University Press.
- COALITION OF VIOLENCE AGAINST WOMEN (COVAW) 2005. Gender and sexual Violence in Institutions of Learning: Calling for a Change in Attitude. COVAW.
- COATES, C., CHESNEY, M., FOLKMAN, S., HULLEY, S., HAYNES-SANSTAD, K., LURIE, P., VANOSS MARIN, B., ROOS, L., BUNNETT, V. & DU WORS, R. 1996. Designing behavioural and social science to impact practice and policy in HIV prevention and care. *International Journal of STD and AIDS*, 7, 2-12.
- CODD, J. A. 1988. *The Construction and Deconstruction of Educational Policy Documents*.
- COFFEY, A. & ATKINSON, P. 1996. *Making sense of Qualitative Data: Complementary Research Strategies*, Thousand Oaks, CA, Sage.
- COHEN, L., L. MANION & MORRISON, K. 2000. *Research Methods in Education*., London, Routledge.
- COHN, L. D., SCHYDLOWER, M., FOLEY, J. & COPELAND, R. L. 1995. Adolescents' Misinterpretation of Health Risk Probability Expressions. *PEDIATRICS*, 95, 713-716.
- COLCLOUGH C WITH LEWIN K 1993. *Educating All the Children: Strategies for Primary Schooling in the South*, Oxford, Clarendon Press.
- CONSTANTINE, L. L. 1986. *Family paradigms: The practice of theory in family therapy*, New York, Guilford.
- COOMBE, C. 2000a. Keeping the education system healthy: Managing the impact of HIV/AIDS on education in South Africa *Current Issues in Comparative Education*, 3.
- COOMBE, C. 2000b. Managing the Impact of HIV/AIDS on Education: Asking the right questions. Pretoria.
- COOMBE, C. (ed.) 2004. *The HIV Challenge to Education: a collection of essays*.

- COURTENAY, W. H. 1998. *Better to die than to cry? A longitudinal and constructionist study of masculinity and the health risk behavior of young American men.* Doctoral dissertation, University of California, Berkeley.
- CREESE, A., FLOYD K, ALBAN A & GUINNESS, L. 2002. Cost- effectiveness of HIV/AIDS interventions in Africa: a systematic review of the evidence. *Lancet*, 359, 1635-43.
- DAIUTE, D. & FINE, M. 2003. Youth perspectives on Violence and Injustice. *Journal of Social issues*, 59, 1-14.
- DANE, A. V. & SCHNEIDER, B. H. 1998. Program integrity in primary and early secondary prevention: Are implementation effects out of control? *Clinical Psychology Review*, 18, 23-45.
- DE VAUS, D. A. 1993. *Surveys in Social Research* London, UCL Press.
- DENSCOMBE, M. 1998. *The Good Research Guide for small-scale social research projects*, Open University Press.
- DENZIN, N. K. & LINCOLN, Y. S. (eds.) 1998. *Collecting and Interpreting Qualitative Materials*, Thousand Oaks: Sage.
- DIRIYE, M. A. & LINDMARK, G. 1992. The risk of medical complications after female circumcision. *East African Medical Journal* 69, 479-482.
- DIXON-WOODS, M., AGARWAL, S., JONES, D., YOUNG, B. & SUTTON, A. 2005. Synthesising qualitative and quantitative evidence: a review of possible methods." *Journal of Health Services Research*, 10, 45-53.
- DOWSETT, G. & AGGLETON, P. 1999. Young people and risk-taking in sexual relations. *Sex and Youth: Contextual Factors Affecting Risk for HIV/AIDS available at: www.unaids.org/html/pub/publications/irc-pub01/jc096-sex_youth_en_pdf.pdf*, .
- DUBE, N. & WILSON, D. 1995. Peer education programmes among HIV-vulnerable communities in Southern Africa. In: B.WILLIAMS & C. CAMPBELL (eds.) *HIV/AIDS management in South Africa: priorities for the mining industry.* Johannesburg: Epidemiology Research Unit.
- DUNNE, M., HUMPHREYS, S. & LEACH., F. 2003. Gender and Violence in Schools. *Background Paper for the UNESCO EFA Global Monitoring Report 2003/4.*
- DUSENBURY, L., BRANNIGAN, R., HANSEN, W. B., WALSH, J. & FALCO, M. 2003. Quality of implementation: developing measures crucial to understanding the diffusion of preventive interventions *Health Education Research*, 20.
- DUSENBURY, L. & FALCO, M. 1995. Eleven components of effective drug abuse prevention curricula. *Journal of School Health*, 65, 420-425.
- EASTERBY-SMITH, M., THORPE, R. & LOWE, A. 2002. *Management Research: An Introduction*, London, Sage Publications.
- EDMONDSON, A. C. & MCMANUS, S. E. 2007. Methodological Fit in Management Field Research. *The Academy of Management Review*, 32.
- EISENBERG, L. 1989. Health Education and the AIDS Epidemic. *British Journal of Psychiatry*, 154, 754-767.
- ELLIOTT, D. S. & MIHALIC, S. 2003. Issues in disseminating and replicating effective prevention programs. *Prevention Science*, 5, 47-53.

- ELZE, D. E., AUSLANDER, W., MCMILLEN, C., EDMOND, T. & THOMPSON, R. 2001. Untangling the impact of sexual abuse on HIV risk behaviors among youth in foster care. *AIDS Education and Prevention*, 13, 377–389.
- FARAH, I., KAVUMA, C., MWINGI, M. & ONYANGO, O. 2009. Where Are the Gaps? HIV and Gender Pre-service Teacher Training Curriculum and Practices in East Africa. London: Commonwealth Secretariat.
- FERGUSON, A., PERE, M. & MORRIS, C. 2004. Sexual patterning and Condom use among a group of HIV vulnerable men in Thika, Kenya. *Sexually Transmitted Infections*, 80, 435-9.
- FINEBERG, H. V. 1988. Education to prevent AIDS: prospects and obstacles *Science*, 239, 592 - 596.
- FINGER, B., LAPETINA, M. & PRIBILA, M. 2002. Intervention strategies that work for youth: Summary of the FOCUS on young adults end of program report. Virginia: Family health International.
- FISHBEIN, M. A. & AJZEN, I. 1975. *Belief, attitude, intention and behavior: an introduction to theory and research*, Reading, MA, Addison Wesley.
- FORS, S. W. & DOSTER, M. E. 1985. Implication of results: Factors for success. *Journal of School Health*, 55, 332-334.
- FRITH, H. 2000. Focusing on sex: Using focus groups in sex research. *Sexualities*, 3, 275-297.
- FULCHER, G. 1989. Integrate and Mainstream? Comparative Issues in the politics of These Policies. In: BARTON, L. (ed.) *Integration: Myth or Reality?* Lewes: Falmer Press.
- FYLKESNES, K., NDHLOVU, Z., KASUMBA, K., MUBANGA, M. R. & M., S. 1998. Studying dynamics of the HIV epidemic: population-based data compared with sentinel surveillance in Zambia. *AIDS*, 12, 1227-34.
- GACHUHI, D. 1999. *The impact of HIV AIDS on the education systems in the Eastern and Southern Africa region and the response of education systems to HIV/AIDS: Life skills programmes*. UNICEF.
- GALLANT, M. & MATICKA-TYNDAL, E. 2004. School based HIV prevention programmes for African youth. *Social Science & Medicine*, 58, 1337-1351.
- GEORGE, C., M ALARY & OTIS, J. 2007. Correlates of Sexual Activity and Inconsistent Condom Use Among High-school Girls in Dominica. *West Indian Medical Journal*, 56, 433-438.
- GILL, J. & JOHNSON, P. 2002. *Research Methods for Managers*, London, Sage Publications.
- GLATTER, R. & KYDD, L. 2003. Best Practice' in Educational Leadership and Management: Can We Identify It and Learn from It? . *Educational Management Administration & Leadership*, 31, 231-243.
- GORDON, J. & TURNER, K. 2003. School differences in pupil smoking: a consequence of a trade-off between health and education agendas? *Health Education Research: Theory and Practice*, 18, 580-591.
- GOTTFREDSON, G. D., GOTTFREDSON, D. C. & CZECH, E. R. 2000. National Study of Delinquency Prevention in Schools. Gottfredson Associates, Inc.

- GOUWS, E., WHITE, P. J., STOVER, J. & BROWN, T. 2006. Short term estimates of adult HIV incidence by mode of transmission: Kenya and Thailand as examples. *Sexually Transmitted Infections*, 82, iii51-iii55.
- GOVERNMENT OF KENYA 1998. Kenya Demographic and Health Survey. In: KDHS (ed.).
- GOVERNMENT OF KENYA 2004. Education Sector Policy on HIV and AIDS. In: GOVERNMENT PRINTERS (ed.). Nairobi.
- GREENE, J., BENJAMIN, L. & GOODYEAR, L. 2001. The Merits of Mixing Methods in Evaluation. *Evaluation*, 7.
- GREGSON, S., GARNETT, G., NYAMUKAPA, C., HALLETT, T., LEWIS, J., MASON, P., K., S., CHANDIWANA, S. & ANDERSON, R. 2006. HIV Decline Associated with Behavior Change in Eastern Zimbabwe. *Science*, 311, 664 - 666.
- GRIZZELL, J. 2003. Understanding and promoting physical activity. *Report on physical activity and health*.
- GRUNSHEIT, A. 1997. *Impact of HIV and sexual health education on the sexual behaviour of young people: A review update*, Geneva, UNAIDS.
- GUBA, E. & LINCOLN, Y. 1989. *Fourth Generation Evaluation*, Newbury Park, CA, Sage.
- GUBA, E. & LINCOLN Y 1988. *Do inquiry paradigms imply inquiry methodologies?*, NY, Praeger.
- GUPTA, G. R., WHELAN, D. & ALLENDORF, K. 2002. *Integrating Gender into HIV/AIDS Programmes*, Washington DC, World Health Organization.
- GUPTA, N. & MAHY, M. 2003. Sexual Initiation among adolescent girls and boys: Trends and differentials in sub-Saharan Africa. *Archives of Sexual Behaviour*, 32, 41-53.
- GUPTA, R. & E. WEISS 1993. *Women and AIDS: 'Developing a New Health Strategy'*. , Washington DC, International Center for Research on Women.
- HAIR, J. F., ANDERSON, R. E., TATHAM, R. L. & BLACK, W. C. 1998. *Multivariate Data Analysis*, Upper Saddle River, NJ, Prentice Hall.
- HALLETT, T., GARNETT, G., MUPAMBERIYI, Z. & GREGSON, S. 2007. Measuring effectiveness in community randomized trials of HIV prevention. *International Journal of Epidemiology*, 37:, 77-87.
- HANSON, B. G. 1995. *General systems theory beginning with wholes*, Washington, DC, Taylor & Francis.
- HARBER, C. 1997. Using Documents for Qualitative Educational Research in Africa. In: M. CROSSLEY & VULLIAMY, G. (eds.) *Qualitative Educational Research in Developing Countries*. New York: Garland.
- HARBER, C. R. 2004. *Schooling as Violence. How Schools Harm Pupils and Societies*, London, Routledge/Falmer.
- HARGREAVES, J. R. & J. R. GLYNN 2002. Educational attainment and HIV-I infection in developing countries: a systematic review. *Tropical Medicine and International Health*, 7, 489-98.
- HARRISON, A., SMIT, J. A. & MYER, L. 2000. Prevention of HIV/AIDS in South Africa: A review of behaviour change interventions, evidence and options for the future. *South African Journal of Science*, 96, 285-291.

- HATCH, J. A. 2002. *Doing Qualitative Research in Education Settings*, SUNY Press.
- HEISE, L. & ELIAS, C. 1995. Transforming AIDS prevention to meet women's needs: a focus on developing countries. *Social Science and Medicine*, 40, 933-943.
- HEISE, L., ELLSBERG, M. & GOTTEMOELLER, M. 1999. Ending Violence Against Women. *Population Reports*. Baltimore: Johns Hopkins University School of Public Health, Population Information Program.
- HERMENS, R., HAK, E., HULSCHER, M., BRASPENNING, J. & GROL, R. 2001. Adherence to guidelines on cervical cancer screening in general practice: programme elements of successful implementation. *British Journal of General Practice*, 51, 897-903.
- HITT, J., ROBBINS, A., GALBRAITH, J., TODD, J., PATEL-LARSON, A., MCFARLANE, J., SPIKES, P. & CAREY, J. 2006. Adaptation and implementation of a evidence-based prevention counselling intervention in Texas. *AIDS Education Preview*, 18, 108-118.
- HOLDEN, S. 2003. *AIDS on the Agenda*, Oxford, ActionAid, Oxfam GB.
- HORIZONS 1999. Peer education and HIV/AIDS: past experience, future directions. Kingston: Discussion document developed by Horizons, Population Council, the Jamaican Ministry of Health, PATH, AIDSmark/PSI, IMPACT/FHI and UNAID.
[HTTP://WWW.ALLAFRICA.COM](http://www.allafrica.com) 27/04/2008.
[HTTP://WWW.AVERT.ORG/AIDS-SCHOOLS](http://www.avert.org/aids-schools) 04/04/2007.
[HTTP://WWW.KFF.ORG/HIVAIDS/200305-INDEX.CFM](http://www.kff.org/hivaids/200305-index.cfm) 09/09/2007.
[HTTP://WWW.NAP.EDU/OPENBOOK/0309050936/HTML](http://www.nap.edu/openbook/0309050936/html). 17/04/2006.
[HTTP://WWW.RELIEFWEB.INT](http://www.reliefweb.int) 17/06/2006.
[HTTP://WWW.THEWIP.NET](http://www.thewip.net) 08/06/2006.
[HTTP://WWW.TWANATWITU.ORG](http://www.twanatwitu.org) 24/10/2007.
[HTTP://WWW.WASHINGTONPOST.COM](http://www.washingtonpost.com) 27/07/2008.
[HTTP://WWW.WOMENSHEALTH.ORG](http://www.womenshealth.org) 20/07/2008.
- HUMAN RIGHTS WATCH 2001. Scared at School: Sexual Violence in South African Schools. New York: Human Rights Watch.
- HUSEN, T. 1988. Research paradigms in education. *Interchange*, 19, 2-13.
- INTERNATIONAL BUREAU OF EDUCATION (IBE) 2007. Sub-regional capacity-building seminar for HIV and AIDS curriculum development in six countries in the Asia Pacific region: scaling up HIV and AIDS education in schools. Kanchanaburi, Thailand.
- IRWIN, A., MILLEN, J. & FALLOWS, D. 2003. *Global AIDS: Myths and Facts: Tools for Fighting the AIDS Pandemic*, Cambridge, South End Press.
- INVESTMENT PROGRAMME FOR THE ECONOMIC RECOVERY STRATEGY FOR WEALTH AND EMPLOYMENT CREATION 2003-2007
- JACOBS, E. 2003. Mixed methods and moving to Opportunity. *The Evaluation Exchange: Evaluating Community- Based Initiatives*, IX.
- JAMES, W. 1960. What Pragmatism Means. *The American Pragmatists*, 28, 31-32.
- JAMES, W. 2003. *Pragmatism: A New Name for Some Old Ways of Thinking*, Kessinger Publishing.
- JEMMOTT, J., JEMMOTT, L. & FONG, G. 1992. Reductions in HIV risk-associated sexual behaviors among black male adolescents: effects of an AIDS prevention intervention. *Am J Public Health*, 82, 372-7.

- JOHN HOPKINS UNIVERSITY BLOOMBERG SCHOOL OF PUBLIC HEALTH
Spring 2002. The devastating facts about HIV/AIDS for women. *Population Reports*. Baltimore.
- JOHNSON, R. B., ONWUEGBUZIE, A. J. & TURNER, L. A. 2007. Toward a Definition of Mixed Methods Research. *Journal of Mixed Methods Research*, 1, 112.
- JOHNSTON, T. (ed.) 2000. *The Adolescent AIDS Epidemic in Kenya*.: Population Communication Africa.
- JURISH, J. 1998. Systems theory and its application to research on human sexuality- The Use of Theory in Research and Scholarship on Sexuality. *Journal of Sex Research: Systems theory and its application to research on human sexuality*.
- KAAYA, S., FLISHER, A., MBWAMBO, J., SCHAALMA, H., AARO, L. & KLEPP, K. 2002. A review of studies of sexual behaviour of school students in sub-Saharan Africa. *Scandinavian Journal of Public Health*, 30, 148–160.
- KAAYA, S. G., MUKOMA, W., FLISHER, A. J. & KLEPP, K. I. 2002. School-based sexual health initiatives in sub-Saharan Africa: A review. *Social Dynamics*, 28, 64–88.
- KADZAMIRA, E., MALUWA BANDA, D., KAMLONGERA, A. & SWAINSON, N. 2001. The Impact of HIV/AIDS on the Education Sector: Formulating a Comprehensive Strategic Response. Malawi: Centre for Educational research and Training, Chancellor College, Zomba.
- KANN, L., BRENER, N. D., WARREN, C. W., COLLINS, J. L. & GIOVINO, G. A. 2002. An Assessment of the effect of data collection setting on the prevalence of health risk behaviours among adolescents. *Journal of Adolescent health*, 31, 327-335.
- KAYA, H. O. & MABETOA, P. 1997. Knowledge and attitudes towards sexuality among black youth in South Africa. *Education and Society*, 15, 81-87.
- KEEVES, J. P. 1986. Theory, politics and experiment in educational research methodology. A response. *Int. Rev. Educ*, 32, 388-92.
- KELLY, J., ST. LAWRENCE, J., STEVENSON, Y., HAUTH, A., KALICHMAN, S. & DIAZ, Y. 1992. Community AIDS/HIV risk reduction: The effects of endorsements by popular people in three cities. *American Journal of Public Health*, 82, 1483–1489.
- KELLY, M. 1999. The Impact of HIV/AIDS on Schooling in Zambia. *International Conference on AIDS and STDs in Africa*. Lusaka, Zambia.
- KELLY, M. 2000a. *Planning for Education in the context of HIV/AIDS*, Paris, IIEP, UNESCO.
- KELLY, M. 2000b. *The Encounter Between HIV/AIDS and Education*, Lusaka, University of Zambia.
- KELLY, M. 2000c. What HIV/AIDS can do to Education, and What Education can do to HIV/AIDS. *Sub-Saharan Africa Conference on Education for All*.
- KELLY, M. 2002. Standing Education on its Head: Aspects of Schooling in a World with HIV/AIDS. *Current Issues in Comparative Education*, 3, 28-38.
- KENT, R. 2001. *Data construction and data analysis for survey research*, New York, Palgrave.
- KENYA DEMOGRAPHIC AND HEALTH SURVEY (KDHS) 1998.

- KENYA DEMOGRAPHIC HEALTH SURVEY (KDHS) 2003.
- KENYA INSTITUTE OF EDUCATION 1999. *AIDS Education Syllabus for Schools and Colleges*, Nairobi, Ministry of Education.
- KERLINGER, F. N. 1973. *Foundations of Behavioral Research. Educational and Psychological Inquiry*, New York, Holt, Rinehart and Winston.
- KERRIGAN, D., LUIS MORENO, AND, S. R. & SWEAT, M. 2001. Adapting the Thai 100% Condom Programme: Developing a Culturally Appropriate Model for the Dominican Republic. *Culture, Health & Sexuality*, 3, 221-240.
- KIAMA, W. 1999. Where are Kenya's homosexuals? *AIDS Analysis Africa*, 9, 9-10.
- KINSMAN, J., NAKINYINGI, J. & KAMALI, A. 2001. Evaluation of a comprehensive school-based AIDS education programme in rural Masaka, Uganda. *Health Education Research*, 16, 85-100.
- KIPPAX, S. & CRAWFORD, J. 1997. Facts and actions of adolescent risk. In: SHERR, L. (ed.) *AIDS and Adolescents*. Netherlands: Hardwood Academic Publishers.
- KIRAGU, K. & ZABIN, L. 1993. The Correlates of Premarital Sexual activity among school-age adolescents in Kenya. *International Family Planning Perspectives*, 19, 92-109.
- KLEIN, D. M. & WHITE, J. M. 1996. *Family theories: An introduction*, Thousand Oaks, CA, Sage.
- KOKKEVI, A. M., TERZIDOU, K. P. & STEFANIS, C. 1 February 2000. Substance use among high school students in Greece: outburst of illicit drug use in a society under change. *Drug and Alcohol Dependence*, 58, 181-188.
- KREJCIE, R. V. & MORGAN, D. W. 1970 Determining sample size for research activities *Educational and psychological measurement*, 30, 607 - 610.
- KUHN, T. 1970. *The Structure of Scientific Revolutions, 2nd Ed.*, Chicago, University of Chicago Press.
- LARSON, R., CSIKSZENTMIHALYI, M. & GRAEF, R. 1980. Mood variability and the psychosocial adjustment of adolescents. *Journal of Youth and Adolescence*, 9, 469-490.
- LAWRENCE, J. 1999. Women and AIDS. *AIDS Patient Care and STDs*, 13, 77-79.
- LAWRENZ, F., GULLICKSON, A. & TOAL, S. 2007. Dissemination: Handmaiden to Evaluation Use. *American Journal of Evaluation*, 28, 275.
- LAW OF KENYA CAP 160.
- LEACH, F., V. FISCIAN, E. KADZAMIRA, P., E. L. A. & MACHAKANJA. 2003. An Investigative Study into the Abuse of Girls in African Schools. London: DfID.
- LINDA DUSENBURY, ROSALIND BRANNIGAN, MATHEA FALCO & WILLIAM B. HANSEN 2003. A Review of research on fidelity of Implementation: Implications for drug use prevention in school settings. *Health Education Research*, 18, 237-256.
- LINKE, U. 1986. AIDS in Africa. *Science*, 203.
- LIPSEY, M. 1999. Can intervention rehabilitate serious delinquents? . *Annals, AAPSS*, 564, 142-166.
- LITTLEJOHN, S. W. 1989. *Theories of human communication*, Belmont, CA, Wadsworth.

- LOVAT, T. 2004. Ways of Knowing' in doctoral examination: how examiners position themselves in relation to the doctoral candidate. *Australian Journal of Education & Developmental Psychology*, 4, 146-152.
- MACDONALD, T. K., FONG, G. T., ZANNA, M. P. & MARTINEAU, A. M. 2000. Alcohol myopia and condom use: Can alcohol intoxication be associated with more prudent behavior? *Journal of Personality and Social Psychology*, 78, 605–619.
- MAMAN, S., J. MBWAMBO, N. HOGAN, G. K., E. WEISS & SWEAT., M. 2000. History of partner violence is common among women attending a voluntary counseling and testing clinic in Dar es Salaam, Tanzania. *Oral presentation at XIII International AIDS Conference*. Durban, South Africa.
- MANE, P., GUPTA, R. & WEISS, E. 1994. Effective communication between partners: AIDS and risk reduction for women. *AIDS*, 8, S325-S331.
- MANN, J. M., NZILAMBI, N., PIOT, P., BOSENGE, N., KALALA, M. & FRANCIS, H. 1988. HIV infection and associated risk factors in female prostitutes in Kinshasa, Zaire. *AIDS*, 2, 249–254.
- MANTELL, J. E., HARRISON, A., HOFFMAN, S., SMIT, J. A., STEIN, Z. A. & EXNER, T. M. 2006. The Mpondombili project: Preventing HIV/AIDS and unintended pregnancy among rural South African school-going adolescents. *Reproductive Health Matters*, 14, 1-10.
- MARETHA J. VISSER, SCHOEMAN, J. B. & PEROLD, J. J. 2004. Evaluation of HIV/AIDS prevention in South African Schools. *Journal of Health Psychology*, 9, 263-280.
- MARSEILLE, E., MORIN SF, COLLINS C, SUMMERS T & COATES T 2001. *The Cost-effectiveness of HIV Prevention in Developing Countries*. In: *Leadership Forum on HIV Prevention* New York, The Henry Kaiser Family Foundation.
- MARSTON, C. & KING, E. 2006. Factors that shape young people's sexual behaviour: a systematic review. *Lancet*, 368, 1581-6.
- MARTIN, S. L., B. KILGALLEN., A. ONG TSUI, K. MAITRA, K. KUMAR SINGH & KUPPER, L. L. 1999. Sexual behaviors and reproductive health outcomes. *JAMA*, 287, 1967-1972.
- MATICKA-TYNDALE, E., GALLANT, M. & BROUILLARD-COYLE, C. 2004. The sexual scripts of Kenyan Young people and HIV prevention. *Culture Health and Sexuality*.
- MATICKA-TYNDALE, E., WILDISH, J. & GICHURU, M. 2007. Quasi-experimental evaluation of a national primary school HIV intervention in Kenya. *Evaluation and Program Planning*, 30, 172-186.
- MCCONNEY, A. 2002. Getting to the Bottom line: A method for Synthesizing findings within Mixed- Method program Evaluations. *American Journal of Evaluation* 23, 121-140.
- MCKERNAN, J. 1991. *Curriculum Action Research. A Handbook of Methods and Resources for the Reflective Practitioner*, London, Kogan Page.
- MENSCH, B. S. 2001. Premarital Sex, Schoolgirl Pregnancy and School Quality in Rural Kenya. *Studies in Family Planning*, 32, 285-301.

- MENSCH, B. S., CLARK, W. H., LLOYD, C. B. & ERULKAR, A. S. 1999. Pre-marital sex and school dropout in Kenya: Can schools make a difference?
- MIHALIC, S. 2002. The importance of implementation fidelity. *Blueprints Violence Prevention Initiative*. Colorado: Boulder.
- MIHALIC, S. 2004. The importance of implementation fidelity. *Emotional & Behavioral Disorders in Youth*, 4, 83-86.
- MIHALIC, S., IRWIN, K., FAGAN, A., BALLARD, D. & ELLIOT, D. 2004. *Successful program implementation: Lessons from Blueprints*, Washington DC, Juvenile Justice Bulletin, US Department of Justice.
- MILLER, H. G., TURNER, C. F. & MOSES, L. E. 1989. *AIDS: The Second Decade. Report of the National Academy of Sciences--National Research Council, Committee on AIDS Research and the Behavioral, Social, and Statistical Sciences*, Washington D.C, National Academy Press.
- MINISTRY OF EDUCATION 2004. The Education Sector HIV/AIDS Policy Document. Nairbi, Kenya.
- MINISTRY OF HEALTH 2001. AIDS in Kenya: Background, Projections, Impact, Interventions, Policy. In: NATIONAL AIDS CONTROL COUNCIL (ed.). Nairobi.
- MIREMBE, R. 1998. AIDS Education and Gender in Ugandan Schools. *Unpublished PhD Thesis*. The University of Birmingham, United Kingdom.
- MIREMBE, R. 2002. AIDS and Democratic Education in Uganda. *Comparative Education*, 38, 291-302.
- MIREMBE, R. & DAVIES, L. 2001. Is Schooling a Risk? Gender, Power Relations, and School Culture in Uganda. *Gender and Education*, 13, 401-416.
- MORGAN, D. L. 2007. Paradigms lost and pragmatism regained: methodological implications of combining qualitative and quantitative methods. *Journal of Mixed Method Research*, 1, 48-76.
- MOSES, C. & KALTON, G. 1971. *Survey Methods in social Investigation*, London, Heinemann.
- MUKOMA, W. 2001. Rethinking school-based HIV/AIDS interventions in South Africa. *Southern African Journal of Child and Adolescent Mental Health*, 13, 55-66.
- MULAMA, S. 2006. The Sexual ity Education Needs of Teacher Trainees in Kenya. *Post-Sexuality Leadership Development Fellowship Report*. AFRICA REGIONAL SEXUALITY RESOURCE CENTRE,.
- MULATU, M. & HAILE, D. N. 1996. Sexual risk behaviour and condom use among Ethiopian high school adolescents. *International Conference on AIDS*, 11, 7-12.
- MUMERO, M. & ONUNGA, A. 2001. Kenya: AIDS No Scare for Prostitutes [Online] Available at: <http://www.africafiles.org/article.asp?ID=343>,
- MUTEMBEI, I. & MWESIGA, M. 1998. The impact of obsolete traditions on HIV/AIDS rapid transmission in Africa: the case of compulsory circumcision for young girls in Tanzania. *International Conference on AIDS*.
- MWALUKO, G., URASSA, M., ISINGO, R., ZABA, B. & BOERMA, J. 2003. Trends in HIV and sexual behaviour in a longitudinal study in a rural population in Tanzania, 1994-2000. *AIDS*, 17, 2645-51.

- MYERS-CLACK, S. A. & CHRISTOPHER, S. E. 2001. The effectiveness of a health course at influencing pre-service teachers' attitudes towards teaching health. *Journal of School Health*, 71, 462–466.
- NATIONAL AIDS AND STI CONTROL PROGRAM 2005. AIDS in Kenya. Nairobi: Ministry of Health.
- NATIONAL AIDS AND STI CONTROL PROGRAMME (NASCOP) 1999.
- NATIONAL COUNCIL FOR POPULATION AND DEVELOPMENT (NCPD) 1998.
- NDAMBUKI, J. K., MCCRETTON, E., RIDER, N., GICHURU, M. & WILDISH, J. 2006. An Analysis of HIV/AIDS policy formulation and implementation structures, mechanisms and processes in the education sector in Kenya. *A study commissioned by the Overseas Development Institute (ODI) and funded by the Merck Foundation*
- NGUGI, E., CHAKKALACKAL, M., SHARMA, A., BUKUSI, E., NJOROGI, B., KIMANI, J., MACDONALD, K., BWAYO, J., COHEN, C., MOSES, S., KAUL, R. & KIBERA HIV STUDY GROUP 2007. Sustained changes in sexual behavior by female sex workers after completion of a randomized HIV prevention trial. *Journal of Acquired Immune Deficiency Syndrome*, 15, 588-94.
- NICHOLS, M. P. & SCHWARTZ, R. C. 1991. *Family therapy concepts and methods*, Boston, Allyn and Bacon.
- NJUE, C., NZIOKA, C., AHLBERG, B. M., PERTED, A. M. & VOETEN, H. A. 2009. If you don't abstain, you will die of AIDS: AIDS education in Kenya public schools. *AIDS Education and Prevention*, 21, 169-179.
- OAKLEY, A. 1990. Who's afraid of the randomized controlled trial? some dilemmas of the scientific method and 'good' practice. In: ROBERTS, H. (ed.) *Women's Health Counts*. London: Routledge.
- ODEK-OGUNDE, M., LORE, W. & OWITI, F. Year. Risky behaviours among injecting drug users in Kenya. In: 14th International Conference on the Reduction of Drug Related Harm, 2003 Chiang Mai, Thailand.
- OKAALET, P. 2002. The Role of Faith based Organizations in the Fight against HIV and AIDS in Africa. *Transformation*, 19, 275.
- OLSSON, M.-O. & SJOSTEDT, G. 2004. *Systems Approaches and Their Application: Examples from Sweden*.
- OWINYO, S. & WILDEMEERSCH., D. 2005. Trouble with Boys? A Critical Analysis of School and Education in the Post-Colony: A Case Study Research in Kenya. *Paper Presented at the Childhoods Conference. University of Oslo June 28th-3rd July*.
- OXFAM INTERNATIONAL 1999. Education Now. Break the cycle of poverty. Oxford.
- PALLANT, J. 2006. *SPSS Survival Manual*, Buckingham, Open University Press.
- PANOS 2003. Beyond Victims and Villains: Addressing Sexual Violence in the Education Sector. *Panos Report No. 47*. London: Panos.
- PARCEL, G. S., ROSS, J. G., LAVIN, A. T., PORTNOY, B., NELSON, G. D. & WINTERS, F. 1991. Enhancing implementation of the Teenage Health Teaching Modules. *Journal of School Health*, 61, 35-38.

- PARKHURST, J. 2002. The Ugandan success story? Evidence and claims of HIV-1 prevention. *Lancet*, 360, 78-80.
- PATH 2003. Best Practices in HIV/AIDS Prevention Education: The AIDS Surveillance and Education Project in the Philippines.
- PATON, M. Q. 1988. *Paradigms and Pragmatism. Quantitative Approaches to Evaluation: The Silent Scientific Revolution*, New York, Praeger.
- PATTON, M. Q. 1980. *Qualitative Evaluation Methods*, California, Sage.
- PATTON, M. Q. 1990. *Qualitative evaluation and research methods*, 2nd ed Newbury Park, CA, Sage Publications.
- PATTON, M. Q. 1996. *Utilization-focused evaluation (3rd ed.)*, Thousand Oaks, CA, : Sage.
- PAULUSSEN, T., KOK, G. & SCHAALMA, H. 1994. Antecedents to adoption of classroom-based AIDS education in secondary schools. *Health Educ Res*, 14, 461-471.
- PAWSON, R. 2003. Nothing as Practical as a Good Theory. *Evaluation*, 9, 471.
- PAYTON, J. W., GRACZYK, P. A., WARDLAW, D. M., BLOODWORTH, M., T., C. J. & WEISSBERG, R. P. 2000. Social and emotional learning: a framework for quality school-based prevention programs. *Journal of School Health*, 70, 179-185.
- PERRY, C. L., MURRAY, D. M. & GRIFFIN, G. 1990. Evaluating the statewide dissemination of smoking prevention curricula: Factors in teacher compliance. *Journal of School Health*, 60, 501-504.
- PLACIER, M., HALL, P. M., MCKENDALL, S. B. & COCKRELL, K. S. 2000. Policy as the Transformation of Intentions: Making Multicultural Education Policy *Educational Policy*, 14, 259-289.
- POLIT, D. F., BECK, C. T. & HUNGLER, B. P. 2001. *Essentials of Nursing Research: Methods, Appraisal and Utilization*, Philadelphia, Lippincott Williams & Wilkins.
- POPULATION COMMUNICATION AFRICA (PCA) 1999.
- POPULATION INFORMATION PROGRAM 2001. AIDS Education. *Issues in World Health*, XXIX.
- POST, M. 1995. Female genital mutilation and the risk of HIV. Washington DC: Academy for Educational Development, support for Analysis and Research in Africa.
- PROGRAMME FOR APPROPRIATE TECHNOLOGY IN HEALTH (PATH) 2003. New Generation Models for Asia's Youth: Strengthening Networks and Building Capacity. *PATH and NGO Networks for Health*. Washington DC.
- RASHID, S. 2000. Providing sex education to adolescents in rural Bangladesh: experiences from BRAC. *Gender and Development*, 8, 28-37
- REHLE, T., SAIDEL, T., MILLS, S. & MAGNANI, R. 2001. *Evaluating Programmes for HIV/AIDS Prevention and Care in Developing Countries*, IMPACT.
- REICHARDT, C. S. & COOK, T. D. 1979. *Beyond qualitative versus quantitative methods*, Beverly Hills C.A, Sage.
- REMENYI, D., WILLIAMS, B., MONEY, A. & SWARTZ, E. 1998. *Doing Research in Business and Management*, London, Sage Publications.
- RENZETTI, C. M. & LEE, R. M. (eds.) 1993. *Researching Sensitive Topics.*, London: Sage.

- ROBSON, C. 2002. *Real World Research: A Resource for Social Scientists and Practitioner Researchers*, London, Blackwell Publishing.
- ROGER, S. 1993. *Is there a Desk with my name on it? The Politics of Integration*, Routledge.
- ROGERS, C. R. 1983. *Freedom to learn for the 80s*, Columbus, OH: Charles Merrill.
- ROSE, D. & SULLIVAN, O. 1993. *Introducing Data Analysis for Social Scientists*, Philadelphia, Open University Press.
- RUBEN, B. D. 1972. General system theory: An approach to human communication. In: R. W. BUDD & RUBEN, B. D. (eds.) *Approaches to human communication*. Rochelle Park, NJ: Hayden.
- RUGALEMA, G. & KHANYE, V. 2004. Mainstreaming HIV/AIDS in the education systems in sub-Saharan Africa: some preliminary insights. In: COOMBE, C. (ed.) *The HIV Challenge to Education: a collection of essays*. Paris: International Institute for Educational Planning.
- SANDBERG, J. How do we justify Knowledge Produced within Interpretive Approaches? *Organizational Research Methods*, forthcoming.
- SANDERS, E. J., GRAHAM, S. M., OKUKU, H. S., VAN DER ELST, E. M., MUHAARI, A., DAVIES, A., PESHU, N., PRICE, M., MCCLELLAND, R. S. & SMITH, A. D. 2007. HIV-1 infection in high risk men who have sex with men in Mombasa, Kenya. *AIDS* 21, 2513-2520.
- SCHENKER, I. 2001. Production, development and Implementation of pedagogical approaches and methods for HIV/AIDS prevention in schools. *HIV/AIDS and Education in ECOWAS Countries*. Elmina Beach Hotel, Ghana.
- SCRIVEN, M. 1991. *Evaluation Thesaurus*, Newbury Park, CA, Sage.
- SELWYN, N. & ROBSON, K. 1998. Using e-mail as a research tool. *Social Research Update*.
- SENGE, P. M. 1990. *The Fifth Discipline—The Art and Practice of the Learning Organization*, New York, Doubleday.
- SHADDISH, W. R., COOK, T. D. & LAURA C. LEVITON 1991. *Foundations of Program Evaluation*, Newbury Park, California, Sage.
- SHERR, L., JEFFERIES, S., VICTOR, C. & CHASE, J. 1997. Antenatal HIV testing— which way forward? *Psychology, Health and Medicine*, 1, 99–111.
- SHUEY, D., BABISHANGIRE, B. & OMIAT, S. 1999. Increased sexual abstinence among in-school adolescents as a result of school health education in Soroti district, Uganda. *Health Education Resource*, 14, 411-19.
- SIFUNA, D. 1997. The quality of primary education in Kenya: some issues. In: WATSON, K., MODGIL, C. & MODGIL, S. (eds.) *Educational Dilemmas: debate and diversity, quality in education*. London: Cassell.
- SIKKEMA, K. J., KELLY, J. A., WINETT, R. A., SOLOMON, L. J., CARGILL, V. A. & ROFFMAN, R. 2000. Outcomes of a randomized community-level HIV prevention intervention for women living in 18 low-income housing developments. *American Journal of Public Health*, 90, 57–63.
- SIVARAM, S., SETHULAKSHMI JOHNSON, MARGARET E. BENTLEY, A. K. SRIKRISHNAN, CARL A. LATKIN, VIVIAN F. GO, SUNITI SOLOMON & CELENTANO, D. D. 2007. Exploring “Wine Shops” as a Venue for HIV Prevention Interventions in Urban India. *Journal of Urban Health*. , 84, 563–576.

- SKRIPAK, D. n.d. HIV/AIDS Education in Teacher Preparation Programs. *ERIC Digest*.
- SMITH, J. 1983. Quantitative Versus Qualitative Research: An Attempt to Clarify the Issue. *Educational Researcher*, 12, 6-13.
- SMITH, J. 1989. *The nature of social and educational inquiry: Empiricism versus interpretation*, Norwood, NJ, Ablex Publishing Corporation.
- SMYLIE, M. A. 1988 The enhancement function of staff development: organizational and psychological antecedents to individual teacher change. *American Educational Research Journal*, 25, 1-30.
- SOBOL, D. F., ROHRBACH, L. A., DENT, C. W., GLEASON, L., BRANNON, B. R., JOHNSON, C. A. & FLAY, B. R. 1989. The integrity of smoking prevention curriculum delivery. *Health Education Research*, 4, 59-67.
- STEWART, H., MCCAULEY, A., BAKER, S., GIVAUDAN, M., JAMES, S., LEENEN, I., PICK, S., REDDY, P., REWTHONG, U., RUMAKOM, P. & WALKER, D. 2001. *Reducing HIV Infection Among Youth: What Can Schools Do: Key Baseline Findings from Mexico, South Africa, and Thailand*, Washington, D.C, Horizons Program, the Population Council.
- STONEBURNER, R. & LOW-BEER, D. 2004. Population-Level HIV Declines and Behavioral Risk Avoidance in Uganda. *Science*, 304, 714 - 718.
- STOVER, J., WALKER, N., GARNETT, G. P., SALOMON, J. A., STANECKI, A., GHYS, P. D., GRASSLY, N. C., ANDERSON, R. M. & SCHWARTLANDER, B. 2002. Can we reverse the HIV/AIDS pandemic with an expanded response? *The Lancet*, 360, 73-77.
- SYDENSTRICKER-NETO, J. 1997. Research Design and Mixed Method Approach: A Hands-on Experience. *Educational Evaluation and Policy Analysis* 11, 255-274.
- TALL, G. 1994. *EMO5, Unit 3: Scientific Research Paradigm*, Birmingham.
- TASHAKKORI & TEDDLIE, C. (eds.) 1998. *Handbook of mixed methods in social & behavioral research* Thousand Oaks, CA: Sage.
- TEKA, T. 1993. College students attitudes and knowledge of AIDS. *Ethiopian Medical Journal*, 31, 233-237.
- THE HIV AND AIDS PREVENTION AND CONTROL BILL 2003.
- THE WAKI COMMISSION 2008. The Waki Report. Nairobi, Kenya.
- THEO PAULUSSEN, KOK, G. & SCHAALMA, H. 1994. Antecedents to adoption of classroom-based AIDS education in secondary schools. *Health Education Research*, 9, 485-496.
- TIJUANA JAMES-TRAORE, W FINGER, CLAUDIA DAILEADER RULAND & SAVARIAUD, S. 2004. Teacher Training: Essential for School-Based Reproductive Health and HIV/AIDS Education. *Family Health International YouthNet Program*. Youth Issues Paper 3.
- TURNER, C., MILLER, H. & MOSES, L. (eds.) 1989. *AIDS: sexual Behaviour and Intravenous Drug Use*, Washington,DC: National Academy Press.
- UN AMICALL PARTNERSHIP PROGRAMME 2005. UNAIDS.
- UN GENERAL ASSEMBLY SPECIAL SESSION (UNGASS) ON HIV/AIDS. Year. In, June 25-27, 2001.
- UNAIDS 1997. Impact of HIV and Sexual Health Education on the Sexual Behaviour of Young People: A Review Update. Geneva: UNAIDS.

- UNAIDS 1999a. Peer education and HIV/AIDS: Concepts, uses and challenges.
- UNAIDS 1999b. "Women, HIV and AIDS." Retrieved April 2003 from <http://www.thebody.com/sfaf/winter00/perspectives.html>.
- UNAIDS 2000. AIDS and the Education Sector. Geneva.
- UNAIDS 2001. *Children and young people in a world of AIDS*, Geneva, Joint United Nations Programme on HIV/AIDS.
- UNAIDS 2002. Opportunity in Crisis.
- UNAIDS 2004. AIDS epidemic update. Geneva.
- UNAIDS 2006. AIDS epidemic update: special report on HIV/AIDS.
- UNAIDS 2008. Report on the Global AIDS Epidemic.
- UNAIDS 2009. AIDS epidemic update.
- UNAIDS 1999. "Trends in HIV incidence and prevalence: Natural course of the epidemic or results of behaviour change?"
- UNAIDS/WHO 2002. AIDS Epidemic Update: December 2002 Geneva: UNAIDS/WHO.
- UNESCO 2004. UNESCO's Strategy for HIV/AIDS Prevention Education.
- UNESCO 2008a. Good policy and practice in HIV & AIDS and education: effective learning.
- UNESCO 2008b. Why are we still failing our young people?
- UNESCO 2009a. Teachers and HIV & AIDS: Reviewing achievements, identifying challenges.
- UNESCO 2009b. A Strategic approach: HIV/AIDS and education.
- UNFPA 5th March 2008. Sexual Violence Threatens Women and Girls in Kenya's Post-Election Crisis.
- UNFPA 9th September 2005. A Safe Haven for Girls Escaping Harm in Kenya.
- UNICEF 2001. The State of the World's Children.
- UNICEF 2003. The State of the World's Children.
- UNICEF 2004. Girls, HIV/AIDS and Education.
- UNICEF 2009. Child-friendly Schools Manual.
- UNICEF GHANA 2002. Evaluation of HIV/AIDS prevention through peer education, counseling, health care, training and urban refugees in Ghana. *Evaluation and Programme Planning*, 25, 409-420.
- USAID 2001. Youth and HIV/AIDS: Can we Avoid Catastrophe? *Series L, Number 12*.
- USAID n.d. "CEDPA: New Horizons." Retrieved September 2003 from <http://www.usaideg.org/detail.asp?id+9#girls>.
- USHER, R. (ed.) 1996. *A Critique of the neglected epistemological assumptions of educational research. Understanding Educational Research.*, London: Routledge.
- VAN DE VEN, P. & AGGLETON, P. 1999. What constitutes evidence in HIV/AIDS education? *Health Education Research*, 14, 461-471.
- VANDEMOORTELE, J. & DELAMONICA, E. 2000. The 'education vaccine' against HIV. *Current Issues in Comparative Education*, 3.
- VICKERMAN, P., TERRIS-PRESTHOLT, F. & DELANY, S. 2006. Are targeted HIV prevention activities still cost-effective in high prevalence settings? Results from an STI treatment intervention for sex workers in Hillbrow, South Africa. *Sexually Transmitted Diseases*, 33, 122-32.

- VISSER, M. J. 2005. Life Skills Training as an HIV/AIDS Preventive Strategy in Secondary Schools: Evaluation of a Large-Scale Implementation Process. *Journal of the Social Aspects of HIV/AIDS*, 2, 203-216.
- VISSER, M. J. 2007. HIV/AIDS prevention through peer education and support in secondary schools in South Africa. *Journal of Social Aspects of HIV/AIDS* 4, 678-694.
- VISSER, M. J., SCHOEMAN, J. B. & PEROLD, J. J. 2004. Evaluation of HIV/AIDS prevention in South African schools. *Journal of Health Psychology*, 9, 263-280.
- WALFORD, G. 2005. Research ethical guidelines and anonymity. *International Journal of Research & Method in Education*, 28, 83-93.
- WANE, N. 2009. Sexual Violence and HIV/AIDS risks in Kenyan & Ugandan Schools: Social Implications for Educational Policy Development. *Journal of Contemporary Issues in Education*, 4, 71-91.
- WEARMOUTH, J. 2000. *Co-ordinating Special Educational Provision meeting the challenges in schools*, London, Hodder.
- WEBER/ EDITOR'S COMMENT 2004. The Rhetoric of Positivism versus Interpretivism: A Personal View. *MIS Quarterly*, 28, iii-xii.
- WEIR, S., PAILMAN, C., MAHLALELA, X., COETZEE, N., MEIDANY, F. & BOERMA, J. 2003. From people to places: Focusing AIDS prevention efforts where it matters most. *AIDS*, 17, 895-903.
- WEISS, E. & GUPTA, G. R. 1998. *Bridging the Gap: Addressing Gender and Sexuality in HIV Prevention*. Washington, DC: International Center for Research on Women.
- WELLMAN, R. L. 1993. *Portraits of White Racism*, Cambridge, England, Cambridge University Press.
- WHITCHURCH, G. G. & L L CONSTANTINE 1993. Systems theory. In: P. G. BOSS, W. J. DOHERTY, R. LAROSSA, W. R. SCHUMM & STEINMETZ, S. K. (eds.) *Sourcebook of family theories and methods: A contextual approach*. New York: Plenum.
- WILLIAM K. CODY & KENNEY, J. W. 2006. *Philosophical and Theoretical Perspectives for Advanced Nursing Practice*, Jones & Bartlett Publishers.
- WIMBUSH, E. & WATSON, J. 2000. An Evaluation Framework for Health Promotion: Theory, Quality and Effectiveness. *Evaluation*, 6, 301-321.
- WINDLE, M. 1997. The trading of sex for money or drugs, sexually transmitted diseases (STDs), and HIV-related risk behaviors among multisubstance using alcohol inpatients. *Drug and Alcohol Dependence*, 49, 33-38.
- WOELK, G., FRITZ, K., BASSETT, M., TODD, C. & CHINGONO, A. 2001. A rapid assessment in relation to alcohol and other substance use and sexual behavior in Zimbabwe. Harare: University of Zimbabwe.
- WOODS, P. 1986. *Inside Schools: Ethnography in Educational Research*, Routledge.
- WOOLCOCK, M. 1998. Social Capital and economic development: towards a theoretical synthesis and policy framework. *Theory and Society*, 27, 151-208.
- WORLD BANK 1993. *World development report 1993: Investing in health*. New York.
- WORLD BANK 2002. *Education and HIV/AIDS: A Window of Hope.*, Washington DC, The World Bank.
- WORLD FACT BOOK 2006.

- WORLD HEALTH ORGANIZATION 1992. *Study of the sexual experience of young people in eleven African countries: The narrative research method*, Geneva, World Health Organization.
- WORLD HEALTH ORGANIZATION 1993. Global AIDS News.
- WORLD HEALTH ORGANIZATION 1999. *Preventing HIV/AIDS/STIs and related discrimination: An important responsibility of health-promoting schools*, Geneva.
- WORLD HEALTH ORGANIZATION 2003. . Integrating Gender into HIV/AIDS Programmes. Geneva.
- WORLD HEALTH ORGANIZATION (WHO) 1992. Study of the sexual experience of young people in eleven African countries: The narrative research method. Geneva: World Health Organization.
- WORLD HEALTH ORGANIZATION (WHO) 2008. Eliminating Female genital mutilation. Geneva: World Health Organization.
- WREN, B. & TASKER, F. 2002. Sexual Identity and Gender Identity: Understanding Difference. *Clinical Child Psychology & Psychiatry*, 7, 315-319.
- YORKE, J. A., HETHCOTE, H. W. & NOLD, A. 1978. Dynamics and control of the transmission of gonorrhoea. *Sexually Transmitted Diseases*, 5, 51–56.
- YOUTH PEER EDUCATION NETWORK 2005. Youth Peer Education tool kit: standards for peer education programmes.

APPENDIX 1- Students' Questionnaire

Dear Student,

Thank you for your help in completing this questionnaire. The research is an evaluation of the HIV/AIDS education implementation in secondary schools.

Participation in this study is entirely voluntary and you may withdraw at any point, or decline to answer any particular questions with which you are uncomfortable. You may also ask the researcher any questions you may have.

Please do not put your name or any personal information on the questionnaire. Your responses will be treated with utmost confidentiality and will only be accessible to the researcher.

Thank you once again for your time and help.

Jane Ngarari
School of Education
University of Birmingham

A) HIV/AIDS CURRICULUM

1. Are you taught about HIV/AIDS in school?
2. What are you taught about HIV/AIDS in school?
3. What classes does this teaching take place in?
4. How often are you taught HIV/AIDS in the classroom?
5. Do you like being taught about HIV/AIDS? Why or Why not
6. Which bits about HIV/AIDS Education do you like and why
7. Which bits HIV/AIDS Education don't you like and why
8. What other things relating to HIV would you like to be taught
9. What information/skills/attitudes do you think would help you avoid risky situations?
10. What would you like to see included in an HIV/AIDS curriculum
11. Do you think teachers enjoy teaching you about HIV/AIDS? If not, why not? If yes, how can you tell

B) KNOWLEDGE OF HIV AND AIDS

INSTRUCTIONS: Read each question carefully and TICK the one answer that you think fits best.

	I am sure it's true	I think it's true	I don't know	I think it's False	I am sure it's false
1 You can't get AIDS if you have sex only once or twice without a condom	()	()	()	()	()
2 A person can 'pass' an HIV test (i.e. test negative) but still be infected with HIV	()	()	()	()	()
3 Condoms are 100% effective in preventing HIV	()	()	()	()	()
4 A person can get HIV by sharing drug needles	()	()	()	()	()
5 People infected with HIV are usually very thin	()	()	()	()	()

and sickly

- 6 You can get HIV from a mosquito bite
- 7 Someone with AIDS can spread HIV by coughing and spitting
- 8 There is no way to kill HIV on a drug needle
- 9 Some people have gotten HIV by swimming in the same pool as someone with AIDS
- 10 You can get HIV by seating on the seat of a toilet that a person with AIDS has used
- 11 You can be cured of HIV if you are careful to take the medicine the doctor gives you
- 12 HIV is spread through semen (sperm), vaginal fluids and blood
- 13 The same condom can be safely used two times
- 14 People who choose only healthy looking partners won't get HIV
- 15 If you want to keep from getting HIV, using 'lambskin' condoms is just as good as using latex condoms

C) HOW CONFIDENT ARE YOU?

INSTRUCTIONS: This section asks you about how confident you would feel in different situations. *Try to imagine yourself in the situation.* TICK the answer that fits best.

You are at a party where some of your friends are drinking. They want you to join them and are pressurising you to do so. *If you didn't want to join your friends in drinking,* how confident are you that you could refuse?

Completely Confident ()	Very Confident ()	Somewhat Confident ()	Not Confident ()	Very Confident ()	Not Confident ()	at Confident	All Confident
--------------------------------	--------------------------	------------------------------	-------------------------	--------------------------	-------------------------	-----------------	------------------

You have been going out with a girl/boy friend for sometime, and you like each other very much. Your partner really wants to have sex with you. *If you didn't want to have sex with him/her,* how confident are you that you could refuse?

Completely Confident ()	Very Confident ()	Somewhat Confident ()	Not Confident ()	Very Confident ()	Not Confident ()	at Confident	All Confident
--------------------------------	--------------------------	------------------------------	-------------------------	--------------------------	-------------------------	-----------------	------------------

You are on a sports team that has a good chance of making it to the championships. Some of the team members decide to inject steroids to make themselves stronger and faster. They want you to join them. *If you didn't want to use steroids,* how confident are you that you could refuse?

Completely Confident ()	Very Confident ()	Somewhat Confident ()	Not Confident ()	Very Confident ()	Not Confident ()	at Confident	All Confident
--------------------------------	--------------------------	------------------------------	-------------------------	--------------------------	-------------------------	-----------------	------------------

You have recently broken up with your steady girl/boy friend. You start to date someone new who knows you had sex with your old steady and wants to have sex with you. You have heard a lot about HIV, and you decide to rethink your sexual habits. *If you didn't want to have sex with your new partner,* how confident are you that you could refuse?

Completely Confident	Very Confident	Somewhat Confident	Not Confident	Very Confident	Not Confident	at Confident	All Confident
-------------------------	-------------------	-----------------------	------------------	-------------------	------------------	-----------------	------------------

had sex?

- | | | | | | |
|----|--|---|---|---|---|
| 3 | About how many of your friends have had sex during the last six months? | A | M | S | N |
| 4 | About how many of your friends have had sex with more than one partner during the last six months? | A | M | S | N |
| 5 | About how many of your friends believe that teenagers should use a condom if they have sex? | A | M | S | N |
| 6 | About how many of your friends use a condom when they have sex? | A | M | S | N |
| 7 | About how many of your friends use drugs? | A | M | S | N |
| 8 | About how many of your friends drink alcohol or use drugs before they have sex? | A | M | S | N |
| 9 | About how many of your friends are trying to change their sexual behaviours because they believe they might get infected with HIV? | A | M | S | N |
| 10 | About how many of your friends use needles to inject drugs? | A | M | S | N |
| 11 | About how many of your friends believe that it is okay for teenagers to use needles to inject drugs? | A | M | S | N |

APPENDIX 2- Teachers' Questionnaire

Dear Sir/ Madam,

I am a Kenya Government sponsored student at the University of Birmingham, working towards a PhD in Education.

I am currently in Kenya carrying out fieldwork research in the area of HIV/AIDS education implementation in secondary schools. I would be very grateful if you could kindly fill-in the questionnaire attached.

Thank you for your time and help.

Jane Ngarari
School of Education
University of Birmingham

CONSENT STATEMENT

1. I understand that my participation is voluntary and that I may withdraw from the research at any time, without giving any reason.
2. I have received information about this study

I agree to participate.

Participant's signature: _____

Tick this box if you would like to receive a summary of the results by e-mail

E-mail: _____

1. Do you teach HIV/AIDS education in school? If yes, in which classes? If no, why not?
Other Subjects taught
2. Do you think HIV/AIDS education helps students to avoid high risk behaviours? Why or Why not?
3. Is sufficient class time and educational materials provided?
4. Is there adequate training for teachers who teach about HIV/AIDS education
5. What topics do you think an HIV/AIDS curriculum should address
6. Do you think there is adequate support in your school for implementing HIV/AIDS education? Explain

INSTRUCTIONAL CONFIDENCE

INSTRUCTIONS: Read each question carefully and TICK the one answer that you think fits best for you.

How confident are you that you can:

	Completely Confident	Very Confident	Somewhat Confident	Not Very Confident	Not at All Confident
Obtain up-to-date information about HIV?	()	()	()	()	()
Present accurate information about HIV infection and AIDS to students?	()	()	()	()	()
Answer parents' questions about HIV infection?	()	()	()	()	()
Discuss high-risk sexual behaviours with students?	()	()	()	()	()

Help students develop skills they need to refrain from engaging in intercourse? () () () () ()

Explain to students at appropriate ages how a condom should be used? () () () () ()

Discuss high- risk drug behaviours with students? () () () () ()

Help students to refrain from injecting drugs? () () () () ()

Increase students' tolerance towards people with HIV/AIDS? () () () () ()

() () () () ()
Help students reach more accurate perceptions of their own vulnerability to HIV infection?

COMFORT WITH SENSITIVE TOPICS

INSTRUCTIONS: Read each question carefully and **TICK** the one answer that you think fits best for you.

How comfortable are you in discussing the following topics with students?

	Completely Comfortable	Very Comfortable	Somewhat Comfortable	Not Very Comfortable	Not at All Comfortable
How HIV is transmitted	()	()	()	()	()
Injected drug use	()	()	()	()	()
Sexual intercourse	()	()	()	()	()
AIDS	()	()	()	()	()
Alcohol use	()	()	()	()	()
Condom use	()	()	()	()	()
Sexual abstinence	()	()	()	()	()
Male genitalia	()	()	()	()	()
Female genitalia	()	()	()	()	()
Non sexual ways of displaying affection	()	()	()	()	()

ABOUT YOU

Please circle the choice that applies to you

Gender: Male/ Female

School: Boys only/ Girls only/ Mixed

Type: Day only/ Day&Boarding/ Boarding only

APPENDIX 3- School Observation Schedule

	1	2	3	4
General Organization of School				
Student Teacher Interaction				
Student- Student Interaction				
General Student Behaviour				
Teacher Motivation				
HIV/AIDS materials: (Adequacy)				
Posters				
Newspaper cuttings				
Books				
HIV/AIDS education policy				

Head teacher's Attitude

1. Very poor
2. Poor
3. Good
4. Very Good

APPENDIX 4- Head teacher Interview Schedule

- Does the school have a copy of the ministry's HIV/AIDS education policy?
- Has thorough information about the policy been given to teachers?
- Has staff training been provided regarding the policy?
- Is HIV education required of students before they can advance to another class?
- Does HIV education help the students to avoid high risk behaviours?

- Is sufficient class time and educational materials provided?
- How is HIV/AIDS education evaluated in the school?
- Does the program address the needs of infected students/ teachers?
- Is staff trained on infection- control procedures?
- What support would you like to get from the ministry in implementing the policy in your school?

Thank you for your cooperation.

APPENDIX 5-Policy maker interview schedule

1. Who comprises the ACU? (i.e. how many members? What is their capacity? What is their training? What is their profession?
2. What are the core functions of the ACU? Examples?
3. Does the ACU have a strategic plan for its activities? If YES, illustrate activity and state time frame (when started? Process? When ending?) If NO, why?
4. What is the model structure of the ACU (from HQ to the school)?
5. Does the ACU have an independent budget to carry out HIV/AIDS education activities?
6. How is implementation of Policy monitored and evaluated in secondary schools? Would you say secondary schools are actually implementing the HIV/AIDS education policy? Why?
7. Have teachers in Secondary schools been trained to deliver HIV/AIDS education?

Thanks for your time.

APPENDIX 6 –Table for determining sample size

Table 6.1: Table for determining sample size from a given population

N	S	N	S	N	S	N	S
10	10	150	108	460	210	2200	327
15	14	160	113	480	214	2400	331
20	19	170	118	500	217	2600	335
25	24	180	123	550	226	2800	338
30	28	190	127	600	234	3000	341
35	32	200	132	650	242	3500	346
40	36	210	136	700	248	4000	351
45	40	220	140	750	254	4500	354
50	44	230	144	800	260	5000	357
55	48	240	148	850	265	6000	361
60	52	250	152	900	269	7000	364
65	56	260	155	950	274	8000	367
70	59	270	159	1000	278	9000	368
75	63	280	162	1100	285	10000	370
80	66	290	165	1200	291	15000	375
85	70	300	169	1300	297	20000	377
90	73	320	175	1400	302	30000	379
95	76	340	181	1500	306	40000	380
100	80	360	186	1600	310	50000	381
110	86	380	191	1700	313	75000	382
120	92	400	196	1800	317	100000	384
130	97	420	201	1900	320		
140	103	440	205	2000	322		

Notes: N = Population size; S = Sample size

Source: Krejcie and Morgan (1970, p.608)