

**AN INVESTIGATION INTO STUDENT RESPONSES TO THE
UNIVERSITY OF ZULULAND'S HIV/AIDS
INTERVENTION STRATEGIES**

by

Tom Were Okello

**University of Zululand
KwaDlangezwa
June, 2008.**

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**University of Zululand
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June, 2008.**

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DECLARATION

I declare that this research study, entitled 'an investigation into student responses to the University of Zululand's HIV/AIDS intervention strategies', is my own work both in conception and execution. All theoretical sources in the study have been duly acknowledged by means of complete references, except where it is specifically indicated to the contrary in the text. In addition, all generic internet and electronic sources have been duly acknowledged. It is further declared that this thesis has not been submitted to any institution for degree purposes.

Tom Were Okello
KwaDlangezwa
June, 2008

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I wish to dedicate this work to the following: first, to God - my best friend with whom we have had conversations and great friendship; second, to the memory of my late grandfather Desterio (01-07-00), my late grandmother Rofina (01-08-96), and lastly to my family (Thulisiwe and Desterio 'Dessy').

ABSTRACT

The general aim of the study was to investigate student responses to the University of Zululand's HIV/AIDS interventions strategies (i.e. from their initial exposure to the university's intervention strategies, during the time of admission in the first term, and fourth term, respectively). The following were the specific objectives of the study: (i) to establish students' demographic factors, (ii) to identify the objectives and methods of the University's HIV/AIDS intervention strategies, (iii) to assess students' knowledge about HIV/AIDS and intervention strategies, (iv) to establish students' behavioural risks, (v) to assess student attitudes and perception to University's HIV/AIDS intervention strategies, (vi) to establish the relationship between student self-efficacy and their response to the University's HIV/AIDS intervention strategies; and (vii) to propose, suggest and recommend a model that could be used to improve student response.

A longitudinal survey research design was employed in the study through which a combination of research methods was used. These included, survey questionnaire, observations and literature review. Based on the spatial and behavioural modelling, empirical data was collected from 332 respondents before and after their exposure to the University's HIV/AIDS intervention strategies. Quantitative data from the survey was analysed by use of SPSS and Ms Excel software using descriptive statistics. Content analysis was applied to quantitative data from open-ended questions. The analysed data was used to answer the research questions and to test various hypotheses concerning student response to the University's HIV/AIDS intervention strategies (i.e. knowledge about HIV/AIDS and intervention strategies, attitudes and perceptions, behavioural risks and self-efficacy).

Indicators reported student's low or limited utilisation of the University's intervention strategies. The study findings indicated that: (i) the University had various HIV/AIDS

intervention strategies in place with varied objectives and methods, (ii) the majority of the students were single (90%) and in the 17-24 age group (81%), (iii) there were variations in student knowledge about HIV/AIDS and intervention strategies (i.e. both before and after exposure), (iv) students had varied attitudes and perceptions to University's HIV/AIDS intervention strategies, (v) student sexual behavioural risks contributed towards their response or non-response to the University's HIV/AIDS intervention strategies, and (vii) there was a significant relationship between students' self-efficacy and their responses to HIV/AIDS intervention strategies.

The study established that student response to the University's HIV/AIDS intervention strategies needed to be addressed. The study recommended that: (a) a process evaluation of the University's HIV/AIDS intervention strategies be undertaken to establish the extent to which planned interventions had been achieved, (b) the University's leadership work with students to break the silence, challenge the stigma and eliminate the shame associated with HIV/AIDS, (c) students be provided with correct HIV/AIDS knowledge and information, (d) students be equipped with life skills to put knowledge into practice, (e) students be provided with friendly HIV/AIDS services, (f) University's HIV/AIDS intervention strategies implementers work with students to promote their participation, and (g) further longitudinal studies be undertaken to meet the University's HIV/AIDS intervention strategies data needs (i.e. such studies would help identify real response gaps among other University's population groups for timely responses and implementation of intervention measures).

In conclusion, the study suggested an Integrated Early Warning System (IEWS) for the University of Zululand's HIV/AIDS intervention strategies (IEWS). The suggested system is; comprehensive, incorporated mapping and other tools, multi-sectoral in approach, and advocated student response through spatial linkages and relationships that could be aimed at an efficacious identification, address and response to HIV vulnerabilities.

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ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ACU	Association of Commonwealth Universities
ARV	Anti-Retroviral
ASO	Aids Service Organization
AWSE	African Women in Science and Engineering
CTP	Committee of Technikon Principals
DFID	Department for International Development
DI	Developmental Instructors
DoE	Department of Education
DOH	Department of Health
HEAIDS	Higher Education AIDS Programme
HIV	Human Immunodeficiency -Virus
MRC	Medical Research Council
NGO	Non-Governmental Organization
NPHE	National Plan of Higher Education
PE	Peer Education
PIP	Policies, Infrastructure and Provision
PLWHA	People Living With HIV/AIDS
PSU	Primary Sampling Unit
RHRU	Reproductive Health Research Unit
SADC	Southern Africa Development Cooperation
SAUVCA	South African University Vice-Chancellors Association
SCT	Social Cognition Theory
SSU	Secondary Sampling Unit
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
UNAIDS	Joint United Nations Programme on HIV and AIDS

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

When AIDS emerged from the shadows two decades ago, few people could predict with precision how the epidemic would evolve, and fewer still could describe with any certainty the best ways of combating it. As we approach the end of the third decade since the discovery of HIV/AIDS, we are past the stage of conjecture. It is known from experience that AIDS can devastate whole regions, knock decades off national development, widen the gulf between rich and poor nations and push already stigmatised groups closer to the margins of society. Just as clearly, experience shows that the right experiences, applied quickly enough with courage and resolve, can and do result in lower HIV infection rates and less suffering for those affected by the epidemic (UNAIDS, 2000).

The focus of this research was student responses to the University of Zululand's HIV/AIDS intervention strategies. This chapter provides the background to the study, context, the statement of the problem, research questions, hypotheses, research methods and the organization of the study.

1.2 BACKGROUND TO THE STUDY

Global HIV/AIDS incidence is believed to have peaked in the late 1990s and stabilized subsequently, notwithstanding increases in a number of countries. In several countries, declining trends in incidence have been related to changes in behaviour and prevention programmes (UNAIDS, 2006). Changes in incidence along with rising AIDS mortality have caused global HIV prevalence to level off (UNAIDS, 2005). However, the numbers of people living with HIV have continued to

rise due to population growth and, more recently, the life prolonging effects of antiretroviral therapy. Regional data from Sub-Saharan Africa (a region with the largest burden of the AIDS epidemic) indicates that the HIV incidence rate has peaked (about 20%) in most countries. The epidemics in this region (especially in Southern Africa) are highly diverse and severe (UNAIDS, 2006). Regional survey data underscores the disproportionate impact of the AIDS epidemic on women (WHO and UNAIDS, 2006). On average, three women for every two men are HIV-infected while, among young people (15–24 years) the ratio widens considerably to three women for every man.

In South Africa, the AIDS epidemic shows no evidence of decline (Human Sciences Research Council, 2005). Based on the country's extensive antenatal clinic surveillance system, and the national surveys with HIV testing and mortality data from its civil registration system, an estimated 5.5 million [4.9 million–6.1 million] people were living with HIV in 2005. Further, an estimated 18.8% [16.8%–20.7%] of adults (15–49 years) were living with HIV in 2005 (UNAIDS, 2006). Almost one in three pregnant women attending public antenatal clinics were living with HIV in 2004 and trends over time show a gradual increase in HIV prevalence. However, national household surveys with HIV testing in 2003 and 2005 reported lower HIV prevalence. Reportedly the surveys were plagued by high (40%) non-response rates (Department of Health, 2005).

The South African 2005 national household HIV survey reported high HIV infection levels among young people (aged 15–24 years) (DOH, 2005). These were about the same as those reported in the 2003 national household HIV survey (Shisana, Pelzer, Zungu-Dirwayi and Louw, 2005; RHRU and MRC, 2005). In addition, the 2005 national survey revealed high HIV infection levels among men aged 50 years and older, 14% among those 50–54 years of age, and 8% for those 55–59 years of age. On the positive side, almost one-third of the respondents aged 15 years and older had been tested for HIV (however, this finding did not compare well to University students as most were reluctant to seek HIV testing). In addition the study reported diminishing HIV/AIDS stigma levels (Shisana, *et. al.*, 2005).

Despite South Africa's HIV prevention efforts having not made notable inroads against the epidemic, there have been significant progress on the treatment front (Shisana, *et. al.*, 2005). Currently, with an approximate population of 190,000 people receiving antiretroviral treatment by the end of 2005, the country accounted for a large share of the treatment scale-up in the region. However, this still meant that less than 20% of the almost one million South Africans in need of antiretroviral treatment were receiving it in 2005 (WHO and UNAIDS, 2006).

1.3 SOUTH AFRICAN HIGHER EDUCATION AND HIV/AIDS PREVENTION

The South African society and its institutions of higher learning have undergone a radical and profound process of change (a restructuring, reconfiguration, and transformation process) since 1994. The core elements of the structure, governance, management and funding of the higher education system have been apparently re-aligned to serve the needs of a democratic, non-racial, quality driven and equitable dispensation. Currently, the higher education system includes three primary categories of institutions; the Universities, the Universities of Technology, and the Comprehensive Institutions/universities (Chetty and Michel, 2005).

South African higher education institutions are legally autonomous, but subject to policy and regulatory controls set by the National Department of Education (DOE). Within this framework, the South African Universities Vice-Chancellors Association (SAUVCA) and the Committee of Technikon Principals (CTP) are the two national associations that represent the interests of the institutions. Since 1997, several policy measures have informed the response of higher education institutions to HIV/AIDS. These include:

- a) The national policy on HIV/AIDS for learners and educators in public schools, and students and educators in further education and training institutions (Department of Education, 1999). The policy acknowledged that learners and educators were at risk from HIV/AIDS. Thus, the policy concerned itself with ensuring the rights of learners, the prevention of stigma, the necessity for age-

appropriate education regarding the epidemic and it enshrined learner and educator confidentiality (Chetty and Michel, 2005);

- b) The 'Department of Education Tirisano document' for HIV/AIDS and education. In 2001, DOEs' statement of policy and priority objectives were aligned with its strategic plan 2002-04 to 2003-05 in which, on campus HIV prevention, management and mitigation in the higher education sector were identified (Department of Education, 2003); and
- c) The 2001 National Plan on Higher Education (NPHE). The plan identified five strategic objectives (policy goals) central to achieving the overall goal of the higher education transformation. These were: to provide increased access to higher education, to promote equity of access and redress past inequalities, to ensure diversity in organizational form and institutional landscape through mission and programme differentiation, to build high-level research capacity to address the research and knowledge needs of South Africa, and to build new institutional and organizational identities through regional collaboration between institutions (Chetty and Michel, 2005).

"The 2002 blueprint for the new system," contained the defining features of the new South African higher education landscape. This set in motion a process of consolidation and mergers in the system that resulted in a transition from a disparate array of 36 institutions to a unified system of 23 institutions (Department of Education, 2002). The scale and complexity of the merger process has had a direct implication of how the system responded to HIV and AIDS. The shift to fewer and larger institutions with new identities created some uncertainty about the continuity of programmes, as well as a re-think of how best to offer and manage services on a bigger scale across new geographical areas to students and institutions with significantly different profiles (HEAIDS, 2004).

SAUVCA's research in 2000 indicated a need for focused attention to policies, procedures and programmes that would enable all higher education institutions to

prevent, mitigate and manage the HIV/AIDS pandemic. The publication, "Institutionalising the response to HIV/AIDS in the South African University sector: A SAUVCA analysis" consisted of; an appraisal of initiatives that were being conducted at the universities, an overview of the literature relating to HIV and AIDS, and higher education nationally and globally, as well as, a clear set of recommendations on the way forward. The findings discovered that the situation in South Africa was shared by those who had examined HIV/AIDS within the African context (Chetty, 2001).

Kelly (2000) noted that, the following conditions prevailed across higher education institutions: notional awareness but lack of concrete action from universities, lack of information and hard data, silence at institutional and individual level, stigma and discrimination, non-mainstreaming of HIV/AIDS into the management of the institution, little efforts in replenishing the society's AIDS-depleted skills, treatment of HIV/AIDS as a health problem, imperfect knowledge of the disease and its impact, little sign of behaviour change in individuals and in institutions, and focus on prevention rather than on pro-active control.

The shared concerns highlighted the need to; develop a sector-wide response, to establish and build capacity at national and institutional levels, to collaborate closely with the DOE and CTP and work towards the creation of a strategic plan that would guide the sector's response to HIV and AIDS (Chetty, 2001). Senior managers in the sector with the support of the UK's Department for International Development (DFID) responded positively to the proposal for a programme of capacity building. SAUVCA took the lead in establishing the first nationally co-ordinated leadership and capacity building programme on HIV/AIDS in higher education (HEAIDS, 2004). The challenge, however, in many cases had been to get institutions to think differently about responding to HIV and AIDS, and to move away from a pre-occupation with once off prevention programmes or as a health response and to begin making HIV/AIDS part of the mainstream of management in higher education (Chetty and Michel, 2005).

The new partnership created an opportunity for the programme to deepen the areas which already showed the most promise especially, those programmes that were closely linked to the Department of Health's strategic plan and the HIV/AIDS priorities identified for the country. Three of the areas that were identified for particular support included: Peer Education (PE), Curriculum Integration and Voluntary Counselling and Testing (VCT). A working group was established for each of these areas and two others for instance; workplace programmes, and care and support were identified to access expertise within the sector. The working groups arose out of partnerships across sectors and operated in accordance with written proposal and guidelines. These groups performed a range of functions including setting up pilot studies, data gathering and analysis (Chetty and Michel, 2005). For instance:

- a) The Peer Education working group which stemmed from a collaborative initiative with the DOH, technical assistance from the Harvard School of Public Health as well as other role players (school, higher education, NGOs) at a provincial level, provided guidelines for PE across the education sector in response to the proliferation of PE programmes which had no formal accreditation and for which no commonly accepted framework had been established. As a result, the first set of National Peer Education guidelines for higher education students '*Rutanang*' (learning from one another) were developed in 2003. The '*Rutanang*' package involved a range of guidelines for the school, NGOs and higher education sector as well as a manual of suggested lessons for Peer Educators (Chetty and Michel, 2005),
- b) The VCT working group concentrated on capacity building and developed case studies to examine various VCT programmes as well as approaches to VCT services in all the participant institutions. This area of work was backed by an advocacy strategy through which HEAIDS promoted the message; '*Know Your Status*' and VCT as an anchor of care and support programmes which included access to ARV treatment and wellness management (Chetty and Michel, 2005), while;

- c) The Curriculum Integration (CI) working group (the most complex area presently under investigation), had indicators of curriculum integration of HIV and AIDS already in progress at many institutions on an *ad hoc* basis. The report 'Turning the Tide' indicated that, in 2005 a series of case studies examining current academic practice across a range of institutions were published. The studies covered a diverse range of curricula integrations in Law, Nursing, Information Technology, Psychology, Engineering, Veterinary Science, Journalism, Education, Economics and Anthropology (Chetty and Michel, 2005).

In addition, the main goal of the South African higher education strategic plan adopted in 2004 was to mobilize the sector's to response sensitively, appropriately, and effectively to the HIV/AIDS epidemic through its core functions of; teaching, research, management and community service and through the continuum of HIV/AIDS interventions - namely; prevention, treatment, care and support (HEAIDS, 2004).

1.4 THE PROBLEM IN CONTEXT

HIV/AIDS prevalence figures released in 2003 made for disturbing reading. The 2003 HSRC and HRD Review cited in Chetty and Michel (2005:1) estimated that, 20% of University students had contracted HIV. The study had anticipated that by 2005, these numbers would have increased by 10% across institutions. This was in line with the Department of Health's 2002 antenatal survey whereby, the estimated HIV prevalence in University and Technikon students indicated that in 2002 the estimated HIV/AIDS prevalence rate for those under 20 was 14.8% and 29.1% for those aged 20 to 24 years old (HEAIDS, 2004:17).

Despite lack of an accurate picture on HIV prevalence at the University of Zululand, institutional responses included; the establishment of an institutional HIV/AIDS policy in 2001, the establishment of the HIV/AIDS Committee of Council and Senate that manages the institutional responses through policy formation and implementation, the incorporation of HIV and AIDS in the institutional operation plan, and the

involvement with partners such as, donors, research organizations, non-governmental organizations (NGOs) as well as government departments in the provision of HIV/AIDS services. As a result of (and in respect to), the institutional responses, the following were the main University of Zululand HIV/AIDS prevention services (as defined by the HEAIDS programme indicators): male condom distribution, Voluntary Counselling and Testing (VCT), Sexually Transmitted Infections (STI) and Peer Education programmes (HEAIDS, 2004; University of Zululand, 2002).

1.5 STATEMENT OF THE PROBLEM

Research on higher education responses to the AIDS epidemic highlighted the extent to which Universities relied on HIV prevention and knowledge awareness raising strategies (Chetty, 2001; Kelly, 2001). These strategies took many different forms - from the once-off AIDS day campaigns with a blitz of slogans, t-shirts, and banners, to complex and sustained education campaigns. At whatever level, they relied on the assumption that in the absence of a cure, education was the best social vaccine against the epidemic. HIV/AIDS intervention strategies focused on prevention were important and need constant re-enforcement because of the vagaries of communication and the knowledge that the availability of information by itself was not sufficient to cause behavioural changes. Sustaining and building on positive behaviour changes was an even greater challenge.

HIV/AIDS prevention alone might not be sufficient in addressing the gravity of the needs of the University of Zululand students. While HIV prevention strategies and interventions must continue and be built upon, there is an urgent need to think beyond prevention in a context where the University of Zululand has students who are at a risk of HIV infection, are ill, have died of AIDS related causes or whose families are seriously affected by the AIDS epidemic.

University of Zululand's HIV/AIDS intervention strategies and programme indicators showed low or limited utilization of the services offered. Could student non response

to the University of Zululand's intervention strategies be a result of them being scared of adopting health habits that informed them about the grave risky-health behaviours of detrimental habits and the benefits of healthful habits? Did the intervention strategies focus on the development of self-regulatory capabilities, aimed at equipping students with motivational, self-management skills and resilient beliefs in their efficacy to exercise control over their risky-behaviour and guard against HIV infection?

1.6 ASSUMPTIONS OF THE STUDY

The notion of 'assumption' in research can be explained as that aspect of a research study that is presumed to be true with or without general proof or agreement within any particular research matter under investigation (Magi, 2005). In this regard, the study on the investigation of student response to the University of Zululand's HIV/AIDS intervention strategies has been undertaken using some basic assumptions.

The University of Zululand's response to HIV/AIDS epidemic was initiated in 2001 in the form of a policy document that led to the establishment of various intervention strategies aimed at HIV prevention and control of AIDS through provision of basic HIV/AIDS information and education. Thus, based on these observations, the following were the main assumptions of the study:

- Students had enough knowledge about HIV/AIDS.
- Lack or limited responses to HIV/AIDS intervention strategies were subject to students' knowledge of the University of Zululand's HIV intervention strategies.
- Students had self-management skills and resilient beliefs in their exercise over HIV risky behaviour and in guarding against HIV infection.

The assumptions of the study as stated above formed the basis of the formulation of the aim and objectives of the research study as stipulated in section 1.8 below.

1.7 AIM OF THE STUDY

Based on the statement of the problem in section 1.6, and the assumptions of the study in section 1.7, the general aim of the study was to investigate student responses to the University of Zululand's HIV/AIDS interventions strategies from their initial exposure to the university intervention strategies, during the time of admission in the first term, third and fourth term, respectively.

1.8 OBJECTIVES OF THE STUDY

The boundaries of the research study were delineated by the following specific objectives:

- a) To identify the current objectives and methods of the University of Zululand's HIV/AIDS interventions strategies
- b) To establish students' knowledge about HIV/AIDS and the University of Zululand's intervention strategies
- c) To investigate students' perceptions and responses to the University of Zululand's HIV/AIDS intervention strategies
- d) To establish the relationship between students self-efficacy and their responses to the University of Zululand's HIV/AIDS intervention strategies
- e) To develop a conceptual model for new processes and procedures for functionalising the University of Zululand's HIV/AIDS intervention strategies.

Thus, the specific objectives as stated above determined the scope and extend of the investigation into student responses to the University of Zululand's HIV/AIDS intervention strategies.

1.9 RESEARCH QUESTIONS

Apart from the research objectives, research questions further delineated the boundaries of the research and gave it an overall direction. Thus, arising from the statement of the research problem and the purpose of the research, the following were the major research questions:

- a) What were the current objectives and methods of the University of Zululand's HIV/AIDS intervention strategies?
- b) What was the student knowledge about HIV/AIDS and the University of Zululand's intervention strategies?
- c) What were the University of Zululand students' sexual behavioural risks?
- d) What were the student perceptions of the University of Zululand's HIV/AIDS intervention strategies?
- e) Did student self-efficacy affect their response to the University of Zululand's HIV/AIDS intervention strategies?
- f) How could the University of Zululand's HIV/AIDS intervention strategies be functionalised to promote student responses?

The research questions as stated above determined what, where, when and how data was collected. Further, the research questions represented an important link between the conceptual and logistic aspects of the study.

1.10 RESEARCH HYPOTHESIS

The researcher hypothesised and tested the relationship between the University of Zululand's HIV/AIDS intervention strategies and the student responses. Hypotheses formulated in the study included:

Hypothesis 1: Student knowledge about HIV/AIDS did not influence their response to the University of Zululand's intervention strategies.

Hypothesis 2: There was no significant relationship between student sexual behaviours' and their response to the University of Zululand's HIV/AIDS intervention strategies.

Hypothesis 3: There was no significant relationship between student perceptions and their response to the University of Zululand's HIV/AIDS intervention strategies.

Hypothesis 4: There was no significant relationship between student self-efficacy and their response to the University of Zululand's HIV/AIDS intervention strategies.

The study hypotheses as stated above compelled the researcher to articulate a precise description of the research questions (Ayala, 1994). Further, relying on intuition as well as a thorough review of the knowledge base within the topic area, the essential criterion of the research hypotheses was that they would drive data collection for the study and their testing would lead to new knowledge.

1.11 DELIMITATION OF THE STUDY

The study was carried out at the University of Zululand. The University is located in KwaDlangezwa Township within the Mkhwanazi Traditional Authority. The University is 15 kilometres from Empangeni Town, which is part of the UMhlatuze local municipality. Figure 1.1 shows the relative map of the location of the study area.

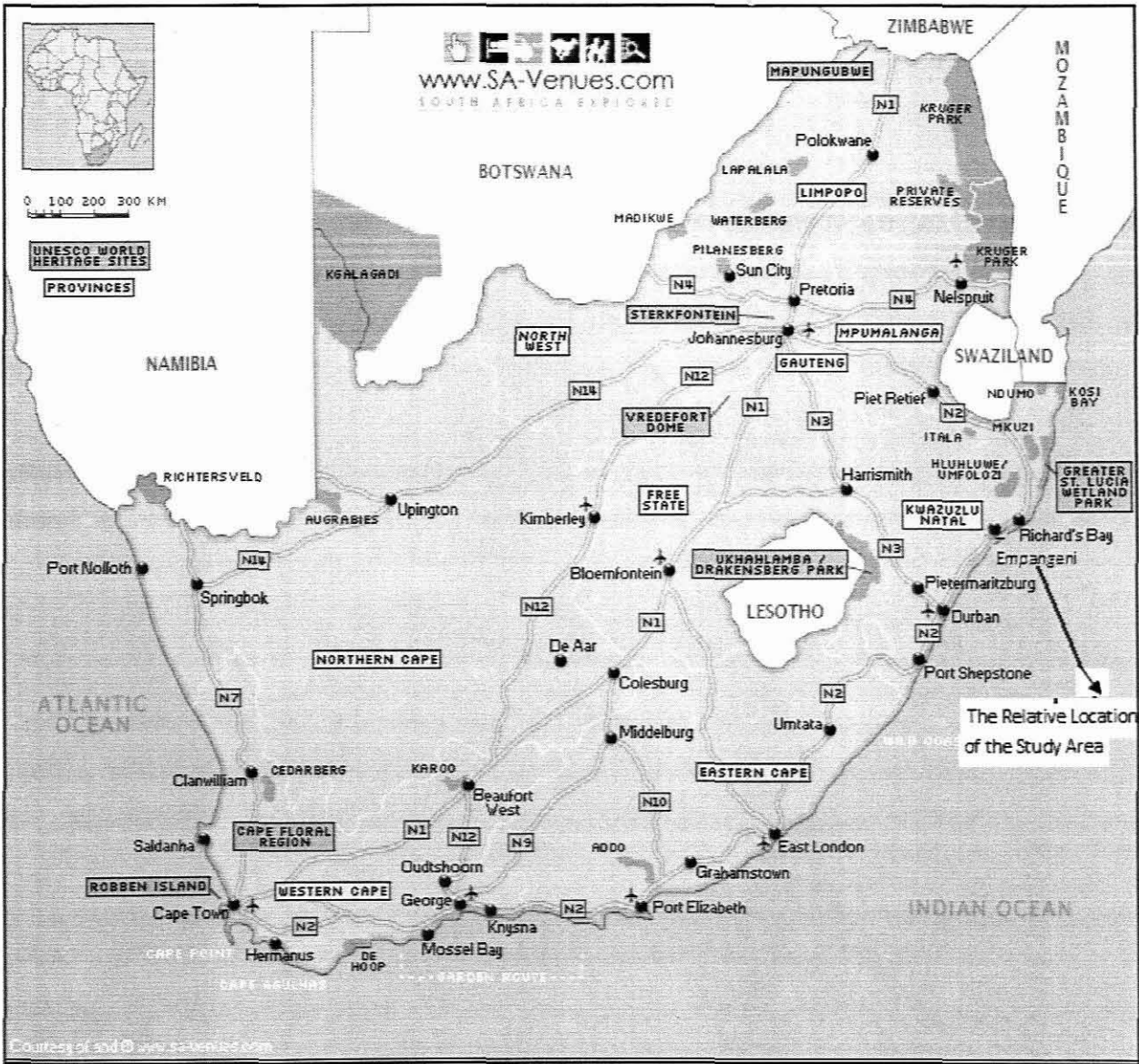


Figure1.1: Relative Location of the study Area (<http://www.sa-venues.com> accessed on 23/04/2008)

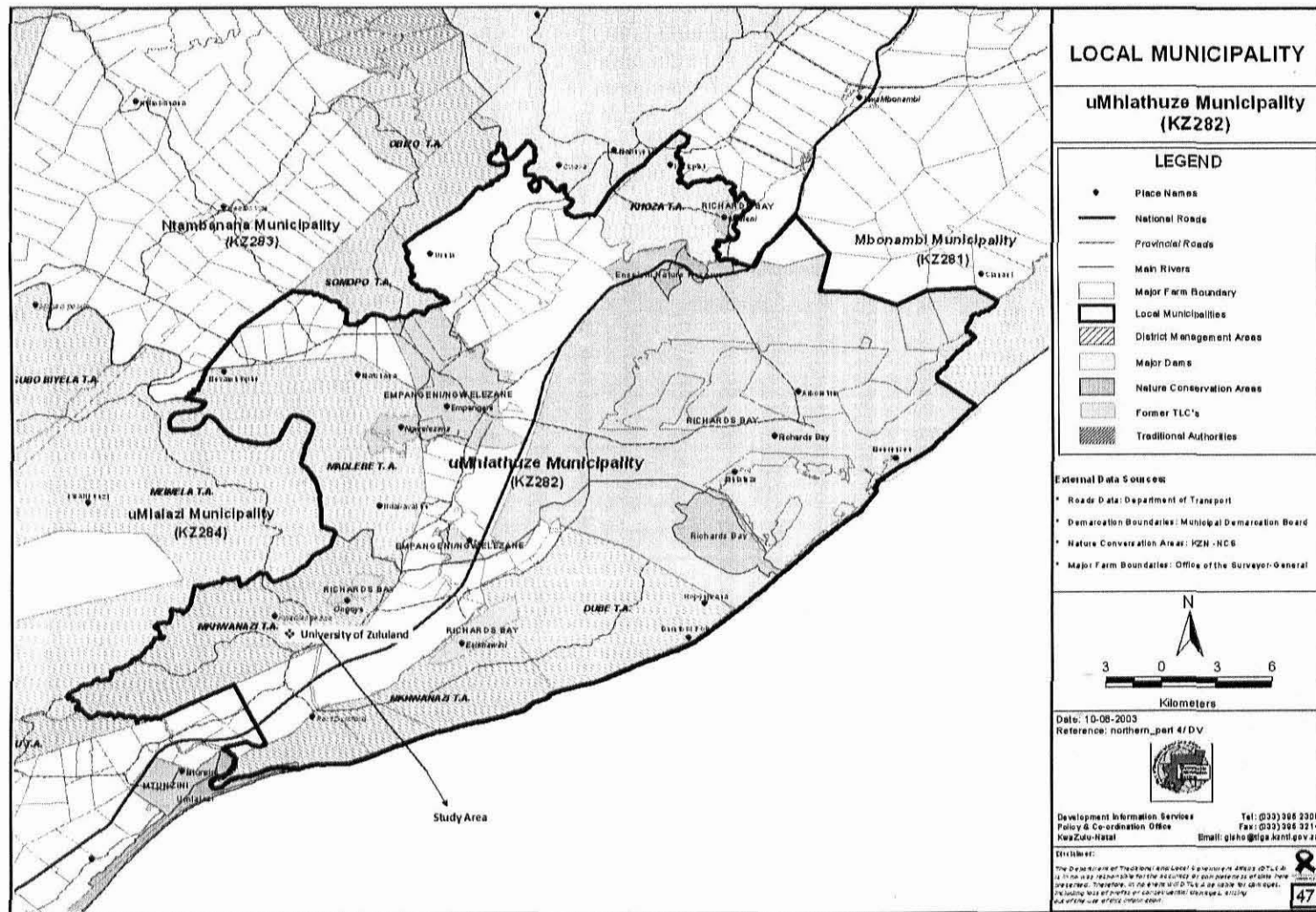


Figure 1.2: The absolute location of the study area

(Source: <http://devplan.kzntl.gov.za/MapsGis/maps/DC28/A4/KZ282.pdf>; accessed on 26/05/2008)

1.12 SCOPE AND LIMITATION OF THE RESEARCH

The target group for the study was the 2006 first year students of the University of Zululand, South Africa. The population was chosen because it was their first exposure to the University of Zululand environment and its inherent social and environmental factors. The primary concern of the study was student responses to the University of Zululand's HIV/AIDS intervention strategies. The study was largely limited to 2006 first year student responses to the following interventions: HIV/AIDS Information Awareness Campaigns, PE and VCT.

1.13 JUSTIFICATION FOR THE STUDY

In addition to the generation of a will, advocacy and structures for a broad institutional HIV/AIDS response, the University of Zululand had in place a continuum of HIV/AIDS intervention strategies for students. The overall utilization of the University of Zululand's HIV/AIDS prevention services was low (somewhat limited). Reportedly, few students (female far more than male) utilized the services (HEAIDS, 2004). This information did not however, provide an explanation regarding students' non- responsiveness. Could it be due to: non-effective marketing of the University HIV/AIDS services, stigma, ignorance, lack of, or limited functional integration of the services? Or, could it be due to the University environmental and social factors?

In reference to human behaviour as argued by Bandura (1986), student response to the University of Zululand's HIV/AIDS intervention strategies had often been explained in terms of a unidirectional causation, in which it was expected that their on-campus behaviour was shaped and controlled by either, the University environmental influences or their internal dispositions. Instead, student responses to the University's HIV/AIDS intervention strategies could be explained by examining their spatial and temporal cognition. Whereby, a view of self and the University society, student personal factors in the form of cognitive, affective, and biological events, behavioural patterns, and environmental events and activities all operated as

interacting determinants that influenced each other bi-directionally, hence affecting responses to the University HIV/AIDS intervention strategies.

Therefore, an investigation into student responses to the University of Zululand's HIV/AIDS intervention strategies was timely in the wake of increasingly reported student mortality rates (an average of two students per month), all due to undisclosed causes. In addition, much effort and resources had been invested in developing and managing the University of Zululand's HIV/AIDS intervention strategies.

1.14 SIGNIFICANCE OF THE STUDY

Given that no risk assessment or situation analysis had ever been undertaken at the University of Zululand to gauge the impact of HIV/AIDS in a midst of increased reported cases of AIDS related student deaths (HEAIDS, 2004), the expected research outcomes and contribution of the study included:

- a) The identification of the intervention strategies and programmatic flaws that discouraged student responses;
- b) The identification of a focused policy, procedures and programmes for HIV prevention, and AIDS management;
- c) The establishment and capacity building to manage and mitigate the impact of the HIV/AIDS epidemic at the university of Zululand;
- d) The promotion of, and the development of efficacious intervention strategies and practices in response to HIV/AIDS; and
- e) The generation of information on the evaluation and improvement of the essential programmes and services for HIV prevention, treatment and care of students.

It was also hoped that the results of the study would help different stakeholders for instance: the University, the Department of Education, the Department of Health and AIDS Service Organizations (ASOs), in developing a better comprehension of challenges and opportunities surrounding student response to the impact of HIV/AIDS at the University of Zululand. In addition, the study findings and recommendations would form a basis for further research and a more informed public debate.

1.15 DEFINITION OF TERMS

The list below consists of terms and terminologies that were widely used in the study:

- a) **AIDS:** Acquired Immune Deficiency Syndrome or Acquired Immunodeficiency Syndrome (AIDS or Aids) is a collection of symptoms and infections resulting from the specific damage to the immune system caused by the Human Immuno-deficiency Virus (HIV) in humans (UNAIDS, 2006).
- b) **Attitudes:** Are hypothetical constructs (i.e., they are inferred but not objectively observable): they are manifested in conscious experience, verbal reports, and overt behaviour. In this study, an attitude refers to students dispositions or tendencies to respond positively or negatively towards HIV/AIDS. They encompass, or are closely related to, their opinions and beliefs and are based upon their experiences (Bandura, 2001).
- c) **Beliefs:** Refer to a mental attitude of acceptance or assent towards a proposition without the full intellectual knowledge required to guarantee its truth (Bandura, 2001). In this study, a belief refers to students convictions (truths) about HIV/AIDS and the intervention strategies.
- d) **Behaviour:** Refers the manner of conducting oneself, or the response of an individual, group, or species to its environment (Webster, 1985; Bandura, 1997).

In this study, behaviour refers to students ideas about HIV/AIDS and intervention strategies

- e) **HIV:** Human Immunodeficiency Virus is a retro-virus that causes Acquired Immunodeficiency Syndrome (AIDS i.e. a condition in humans when the immune system begins to fail, leading to life threatening opportunistic infections) (UNAIDS, 2000).
- f) **Knowledge:** Refers to student's familiarity, awareness, or understanding gained through experience or study (Webster, 1985).
- g) **Perception:** Refers to students' recognitions and interpretations of HIV/AIDS interventions chiefly on their memory (Webster, 1985).
- h) **Responses:** Refers to student reaction to the University's HIV/AIDS intervention strategies (Merriam Webster, 1985).
- i) **Self-Efficacy:** Is an impression that one is capable of performing in a certain manner or attaining certain goals. It is a belief that one has the capabilities to execute the courses of actions required to manage prospective situations (Webster, 1985; Bandura, 1997).
- j) **Social Cognition:** Refers to how students process HIV/AIDS information, especially its encoding, storage, retrieval, and application to social situations (Bandura, 1988).
- k) **Voluntary Counselling and Testing (VCT):** Refers to the process by which an individual undergoes confidential counselling to enable him or her make an informed choice about knowing his or her HIV status and take appropriate action (UNAIDS, 2000).

1.16 STRUCTURE OF THE THESIS

The thesis is arranged in six chapters. Chapter 1 offers the orientation to the study under the following sub headings: assumptions of the study, aim of the study, objectives of the study, research questions, research hypotheses, scope and limitation of the research, justification for the study, significance of the study, definition of terms, and the structure of the thesis.

Chapter 2 presents a contextual analysis of the reviewed literature in the following sub-headings, development of the reviewed literature, University HIV/AIDS prevention strategies, indicators of behaviour change, acquisition of HIV/AIDS knowledge for self efficacy, attitudes towards HIV/AIDS interventions, beliefs and perceptions about HIV/AIDS, practices relating to HIV/AIDS, specific areas of prevention practices and risk reduction, and personal Involvement.

Chapter 3 presents the conceptual framework upon which the study was based, that is; geography and behaviour models, development of behavioural approaches, the University of Zululand as a social space, affect of AIDS on the population structure, perception, decision-making, the evaluative approach and its meaning and usefulness towards basing the investigation on a sound theoretical footing.

Chapter 4 presents the research methodology, that is, the survey design and sampling procedures, the ethical consideration the research tool, the fieldwork procedures, the data management and analysis strategies and the problems encountered.

Chapter 5 presents the results of the survey, data analysis and presentation of findings. In addition, the chapter presents results from the testing of the research hypotheses.

Finally, Chapter 6 presents the summary of the study findings, gives the conclusion of the study, provides the recommendations and proposes a response system

(Integrated Early Warning System) for HIV/AIDS at the University of Zululand. The details of the chapters are as presented in the table of contents.

1.17 CONCLUSION

This chapter has offered an orientation to the study on student responses to the University of Zululand's HIV/AIDS intervention strategies. The chapter set the contextual background that underscored the importance of the study. Alongside the aim and objectives of the study, the problem under investigation was stated. Further to the study assumptions and the hypotheses, the justification for and the significance of the study were presented in brief. Finally, the chapter presented the outline of the thesis.

The next chapter presents the conceptual framework for the study

CHAPTER 2

THE CONCEPTUAL FRAMEWORK

2.1 INTRODUCTION

HIV/AIDS differs from any other epidemic that has ever plagued the world (Gould, 1993). It is not only incurable, it challenges people's deepest secrets and taboos about sex and death, whether an individual or a community. According to Van Dyk (2005), although health professionals and human geographers can understand the feelings that make people want to distance themselves from anything to do with HIV/AIDS; *their denial makes them more vulnerable to the effects of the disease.*

In coping with the AIDS epidemic most of the South African higher education institutions, including University of Zululand, tried to persuade students to change their behaviour by providing them with the relevant information about HIV/AIDS (Chetty, 2001). It has however, since been established that, for behaviour change to occur more than just correct information about HIV/AIDS needed to be supplied to the vulnerable groups (Van Dyk, 2005). According to Fishbein and Middlestadt (1989) there are certain types of information that are necessary for developing effective educational communications or other types of intervention strategies. The authors further observed that, 'the HIV/AIDS epidemic is much too serious to allow intervention strategies to be based upon some untested and all too often incorrect intuitions about the factors that will influence the performance or non-performance of a given behaviour in a given population (Fishbein and Middlestadt, 1989:109).

This chapter lays the conceptual framework for the study on student responses to the University of Zululand's HIV/AIDS intervention strategies. Important components of HIV/AIDS prevention theories would be discussed.

2.2 GEOGRAPHY AND BEHAVIOUR MODELS

Most HIV/AIDS prevention theories (models) are drawn from several disciplines such as, Psychology, Sociology, and Anthropology (Neumann, 2003). According to Neuman (2003) and Van Dyk (2005), HIV/AIDS prevention theories include: The theory of reasoned action (Fishbein and Ajzen, 1975); The theory of planned behaviour (Ajzen, 1991); The health belief model (Becker and Maiman, 1975; Rosenstock, 1974); The AIDS risk reduction model (ARRM) of Catania, Kegeles, and Coates (1990); The social-cognitive learning theory of Bandura (1977); and, the learning theory of Rosen (1973). These theories were formalized after a careful test with repeatable results in different settings, and generalized to various communities (Goldman and Schmalz, 2001). Both formal and informal (or implicit) theories began with an individual's observation about a person or phenomenon (Coopers and Schindler, 1999). According to CDC (1999) theories help define expected intervention outcomes for evaluation purposes.

Social cognition theory (SCT) for instance, views the adoption of behaviours as a social process influenced by people's interactions with others and their environment (Bandura, 1994). The primary components of SCT are; behaviour modelling and self-efficacy. SCT defines student behaviour as a triadic, dynamic, and reciprocal interaction of personal factors, behaviour, and the university environment (Bandura, 1986). According to the theory, each of these three factors uniquely determined an individual student's behaviour. The theory upheld the behaviourist notion that response consequences mediated behaviour, and contended that behaviour was regulated through cognitive processes (Bandura, 1989). Therefore, response behaviour consequences were used to form expectations of behavioural outcomes. In addition, a person's ability to form expectations offered them the capability to predict the outcomes of their behaviour before the behaviour was performed (Bandura, 2001).

The SCT's strong emphasis on cognition (beliefs) suggests that the mind was an active force that constructed reality, selectively encoded information, performed behaviour on the basis of values and expectations, and imposed structure on its own actions (Jones, 1989). Thus, through feedback and reciprocity, a person's own reality was formed by the interaction with the environment and their beliefs. In addition, cognitions changed over time as a function of maturation and experience. According to Bandura (2001), Glanz, *et.al.* (1997), and Jones (1989), it is through an understanding of the processes involved in construction of reality that enabled students' behaviour to be understood, predicted, and changed hence, their responses to University HIV/AIDS intervention strategies.

Model (theory) building in Geography (borrowed from several disciplines mainly Psychology) is encouraged by a focus on the interrelationship between form and process and in particular, on the way in which behavioural processes bring about spatial patterns (Graham, 1988). In human geography such models were probably best developed in the locational or spatial analysis school of thought which sought to examine phenomena in terms of geometry and mathematics (Gregory, 1974). In many cases, such model building derived its inspiration from micro-economics and was normative in approach in that, it stipulated the spatial pattern obtained given a number of assumptions about the process that were supposedly operating (Barnes and Duncan, 1992; Graham, 1988).

Given that HIV/AIDS pandemic is classed as a natural calamity, its study, and of how people perceive it and adjust to the environmental stress could be of a central contemporary concern to the discipline of geography (Gould, 1993). According to Parker and Harding (1979), the investigation of natural hazards was dominated by geographers. Thus, 'work done by geographers has been characterised by a unified paradigm which provided a remarkable degree of coherence and integration' (Gold, 1980:202). This paradigm viewed human response to calamities (hazards) from a systems perspective and focussed on the interaction between human use of the environment and natural events within the environment (Walmsley and Lewis, 1984).

In other words, attention was directed at the following three key questions: Why do people locate in areas prone to natural calamities? What do people know about these calamities? How does this compare with what they might know if they had the most up-to-date knowledge? (Burton, Kates and Snead, 1969). In light of this study, the last two questions reformulated would be: What do students know about HIV/AIDS? How does this compare with what they would know if they had the most up-to-date knowledge about HIV/AIDS?

In conceptualising student response to the University of Zululand's HIV/AIDS intervention strategies, reference can be made on such theories as: The theory of reasoned action and planned behaviour, whereby people are defined as reasonable beings that systematically process and use information available to them when they plan behaviour (Ajzen, 1991; Fishbein and Ajzen, 1975). Therefore to enlist some degree of response to the intervention strategies manifested in people's behaviour change, it is therefore necessary in terms of these theories to understand and change the cognitive structures that govern specific behaviour (Graham, 1988). For example, health care professionals and HIV/AIDS intervention strategies implementers cannot begin to change a person's behaviour if they do not have an appreciation or understanding of that individual's intentions, beliefs, perceptions, attitudes, subjective norms and self-efficacy (Castree and Braun, 2001).

According to Freeman (1999) behaviours that place people at risk of HIV infection are often a result of complex factors operating at multiple levels. Downs (1970) observed that, behaviour change theories address one or more of the following levels; individual, interpersonal, community, structural and environmental factors. As a result, researchers and service providers use a combination of factors from several theories to guide their programmes (Downs, 1970; Freeman, 1999; Gregory, 1974). Therefore, the following considerations guided the development of the conceptual framework for the study: (a) The development of behavioural approaches; (b) University of Zululand as a Social space; (c) Affect of AIDS on the

population structure; (d) Perception; (e) Decision- making; and (f) The evaluation approach.

2.2.1 DEVELOPMENT OF BEHAVIOURAL APPROACHES

In a very fundamental sense, conceptualisation embraced a behavioural approach. A behavioural approach in human geography is a point of review rather than a rigorous paradigm (Graham, 1988, Walmsley and Lewis, 1984). The underlying rationale of the concepts therefore lied in the argument that an understanding of the spatial distribution and pattern of man-made phenomena on the earth's surface rests upon knowledge of the decisions and behaviours which influence the arrangement of the phenomena rather than on knowledge just of the positional relations of the phenomena themselves (Heeler and Grisby, 1992; Golledge, Brown, and Williamson 1972:59). In other words, morphological laws that describe geometric patterns are insufficient for understanding how those patterns came into being (Golledge, *et. al.*, 1972). Therefore process (such as student responses) can only be uncovered if attention is directed to the decision-making activities of the actors involved in creating a given pattern (Johnston, 1979:117).

According to Gould (1969) early reviews of the behavioural approach in human geography pointed out two dominant types of study: Analysis of overt behaviour patterns (often travel patterns); and, Investigations of perception of the environment. The former tended to be based on an inductive approach that sought to observe reality as a prelude to arriving at generalizations which described the behaviour under study and so the behaviour was on discovering the general in the particular (Walmsley and Lewis, 1984:4). This approach differed from the normative model building which usually began from the opposite perspective with simplified assumptions that were used as axioms from which deductions could be made. The same inductive element was evident in the perception studies, the assumption being that comprehension of the way in which an individual perceived his behaviour would help in understanding the individuals' behaviour (Brookfield, 1964). No *a priori*

assumptions were made about the perception process rather; details of the perceived environments were carefully elicited through a variety of techniques. (Walmsey and Lewis, 1984:8). The mind was thought of as black box and researchers had only the primitive notions as to how the perception process worked (Stea and Downs, 1970; 5).

The rationale for a behavioural approach has since become more acceptable in human geography resulting in the study of a range of issues (Walmsey and Lewis, 1984). For instance, Golledge, *et.al.*(1972) identified five dominant areas of behavioural research in human geography : (a) Studies of decision-making and choice behaviour (especially locational choice, route selection, and patronage patterns); (b) Analysis of information flows (particularly in relation to innovation and diffusion);(c) Models of search and learning (often derived from theories in psychology); (d) Examination of voting behaviour; and (f) Perception research (focussing on hazard on hazard perception, image formation a, and mental maps). Since then, the behavioural approach has developed a number of salient characteristics: (i) It is multidisciplinary in outlook; (ii) It focuses upon individuals rather than groups or organizations; (iii) It emphasises the difference between the cognitive image of the environment; and (iv) It postulates a mutually interacting relationship between man and his environment whereby man shapes the environment and is subsequently shaped by it (Gold, 1980:4).

Since the 1970's the range of behavioural studies of man-environment interaction has become so large and varied as to present problems of classification (Blij, Murphy, and Fourberg, 2007). One popular approach was to categorise studies according to the geographical scale with which they were concerned (Saarinen, 1976 in Blij, *et al.*, 2007: 57). A more fundamental and more important distinction was made according to whether the studies were empirical or humanistic in orientation. The former strove for objectively verifiable measurement and for inter-subjective consensus whereas the latter relied on description and literal reconstruction to reveal the self-evident meanings of different environments (Downs

and Meyer, 1978). These approaches represent two different paths to a behavioural emphasis in human geography (Blij, *et.al.*, 2007). Their existence illustrates that there is no one behavioural approach to the study of man and his environment (Walmsey and Lewis, 1984). This study on student response to the University's HIV/AIDS intervention strategies was humanistic in orientation.

2.2.2 UNIVERSITY OF ZULULAND AS A SOCIAL SPACE

In a discussion of student responses to the University of Zululand's HIV/AIDS intervention strategies, it is useful to refer to the idea of social space (Castree and Braun, 2001). Just as distance can be measured in units of length, or time, or in terms of the Rand cost of travelling a unit distance, so the University of Zululand can be referred to in different ways (Blij, *et.al.*, 2007). This in effect enables us to look at *our own environment selectively in order to see limited aspects of the complexity of reality* (Graham, 1988). The University of Zululand as a social space then may be regarded as a composite of the areas of student interaction (Blij, *et al.*, 2007; Castree and Braun, 2001; Graham, 1988).

According to Buttimer (1969) cited in Blij, *et al.*, (2007:43), there are several levels of social space. These are: Personal space, which refers to the immediate environment of the individual (i.e. when a student is in the crowd at the university, his/her personal space may be very limited as compared to being in the wilderness where it may stretch from horizon to horizon); Familial space, which primarily refers to the home in the context in which domestic relationships developed; Neighbourhood space which includes the geography of day to day movements (i.e. visits to the neighbourhood stores etc); Economic space which refers to the spatial patterns of weekly movements within the University. What gives these terms special meaning is that they link the institution (e.g. the university) or areas (e.g. family, neighbourhood etc) to both space and time (Blij, *et.al.*, 2007; Huber, 1980).

The University of Zululand's social space differs from simple geographic space (area) in that; it includes implications about student behaviour that cannot be captured adequately by consideration of space alone. For example, a map representation of the male versus female student's residences of the University may give us little useful information unless we realise we are looking at different social spaces (Gregory, 1974). The University of Zululand as a social space carries with it a package of interrelationship based on observations conditions and spatial interactions at the personal, familial and economic levels. Therefore a study on student response to the University's HIV/AIDS interventions was contextualised within the argument that the University was a social space.

2.2.3 AFFECT OF AIDS ON THE POPULATION STRUCTURE

AIDS was identified in Africa in the 1980's (Blij, *et.al.*, 2007). Undoubtedly, AIDS had taken hold of Africa years earlier, perhaps decades earlier. But its rapid diffusion worldwide began in the 1980's creating one of the greatest health catastrophes of the past century (Newman and Matzke, 1994). Blij, *et.al.*, (2007; 45) observed that, 'nowhere has AIDS impact been greater than Africa itself. As a result, medical geographers estimated that in the 1980 about 200,000 people were infected with HIV, all of them Africans. By 2004, the number worldwide exceeded 37 million according to UNAIDS (2007:9), with nearly 67% (25million) of all cases in Sub-Saharan Africa'.

Over years AIDS has emerged as the leading cause of death in Africa (UNAIDS, 2007). As a result, AIDS is believed to have reshaped the population structure of the countries hardest hit by the disease. According to Newman and Matzke, (1994) and United States Census Bureau (2005), demographers assessing the projected population pyramids for countries with high rates of infection could no longer see population pyramids. They saw population chimneys. Blij, *et.al.*(2007) observed that, the shape of the projected population pyramid was altered to look like a chimney

than a pyramid reflecting the major impact AIDS plays on the young population in the country and its future generations (see Figure 2.1)

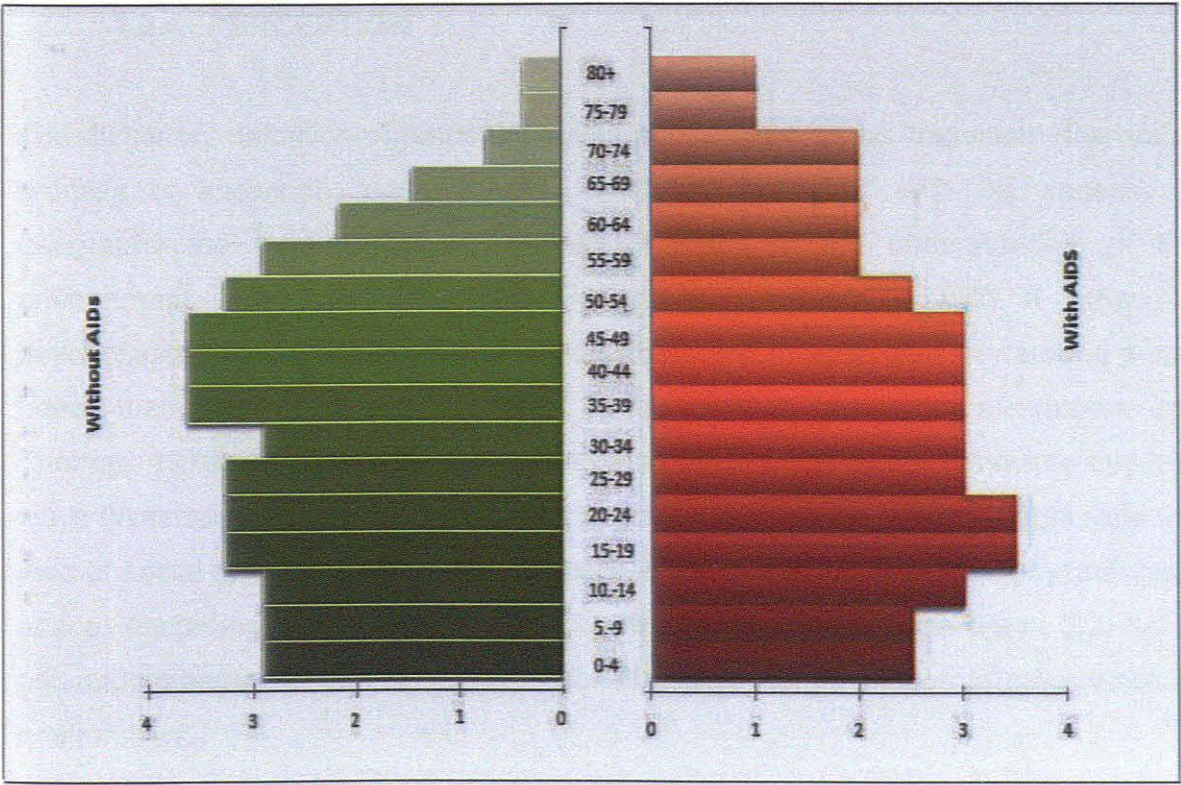


Figure 2.1: Affect of AIDS on the population pyramid for South Africa, 2035. (United States Census Bureau, 2005 In Blij, et.al, 2007).

Given the threat posed by HIV/AIDS, human geographers started engaging in fieldwork to understand the human toll of AIDS locally and within families. For instance, Robson, Ansell, Huber, Gould, and van Blerk (2006) studied the impact of AIDS in Zimbabwe. Robson, et. al. (2006) found that global processes like the diffusion of AIDS and reductions in spending on health care (often mandated by structural adjustment programmes) shaped young people's home lives and structured their wider experiences (Walmsley and Lewis, 1984). There is however no evidence in the literature of studies undertaken by geographers to establish people's response to HIV/AIDS intervention strategies. It is for this reason that the

study on student response to the University of Zululand's HIV/AIDS intervention strategies was conceived.

2.2.4 PERCEPTION

The dictionary definition of perception includes such words as 'cognition' (the act or process of knowing), 'understanding' and 'apprehending' with the senses. In geography the term perception generally relates to the understanding of the environment (Webster, 1985:178). Perception provides us with a grasp of psychological space, the bundle of mental maps and images we carry around in our heads that guide us in our hometown, in the campus community etc (Moore and Thomas, 1976). These maps and images may also condition our behaviour in some ways (Walmsley and Lewis, 1984). The psychological space is inseparable from the idea of social space in-fact our social space is usually a sub-set of our psychological space. According to Saarian (1969:5) the hierarchical model (see figure 3.2) helps our understanding of where perceived environment fits in relation to other kinds of environment.

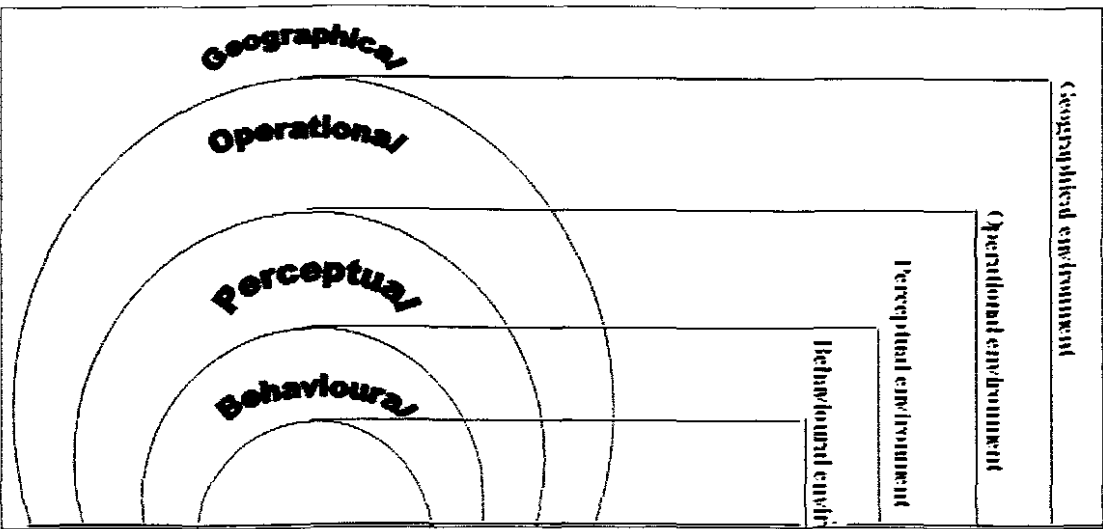


Figure 2.2: The hierarchical model (scheme) of environment (Saarian, 1969:2)

From figure 2.2 above, at the top of the perceptual hierarchical is the whole world (to which should be added other parts of the solar system). This is identified as the geographical environment. The operational environment is the smaller realm that impacts human behaviour directly. The perceptual environment is that part of the operational environment of which people have some awareness. The behavioural environment is the environment directly associated with human reactions/responses on an individual basis (Saarian, 1969:6).

According to Saarian (1969) what people perceive existing or happening in many aspects is at least as important as what does exist or happen. For instance, if students perceived a threat of the HIV infection they could change their behaviours to avoid the perceived threat regardless whether or not HIV was much of real hazard (Walmsley and Lewis, 1984). However, to some extent the interaction between perception and behaviour are bound up with people's values, beliefs, traditions, as a society or an ethnic group (Golledge and Rushton, 1976). Thus, from the geographers' point of view, environment of space perceptions in the study was looked at from three broad approaches: (1) The structural approach, (2) The evaluative approach, and (3) The reference approach (Downs, 1970, 70-81).

2.2.5 DECISION-MAKING

In the quest to understand student's spatial behaviour in their response to the University's HIV/AIDS intervention strategies it was axiomatic that consideration be given to the manner in which decisions are made (Lee, 1971). In this sense student response as part of their decision making was thought of as a translation of motives into overt action within the context of available information of the HIV/AIDS intervention strategies. Becker and Maiman (1975) observed that before people could change any particular behaviour. However, they first needed to recognise the need to change that behaviour. Building on Becker and Maiman (1975) observations, Fishbein and Middlestadt (1989) identified the following eight factors

that often contributed to the realisation that high-risk sexual behaviour should change:

- a) The individual's self-description of being at risk;
- b) The perception of an individual's own susceptibility if vulnerability to HIV infection;
- c) The perception that the disease will have serious consequences and that it will affect the person's whole life;
- d) The belief that performing a specific behaviour will reduce susceptibility to (or the severity of) the illness;
- e) A concern about the good health in general; experiencing the symptoms of illness;
- f) Personal contact with somebody who is HIV positive or who has AIDS; and
- g) An HIV-positive diagnosis.

According to Huber (1980), without any motivation an individual may be described as inactive, and made up simply of; a series of functional characteristics (i.e., mental and physical abilities and value systems), a series of structural characteristics such as sex, age, and occupation), and a series of existence variables (such as location and orientation. Decisions arise when an individual is motivated to act by changing needs or changes in the external environment (Huber, 1980). With the emergency of a more complex, technologically-based society, the nature of decision making has changed markedly. In low technology societies, both in the past and present, the process of making decisions, the resultant behaviour, and the feedback of information was generally immediate, and adaptive. In contrast, in modern, high technology societies individual decision making often forms part of an intricate network of which is difficult to unravel. In many cases it involves not only the individual but also powerful elite groups and institutions which form part of a hierarchical nesting of decision authorities, each affecting the other (Hill, 1979).

Decision-making can be classed into a number of types, ranging from highly deliberate problem-solving to habitual, subconscious decision behaviour (Moore and Thomas, 1976). In general, most decisions tend towards the latter type, largely because of man's inability to process large amounts of information and his predisposition towards minimising effort (Jarvis and Mann, 1977). Building on Jarvis and Mann observations, Graham (1988) argues that, in order to compensate for these traits, individuals are inclined to simplify the decision process by greatly reducing consideration of alternative courses of action. Gregory (1974) was of the view that this type of decision-making process was commonly used in coping with the trials of everyday living. Gregory however observed that true-problem solving was a very different type of decision-making in that it involved confrontation with a problem which required deliberate thought in a specified direction, whether it be searching or vicarious trial and error, and hence a choice from among a wide range of alternatives (Gregory, 1974: 38) . According to Hobbard, Kitchen, Burtley and Fuller (2002:46) '....such a decision was a highly selective process and the resultant behaviour was often abrupt and substantial. Thus, many problem-solving decisions of this nature represent attempts by man to adapt to the changing environmental conditions.'

The core of most locational decisions is the notion of choice, which implies a search by individuals among alternatives within the environment (Golledge and Rushton, 1976). The criteria of ultimate choice are invariably relative, rather than absolute, and so the process of spatial choice involves an individual in comparing each alternative with every other one in order to select the one which gave the greatest expected satisfaction. Such choice, behaviour is, of course, part and parcel of continuing learning process that involves both correct and incorrect choices (Golledge, 1981). For example, once an overt action has taken place individuals tend to restructure their decision making processes in the light of the new and additional information so as to confirm and repeat a certain course of action, or lay the foundations for alternative actions. Very often choice behaviour has been

conceptualised as involving a ranking procedure whereby all conceivable spatial alternatives are ordered on a scale of preferred-ness (Rushton, 1969).

A major consequence of this focus on choice behaviour in human geography has been a plethora of studies of discretionary behaviour, such as shopping and recreational trips, rather than those activities which are more space and time bound, such as journeys to school and or, response to HIV/AIDS intervention strategies (Walmsley and Lewis, 1984). This suggests that, certain forms of behaviour involve much greater choices than others. Also, a range of choices for any one form of behaviour will of course vary for different individuals, with the wealthy having greater choices than the poor, and the young more mobility than the elderly. Inevitably realisation of this fact forces attention upon the concept of choice within a wider environment and on the way in which social institutions may constrain individual choices by means of a whole series of 'entry rules' (Moore, and Thomas, 1976; Pred, 1981).

2.2.6 THE EVALUATIVE APPROACH

In this study, student space perception was looked at from the evaluative approach. The basis of the evaluation approach is that people use their perceptions of the environment in their decision-making processes (Van Dyk, 2005; Walmsley and Lewis, 1984). Perception then may be translated into action, or behaviour (Moore and Thomas, 1976). Much of the previous work done under evaluation approach referred to the hazard perception and related to the way people perceived natural and artificial hazards such as floods, fires, droughts and epidemics such as HIV/AIDS (Brown, 1981). For instance, 'each year usually in April or May, TV viewers in Kenya are subjected to the annual mud slides and 'flood fest' from Kano Plains in Nyanza Province. When asked what they would do following the annihilation of their homes, survivors inevitably reply that they will build again on the same spot (Walmsley and Lewis, 1984). This attitude was typified by a victim of Kibera-slum, Nairobi fire on July 1992 which destroyed about 100 shacks. She was

quoted as saying, 'we are going to start over...this is part of life's condition (Were, 2005 in Daily Nation, 2005:14). The part of the reactions suggests that even though people may understand there is a real chance their house would be destroyed by some phenomena in the physical environment, ties to the home location are very strong, and what generally seem to happen is that the heart rules the mind. Relating these attitudes to the present study one wonders whether well aware of the effects of HIV/AIDS infection to the human body, would students respond to the University's HIV/AIDS interventions through behaviour change?

2.3 SUMMARY AND CONCLUSIONS

In this chapter, the conceptual framework for the study on student responses to the University of Zululand's HIV/AIDS intervention studies was laid. To aid the discussion some important components of successive HIV/AIDS prevention theories were discussed. The discussion of behaviour modelling in geography was guided by the discussions on: The development of behavioural approaches; University of Zululand as a Social space; Affect of AIDS on the population structure; Perception; Decision-making and; the evaluation approach.

Fundamentally the conceptualisation assumed a humanistic orientation (a label applied in geography to a wide variety of approaches that studies distinctly human traits such as meaning, feeling and emotions). The concepts advanced in this chapter, formed the framework upon which the theoretical framework in the form of reviewed literature and the study research design were developed. This chapter tried to bring into focus the relationship that exist between theory (i.e. as presented in the discussion) and the factual reality, as represented in the empirical findings emerging from investigating student responses the University of Zululand's HIV/AIDS intervention strategies.

The next chapter presents the theoretical framework for the study in the form of reviewed literature.

CHAPTER 3

REVIEW OF RELATED LITERATURE

3.1 INTRODUCTION

This chapter presents an account of published materials by accredited scholars and researchers on HIV/AIDS in the form of reviewed literature. The review was utilised as a source for gathering background information in relation to the research questions of the study. The sources of the study material used in this research inquiry included journals, conference proceedings, official government publications and books. More specifically, SABINET and Ebscohost databases were consulted where resources materials were needed. In addition, hundreds of individual organizations' websites such as UNAIDS, HEAIDS, and the South African Government were consulted.

The first section of the chapter examines the current objectives and methods of the University of Zululand's HIV/AIDS interventions while the second section tries to identify student perceptions and responses to HIV/AIDS interventions. An attempt was made to draw attention to the multiple factors that operated in the background of awareness, social/behavioural influences and conventions which young people (students) adopted. The discussion acknowledges that there were many complex and significant behaviours and practices in the HIV/AIDS prevention-care continuum for University students (Swanepoel, 2006). Hence, only key outcomes of direct interest from reviewed literature are presented.

3.2 DEVELOPMENT OF THE REVIEWED LITERATURE

The search for literature involved using a range of resources to find books, journals, databases and websites that were concerned with the study subject, in order to

produce a list of references to consult. This search required the finding of material held in other libraries (<http://www.kingston.ac.uk/library/eresources/general/eresubject.htm> accessed 20/04/2005; <http://www.kingston.ac.uk/library/eresources/general/eresalpha.htm>. accessed 20/04/2005). Therefore, the steps listed below were utilised in developing the related literature reviewed in the study:

- a) First, an extensive search of international and national electronic databases was conducted, to identify relevant research published in journals and books, as well as in the extensive 'grey' literature - much of which was not documented on the standard electronic search engines and published databases of HIV/AIDS literature. The latter included; commissioned programme evaluations and baseline studies, as well as studies undertaken at Masters and PhD level at South African tertiary institutions. *The quantity of literature collected in this way ran into over 500 references.* This included research conducted in South Africa, but also key studies done in other contexts, which had a bearing on behaviour change methodologies and conceptual frameworks for young peoples' HIV prevention, care and support. The scope of the search included both theoretical and conceptual perspectives;
- b) Second, the development of an understanding of key intervention programmes, whereby, information was sought, through electronic media, conference presentations and the work of key South African organisations involved in HIV/AIDS. An effort was also made, to identify and classify the principal methodologies employed in promoting prevention amongst young South Africans.
- c) Third, the selection of material that specifically applied to young people and HIV prevention in the Southern African context. The following popular general search engines on the web, i.e. Google

(<http://www.google.com>), Alta Vista (<http://uk.altavista.com>), and Yahoo (www.yahoo.com) were useful as a starting point. This proved to be a challenging task because:

- much literature relating to other areas of the world was relevant to South Africa and literature sources referring to other countries could not automatically be discarded,
- a good deal of the literature around HIV/AIDS, and young people concerned issues such as, care, support and rights (social orientation in these areas had a direct bearing on how young people were educated to respond to HIV/AIDS and how the society protects them, hence, it was also important to review developments in this area,
- there was an extensive body of literature on youth development which needed to be included as it had a bearing on HIV/ AIDS,
- there was an extensive area of 'grey' literature covering recommendations and concepts for programme development, policies relating to work with young people, and case studies on the impact of HIV /AIDS on young people, which needed to be perused to gain an impression of current opinions.

d) The fourth step involved the analysis of literature on HIV/AIDS programmes. The analysis yielded findings of South African studies and trends over time and the understanding of the research methods, indicators used in studying preventive behaviour in South Africa. These provided an overview of approaches to behaviour change and the identification of areas requiring further research.

In addition to the analysis of the above areas, the implications of the findings of the

review for policy makers and programme designers were explored.

3.3 UNIVERSITY HIV/AIDS INTERVENTION STRATEGIES

The University of Zululand's HIV/AIDS intervention strategies are directly influenced by the higher education HIV/AIDS policies and directives (Chetty and Michel, 2005). The University's HIV/AIDS policy is a framework that shapes and strengthens the institutional response to the HIV/AIDS impact. The policy follows a multi-sectoral approach and addresses issues such as: recruitment, discrimination, sick leave, termination of employment, HIV testing, confidentiality, employees benefits, affordability of medical treatment, accessibility of health services, injuries on duty and screening of staff going for further education (University of Zululand, 2001).

In respect of employment capacity, risk of workplace transmission and entitlement to employment benefits, the current University of Zululand's HIV/AIDS policy aims and objectives include the following (University of Zululand, 2002): (a) to maintain a safe environment from HIV infection, (b) to empower both men and women to resist coercive sex, (c) to raise the level of HIV/AIDS understanding, (d) to identify and disseminate HIV/AIDS resources, (e) to equip students and staff with knowledge in societies with increasing rates of HIV infection and AIDS, (f) to provide HIV/AIDS counselling, (g) to facilitate access to care and treatment, and (h) to offer referral for the infected and affected (http://iiep.tomoye.com/ev.php?ID=3445_201&ID2=DO_TOPIC. accessed on 25/05/05).

In view of the University's HIV/AIDS policy, the following were the main HIV/AIDS intervention strategies: PE, VCT, mainstreaming of HIV/AIDS into the curriculum, and on-campus communication and information awareness campaigns, education materials and posters (University of Zululand, 2001). The University's intervention strategies were established, based on the understanding that HIV/AIDS was both a health and a developmental issue that concerned the entire community. Hence, the University of Zululand's HIV/AIDS intervention strategies were aimed at furthering

the commitment of the institution, to actively mitigate the impact of HIV/AIDS within and without the University by both students and staff. The following sub-section discusses the aims and objectives of some of the University of Zululand's HIV/AIDS intervention strategies.

3.3.1 HIV/AIDS PEER EDUCATION (PE)

PE as a concept implies an approach, a communication channel, a methodology, a philosophy, and a strategy. The term '*peer*' refers to "one that is of equal standing with another; that is, one belonging to the same societal group based especially on age, grade or status". Whilst the term '*education*' (v. *educate*) refers to the "development", "training", or "persuasion" of a given person or thing, or the "knowledge" resulting from the educational process (Webster, 1985:49). In practice, PE takes on a range of definitions and interpretations concerning who is a peer and what is education e.g. advocacy, counselling, facilitating discussions, drama, lecturing, distributing materials, making referrals to services, and providing support (Shoemaker, Gordon, Hutchins, and Rom, 1998; Flanagan, Williams, and Mahler, 1996). Typically, the PE strategy often involves the use of group members to effect change at the individual level by attempts to personal knowledge, attitudes, beliefs, or behaviour modification. Further, the strategy can be employed to a group or societal level to modify norms and stimulate collective action leading to changes in programmes and policies (Deutsch and Swartz, 2002).

PE has been utilised in many areas of public health, including nutrition education, family planning, substance use, and violence prevention (UNAIDS, 2000, UNAIDS, 1999). The University of Zululand's HIV/AIDS PE strategy established in 2002 was based on the a behavioural theory which asserted that students made behavioural changes based on the subjective judgment of close, trusted peers who acted as persuasive role models for change. Notably, the strategy drew on the following behavioural theories:

- a) *Social Cognition Theory (SCT)*: The theory asserts that people serve as models of human behaviour and that some people (significant others) are capable of eliciting behavioural change in certain individuals, based on the individual's value and interpretation system (Bandura, 1986). Thus, it was believed that peer educators serving as models of good behaviour were capable of influencing student responses to the University's HIV/AIDS intervention strategies;
- b) *Theory of Reasoned Action*: The theory asserts that one of the influential elements for behavioural change is an individual's perception of social norms or beliefs about people who are important to the individual do or think about a particular behaviour (Ntombela, 2005; Fishbein and Ajzen, 1975). The University of Zululand's peer educators were perceived as role models within the student community. Hence, it was envisioned that their view on students related HIV risky behaviours would in a way influence or support students responses to the intervention strategies ; and,
- c) *Diffusion of Innovation Theory*: The theory posits that certain individuals (opinion leaders) from a given population act as agents of behavioural change by disseminating information and influencing group norms in their community (Ntombela, 2005; Rogers, 1983). It was envisioned that, HIV/AIDS intervention strategies awareness would be promoted through the involvement of peer educators within the student population. Hence, directly or indirectly, peer educators influenced or supported student responses to the University's HIV/AIDS intervention strategies.

The University's PE intervention strategy employed informal education approaches in HIV/AIDS awareness, abstinence, condom use, alcohol, and drug avoidance aimed at behaviour change (Campbell, 2003; Shongwe, and Vergnani, 2003,

Deutsch and Swartz, 2002). As a cost effective strategy, the University of Zululand's PE intervention strategy used student volunteers for the provision of effective and credible HIV/AIDS communication in physical and socio-cultural, natural environments (i.e. residences, lecture rooms, recreation places) (Ntombela, 2005).

A major University's PE strategy initiative involved the development and nurturing of a special connection between the educators, the health promoter and the students. Reportedly, most peer educators were capable of relating to service users and to offer needed support (Roy and Cain, 2001; Measurement Group, 1999). Numerous studies have documented the statistical significance of peer interventions on young peoples' virus-related knowledge, attitudes about risky sexual behaviour, self-efficacy, and resistance to negative peer pressure about condom use (UNAIDS, 2006; Pearlman, 2002).

An evaluation study of the University of Zululand's PE intervention strategy reported a 50% sexual behaviour change among students' since its inception in 2002. However, the following obstacles and hindrances were identified (Ntombela, 2005):

- a) Abandonment of all attempts to use condoms if found stressful to initiate or maintain.
- b) The University's society intolerance towards certain sex practices and safer sex.
- c) The non-supportive attitude demonstrated by students' sex partners and peers.
- d) Difficulties in handling a partner's refusal to condom use.
- e) External or surrounding community cultural norms and religious beliefs which were often not conducive to condom use.
- f) The growing abuse of alcohol and recreational drugs.

Could the obstacles and hindrances to student uptake of the University's PE intervention strategy stated above be a result of the strategies inability to assist

students' development of self-regulatory skills in response to HIV/AIDS? Bandura (1997) argued that some of the obstacles and hindrances could be achieved through self-regulatory sub-functions that provide guides and motivators for self-directed change. Given that, most students were expected to keep track of their health habits. The University's PE intervention strategy was expected to create a self-monitoring awareness among users by providing them with the needed information needed for setting realistic goals and assisting them in evaluating personal progress towards them (Anderson, 1996; cited in Luna and Rotheram-Borus, 1999:32).

Peer educators were expected to motivate other peers and guide them in realizing their behaviour change by the goals and challenges they were helped to set. According to Bandura (1997), the programmatic development of self-regulatory capabilities required instilling a resilient sense of efficacy in students as well as imparting skills by peer educators. *Could the obstacles and hindrances in student uptake of the University's PE intervention strategy have served as efficacy builders? Could efficacy beliefs as advanced by Bandura (1997) affect every phase of students' personal change whether they considered changing their health habits, or enlisted the motivation and perseverance needed to succeed? Would the enlistment of self-efficacy as an overriding goal enable the University of Zululand's PE strategy achieve its aims and objectives?*

3.3.2 HIV/AIDS VOLUNTARY COUNSELLING AND TESTING (VCT)

Voluntary HIV counselling and testing (VCT) is a process by which an individual undergoes counselling to enable him or her to make an informed choice about being tested for HIV (UNAIDS, 2000). HIV counselling on the other hand is, "...a confidential dialogue between a person and a care provider aimed at enabling the person to cope with stress and make personal decisions related to HIV/AIDS" (WHO, 1994: 16). The counselling process includes an evaluation of personal risk of HIV transmission and facilitation of preventive behaviour. The process aims at

achieving prevention of HIV transmission and the emotional support of those wishing to consider HIV testing (WHO, 1994).

HIV counselling is usually carried out in an environment that seeks to ensure confidentiality. The process allows private discussions of sexual matters and personal worries that could be extended to spouses, sexual partners and other supportive family members or trusted friends where appropriate (WHO, 1994). Further, counselling must be flexible and focused on the client's specific needs and situation in order to help promote changes in sexual risk behaviour (Mugula, 1995). The following section discusses the aims and objectives of the University of Zululand's HIV/AIDS Voluntary Counselling and Testing (VCT) intervention strategy.

3.3.2.1 University of Zululand's HIV/AIDS VCT Intervention Strategy

The University of Zululand's VCT intervention strategy is integrated within the campus health clinic. The strategy incorporated VCT into all aspects of ongoing sexual reproductive and health services, for instance, contraceptive counselling, sexual transmission infections [STI's], HIV infection risk, and promotion of contraceptive methods that offers protection from STI's and HIV prevention. Appropriately, the strategy gave the option of learning the HIV status of persons through VCT (Chetty and Michel, 2005; University of Zululand, 2002).

The following were the elements of the University of Zululand's VCT intervention strategy:

- a) HIV testing at the University was voluntary (voluntary testing). In all cases the testing was at the students free will and incorporated stigma reducing activities;
- b) The VCT strategy strictly adhered to the promotion and preservation of individual students' confidentiality and guaranteed support in

circumstances where students who tested servo-positive faced discrimination, violence and abuse. In some cases, students seeking VCT were at liberty to be accompanied by partners, relatives or friends;

- c) The VCT process consisted of a pre-test, post-test and follow-up counselling (UNAIDS, 1998; WHO, 1997). HIV counselling within the centre was usually adapted to the student needs (i.e., individuals, or couples, the overall need, and the capacity of the setting in which it was delivered). In addition, the manner in which news of HIV servo-status was given to tested students was very important in facilitating adjustment to their HIV infection reality. Thus, counselling as part of the VCT strategy usually involved at least two sessions (i.e., pre-test counselling and post-test counselling).
- d) The University of Zululand's VCT strategy offered an opportunity for continued counselling to students whether servo-positive or servo-negative. For servo-positive students, counselling was made available as an integral part of ongoing care and support services. Counselling, care, and support were also offered to affected students (i.e., those whom family and friends were living with HIV);
- e) Diagnosis of HIV was by detecting antibodies against HIV, using newer simple and rapid HIV tests [refer to Figure 3.1]. The test detected antibodies in a blood sample.
- f) The VCT strategy was perceived as an important entry-point to both HIV prevention and related care. Students who tested servo-positive were helped to access a wide range of services such as, medical care, and ongoing emotional and social support. Those that tested servo-negative were encouraged to undertake counselling, guidance and support to help them remain negative.

The elements of the University's VCT strategy as presented above showed that the intervention strategy had a vital role within a comprehensive range of measures for HIV/AIDS prevention and support. Given the VCT's specific objectives and classical nature, the University of Zululand's VCT strategy was expected to enlist and encourage high or considerable student's uptake or response to the Intervention (see Figure 3.1)

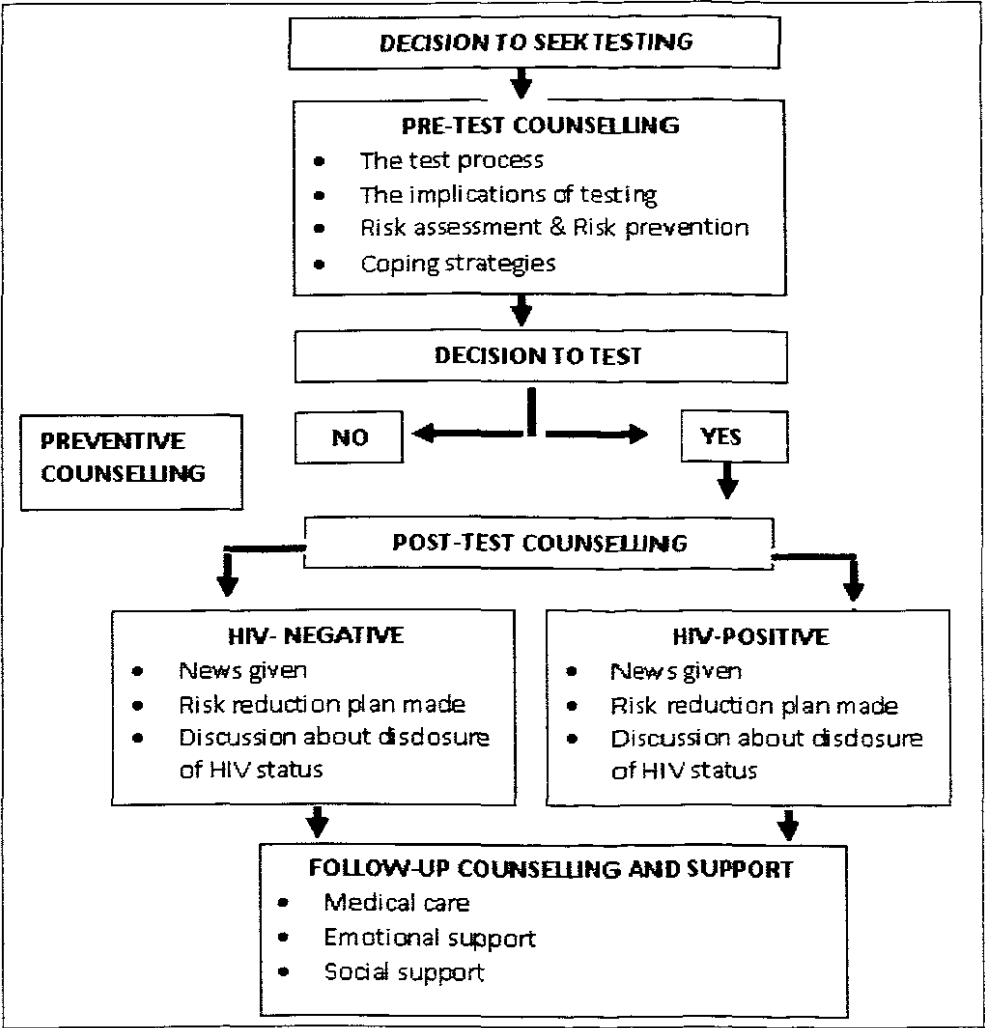


Figure 3.1: A Classical VCT Model (UNAIDS, 2000: 7)

3.3.2.2 The Efficacy of the University of Zululand's VCT Strategy

It could be argued that University of Zululand's students are capable of a subjective assessment of their ability to present themselves for VCT (Fishbein and Yzer, 2003; Solomon, 2004). According to Swanepoel (2006), this construct in surveys could be measured by simply asking students whether they thought they would be able to go for VCT despite the possible negative consequences of doing so. It then could be hypothesized that low self-efficacy scores would correlate negatively with the intention to go for VCT, while high self-efficacy levels would correlate positively with the intention to go for VCT. According to Burris (1999), part of the formation of the intention to go for VCT entailed a process wherein students made subjective assessments of the following challenges:

- (a) VCT and its possible negative consequences;
- (b) Their chances of being subjected to the negative consequences;
- (c) Skills (or means, or measures) needed to redress the negative consequences; and
- (d) The necessary means or access to the means, via social support in redressing the negative consequences in societies or whether going for VCT would provide them with access to such means.

According to Ennals and Rauan (2002), in instances, where students felt that they did not possess the required skills to tackle, successfully the negative consequences of knowing their status, or, felt that VCT would not provide them with the required means; their considerations of self-efficacy would not even arise. Thus, Everatt, and Orkin (1993) conquered with Elkonin (1993) in the observation that, most students, major concerns (beliefs) seemed to relate to:

- a) The accuracy of HIV-tests in determining their HIV-status; and
- b) Whether they had the skills or access to the means to cope with the negative consequences of testing HIV-positive.

According to Ntombela (2005), some University of Zululand's students had major concerns about the accuracy of HIV-tests in establishing HIV-sero status. For instance, despite the rapid testing technology used at the Campus Health Clinic having tremendously decreased the waiting time for test results, concerns about its accuracy were often raised.

Beliefs about the inaccuracy of tests were also fed by a confusion concerning the waiting period and the need for re-testing (after 3 months). Further, according to Birdsall, Hajjiannis, Nkosi, and Parker (2005a), these belief and fears about the inaccuracies of HIV tests had in the past been fuelled by newspaper reports of inaccurate tests being done and the immense emotional stress caused to individuals (Birdsall, *et. al*, 2005a; Birdsall, *et. al*, 2005b). A concern however stands regarding VCT strategies efficacy in enlisting student responses or uptake.

3.3.3 MAINSTREAMING HIV/AIDS EDUCATION INTO THE CURRICULUM

HIV/AIDS Curriculum Integration is work in progress (*ad hoc*) at many South African institutions of higher learning (Chetty and Michel, 2005). The debate and suggestions about HIV/AIDS Curriculum Integration in South African institutions has focussed on such issues as; non-formal provision of HIV/AIDS education (Workshops, Peer Education), infusion of HIV/AIDS issues across the curriculum, development and implementation of core compulsory courses across all disciplines (ACU, 2001). The latter most closely paralleled the route taken by governments at school level curricula both in African and in some Asian countries (Chillisa, Bennell, and Hyde, 2001).

There were indications within the University of Zululand of an agreement for HIV/AIDS Curriculum Integration based on the understandings of all disciplines, the mechanics of changing what was taught, and how it was taught (Chetty and Michel, 2005). According to Hooper (2007), academic staff members in the four Faculties of

the University (Arts, Commerce & Law, Education, Science & Agriculture) of the University had been engaged in the investigation of ways in which HIV/AIDS could be integrated into the curriculum. The following suggestions were reported (Chetty and Michel, 2005; University of Zululand, 2001):

- a) The inclusion of HIV/AIDS in the 'Life skills' curriculum (e.g. at diploma level);
- b) Development of multi-disciplinary programmes in the management and treatment of HIV/AIDS;
- c) Incorporation of HIV/AIDS education into the core curriculum use of HIV/AIDS data and statistics in the development of numeracy and computer literacy, encourage students to conduct multi-disciplinary HIV/AIDS research;
- d) Development of courses or modules on the legal rights of HIV/AIDS employees and their employers; and
- e) Use of HIV/AIDS web sites for practical sessions in teaching Internet usage.

The debate for or against formal (non-formal) approaches to HIV/AIDS curriculum integration stemmed from considerations of time, resources, and scale (Chillisa *et.al.*, 2001). Within the slim budgets, programmes such as: Social Work, Library & Information Science, Nursing Science, Medical Science, Law and Psychology offered HIV/AIDS modules (University of Zululand, 2005). However, University education was not compulsory and students had choices (Chetty, 2001). Katahoire (2004) observed that the following concerns were crucial: the reconciliation with a compulsory curriculum approach, what should be given up to make space for HIV/AIDS and the counteraction of poor teaching quality of a course treated as an extra burden. The author further observed that care was needed to ensure that learning of content by students was not through rote learning. Learning was approached through a predetermined scale organised and managed by individual Faculties.

3.3.4 HIV/AIDS RESEARCH AT THE UNIVERSITY OF ZULULAND

According to the University's vision and mission, the University's research strategies have both an external orientation (collaboration, publications, commissioned projects) and an internal focus on the needs of the institution itself (University of Zululand, 2001). Several University Academic Departments had generated HIV/AIDS-related research covering areas such as, social and communication and frequently included community outreach, and advisory or consultancy activities (Hooper, 2006). These researches had contributed considerably to the international understanding of HIV/AIDS (University of Zululand, 2005). However, there was an indication that HIV/AIDS research information and related services were not adequately shared within or between departments and or universities (Hooper, 2007).

A scan of theses and dissertations from all the four Faculties (Arts, Commerce & Law, Education, and Science & Agriculture) revealed a limited focus on the situation and impact of HIV/AIDS in higher education institutions. Most postgraduate studies explored such issues as; community responses to HIV/AIDS, coping mechanisms, knowledge, attitudes, beliefs, practices and consequences relating to HIV/AIDS for different society groups. Kelly (2001) and Chetty (2001) in prior studies had observed that, the crosscutting and multidimensional nature of the HIV/AIDS epidemic called for a broad and multi-disciplinary response. The authors argued that South Africa's higher education sector appeared badly affected by the HIV/AIDS epidemic, with some estimates indicating that infection levels amongst undergraduates might be as high as 1 in 4. They both therefore proposed that, elements of a multi-disciplinary approach could characterize university HIV/AIDS research whereby, each discipline in respect to its own research canons must ensure some element of multi-disciplinarity and cross-sector collaboration.

3.4 PERCEPTIONS AND RESPONSES TO HIV/AIDS INTERVENTION STRATEGIES

The discussion in the previous section dwelt on the identification of the current aims and objectives of University of Zululand HIV/AIDS intervention strategies. This section focuses on the identification young people's (students) perceptions and responses towards HIV/AIDS intervention strategies. The section identifies and presents several indicators of young people's behaviour change and practices related to assessing student responses to University of Zululand's HIV/AIDS intervention strategies.

3.4.1 INDICATORS OF BEHAVIOUR CHANGE

Behaviour change approaches assume that individuals move from an existing condition of HIV exposure (risk-related activity) to a condition of lower risk by adopting a range of risk reducing strategies (Parker, 2003). Such action assumes sufficient knowledge of the options to distinguish between high risk and low risk behaviours, the capacity to make an informed judgement and a climate in which such freedom of choice can be exercised (Save the Children, 2001). It was assumed that such choice would remain constant over time and that the concerned individual was comparatively safe from harm. Airhihenbuwa, Makinwa, Frith and Obregon (1999) noted that this led to a focus on the individual rather than the social and the environmental context within which the individual functions. Emphasis was placed on Knowledge, Attitude, Practice and Behaviour (KAPB) interventions. It was further assumed that young people needed knowledge to change their attitudes and finally alter their practices and behaviour. However, Barnett and Whiteside (2002) observed that, besides knowledge, people needed an incentive or power to change their behaviour.

Behaviour sustainability is a more elusive dimension of behaviour change to both achieve and report (Bandura, 1986). According to Elkonin (1993), most of University

first year undergraduate students have grown beyond adolescence and tend to have complex relationships and socio-economic circumstances. As such, these students require sound cognitive skills and a capacity to process information, assisting them to make difficult choices. Swanepoel (2006) further argues that these students require conditions conducive to multi-dimensional risk-reduction as well as the will to sustain this challenge over a period of dynamic social, biological and socio-economic change, including the attendant assumption of a risk-free sexual environment. Thus, indicators of action or response could be divided into behavioural and biological indicators. The behavioural indicators in assessing student response to the University's HIV/AIDS intervention strategies would include the following, among others:

- a) Acquisition of HIV/AIDS knowledge for self-efficacy;
- b) Attitudes towards intervention strategies; and
- c) Beliefs, perceptions, and practices relating to HIV/AIDS. For example, sexual debut, sexual consent and coercion, levels of sexual activity, condom acquisition and use, abstention, and alternative sexual practices.

3.4.2 ACQUISITION OF HIV/AIDS KNOWLEDGE FOR SELF-EFFICACY

For the most part, young people, and especially university students in South Africa, were informed on the most important facts about HIV prevention (Save the Children, 2001). According to Katahoire (2004), Kaya and Kau (1994), Masuku (2001) and Mathews, Everett, Binedell, and Steineberg, (1996) most young people showed high levels of understanding of the main methods of HIV transmission and risk prevention in the latter half of the 1990s. It was however, questionable that the understanding of the finer points of HIV transmission where poor understanding prevailed was critical to the development of risk avoidance behaviours. According to Human Science Research Council (2005), despite reported lower levels of HIV/AIDS knowledge and significant misperceptions, an analysis of literature across a range of

contexts reported high levels of correct knowledge in excess of 80% correct responses. Although with some gaps in understanding, a review of literature in the mid 1990s and early 2000s found knowledge levels on the basic facts achieving scores of 70% correct and above (Save the children, 2001). By late 1990s through to early 2000s, there was improved knowledge in areas such as vertical transmission and the relationship between HIV and AIDS (Peltzer, Cherian, and Cherian, 1998; Varga and Makubalo, 1997; Mathews, *et. al*, 1996).

Higher education levels showed a positive relationship to HIV/AIDS knowledge compared to younger and less educated people who were significantly less informed than their older counterparts (Kelly, 2001; Kelly, 2000; Varga and Makubalo, 1997). In contrast, young people in poor and rural communities had far less access to a wide range of sources of information on HIV/AIDS than urban and economically advantaged counterparts (Naidoo, 1994; Du Plessis, Meyer-Weitz, and Steyn, 1993; Elkonin, 1993). Moreover, most young people reportedly obtained HIV/AIDS information from the mass media, such as, the radio and television with most learning about sex from their friends (NPPHCN, 1996; Goliath, 1995; van Wijk, 1994; Everatt and Orkin, 1993).

There were indications of high knowledge of efficacy of condom use in HIV prevention (Swanpoel, 2006; Coughlan, *et. al*, 1996). However, knowledge gaps were mostly in areas where infection risks were not clear-cut or were contingent on other factors. For instance, there were indications of uncertainty about the issue of HIV transmission through oral sex and kissing. In addition, there was some confusion about transmission channels of air, saliva, skin, insect bites and sharing eating utensils; but misperceptions about other issues such as infection through donating blood had decreased significantly over time (Human Sciences Research Council, 2005, Kelly, 2001; Save the Children, 2001; Kelly, 2000; Mathews, *et. al*, 1996; Kaya and Kau, 1994; Martindale, 1990).

However, the review of literature showed a least understanding and communication of knowledge of HIV/AIDS symptoms (Save the children, 2001). Lack of visible illness was one of the main reasons that young people struggled to appreciate the realities of HIV infection (Coughlan, *et. al*, 1996). In most cases, HIV risk awareness was not matched by a realisation that an infection could be present without symptoms (Human Sciences Research Council, 2005). Disbelief about whether AIDS was curable was reported by most studies conducted in the mid 1990s. A common assumption was that HIV infected people had a particular 'look' (slim) (Goliath, 1995; Kaya and Kau, 1994; Govender, Bhana, Pillay, Panchia, Padayachee and De Beer, 1992). Further, review findings showed that, there was a widespread assumption, that many young people especially University students tended to believe that a healthy looking person was unlikely to be HIV infected (Kelly, 2001; Kelly, 2000; Naidoo, 1994; Martindale, 1990).

Most university students were informed in most areas of HIV/AIDS knowledge (Human Sciences Research Council, 2005; Chetty and Michel, 2005; Strebel and Perkel, 1991). Further, male condom was the most widely recalled prevention method, followed by faithfulness to partners, limitation of number of partners and abstinence concerning knowledge on prevention methods. Alternative sexual practices were seldom mentioned as prevention methods, although this might be misleading as earlier responses reflected 'kissing and cuddling only' which tended to be thought of as abstinence (Save the Children, 2001; NPPHCN, 1996).

The seriousness of the AIDS problem and the vulnerability to HIV infection, was widely acknowledged and recognised in the reviewed literature. Literature on self-assessment of own risk of infection revealed a general understanding that AIDS was a fatal, sexually transmitted condition with no cure. However, the response percentages for those who perceived themselves as personally at risk of HIV infection was far lower (Human Sciences Research Council, 2005). For instance, a study of attitudes amongst 17 to 24 year olds showed that, at least 70% identified AIDS as one of the five greatest concerns for young people today. In a different

study, ratings for perceptions of HIV/AIDS as a serious problem dropped from 74% to 37% when reference was made to individual perception of self-risk amongst sexually experienced youth (Harrison and Steinberg, 2002; Lovelife, 2001a).

From the review, the interpretation of risk in most instances tended to be informed by subjective and social beliefs about who constituted a high-risk partner. According to Harrison and Steinberg (2002), these characterisations were informed by prevailing social stereotypes, with 'outsiders' identified as being most likely to be infected. Further, there was a consensus that close and intimate relationships were perceived as low risk environments with an under-estimation of the HIV infection risks given the partner's previous sexual history (Kelly, 2001; Kelly, 2000; Mathews, *et.al.*, 1996).

Unlike in this study on student responses to University of Zululand's HIV/AIDS intervention strategies, the concept of knowledge, as measured in many of the studies was more about recognising ideas than having a useful understanding of issues. Most review findings showed a marked difference in knowledge in studies that had both open-ended and closed-ended knowledge questions (Human Sciences Research Council, 2005). Whereas, respondents recognised statements as true or not true, knowledge was not readily generated through recall. According to Harrison and Steinberg (2002), several factors such as personal, environmental, and social factors that underlined abstract knowledge could emerge in studies probing personal decision-making processes. Thus, from the review of literature it could be argued that HIV/AIDS knowledge awareness and education process needed to go beyond provision of abstract messages or de-contextualised textbook knowledge.

Save the Children (2001) observed that self-knowledge on how to assess and deal with an HIV/AIDS impact was important. However, was knowledge as referred to by many studies in the review necessarily the right kind of knowledge that could necessarily empower new action? For an investigation into student response to University's HIV/AIDS intervention strategies, high 'HIV/AIDS knowledge levels'

could only be agreed upon by use of a limited concept of knowledge. Drawing from the many authors who reported on the gap between knowledge and practice (KAP-gap), high knowledge levels were real only in a limited sense whereby, the so-called gap reflected the limited range of imparted knowledge rather than, an implicit failure of knowledge to empower action (Harrison and Steinberg, 2002; Save the Children, 2001).

3.4.3 ATTITUDES TOWARDS HIV/AIDS INTERVENTIONS

An attitude is a predisposition towards responding to ideas and situations in particular ways (Lovelife, 2001a). Most past studies on attitudes examined: attitudes towards HIV/AIDS prevention methods (mainly condom use), people living with HIV/AIDS and HIV disclosure (Harrison and Steinberg, 2002; Kelly, 2001; Lovelife, 2001b). Other studies examined attitudes to abstinence, sexual negotiation and gender-related perceptions (Barnett and Whiteside, 2002; Harrison & Steinberg, 2002; Lovelife, 2001b; Save the Children, 2001). Many of the studies included in the literature review did not cover attitudes towards people living with HIV/AIDS (PLHAs) (Human Sciences Research Council, 2005; LeClerc-Madlala, 2001; Ntlabati and Kelly, 2001 Kelly, Parker, and Lewis, 2001).

Condoms were understood to diminish sexual pleasure and were inconvenient to use (Harrison and Steinberg, 2002; Lovelife, 2001a). For instance, University student attitudes to condom use revealed male-female differences. Elsewhere, sexually experienced boys felt strongly that, sex was better without a condom whilst girls tended to agree with this (i.e. their attitudes against condoms were far more positive) (Kelly, 2000). Further, condom use tended to be associated with conflict and could raise questions of mistrust in relationships. It was assumed that condom use needed not be discussed in every sexual act or on a continuous basis. Hence, attitudinal factors and issues of mistrust related mainly to the introduction of condoms into sexual practice (Richter, 1996).

Mixed research results ranging from high self-reported positive attitudes to high levels of prejudice and ostracisation were reported in relation to attitudes towards PLHAs. PLHAs tended to report high levels of negative attitudes, which did not coincide with self-reported attitudes of young people. Reportedly, isolated incidents affected strongly on PLHAs. Seemingly, small incidents such as, a hesitation to drink from the same cup, or unnecessary use of rubber gloves, was hurtful and rejecting (Harrison and Steinberg, 2002; Lovelife 2001a; Kelly 2001; Richter, 1996). There was a consensus in the reviewed literature on the importance for a distinction between private and public experiences in understanding attitudes towards HIV/AIDS. For instance, an individual student may feel tolerant and accepting towards others living with HIV/AIDS but not express this sentiment publicly. Alternatively, privately held attitudes could be overridden by public sentiments (Swanepoel, 2006). The issue suggested a need for public adoption and endorsement of positive responses. Swanepoel (2006) proposed the establishment of an agreement within community groups that all PLHAs be supported and discriminatory behaviour censured. Thus, in support of Swanepoels' proposition, Okello and Dube (2007) recommended that HIV/AIDS intervention strategies needed to address such issues as, the development of a public language of tolerance, and positive orientation, which would contribute towards appropriate attitudes.

3.4.4 BELIEFS AND PERCEPTIONS ABOUT HIV/AIDS

HIV/AIDS beliefs refer to the background assumptions that inform acquisition of knowledge. These beliefs are based on complex systems of understanding about the body, health and illness (Harrison & Steinberg, 2002; Lovelife, 2001b). Beliefs are difficult to change: They are often not based on explicit thinking processes. Compared to attitudes, beliefs may rest on forms of social representation subscribed to by virtue of being part of a social group. They belong as much to the social environment as they do to individuals. They are often present below the level of conscious thinking and may undermine attempts to build actions based on good

knowledge, and may undermine creation of positive and constructive attitudes (Barnett and Whiteside, 2002).

Under-inclusive thinking was a common aspect of young peoples' belief that one was only likely to contract HIV from a sexual encounter with someone from outside their own community or with different 'types' of people (Human Sciences Research Council, 2005). This in most cases underestimated the risk of HIV infection closer to home. Further, there existed a belief that one was unlikely to be infected in a loving relationship (LeClerc-Madlala, 2001; Ntlabati, Kelly, and Mankayi, 2001).

Over inclusive thinking (an over estimation of risk of infection) was another aspect of young peoples' responses. It was envisioned that, some young people had beliefs such as; fear of infection by eating from utensils used by an HIV positive person, the diminishing of the risk of HIV infection over time in the context of a relationship, and that, AIDS could be caused by witchcraft (Human Sciences Research Council, 2005; Kelly, *et. al.*, 2001). However, according to Bandura (2001), attitudes compared to beliefs might be culturally grounded, but they were cognitive (thought based) than attitudes which are more feeling based. Thus, beliefs could be targeted more effectively through mass media and educational information awareness campaigns.

3.5 PRACTICES RELATING TO HIV/AIDS

The concept of practice relates to a broad range of activities related to HIV risk and prevention, care and support (Harrison and Steinberg, 2002; Lovelife, 2001a). The range of activities was further taken to refer to constituent behaviours, which made up targeted behaviours of prevention programmes (Human Sciences Research Council, 2005; Kelly, 2004). For instance, the practice of using a condom involved many smaller scale processes, such as acquisition, talking to a partner, and the practicalities of use. According to Badcock-Walters, Kelly, and Görgens (2004), outcomes such as, condoms were considered without due consideration to the constituent parts (i.e., knowledge about condom use, their availability, accessibility

or affordability) and the different ways in which questionnaires broke down facets of risk exposure and behaviour.

3.5.1 SPECIFIC AREAS OF PREVENTION PRACTICE AND RISK REDUCTION

Most of the reviewed literature did not contain much detail on young people's prevention practice and risk reduction. However, some literature reported a greater depth of aspects of prevention practice. These are discussed below.

3.5.1.1 Sexual Debut

Sexual debut refers to the age of first sexual intercourse (experience). According to Human Sciences Research Council (2005), there was a high degree of variation across contexts relating to age of first sexual intercourse (experience). On one hand, boys tended to experiment with sex earlier but took longer to become involved in steady relationships. Further, boys reported early sexual experimentation as sexual intercourse, whilst girls did not consider early sex as actual sexual intercourse (Harrison and Steinberg, 2002; Jewkes, Vundule, and Maforah, 2001).

On the hand, the concept of virginity did not have a strong meaning for boys and girls. However, in KwaZulu-Natal, there was an increased cultural interest in the concept of virginity in response to the HIV/AIDS epidemic. Reportedly, virginity testing had a great significance among females below the age of 21 years who upon passing the test underwent a traditional initiation ritual ('umemulo') in recognition of their achievement (Lovell, 2001a; Scorgie, 2001; Wood, Maepa, and Jewkes, 2000; Wood, and Jewkes 1998; Varga and Makubalo, 1996).

Given the early age at young people's sexual debut: Could it be expected that most University of Zululand's first year students had had their first sexual experience at the time of arrival at the University?

3.5.1.2 Sexual Consent and Coercion

First sexual intercourse for girls is often coerced (Lovell, 2001). The percentage of cases in which this was reported was between 30–40% (Jewkes, *et. al*, 2001). Male partners largely influenced first time sex engagement (Wood, *et.al*, 2000). Further, there were high ambivalence levels of sexual activity amongst sexually active adolescent girls. For instance, young women aged 15 - 30 years compared to their male counterparts were less likely to respond positively to the question: 'Do you like sex?' (Human Sciences Research Council, 2005:20). Gender-related oppression and bullying on one hand were commonplace as were coercive and non-dialogical approaches to sexual relations. While on the other hand, young women were frequently subjected to threats of violence and rape both by partners and strangers (Scorgie, 2001).

Peer group esteem acted as a source of pressure on some young boys and men to engage in sexual relationships (with sexual activity often thought of as a source of peer-group esteem) (Harrison and Steinberg, 2002). In addition, material incentives played an important role in sexual decision-making. For instance, in non-commercial sexual exchanges, 43% of the sexually experienced respondents reported knowledge of some young persons (12-17 years) who had sex for money, while 16% reported that they themselves had sex for money, drinks, food, airtime or other gifts (Lovell, 2001a).

3.5.1.3 Levels of Sexual Activity

Major findings in relation to the levels of sexual activity amongst young South Africans showed that about 50% of young people (estimated across research studies) under the age of 16 had a sexual intercourse experience (Boxford, 2001; Kelly, *et.al.*, 2001; CASE, 1996). It was argued that there was a largely irregular and opportunistic sexual activity within the first few years of becoming sexually active

(Williams, *et. al*, 2000; Buga, Amoka, and Ncayiyana, 1996a; Buga, Amoka, and Ncayiyana, 1996b; Richter, 1996).

Further, the frequency of sexual activity in adolescence increased with age (Scorgie, 2001). However, some studies reported a strong correlation between socio-economic status and sexual activity amongst early adolescents, with greater levels of sexual activity amongst the less economically advantaged (Buga, *et. al.*, 1996a; Buga, *et. al.*, 1996b).

3.5.1.4 Condom Acquisition and Use

The promotion of male condom has had significant impact both to its widespread and often consistent use (Human Sciences Research Council, 2005). However, in some quarters, there was the persistent conviction that condom use had not appreciably changed. For instance, the viewpoint that, “despite considerable public education efforts over the past five years, condom use amongst sexually active teenagers remained at around 10%”, was regularly featured in Lovelife communications without reference to any supporting research (Lovelife, 2004: 9). The net effect of this viewpoint has been to distort public understanding of young people’s responses to HIV/AIDS. This claim was considerably at odds with the wide range of research studies reviewed - all of which illustrated a more promising picture in relation to condom use amongst young people. For instance, survey results from a nationally representative sample of 854 respondents aged 15-19 year olds indicated that 19.5% used a condom in the last sexual act with any partner while 21.2% with a non-spouse partner (Department of Health, 2002). Reportedly, consistent condom use amongst young people ranged from between 20-30% in rural areas to between 70- 80% in some urban settings. Further, regularity of condom use varied considerably among the respondents.

The gap between, ‘having ever’ and ‘having used a condom’ in the last sexual act was less marked in the reviewed literature. It was argued that this reflected

consistent condom use in relation to supply and access problems (Chetty and Michel, 2005; Kelly, *et. al.*, 2001). Despite, high levels of availability of condoms in all South African Provinces (fixed clinic waiting rooms 87%, rural clinics 85%) some studies showed that there were problems related to; condom acquisition and use, lack of confidence, and non-judgemental access to condoms (Russell and Schneider, 2001). These factors considerably limited condom access by young people. Thus, condom use varied substantially (between 60% in remote rural areas to only 14% amongst privileged urban youth), was difficult to maintain in long-term or established relationships, positively correlated with education levels, and was more strongly associated with pregnancy prevention than with HIV/AIDS and STD prevention (Magongo, Magwaza, Mathambo, and Makhanya 2002; Skinner, 2001; Masuku, 2001).

3.5.1.5 Abstinence

From the reviewed literature, limited research has been undertaken on abstinence trends. However, some evidence suggested adoption of secondary abstinence as a response to risks associated with sex. Secondary abstinence referred to the decision to abstain from sex following previous sexual activity or sexual debut (Kelly, *et.al.*, 2001; Scorgie, 2000; Varga and Makubalo, 1996). Various factors associated with this included: HIV prevention, pregnancy prevention, STD prevention and avoidance of sexual violence or coercion.

Justifications for secondary abstinence also included but, were not necessarily related to, religious convictions (Doherty, Besser, Donohue, Kamoga, Stoops, Williamson, and Visser, 2003; Magongo, *et. al.*, 2002; Skinner, 2001; Masuku, 2001). For instance, 19% of a random sample of tertiary institution females reported having had sex before but not in the past year. Findings in five other sites suggested secondary abstinence as a prevention option that might find more support than was often assumed. According to LeClerc-Madlala (2001) reasons

such as being scared of, and concerned about AIDS, were given for abstinence in the site

Doherty, *et. al.*, (2003) argued that, despite abstinence having not been given particular priority emphasis in HIV/AIDS interventions, it remained a sure way of HIV/AIDS prevention. Doherty, *et. al.*, (2003) and LeClerc-Madlala (2001) agreed in their observations that, opposed to condom use, abstinence did not present an expectation of sexual activity amongst adolescents and young people as a whole. According to University of Zululand (2001), abstinence as a strategy is integrated within University's intervention strategies aimed at averting HIV infection or re-infections within the student population.

3.5.1.6 Alternative Sexual Practices

The review of literature established limited evidence of research on whether young people had adopted alternative means of sexual expression apart from penetrative sex, for instance; oral sex, masturbation, mutual masturbation, and 'thigh sex'. However, the review did not establish any evidence of research on practices related to sex during menstruation and or an understanding of the prevalence of anal sex amongst young people in South Africa.

3.6 PERSONAL INVOLVEMENT

Reportedly, more than 50% of youth in six South African communities have a high interest of involvement with HIV/AIDS response initiatives (Department of Health, 2005). There are however, significantly lower levels of awareness and steps for meaningful involvement (Kelly, *et.al.*, 2001; Kelly, 2000). According to Kelly (2001), this finding was an improvement of the earlier institutional findings, which revealed a thick cloak of ignorance, amply lined with layers of secrecy, silence, denial, and fear of stigmatization and discrimination that surrounded the presence of the disease on campus. It was argued that, this had hampered or discouraged students'

involvement in HIV/AIDS interventions (Chetty and Michel, 2005; Abebe (2002) cited in Katahoire, 2004:8; Chetty, 2001; Chillisa, *et. al.*, 2001).

Earlier findings from case studies showed that University students were more active in HIV/AIDS response initiatives compared to staff members. Abebe (2002) cited in Katahoire (2004:10), observed that, student-based activities were more dominant on the scene whilst staff involvement was the exception rather than the rule, hence undermining effectiveness and sustainability of intervention strategies. Further, students in higher education institutions had generated wide, divergent, and creative arrays of activities in response to the HIV crisis through their response initiatives. Some institutions reported low levels of interest from student organizations and a persistent difficulty in mobilizing students beyond once-off activities. However, other institutions were able to engage students through their professional interests and volunteer projects (Ennals and Rauan, 2002; AWSE, 2001; Chetty, 2000).

Most South African Universities and Technikons including the University of Zululand in the past have organised awareness campaigns featuring events such as, beauty contests combined with HIV/AIDS talks and dissemination of educational materials to attract interest. In most instances, students coordinated their activities through a variety of student groups that did not necessarily focus on HIV/AIDS but on, particular group activities such as; a competition among groups for the best AIDS campaign (Saint, Otaala, Chetty, and Ojuando, 2004). In other cases, students were engaged in peer counselling and advisory services, employed a variety of outreach methods including events that involved plays and skits, songs and dances, and artwork, and educational materials using mixed media such as videos, newsletters, magazines, and posters (AWSE, 2001; Katahoire, 2004).

AIDS activities planned and executed with student involvement were more effective because students generally had a better understanding of their social milieu that older adults often lacked (Saint, *et. al*, 2004). Peer Counsellors were also likely to be present where they were most needed, and to be available nearly twenty-four

hours a day. However, several challenges were raised. These included denial –“it can’t happen to me” -, which remained prevalent among students, resistance to condom-use, abstinence being a “non-issue”, and persistence of negative attitudes towards infected individuals. Further, religious barriers to HIV prevention was an additional barrier. Among these was the resistance to discussing sex on the grounds that it promoted immorality and should be restricted to married couples and a persistent anti-condom stance (Katahoire, 2004; Ennals and Rauan, 2002; AWSE, 2001).

3.7 SUMMARY AND CONCLUSIONS

The first section of the chapter focussed on a detailed identification and evaluation of the objectives and methods of the University of Zululand’s HIV/AIDS intervention strategies. While, the second section tried to identify student (young people’s) perception and response to HIV/AIDS intervention strategies. The reviewed literature revealed that the University of Zululand’s HIV/AIDS intervention strategies were influenced by national policies and strategies adopted to combat the disease in the South African Higher education sector. A general deduction from the examination of the objectives and methods of the current University of Zululand’s HIV/AIDS intervention strategies showed that they were aimed at encouraging and promoting VCT, which was regarded as an entry point to other HIV/AIDS interventions and strategies.

A review of perceptions and responses to HIV/AIDS intervention strategies revealed that, young people (university students’) as a group were not homogenous and that, responses on many of their perceptions and indicators varied across contexts. Young, rural and less educated young people (especially girls) were behaviourally most exposed to HIV infection. In almost every area of response, education and socio-economic environment (poverty, locality, mobility, gender, and service delivery, social capital and regulatory frameworks) distinguished those who adopted risk prevention practices and those who did not (Kelly, *et.al.*, 2001; Ntlabati, *et. al.*,

2001; Donovan and Ross, 2000; Williams, *et al*, 2000; Dowsett and Aggleton, 1999). However, what lacked in the review was an understanding of how these factors were associated with the low uptake of prevention behaviours, and their contribution to the spread of the AIDS epidemic especially within a student community for instance, at the University of Zululand.

The review of literature as discussed in this chapter provided a framework upon which the study research design was implemented and tested. The next chapter presents the study design and the research methods for the study.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 INTRODUCTION AND OVERVIEW

The study was conducted at the University of Zululand. The University is situated in KwaDlangezwa a coastal plain about 150 kilometres north of Durban city in KwaZulu-Natal Province. KwaDlangezwa is a rural setting within the KwaMkwanazi traditional authority. The University is the only comprehensive tertiary institution north of the UThukela River.

The University of Zululand has four Faculties. These are; Faculty of Arts, Faculty of Commerce Administration and Law, Faculty of Education, and Faculty of Science and Agriculture (refer to Figure 4.1). Each Faculty has a wide range of Academic Departments (disciplines) offering numerous outcome-based academic programmes in a modular system aimed at preparing students for a professional qualification and eventual employment. The University of Zululand reported a total enrolment of 6,112 students and 700 staff members in 2004 (Chetty and Michel, 2005). This figure has not grown substantially in the last three years.

This chapter discusses the survey design and the research methodology used in the study. The study was undertaken through an inquiry within a sound frame of reference and problem formulation (Rochester and Vakari, 1998). Due to the nature, aim, and objectives of the study, a multiple methodological strategy was utilised for data collection, analysis and presentation. These included, survey questionnaires, observation of the spatial environment and documentary review of various literary sources (Mugenda and Mugenda, 1999).

4.2 SURVEY DESIGN AND SAMPLING

A repeated cross-sectional longitudinal survey design was utilised in the study (Kothari, 2003). The objective of the repeated cross-sectional longitudinal research design was to plan, structure and execute the study in a way that permitted population sampling at different points in time. Therefore the survey design provided the blue print for the data collection, measurement and data analysis, served as a bridge between research questions, and research implementation, and involved the structuring of variables that enabled their relations to be determined (Leedy, 1997; Denzin, 1989)

The selection of the survey research method and design determined the routes by which the study outcomes were to be reached (Keya, Makau, Mani, and Omari, 1989). A combination of research methods was employed in the data collection (Ng'ang'a, 2003; Fisher, 2002). According to Karim (2005), research on HIV/AIDS has been adapted to incorporate a variety of research designs, data collection techniques and research methods. Thus, questionnaire survey and observation methods were employed in the study. The survey design applied a multi-stage proportional, stratified sampling approach outlined in figures 4.1 and 4.2.

The overall study design involved the following steps (see Figure 4.1) : (i) step 1, definition of the target population i.e. all first-year students of the University of Zululand in year 2006), (ii) step 2, definition of the sample frame (this was based on the master sample of 2,000 students registered in 2006 academic year), (iii) step 3, definition of the primary sampling units(i.e. the Faculty), (iv) step 4, definition of explicit strata(i.e. Faculty or Academic Department), (v) step 5, definition of the reporting domain i.e. Faculty, Academic Departments and first-year students, (vii) step 6, definition of the secondary sampling units (i.e. the focus groups by the first-year undergraduate students), (viii) step 8, definition of Ultimate Sampling Units(i.e.,

all registered first-year students in 2006 with valid Id cards), (x) step 9, allocation of the sample (i.e., proportionate to the Faculties and the population group).

The sample was explicitly stratified by Faculty and Academic Departments. The master sample allowed for reporting of results at the Faculty level, Academic Department, age, gender and marital status (Shisana, *et. al*, 2005). The survey design approach shown in Figure 4.1 attempts to follow bottom-up approach that seeks to reach all relevant population components of the university.

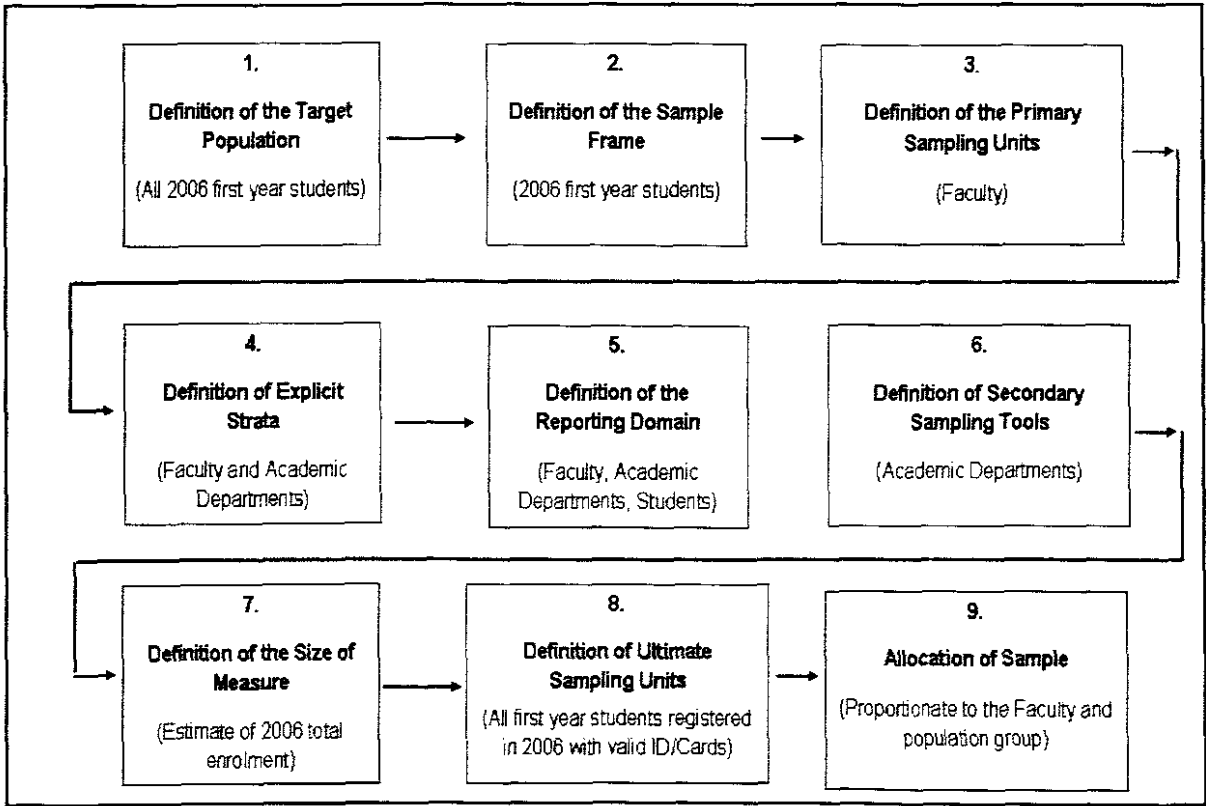


Figure 4.1: Survey Design (Human Sciences Research Council, 2005:13)

Several steps were followed in drawing the study sample. These included; the selection of the primary sampling unit (e.g. the Faculty), the selection of the secondary unit (e.g. the Academic Department). The selection of the secondary sample was preceded by the determination of the sample size which was followed

by the selection of the ultimate sampling unit i.e. first-year students with a valid student identity card. Figure 4.2 shows the steps followed in the sample selection.

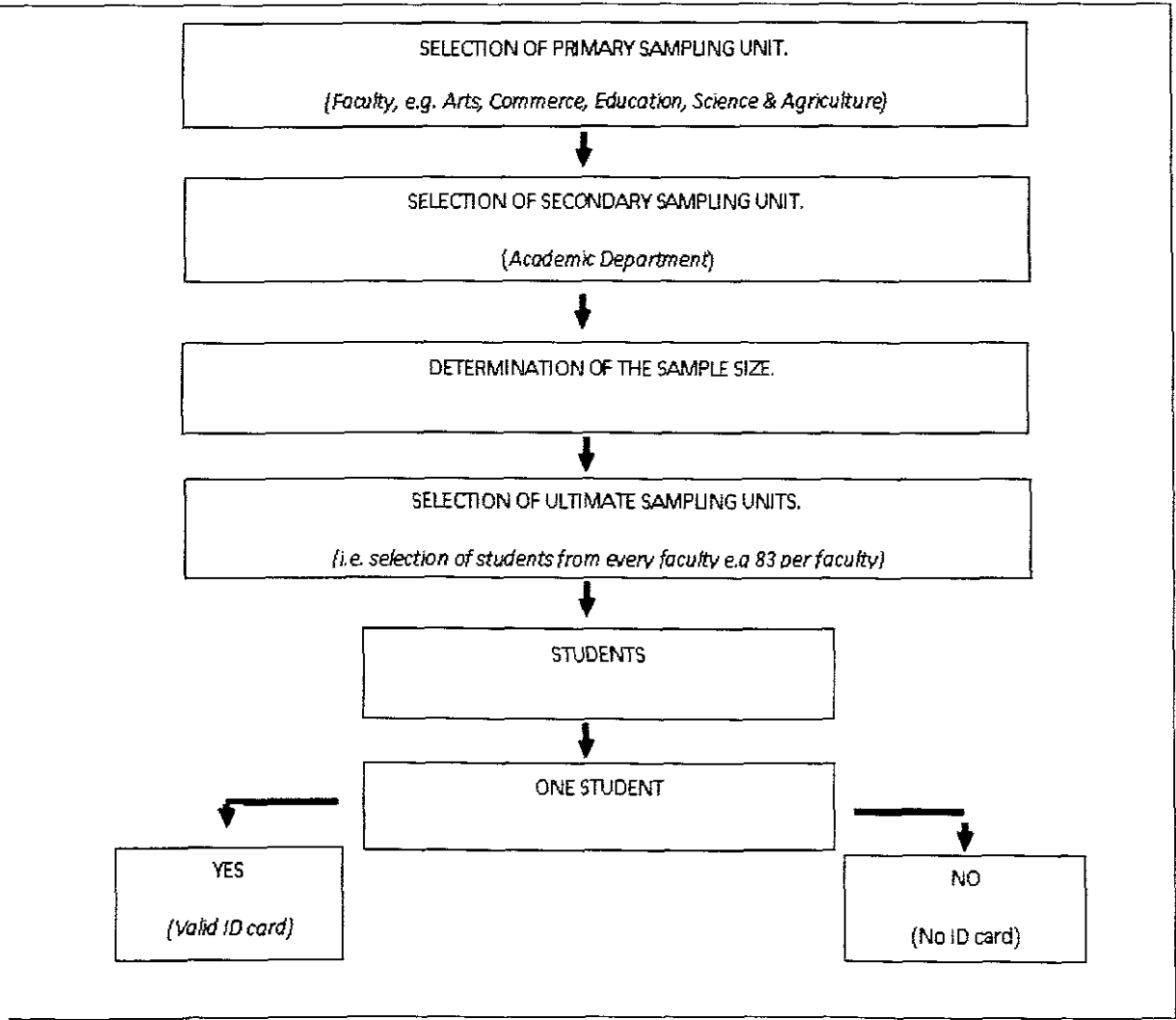


Figure 4.2: Steps in Drawing the Sample
(Source: Human Sciences Research Council, 2005:26)

The Primary Sampling Unit (PSU) was the Faculty, the Secondary Sampling Unit (SSU) was the Academic Department, and the Ultimate Sampling Unit (USU) was the individual 2006 first-year student eligible to be selected for the survey. It was easy to obtain an approximately self-weighted sample of Academic Department (that

is, SSUs), since there were only four Faculties at the University of Zululand. Subsequently, an equal number of Academic Departments (4) were randomly drawn from each Faculty.

Twenty-one (21) students in each Academic Department could potentially be selected to meet the criterion of having acceptable estimates by gender. Thus, the Faculty sample was disproportionately allocated to the explicit strata. The disproportionate allocation of the Faculty sample according to gender resulted in a considerable over-representation of female students in the sample. This was because female students were in the majority in most of the Academic Departments.

4.3 SAMPLE SIZE ESTIMATION

In the collection of data in any research study it is important to design a method which will offer a representative sample in terms of size and character (Mugenda and Mugenda, 1999). The sample size estimate for this research inquiry was guided by two requirements:

- a) the requirement for measuring change over time, for instance, to detect a change in knowledge and attitudes towards HIV/AIDS intervention strategies of 5 percentage points in each of the main reporting domains- gender, age group, academic department and faculty (5% level of significance, 80% power, two-sided test), and
- b) the requirement of an acceptable precision of estimates per reporting domain, for instance, to estimate self efficacy in each of the main reporting domains with a precision level of less than $\pm 4\%$, which is equivalent to the expected width of the 95% confidence interval (z-score at the 95% level for two-sided test). A design effect of 2 was assumed.

The total sample size required for the survey study was a combination of the sample size needed for each reporting domain. In addition, taken into account were the sampling design and the expected response rate in given reporting domains (e.g. gender, age, group, Academic Department and Faculty). The determination of the sample size was based on a tested formula by Nassiuma (2000) as follows:

Based on this formula, sample size,

$$S = \frac{N (cv^2)}{Cv^2+ (N-1) e^2}$$

- Where,
- S = Sample size
 - N = Population
 - CV = Coefficient of variation (taken as 0.5%@95% coefficient level)
 - e = Tolerance at desired level of confidence (taken as 0.05@95% confidence level)

Example: S for the Faculty of Arts = .25*500/.25+(N-1)*0.0025 = 83

The total parent population of the University of Zululand’s first year cohort was estimated to be 2000. As reflected in Table 4.1 below, the sample size distributions per Faculty are shown. In view of the fact that the student sample was readily available, it was fairly easy to acquire targeted student respondents from Faculties.

Table 4.1: Sample Size Distribution

Faculty	N	N
Arts	500	83
Commerce, admin and Law	500	83
Education	500	83
Science and Agriculture	500	83
Total	2,000	332

4.5 WEIGHTING OF THE SAMPLE

Given the survey sample design, some individuals had a greater or lesser probability of selection than others. To correct this problem, sample weights were used to correct for bias at the Faculty, Academic Department, and individual level and to adjust for non-response. Weighting procedures were undertaken before analysis of the data as the data file of Faculties contained the selection probabilities as well as the sampling weights. The weights reflected the proportionate allocation of Faculties according to the stratification variables of Faculty, Academic Department, and gender. The Academic Department sampling weight was then calculated (i.e., the counted number of academic departments in the Faculty, proportionally corrected for invalid Academic Department and divided by the number of academic department participating in the survey). The final sampling weight of the Academic Department was the product of the Faculty sampling weight and the Academic Department sampling weight.

Socio-demographic information on all students in the responding academic departments was assembled to calculate individual sample weights. In each of the three age groups (17-20, 21-24, 25-28, 29 and older), the individual weight was the total number of individuals in that age group. Individual sample weights were benchmarked using the total first-year estimates provided by the University of Zululand Student Affairs Department. In addition, individual sample weights were adjusted for social-self efficacy and non-response.

Finally, the information at the individual level was integrated and the final sampling weight for each data record calculated. This weight was equal to the final sampling weight of the Academic Departments multiplied by the selected students' sampling weight per Academic Department per age group. The process produced a final sample representative of the population of the University of Zululand's 2006 first-year student population for Faculty, Academic Department, gender, and age.

4.6 ETHICAL CONSIDERATION

The research proposal for the study was submitted to the University of Zululand's Faculty of Science and Agriculture Research Ethics Committee for approval. To that effect, a written permission was obtained prior to the commencement of the study. Permission was also sought from the Student Services Department (SSD) and the University Health Clinic services. Pre-visits and consultations (intended for logistical arrangements and support) were made with the Head of the Student Services Department (SSD).

Courtesy was exercised while conducting survey in the four Faculties of the University. Care was exercised in the selection and involvement of the participants. Full information about the purpose and uses of participants' contributions was given. Where possible, participation in the survey was on voluntary basis and appointments for participations were made in advance. The participants were also encouraged to keep confidential their response. In compliance with the internationally accepted ethical standards, the following measures were undertaken (Fisher, 2002; Mugenda and Mugenda, 1999; Behr, 1998; Creswell, 1998; Kerlinger, 1973):

- a) All students who agreed to participate gave verbal consent;
- b) No names of individuals or student numbers were recorded on the questionnaires;
- c) The completed questionnaires were kept in the safe custody of the researcher;
- d) All secondary sources used in the study were fully acknowledged;
- e) The researcher ensured that respondents were protected from stigmatisation;

- f) The study conformed to the principle of voluntary consent where the respondents participated in the study willingly;
- g) Informed consent was based on information regarding, the purpose of the study, a guarantee of anonymity, confidentiality, and positive identification of the researcher; and ,
- h) The researcher was honest in search of genuine research problems and exercised academic freedom in the discussion of any findings.

4.7 THE RESEARCH TOOL

An administered questionnaire was the main research tool for data collection. Both closed and structured questions were included in the questionnaire (Onyancha, 2007; Behr, 1998). Close-ended questions provided alternative answers from which only one answer would be selected. Some questions were open-ended and called for a free response in the respondent's own words. Open-ended questions were designed to permit free response providing for a greater depth of response. Respondents had an allowance to reveal their frame of reference and possible reasons for their responses.

The questionnaire consisted of five major sections represented the key components of the research questions as follows:

- a) Section 1, *Socio Demographic Data*: Consisted of items which requested respondents to report their; gender, age, marital status, Faculty, and Academic Department;
- b) Section 2, *Knowledge and Perceptions about HIV/AIDS Intervention Strategies*: Consisted of questions aimed at assessing students'

knowledge and perceptions about HIV/AIDS intervention strategies. Questions such as: What is HIV? How is one infected by HIV? Have you heard of VCT? What were the benefits of VCT? (see appendix 1);

- c) Section 3, *Behavioural Determinants of Students responses to HIV/AIDS Intervention Strategies* Consisted of questions aimed at assessing students' sexual behaviour, prevention practice and HIV risk reduction (see appendix 1);
- d) Section 4, *Responses and Perceptions*: Consisted of five questions aimed at assessing students' responses and perceptions (see appendix 1); and
- e) Section 5, *Attitudes, and Self-efficacy*: Eight questions were used to asses, students' attitudes and self-efficacy (see appendix 1).

4.7.1 RESEARCH TOOL RELIABILITY

The pilot study (discussed in section 4.8.3) was used in ascertaining the reliability of the research instrument (Polit, Beck, and Hungler, 2001). The pre-testing exercise of the research tool was aimed at (Wegner, 2000; Baker, 1994):

- a) Judging the reliability of the research tool by estimating how well the items reflected the same construct yielding similar results;
- b) Establishing the consistency of the results of different items for the same construct within the measure;
- c) Developing and testing the adequacy of the research tool;
- d) Assessing the feasibility of a full scale study in designing a research protocol;

- e) Assessing whether the research protocol was realistic and workable;
- f) Establishing whether the sampling frame and technique were effective;
- g) Identifying logistical problems which might occur from using the proposed research method;
- h) Estimating variability in outcomes that helped determine the sample size;
- i) Collecting preliminary data;
- j) Determining what resources (finances) would be needed for the study; and
- k) Assessing the proposed data analysis techniques in order to uncover potential problems.

The pilot study was further used to identify potential practical problems in the research procedure. Problems such as poor recording and response rates were identified and precautionary procedures (safety nets) devised. The reliability of the final research tool was calculated using the Cronbach alpha coefficient (Diamantopoulos and Schlegelmilch, 1997). The Cronbach alpha coefficient measures the internal homogeneity or consistency among a set of items i.e. the extent to which the same set of respondents replied in a consistent manner to a similar item. Thus, the Cronbach coefficient alpha was used to determine the reliability of the questionnaire, and how items correlated among themselves.

The use of the K-R ₂₀ formula in assessing the internal consistency of the instrument was based on the split-half reliabilities of data from the instrument (Mugenda and Mugenda, 1999; Behr, 1998; Creswell, 1998; Hulysamen, 1995; Babbie, 1987; Kerlinger, 1973).

Based on the formula, K-R₂₀ is:

$$KR_{20} = \frac{(K) (S^2 - \sum s^2)}{(S^2) (K-1)}$$

Where:

KR ₂₀	=	Reliability coefficient of internal consistency
K	=	Number of items used to measure the concept
S ²	=	Variance of all scores
s ²	=	Variance of individual items

Given that the reliability coefficient is scale free, its value cannot be less than zero or greater than 1.00 (Hulysamen, 1995). It is generally accepted that the standardised tests indicate reliability coefficients in excess of 0.5. Reliability coefficient less than 0.5 are deemed to be unacceptable and those above 0.70 are acceptable (Nunally, 1978). The calculated Cronbach alpha for this study was 0.845. The measuring instrument was thus regarded as reliable.

4.7.2 VALIDITY OF THE RESEARCH INSTRUMENT

Validity is the extent to which an account accurately represents the social phenomena to which it refers (Hammersley, 1992). Validity of the research instrument is important to quantitative researchers as it is to qualitative ones. The researcher had to convince himself that the study findings were genuinely based on a critical investigation of all respondents and their responses to the University of Zululand's HIV/AIDS intervention strategies using the right sampling techniques, and that the findings were not the subject of anecdotalism (Silverman, 2002).

4.8 FIELDWORK PROCEDURES

Several fieldwork procedures were followed in the study. These procedures are briefly discussed in the following sub-sections.

4.8.1 RECRUITMENT AND TRAINING OF RESEARCH ASSISTANTS

Four research assistants (each from one of the four Faculties of the University) were recruited and trained. Training was provided on conducting interviews and focus group discussions, on sensitive issues, and using the questionnaires ethically. Participatory exercises by the researcher were utilised in the training of the research assistants.

4.8.2 PERSONAL BRIEFINGS

The Head of the Student Services Department (SSD) introduced the researcher to the orientation team members. She briefed them about the survey research and requested them to offer any logistical support whatsoever in the distribution, and collection of the survey questionnaires during the time slots allocated for the field study. Further, alongside providing adequate instruction and assurance of confidentiality, the researcher informed the respondents that the information being gathered was intended to assist in the developing of an understanding of the student response to the University of Zululand's HIV/AIDS intervention strategies.

4.8.3 PILOT STUDY

A pilot study utilising a researcher-administered questionnaire was conducted from 5th to 15th November 2005 to test the efficacy of the research tool using a sample of twenty matriculation students from Ongoye High school, a feeder school to the University of Zululand. These matriculation students had indicated that they would be proceeding to the same University. Further to this these students had not been

exposed to the University's HIV/AIDS intervention strategies and most had similar demographic characteristics as the first-year university respondent group. The pilot study was used in the study for a number of purposes including the following:

- a) To test the questions this was aimed at; (i) testing the variation in the target population by helping to detect subgroups who give different answers to particular types of questions, and (ii) testing the meaning of questions by checking whether respondents understand particular terms and nuances, and also to assess the difficulty of particular questions(de Vaus, 1991:99); and
- b) To test the questionnaire this involved; checking the flow and naturalness of different sections in the questionnaire, the order of the questions, skip patterns, the overall length of the questionnaire, and the interest and attention of the respondents. Consideration was also given to the respondent's well being in terms of the sensitivity of questions.

The evaluation of the pilot survey in view of improving the design of the questionnaire was quantitative [necessitated by the sample size (20)]. The following six key points were considered in the evaluation (Lavan, 1987; Openheim, 1996):

- a) Did any of the questions seem to make the respondents uncomfortable?
- b) Did any of the questions have to be repeated?
- c) Did the respondents misinterpret any questions?
- d) Which questions were the most difficult or awkward to read?
- e) Were there any time problems?
- f) Are there any sections where the respondents would have liked the opportunity to say more?

The pre-study experience was used in the refining of the research tool, the conceptual framework and the methodology for the main survey. The pilot study was followed by the first phase of the main survey study (22nd - 29th January 2006).

4.8.4 THE MAIN SURVEY

The main survey was conducted in two phase's (i.e. during the time of admission of first-year students in Term 1, and during Term 4 of 2006 academic year) .Given that the focus of the study was to investigate student responses to University's HIV/AIDS intervention strategies, the survey study conducted in two phases permitted examination of students recurrent responses over time. Therefore, a repeated cross-sectional survey in which track of a cohort of the sample group of 2006 first-year students was kept during the study period, that is, January-November, 2006 (Neumann, 2003; Babbie, 1987).

In phase one of the survey, data collection in the Faculties took about four days to complete (that is, during the orientation week of the 2006 first-year students). This was mainly during the one-hour time slots allocated to the researcher for the administering and collection of survey questionnaires. The second phase undertaken in Term 4 of 2006 academic year, involved data collection during lecture hours with prior arrangements and appointments with respective lecturers, Heads of Academic Departments, and the students themselves. Fieldwork materials included survey questionnaires, pens, and envelopes. The survey questionnaires were administered by the researcher with the assistance of one of the research assistants from the relevant Faculty.

4.8.5 OBSERVATION

The observation method was used as a supplementary technique to collect data pertaining to student's utilisation and participation in communication and information awareness campaigns and intervention strategies (Kothari, 2003). Both categories

of the observation method were utilised in the study that is, both participant and non-participant. In participant observation, the researcher was directly involved in the collection of data through observation, while in the non-participant observation, the researcher did not directly participate in the data collection (Onyancha, 2007). Participant observation was mainly unstructured whilst non-participant observations was structured and was both obtrusive and non-obtrusive. In obtrusive non-participant observation, the researcher was undisguised and was very visible but did not directly participate in the University's HIV/AIDS intervention strategies (i.e., instance, VCT and Peer Education). In unobtrusive non-participant observation, the researcher was completely disguised (i.e., the researcher gathered information on students uptake of VCT and Peer Education strategies from the attendance registers and by personal communication with the University Health Promoter).

4.8.6 QUALITY CONTROL

Fieldwork quality during the investigation of student response to University of Zululand's HIV/AIDS intervention strategies was achieved through the following methods:

- a) All fieldwork materials were sorted in advance;
- b) A check was done to ensure all survey questionnaires were accounted for and in good condition; and
- c) The data filled out in each questionnaire was checked for completeness and mistakes.

Quality assurance was accomplished through running the database redundancy, checking the quality and correctness of the questionnaire and verifying data capturing done by the research assistants.

4.9 DATA MANAGEMENT AND ANALYSIS

Programmes were run to validate the reliability of received data, to correct data with regard to Faculty, Academic Department and the student numbers, and to check that girlfriends did not answer boyfriends sections in the questionnaire and vice versa. Data were corrected for errors such as substitutions of census Faculties and coding errors. Programs were written to address the flow of skip patterns in the questionnaire, and survey questionnaires were matched. Information about the respondent or non-respondent (i.e., age, sex, and gender) was corrected if missing by verifying the respondent's national identity card number from the initial register.

Datasets were converted for analysis with the Statistical Package for the Social Sciences (SPSS). Frequency distributions were run to check that all variables contained only values in the accepted range and variable labels. Unweighted data were analysed using the SPSS and Ms Excel computer software. After the datasets were edited, programs were written to calculate the sample weights. Weighted data was calculated using the SPSS software, taking into account the complex multi-level sampling design and adjusting for non-response. The SPSS software was also used to obtain the estimates of overall student response to the University's intervention strategies, significance values (p-values) and confidence intervals (95% CI) that took into account the complex design and individual sample weights. Tables and figures in the data presentation and analysis chapter (5) present weighted percentages and unweighted counts.

4.10 PROBLEMS ENCOUNTERED

The following problems were encountered in the study:

- a) The time allocated for the dissemination of questionnaires during the student orientation was insufficient; for instance, the researcher was

allocated one hour to disseminate and collect questionnaires from 322 respondents out of a target population of 2000 students;

- b) The 2006 first-year students' orientation process was conducted concurrently in all the Faculties and at different venues. The researcher had to divide the time allocated (1 hour) into four making it 15 minutes per Faculty with an addition of five minutes in each Faculty for the dissemination and collection of the questionnaires;
- c) A section of the first-year students were writing English proficiency examinations. Hence, the researcher had to delay the field work until all the first-year students had formed one team;
- d) The researcher encountered pressure from the University Health Promotion team who were anxious to meet the first-year students during their time slot. The researcher negotiated for a swap in the time slot allocated for the Health Promotion team. This was necessary since it was in the interest of the study that the field work be carried out before the students exposure to the University's HIV/AIDS intervention strategies by the health promotion team;
- e) The sudden closure of the University of Zululand during September, 2006 due to student unrest affected the progress of the study. The researcher could not proceed with the field survey of the study because he and the target group were sent home. This necessitated the researcher to cancel the appointments made and to seek fresh appointments with the lecturers and the respondent group.

4.11 SUMMARY AND CONCLUSIONS

This chapter has discussed the research methods used in the data collection and analysis in the investigation into student response to University of Zululand's

HIV/AIDS intervention strategies. Among the topics discussed was the longitudinal survey design, the area of study, the subject, sampling techniques used to obtain the sample population, the instruments for data collection (refer to the appendices for the research questionnaire), the procedure used for data collection, data analysis and constraints upon the study.

The next chapter is data analysis and presentation. The chapter presents empirical data and discusses the findings from the field survey.

CHAPTER 5

RESULTS OF THE SURVEY AND DISCUSSIONS OF FINDINGS

5.1 INTRODUCTION

Research is a tool for change and an essential instrument for matching theory with spatial reality for the improvement of the society's spatial and non spatial situations and environments (Magi 2005). The survey results of the University of Zululand's HIV/AIDS intervention strategies, provides a basis for the better understanding of the characteristics of the HIV/AIDS epidemic within the study area. In this manner some theoretically accepted principles are translated into a form of reality in this chapter. In this way, the University authorities would begin to get to grips with the challenges associated with the HIV/AIDS scourge and the efficacy of the University's intervention strategies.

The purpose of the study was to investigate student response to the University of Zululand's HIV/AIDS intervention strategies. The empirical data that formed the basis of the discussion was collected from the four Faculties (Arts, Commerce & Law, Education, and Science & Agriculture) of the University. A longitudinal survey method was used in the study. A survey research questionnaire was used to collect data. This chapter presents and analyses data, discusses the study findings and analyses the study hypotheses.

On one hand, the study results, which included the respondents' demographic profiles, knowledge about HIV/AIDS and intervention strategies, sexual behaviour risk, responses and perceptions, attitudes and self-efficacy skills are presented in the table form (both as observed and percentages) to facilitate their interpretation. In addition,

conclusions were drawn in line with the study objectives. While, on the other hand, the results from the statistical test of the hypotheses are presented.

The following procedure was followed in conducting the hypothesis test (Selvin,1996):

(a) Formulation of the null hypothesis and the alternate hypothesis (H_0 and H_1); (b) Choice of the appropriate test statistics; (c) Choice of the level (levels) of significance;(d) Determination of the degrees of freedom = $(N-1)$ = sample size -1 = d.f; (e) Determination of whether the test is one tailed or two tailed; (f) Determination of the critical value(s) = v or point(s) of intersection between alpha and $N-1$ in the t-table or Z-table depending on whether the sample is small or large, or is normally distributed; (g) Computation of the specific test statistic using empirical data, based on the chosen level(s) of alpha and degrees of freedom, comparing the statistic with the critical value; and, (h) Conclusion by either accepting or rejecting the null hypothesis formulated.

The appropriate level of a significance test is usually 5% (95% confidence interval). This level of confidence can be changed for example to, 1% significance (or 99% confidence interval), 10% significance (or 90% confidence interval). Thus, given both the level of significance and the test statistic, the critical value of forming the basis for rejecting or accepting the hypotheses being tested was calculated. A null hypotheses was rejected if the predicted valued is significantly different from the hypothetical values. In a two-tailed test, the alternate hypothesis is accepted if the test statistic $u > v$ or $u < -v$. Thus, for testing the hypotheses in this study, the paired t –test statistic was used.

A paired t test was used in the hypothesis test of the differences between average population means for the pair of pre survey and post survey samples whose differences was approximately normally distributed. The test statistic was calculated as follows:

$$t = \frac{\bar{d}}{\sqrt{s^2 / n}}$$

Where, $\bar{d}$ = the mean difference,

s^2 = is the sample variance,
 n = is the sample size, and
 t = is a Student t quartile with $(n-1)$ degrees of freedom.

Given that the main purpose in studying pre-survey and post survey samples was to see how closely the samples agreed, rather than looking for evidence of difference, then limits of agreement was useful (Bland and Altman, 1986).

5.2 SURVEY RESULTS FROM THE RESPONDENTS

The results obtained from the survey and their interpretation provides an essential feedback on the tenability or amenability of the original research objectives and hypotheses (Neumann, 2003). It should therefore be noted that even if the results obtained from the analysis are in agreement with the hypotheses, this does not necessarily mean that some of the theories associated with HIV/AIDS are finally irrefutably proven to be correct (Mugenda and Mugenda, 1999). More research would still have to be conducted before the outcome of this kind of survey can be regarded as conclusive (Robinson, 1998).

5.2.1 DEMOGRAPHIC CHARACTERISTICS OF THE STUDY GROUP

Reflected in Table 5.1 are the baseline demographic characteristics of the study population. Findings indicated that: (a) Females were the majority (71%) of the total sample compared to male (29%); (b) The age of the majority of the respondents ranged between 17-20 (57%) and 21-24 (24%), respectively; and (c) Majority of the respondents were single (90%), while 8 % were married.

Gender characteristics had a dual purpose, to find out whether there was a gender balance in the Faculties and to establish the influence of gender on the student responses to the University of Zululand's HIV/AIDS intervention strategies. As per the findings, there were more female students compared to males within the study group

(ratio of 3:1). This finding had an implication towards the assessment of student response to the University's HIV/AIDS intervention strategies.

Table 5.1 Demographic characteristics of the study group

Respondents' demographic characteristics	n	(%)
Gender		
Male	96	21
Female	236	71
Total	332	100
Age		
17-20	190	57
21-24	79	24
25-28	33	10
29-above	30	9
Total	332	100
Marital status		
Married	26	8
Single	299	90
Divorced	2	1
Widowed	5	2
Total	332	100

Where: n = sample size, % = percentage of the sample size.

As indicated by the findings in Table 5.1, majority of the respondents were between the ages of 17-20 (57%) and 21-24 (24%) respectively. Most of the students (young people) would appear to exhibit inexperienced HIV/AIDS risk behaviour. According to Kelly (2001) most students lack good information about HIV/AIDS and intervention strategies. This is the most vulnerable population age group to HIV infection (UNAIDS, 2000). It is the age group that needed guidance to develop resilience and self-efficacy skills to prevent against HIV infection. Despite, a majority of the study group being single (90%), many could have been exposed to various HIV/AIDS intervention strategies prior to their admission to the University of Zululand.

5.2.2 KNOWLEDGE ABOUT HIV/AIDS AND INTERVENTION STRATEGIES

Knowledge, perception and attitudes of HIV/AIDS are important precursors for behavioural responses to the disease and interventions (Glick, 2005; Sethosa and Petzer, 2005; Solomon, 2004). In the present survey, knowledge was measured

explicitly through analysing responses to particular awareness and knowledge questions. Study findings are as presented in Table 5.2.

5.2.2.1 What is HIV?

The following were the pre-survey findings of the respondents opinion of what is HIV as presented in Table 5.2:

- a) 43% males compared to 31% females indicated that HIV was a disease;
- b) 46% males compared to 55% females indicated that HIV was a virus; while,
- c) 5% males compared to 7% females indicated that HIV was a virus that caused AIDS.

Based on these findings, prior to the students exposure to the University of Zululand's HIV/AIDS intervention strategies, a significant proportion of males (43%) knew HIV as a disease compared to a proportion of females (55%) who knew HIV as a virus.

Post survey study findings as presented in Table 5.2 showed that:

- a) 96% males compared to 89% females indicated that HIV was a virus that caused HIV; while,
- b) 3% males compared to 9% females indicated that, "HIV was a disease that caused HIV".

Based on these findings more males than females had acquired new knowledge about HIV. A comparison of study findings for both gender showed on one hand that during pre-survey study:

- a) 34% of the respondents indicated that HIV was a disease; while
- b) 55% indicated that HIV was a virus.

On the other hand, post survey findings showed that 91% of the respondents indicated that HIV was a virus that causes AIDS. This was an indicator that the majority of the respondents had acquired new knowledge of what was HIV.

Table 5.2: Knowledge about HIV/AIDS and interventions strategies

Knowledge about HIV/AIDS	Pre Survey Findings						Post Survey Findings					
	Male		Female		Total		Male		Female		Total	
	n	%	N	%	N	%	n	%	n	%	N	%
What is HIV												
Disease	41	43	73	31	114	34	-	-	-	-	-	-
Sexual transmitted disease	3	3	2	1	5	2	-	-	-	-	-	-
Viral disease	1	1	1	<1	2	1	-	-	-	-	-	-
Virus	44	46	138	59	182	55	1	1	6	3	7	2
Virus that causes AIDS	5	5	18	8	23	7	92	96	210	89	302	91
I don't know	2	2	4	2	6	2	-	-	-	-	-	-
Disease that causes AIDS	-	-	-	-	-	-	3	3	20	9	23	7
Modes of HIV Transmission												
Blood	12	10	22	9	32	10	3	3	5	2	8	2
body fluids and sharing of needles	2	2	2	1	4	1	-	-	-	-	-	-
Body fluids	-	-	3	1	3	1	-	-	-	-	-	-
By sleeping	-	-	1	<1	1	<1	-	-	-	-	-	-
Sharing needles	-	-	3	1	3	1	-	-	-	-	-	-
Unprotected sex	76	79	185	78	261	79	33	34	67	28	100	30
Unprotected sex & blood	4	4	9	4	12	4	57	59	147	62	204	62
Unprotected sex & needles	2	2	10	4	12	4	-	-	-	-	-	-
Unprotected sex & body fluids	-	-	-	-	-	-	3	3	17	7	20	6
I don't know	2	2	1	<1	3	1	-	-	-	-	-	-
Heard of Voluntary Counselling and Testing (VCT)												
Yes	43	45	108	46	151	46	82	85	206	87	288	87
No	50	52	109	46	159	48	10	10	25	11	35	11
No Response	3	3	19	8	22	7	4	4	5	2	9	3
What is Voluntary Counselling and Testing (VCT)												
VCT	2	2	11	5	13	4	-	-	-	-	-	-
A place for HIV testing	19	20	61	26	80	24	1	1	3	1	4	1
A service for HIV	2	2	1	<1	3	1	-	-	-	-	-	-
Free counselling	5	5	19	8	24	7	-	-	1	<1	1	<1
Free service for HIV/AIDS	13	14	29	12	42	13	-	-	3	1	3	1
Knowing your HIV status	10	11	17	7	27	8	23	24	56	24	79	14
People who test for HIV	12	13	28	12	40	12	-	-	-	-	-	-
Testing for HIV	20	21	48	20	68	21	28	29	65	28	93	29
Counselling before HIV testing	-	-	-	-	-	-	44	46	106	45	150	46
I don't know	13	14	22	9	35	11	-	-	2	1	2	1
Benefits of Voluntary Counselling and Testing (VCT)												
I shall know my status	63	66	116	49	179	54	52	54	130	55	182	55
I will be able to plan my life	14	15	49	21	63	19	33	34	78	33	111	33
Will get support grant from the government	5	5	7	3	12	4	1	1	1	<1	2	1
All of the above	12	13	49	21	61	18	10	10	27	11	37	11
None of the above	2	2	15	6	17	5	-	-	-	-	-	-

Where: n = sample size, % = percentage of the sample size.

5.2.2.2 HIV Infection

In assessing student response to the University of Zululand's HIV/AIDS intervention strategies, the study sought to gauge their knowledge of the modes of HIV infection. The following are the pre-survey findings of the respondents' opinion about the modes of HIV Infection as presented in Table 5.2:

- a) 10% males compared to 9% females indicated that HIV Infection occurred through blood,
- b) 2% males compared to 1% females indicated that HIV Infection occurred through blood, and sharing of needles,
- c) 79% males compared to 78% females indicated that HIV Infection occurred through unprotected sex, while
- d) 4% males compared to 4% females indicated that HIV Infection occurred through both unprotected sex and blood.

Based on these findings both male and female students had similar knowledge levels about HIV Infection. Hence, a conclusion that prior to the respondents' exposure to University of Zululand HIV/AIDS interventions strategies they had proportionate knowledge views between about HIV Infection.

Post survey study findings as presented in Table 5.2 showed that:

- a) 3% males compared to 2% females indicated that HIV infection occurred through blood,
- b) 34% males compared to 28% females indicated that HIV infection occurred through unprotected sex , while,
- c) 59% males compared to 62% females indicated that HIV infection occurred through unprotected sex and blood.

Based on these findings, fewer males (59%) compared to females (62%) reported that HIV Infection occurred through both unprotected sex and blood. However, there was a proportionate increase in new knowledge about HIV Infection across both genders. Figure 5.1(below) shows summation of pre-survey and post survey findings of respondents' opinion about HIV Infection.

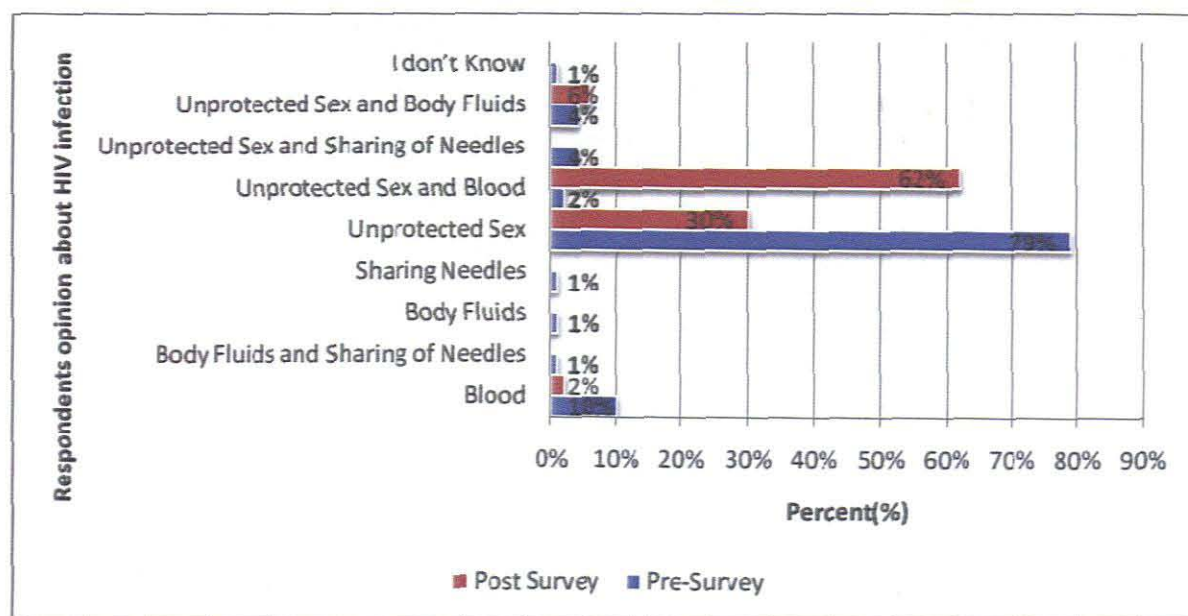


Fig. 5.1: Respondents' opinion about HIV infection

From figure 5.1, pre-survey findings for both gender shows that: The majority (79%) of the respondents indicates that HIV transmission occurred through unprotected sex; while, post survey findings indicates that the majority (62%) reported that HIV Infection occurred through both unprotected sex and blood. In addition, 30% of the respondents indicated that HIV occurred only through unprotected sex. These findings showed that the respondents had acquired additional (new) knowledge about HIV Infection.

5.2.2.3 Heard of Voluntary Counselling and Testing (VCT)

VCT is an important entry point (strategy) primarily for HIV prevention, access to treatment, care and support services (Sethosa and Petzer, 2005). However, students

need knowledge about VCT in order for them to utilise the strategy. Pre-survey study findings as presented in Table 5.2 showed that:

- a) 45% males compared to 46% females had heard of VCT; while
- b) 52% males compared to 46% females had not heard of VCT.

Post survey study findings indicated:

- a) 40% increase in males compared to 41% increase in females who had heard of VCT; and
- b) 42% decrease in males compared to 35% decrease in females who had not heard of VCT.

A comparison of study findings for both gender on one hand showed that during pre-survey: (a) 46% had heard of VCT; (b) 48% had not heard of VCT; and (c) 8% did not respond whether or not they had heard of VCT. On the other hand, post survey findings for both gender indicated: (a) 41% increase for those who had heard of VCT; (b) 37% decrease for those who had not heard of VCT; and (c) 6% decrease for those who did not indicate whether or not they had heard of VCT. Based on these findings, an equal proportion of male and female had heard of VCT. Moreover, most of the respondents had heard of VCT after their exposure to the University of Zululand's HIV/AIDS intervention strategies.

5.2.2.4 Voluntary Counselling and Testing (VCT)

As presented in Table 5.2, the following were the pre-survey study findings of the respondents own opinion of what was VCT:

- a) 2% males compared to 5% females indicated that VCT was just VCT,
- b) 20% males compared to 26% females indicated that VCT was a place for testing HIV,

- c) 2% males indicated that VCT was a service for HIV,
- d) 5% males compared to 8% females indicated that VCT was free counselling,
- e) 14% males compared to 12% females indicated that VCT was a free service for HIV/AIDS,
- f) 11% males compared to 7% females indicated that VCT was knowing HIV status,
- g) 13% males compared to 12% females indicated that VCT was people who test for HIV,
- h) 21% males compared to 20% females indicated that VCT was testing HIV, while
- i) 14% males and 9% females did not know what VCT was.

Post survey study findings as presented in Table 5.2 shows that:

- a) 24% males compared to 24% females indicated that VCT was knowing your status;
- b) 29% males compared to 28% females indicated that VCT was testing for HIV; while,
- c) 46% males compared to 45% females indicated that VCT was counselling received before HIV testing.

A comparison of study findings for both genders on one hand shows that during the pre-survey:

- a) 4% of the respondents indicated that VCT was VCT,
- b) 24% of the respondents indicated that VCT was a place for HIV testing,
- c) 13% of the respondents indicated that VCT was a free service for HIV/AIDS,
- d) 8% of the respondents indicated that VCT was knowing your HIV status,
- e) 12% of the respondents indicated that VCT was people who test for VCT,

- f) 21% of the respondents indicated that VCT was testing for HIV, while
- g) 11% of the respondents indicated that they did not know what VCT was.

On the other hand post survey findings for both genders showed that:

- a) 14% of the respondents indicated that VCT was knowing your HIV status,
- b) 29% of the respondents indicated that VCT was testing for HIV; while,
- c) 46% of the respondents indicated that VCT was counselling before you test for HIV.

Based on pre-survey findings, a significant proportion (11%) of the respondent group did not know what VCT was. In addition, 24% regarded VCT as a place for HIV testing while, 21% regarded VCT as testing for HIV.

A summation of post survey findings showed a significant reporting of respondents' new knowledge about VCT. For instance, the majority (46%) indicated that VCT was counselling received before testing for HIV. Similarly, 29% indicated that VCT was testing for HIV. These findings indicated that respondents had acquired new and correct knowledge about VCT during the study period.

5.2.2.5 Benefits of Voluntary Counselling and Testing (VCT)

People require specific knowledge about the benefits of VCT in order for them to respond or utilise the strategy (Human Social Research Council, 2005). The following were pre-survey findings of respondents' opinion about the benefits of VCT as presented in Table 5.2:

- a) 66% males compared to 49% females would know their status,
- b) 15% males compared to 21% females would be able to plan their lives,
- c) 5% males compared to 3% females would get support grant from the government while,

- d) 13% males compared to 21% females would know their status, be able to plan their lives and would get support grant from the government.

Post survey findings as presented in Table 5.2 showed that:

- a) 54% males compared to 55% females would know their status;
- b) 34% males compared to 33% females would be able to plan their lives; while,
- c) 10% males compared to 11% females would know their status, plan their lives and would get a support grant from the government.

A comparison of survey findings for both genders on one hand shows that during pre-survey:

- a) 54% of the respondents would know their status;
- b) 19% of the respondents would be able to plan their lives;
- c) 4% would get support grant from the government;
- d) 18% would know their status, plan their lives and get support grants from the government; while,
- e) 5% did not know the benefits of VCT.

On the other hand, post survey findings for both genders indicated:

- a) 1% increase for those who would know their status;
- b) 14% increase for those who would plan their lives; while,
- c) 11% would know their status, plan their lives and get support from the government.

Based on these findings, there was a significant increase in knowledge of the benefits for VCT. Further, post survey findings showed that all respondents indicated that VCT

was beneficial. Hence, an indication of respondents new and increased knowledge of the benefits of VCT during the study period.

5.2.2.6 Hypothesis 1.

Hypothesis 1: 'Students' knowledge about HIV/AIDS does not influence their responses to the intervention strategies'.

The hypothesis addressed students' knowledge of HIV/AIDS, an important precursor for behavioural responses to the intervention strategies. It was recognised that knowledge necessary to address HIV/AIDS was complex, and basic knowledge was not necessarily sufficient towards addressing responses. Student's level of motivation and actions in the form of responses was based more on what they believed than on what was objectively true (Bandura, 1997). For this reason, student response to the University of Zululand HIV/AIDS intervention strategies could be predicted by the knowledge they held about the disease and what they chose to do with the knowledge and skills they had.

Using SPSS software the results from the statistical analysis of the hypothesis were generated and presented as in Table 5.3 below.

Table 5.3: Students' HIV/AIDS knowledge and their response to the intervention strategies

Dependent variable = HIV/AIDS Intervention Strategies Independent variable = students knowledge about HIV/AIDS 332 observations used for estimation from 1 to 322								
Independent variable	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Heard of VCT	.45	.78	4.291E-02	.37	.54	10.6	331	<.0001
Pair Benefits of VCT	.34	1.62	8.940E-02	.16	.51	3.77	331	<.0001
Average	.40	1.21	6.6155E-02	.27	.53	7.19	331	<.0001

From Table 5.3, for the differences between pre-survey and post survey findings on students' knowledge about HIV/AIDS Interventions:

Mean of differences = 0.40 (n =332);

Standard deviation = 1.21;

Standard error = 6.62E-02;

95% CI = 0;

d.f = 331;

t = 7.19;

Two sided P = < .0001

A null hypothesis of no difference between the means is clearly rejected; the confidence interval is a long way from including zero. The calculated test statistics are less than the critical value.

5.2.3 BEHAVIOURAL DETERMINANTS OF STUDENTS RESPONSES

The most common mode of the HIV transmission in South Africa is through heterosexual intercourse (Human Sciences Research Council, 2005; Sethosa and Petzer, 2005). The following section presents a range of indicators related to sexual behaviour risks, knowledge and attitudes towards HIV/AIDS that could determine student response to the University of Zululand's HIV/AIDS intervention strategies. Table 5.3 presents the respondents' sexual behavioural risks, knowledge and attitudes.

Table 5.4: Respondents sexual behaviour

Respondents Sexual behaviour	Pre-Survey Findings						Post Survey Findings					
	Male		Female		Total		Male		Female		Total	
	n	%	N	%	N	%	n	%	n	%	N	%
Sexual Partnerships												
Yes	57	59	172	73	229	69	70	73	185	78	255	77
No	28	29	56	24	84	25	21	22	42	18	63	19
No Response	11	11	8	3	19	6	5	5	9	4	14	4
Engaged in Sex in the Last Six Months												
Yes	39	41	73	31	112	34	52	54	120	51	172	52
No	42	42	151	64	193	58	41	43	107	45	148	45
No Response	15	16	12	5	27	8	3	3	9	4	12	4
Condom Use During Last Sex												
Yes	28	29	55	23	83	25	35	37	83	35	118	36
No	16	17	40	17	56	17	44	46	103	44	147	44
No Response	52	54	141	60	193	58	17	18	50	21	67	20
Reasons for Engaging in Sex												
For fun	22	23	41	18	63	20	22	23	50	21	72	22
For love	14	15	40	17	54	16	15	16	37	16	52	16
Fun and love	12	13	23	10	35	11	11	12	27	11	38	11
For love and marriage	-	-	2	1	2	1	-	-	-	-	-	-
For marriage	6	6	32	14	38	11	16	17	35	15	51	15
For money	-	-	5	3	5	2	-	-	-	-	-	-
Its natural	17	18	32	13	49	15	13	14	21	9	34	10
Release stress	5	5	7	3	12	4	1	1	10	4	11	3
No response	16	17	34	14	50	15	10	10	38	16	48	15
I won't engage in sex	3	3	15	6	18	5	4	4	14	6	18	5
I don't know	1	<1	5	2	6	2	4	4	4	2	8	2
Abstinence												
Yes	32	33	75	32	107	32	35	37	84	36	119	36
No	45	47	120	51	165	50	56	58	125	53	181	55
No Response	13	14	28	12	41	12	5	5	21	9	26	8
I don't know	6	6	13	6	19	6	-	-	6	3	6	2
Transactional Sex												
Yes	5	5	14	6	19	6	3	3	22	9	25	8
No	78	81	203	86	281	85	83	87	181	77	264	80
No Response	13	13	19	9	32	10	10	10	33	14	43	13

5.2.3.1 Sexual Partnership

Students in sexual partnerships need knowledge to guard against the risk of HIV infection in a generalised epidemic that necessitates a response to HIV/AIDS intervention strategies (Human Sciences Research Council, 2005).

The following were pre-survey findings about respondents' sexual partnership as presented in Table 5.4

- a) 59% males compared to 73% females had sexual partners;

- b) 29% males compared to 24% females did not have sexual partners; while,
- c) 11% males compared to 3% females did not disclose whether they had sexual partners or not.

Post-survey findings as presented in Table 5.4 show that:

- a) 73% males compared to 78% females had sexual partners;
- b) 22% males compared to 18% females did not have sexual partners; while,
- c) 5% males compared to 4% females did not disclose whether they had partners or not.

Based on the results (Table 5.4) the proportion of the respondents who had sexual partners had increased by 14% and 5% respectively for both males and females. In addition, there was a significant decrease in the proportion of respondents who did not have sexual partners (i.e. 11% and 15% in both male and female respectively).

A comparison of pre-survey and post survey findings for both gender on one hand indicated that, during pre-survey, 69% of the respondents had sexual partners. On the other hand, post survey results indicated an 8% increase accompanied by a 6% decrease in the proportion of the respondents who did not have a sexual partner. However, there was a 2% decrease in the proportion of the respondents who did not disclose as to whether they had a partner or not. According to Bandura (1986), people would only be confident to disclose their personal information only if they believed that they had sufficient reasons to do so (self-efficacy).

5.2.3.2 Engaged in Sex in the Last Six Months

Pre-survey findings as presented in Table 5.4 show that:

- a) A larger proportion of males (41%) had engaged in sex compared to females (31%) in the past six months.

- b) A higher proportion of males (16%) compared to females (5%) did not disclose whether they had engaged in sex in the past six months.

Post survey findings indicated:

- a) 4% decrease in males compared to 4% increase in females who had engaged in sex in the past six months; while,
- b) 2% increase in males compared to 16 % increase in females who did not disclose whether or not they had engaged in sex in the past six months.

A comparison of pre and post survey findings for both genders indicated: (a) an 18% increase in the proportion of the respondents' who had engaged in sex in the past 6 months; and (b) 4% decrease in the proportion of the respondents who did not disclose whether they had engaged in sex in the past six months.

Based on these findings, a decrease in the proportion of males who had engaged in sex in the past six months was accompanied by an increase in females who had engaged in sex in the past six months. According to the findings there was a higher increase in the proportion of female respondents who did not disclose whether or not they had engaged in sex in the last six months. Therefore, a proportionate increase in the percentage of the respondents who had engaged in sex was accompanied by a decrease in the percentage of the respondents who did not disclose whether they had engaged in sex. This was an indicator that some respondents had developed a self-efficacy to disclose their sexual experiences.

5.2.3.3 Condom Use during Last Sexual Encounter

Condoms are an important means of preventing unwanted pregnancy, sexual transmitted infections and HIV Infection (Human Sciences Research Council, 2005). Male condom distribution by the South African Department of Health increased markedly-from 267 million in 2001 to 346 million in 2004 (Department of Health, 2005).

Condoms are distributed through clinics, hospitals and various other distribution points. Commercial and socially marketed condom brands are also widely available. University of Zululand's HIV/AIDS intervention strategies have condom-distribution integrated within other intervention strategies (University of Zululand, 2001). Hence, male condoms are freely available at most convenient locations within the University (i.e. the Campus Clinic, student residences, and around most lecture theatres).

The following were the pre-survey study results as presented in Table 5.4:

- a) 29% males compared to 23% females reported condom use during their last sexual encounter;
- b) 17% males compared to 17% females reported that they did not use a condom; while,
- c) 54% males compared to 60% females did not disclose whether they had used a condom during their last sexual encounter.

Compared to pre-survey findings, post survey findings as presented in Table 5.4) showed that:

- a) 37% males compared to 35% females reported condom-use during their last sexual encounter;
- b) 46% males compared to 44% females did not use a condom; while,
- c) 18% males compared to 21% females did not disclose whether or not they used a condom.

Based on the results, there was an 11% increase in condom use among the respondents during their last sexual encounter. However, this was accompanied by a 27% increase in non-disclosure to condom use. It could be argued that; at the time of admission (pre-study) to the University of Zululand, the majority of the respondents who had engaged in sex did not use a condom. In addition, condom- use results from female respondents were low. It could also be argued that females' non-disclosure of

condom use was associated with the belief that condom-use was a male's responsibility (Parker, 2003).

5.2.3.4 Reasons for Engaging in Sexual Relationship

People have varied reasons and perceptions as to why they would engage in a sexual relationship. The following are pre survey findings of the respondents' reasons of engaging in a sexual relation as presented in Table 5.4:

- a) 23% males compared to 18% females would engage in sex for fun,
- b) 15% males compared to 17% females would engage in sex for love,
- c) 13% males compared to 10% females would engage in sex for both fun and love,
- d) 1% of females would engage in sex only for love and marriage,
- e) 6% males compared to 14% females would engage in sex only when married,
- f) 3% females would engage in sex for money,
- g) 18% males compared to 13% females would engage in sex because it is natural,
- h) 5% males compared to 3% females would engage in sex to release stress,
- i) 3% males compared to 6% females would never engage in sex while,
- j) <1% males compared to 2% females did not know why they would engage in sex.

Post survey findings as shown in Table 5.4 indicated that:

- a) 23% males compared to 21% females would engage in sex for fun,
- b) an equal proportion (16%) of both males and females would engage in sex for love,
- c) 12% males compared to 11% females would engage in sex only when married,

- d) 14% males compared to 9% females would engage in sex because it was natural,
- e) 10% males compared to 16% did not indicate the reason why they would engage in sex, while,
- f) 4% males compared to 2 % females did not know why they would engage in sex.

Based on the findings most respondents would engage in sex for varied reasons other than, love and marriage. Figure 5.2 shows pre-survey and post survey findings (both genders) of respondents' opinion as to why they would engage in sex. The survey in this situation emphasises the element of sex since it was assumed that, the most prominent HIV transmission medium for students at the University would be sex. Why sex? The reasons being that sex is a compelling relationship activity among the youth at the University (Kelly, 2001).

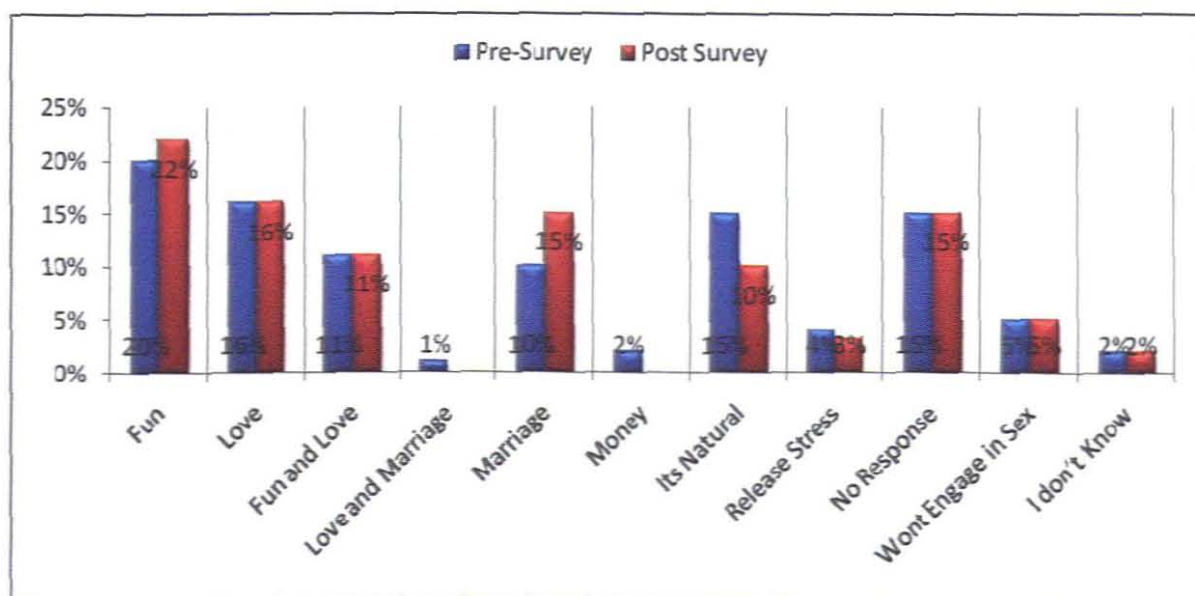


Fig 5.2: Respondents' opinion as to why they would engage in sex.

The analysis of student views relating to why they engaged in sexual activities as reflected in Figure 5.2 is as follows:

- a) 2 % increase in the proportion of those who would engage in sex for fun;
- b) 1% decrease for those who would engage in sex for love;
- c) 4% increase for those who would engage in sex only when married;
- d) 5% decrease for those who would engage in sex because it is natural; and
- e) 1% decrease for those who would engage in sex to release stress.

Based on these results, it could be argued that at the time of admission to the University of Zululand, most respondents had mixed opinions as to why they would engage in sex. Reportedly, most would engage in sex for fun, love, both fun and love, and because sex was natural. It could further be argued that there was no significant change in the respondents' opinion as to why they would engage in sex. However, there was a minute change in the following respondent's opinions: Fun and love; Would not engage in sex; and those who did not know why they would engage in sex.

5.2.3.5 Abstinence

Sexual abstinence is a prevention strategy integrated within the University of Zululand's HIV/AIDS intervention strategies (University of Zululand, 2002). Respondents opinions were sought as to whether or not it would be impossible for them to abstain once engaged in a sexual relationship. The following were the pre-survey findings as presented in Table 5.4:

- a) 33% males compared to 32% females indicated that it would be difficult for them to abstain;
- b) 47% males compared to 51% females indicated that it would not be difficult for them to abstain;
- c) an equal proportion (6%) of both male and female did not know if it would be difficult for them to abstain; while,
- d) 14% males compared to 12 % females did not respond.

Post survey findings, on the other hand, showed that:

- a) 37% males compared to 36 % females indicated that it would be difficult for them to abstain;
- b) 58% males compared to 53% females indicated that it would not be difficult for them to abstain; while,
- c) 5 % males compared to 9% females did not respond.

A comparison of pre and post survey findings for both genders relating to abstinence from sex indicated the following:

- a) 4% increase in the proportion of the respondents who indicated that it would be impossible to abstain;
- b) 5% increase in those who indicated that it would not be impossible to abstain; and
- c) 4% decrease in the proportion of those who did not know whether it would be impossible for them to abstain once engaged in sexual relationships.

Based on the findings, it could be argued that, there was a significant change in respondents' opinion as to whether or not it would be impossible for them to abstain once engaged in a sexual relationship.

5.2.3.6 Transactional Sex

A transactional sex practice involves engaging in sex in exchange for some favour such as money, food, entertainment etc (Van Dyk, 2005). The following were the pre-survey findings on transactional sex as presented in Table 5.3:

- a) 5% males compared to 6 % females would engage in transactional sex;
- b) 81% males compared to 86% females would not engage in transactional sex; and,
- c) 13% males compared to 9% females did not disclose whether or not they would engage in transactional sex.

A comparative analysis of the post survey findings of transactional sex indicated the following:

- a) 3% males compared to 9% females would engage in transactional sex,
- b) 87% males compared to 77% females would engage in transactional sex;
and
- c) 10% males compared to 14 % females did not respond.

A comparison of pre and post survey findings for both genders regarding transactional sex on one hand showed that: 6% would engage in transaction sex; 85% would not engage in sex; while, 10% did not respond. On the other hand, post survey findings indicated: 2% increases for those who would engage in transactional sex; 5% decreases for those who would not abstain; and, 3% increase for those who did not respond.

Based on these findings, the larger proportion of the study group would not engage in transactional sex. However, it could be argued that there was a proportion within the study group that would engage in transactional sex. Further arguments would be that the proportionate increase in the non-disclosure would have been due to the respondent's contemplation of the intention to engage in transaction sex or not (Bandura, 1997).

5.2.3.7 Hypothesis 2.

Hypothesis 2: 'There is no significant relationship between students' sexual behaviours' and their response to the University of Zululand's HIV/AIDS intervention strategies'.

The hypothesis addresses student sexual behavioural risk in relation to their response to the University of Zululand's HIV/AIDS interventions strategies. Student perception of

risk of HIV infection due to present or past sexual behavioural risks functions as a motivator or a de-motivator to respond to HIV/AIDS intervention strategies. Sexual behaviour remains the “primary target” of most AIDS prevention efforts worldwide (UNAIDS, 1999). However, sexual behaviour alone is far too narrow a lens through which to examine the experience and behaviour of individuals (MacPhail and Campbell, 2001; McAlister, *et. al*, 1991). Hence, the association between perception of risk of HIV infection and sexual behaviour remains poorly understood. Five independent variables were used to test the hypothesis. These were: have a sexual partner, engaged in sex in the last six months, condom use, abstinence, and transactional sex practices. The hypothesis was tested by use of a paired *t*-test statistic. The results are presented as follows (see Table 5.5):

Table 5.5: Students' Sexual Behavioural Risks and HIV/AIDS Interventions

Dependent variable = HIV/AIDS intervention Strategies Independent variable = students sexual behavioural risks 332 observations used for estimation from 1 to 322								
Independent variable	Paired Differences					t	do	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Have a partner	9.04E-02	.81	4.41E-02	3.29E-03	.18	2.04	331	.04
Engaged in sex in the past six months.	.23	.78	4.29E-02	.14	.31	5.27	331	.00
Condom use	.48	1.10	6.06E-02	.36	.60	7.96	331	.00
Abstinence	.16	1.07	5.89E-02	4.39E-02	.28	2.71	331	.01
Transactional sex.	-5.42E-02	.91	5.0E-02	-.15	4.42E-02	-1.08	331	.28
Average	.77	.94	5.13E-02			3.58	331	.07

For differences between pre-survey and post survey findings on students' behavioural sexual risks:

Mean of differences = .77 (n =332)

Standard deviation = .94

Standard error = 5.13E-02

95% CI = 0

d.f = 331

t = 3.58

Two sided P = .07

A null hypothesis of no difference between the means is clearly rejected; the confidence interval is a long way from including zero. The calculated test statistics are less than the critical value.

5.2.4 STUDENTS RESPONSES AND PERCEPTIONS TO HIV/AIDS INTERVENTIONS

An individual's belief in his or her personal susceptibility to illness or disease is an important element in nearly all models of preventive health behaviour, both general and HIV/AIDS specific (Airhinnenbuwa and Obregon, 2000). According to Ajzen (1988) the degree to which one feels personally vulnerable to a developing health problem influences the adoption of risk-reducing behaviour and or preventive strategies. Student response and perceptions towards HIV/AIDS intervention strategies are presented in Table 5.6 below.

Table 5.6: Respondents' Perceptions to HIV/AIDS Interventions

Responses Perceptions about HIV/AIDS Interventions	Pre-Survey Findings						Post Survey Findings					
	Male		Female		Total		Male		Female		Total	
	n	%	n	%	N	%	N	%	n	%	N	%
Tested for HIV												
Yes	15	16	70	30	85	26	53	55	120	51	173	52
No	77	80	163	69	240	72	41	43	111	47	152	46
No Response	4	4	3	1	7	2	2	2	5	2	7	2
Plan to go for VCT in the next three months												
Yes	44	36	86	46	130	39	52	54	135	57	187	56
No	31	39	92	32	123	37	28	29	61	26	89	27
No Response	21	25	58	22	79	24	15	16	40	17	55	17
I don't know	-	-	-	-	-	-	1	1	-	-	1	<1
Everyone should go for HIV testing												
Yes	70	73	182	77	252	76	81	84	183	78	264	80
No	6	6	13	6	19	6	3	3	19	8	22	7
No Response	11	12	27	11	38	11	9	9	26	11	35	11
I don't know	9	9	14	6	23	7	3	3	8	3	11	3

With regard to the respondent's perceptions of HIV/AIDS intervention strategies, the following sub-sections presents study findings contained in Table 5.6 above. The outcome of the analysis is discussed under the sections on: Testing for HIV/AIDS; Plans to go for VCT; and The notion that everyone should go for VCT.

5.2.4.1 Have Tested for HIV

Testing for HIV is an indicator of student responses to the University's HIV/AIDS intervention strategies. The following were the pre-survey findings as presented in Table 5.6:

- a) 16% males compared to 30% females had tested for HIV;
- b) 80% of males compared to 69% females had not tested for HIV; and
- c) 4% males compared to 1% females did not disclose whether or not they had tested for HIV.

Post survey findings on the other hand showed that:

- a) 55% males compared to 51% females had tested for HIV;
- b) 43% males compared to 47% females had not tested for HIV; while,
- c) 2% males compared to 2% females did not disclose whether they had tested for HIV or not.

A comparison of pre and post survey findings for both genders on one hand showed that: during pre-survey: (a) 26% of the respondents had tested for HIV; (b) 72% had not tested for HIV; while (c) 2% did not disclose whether they had tested for HIV or not. On the other hand, post survey findings indicated: (a) 26 % increase for those who had tested for HIV; and (b) 26% decrease for those who had not tested for HIV.

Based on these results, it could be argued that, prior to their exposure to the University of Zululand's HIV/AIDS intervention strategies, few male respondents had not tested for HIV compared to the post survey findings. In addition, there was a 26% increase for

those who had tested for HIV. Hence, an indication that there was increased response to HIV testing.

5.2.4.2 Plan to go for VCT in the Next 3 months

VCT is an important entry intervention strategy primarily, both for HIV prevention and access to treatment, care and support services (Glick, 2005; Sethosa and Petzer 2005; Solomon, 2004). However, peoples' self-efficacy and knowledge about the benefits of VCT would determine their response or uptake (Bandura, 1986). The following were the pre-survey findings as presented in Table 5.6:

- a) 36% males compared to 46% females planned to go for VCT in the next three months;
- b) 39% males compared to 32% females did not plan to go for VCT in the next three months; while,
- c) 25% males compared to 22% females did not disclose their intentions concerning whether or not they planned to go for VCT in the next three months.

The following were the post survey findings regarding whether or not respondents planned to go for VCT in the next three months:

- a) 54% males compared to 57% females planned to go for VCT in the next three months;
- b) 29% males compared to 26 % females did not plan to go for VCT in the next three months ; while,
- c) 16% males compared to 17% females did not disclose their intentions concerning whether or not they planned to go for VCT in the next three months.

A comparison of pre and post survey findings for both genders on one hand, showed that during the pre-survey study: (a) 39% planned to go for VCT in the next three months; (b) 37 % did not plan to go for VCT in the next three months, and (c) 16% did not disclose whether or not they planned to go for VCT in the next three months. On the other hand, post survey findings showed: (a) 17% increase for those who planned to go for VCT in the next three months; and (b) 10% decrease for those who did not plan to go for VCT in the next three months.

Based on the findings it could be argued that most of the respondents had developed a positive response towards VCT as an intervention strategy as most (57%) planned to go for VCT in the next three months.

5.2.4.3 Everyone should go for VCT

A perception that, 'everyone should go for VCT', is a collective one (Bandura, 2001:24). It is an inherent group perception or conviction of the benefits of knowing one's HIV status. The following were the pre-survey findings about respondents' perception regarding whether or not 'everyone should go for VCT' (as presented in Table 5.6):

- a) Fewer males (73%) compared to females (77%) indicated that everyone should go for HIV testing;
- b) An equal proportion (6%) of males and females indicated that not everyone should go for HIV testing;
- c) More males (12%) compared to females (11%) did not respond; while,
- d) More males (9%) compared to females (6%) did not know whether or not everyone should go for VCT.

Post survey findings on the other hand, showed that:

- a) More males (84%) compared to females (78%) indicated that everyone should go for HIV testing;

- b) Fewer males (3%) compared to females (8%) indicated that not everyone should go for HIV testing;
- c) Fewer males (9%) compared to females (11%) did not respond; while,
- d) An equal proportion (3%) of both males and females did not know whether or not everyone should go for VCT.

A comparison of pre and post survey findings for both gender in regard to whether or not everyone should go for VCT on one hand, showed that during the pre-survey: (a) 76% of the respondents indicated that everyone should go for HIV testing; (b) 6% of the respondents indicated that not everyone should go for VCT; (c) 11% of the respondents did not respond; while, (d) 7% did not know whether everyone should go for VCT or not. On the other hand, post survey findings showed: (a) 4% increase in the respondents who indicated that everyone should go for VCT; (b) 1% increase for those who indicated that not everyone should not go for VCT; and, (c) 4% decrease for those who did not know whether or not everyone should go for VCT

Based on these findings, it could be argued that, there was a positive change in the respondents' perception as to whether or not everyone should go for VCT. These findings were accompanied by a decrease in percentage of those who did not know whether everyone should go for VCT. In addition, the findings may be supported by an argument that, knowledge about the benefits of HIV testing acted as a motivation for one to plan for a HIV test.

5.2.4.4 Hypothesis 3:

Hypothesis 3: 'There is no significant relationship between students' perceptions and their response to the University's HIV /AIDS intervention strategies'.

One of the objectives of the study was to establish student perceptions concerning the University's HIV/AIDS intervention strategies. To this end, the hypothesis: 'There is no significant relationship between students' perceptions and their response to the

University's HIV /AIDS intervention strategies' was tested. The hypothesis was tested using a paired *t*–test statistic. The results are presented in Table 5.7

Table 5.7: Student perceptions and responses to the University's HIV/AIDS intervention strategies

Dependent variable = HIV/AIDS Intervention Strategies Independent variable = Students Responses and Perceptions 332 observations used for estimation from 1 to 322								
Independent variable	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Tested for HIV	.27	.73	4.03E-02	.19	.34	6.57	331	.000
Plan to go for VCT	.24	1.08	5.91E-02	.12	.35	4.02	331	.000
Everyone should for HIV	.12	1.26	6.90E-02	-1.82E-02	.25	1.70	331	.089
Average	.21	1.02	5.61	.15E-02	.32	4.10	331	0.003

From table 5.7 above; for differences between pre-survey and post survey findings on student perception and their response to the University's HIV/AIDS intervention strategies:

Mean of differences = .21 (n =332)

Standard deviation = 1.02

Standard error = .15E-02

d. f = 331

t = 4.10

Two sided P = 0.003

A null hypothesis of no difference between the means was clearly rejected; the confidence interval was a long way from zero. The calculated test statistics was less than the critical value.

5.2.5 RESPONDENTS ATTITUDES AND SELF-EFFICACY

Self-efficacy, perceptions, and attitudes of HIV/AIDS are important precursors for responses to HIV/AIDS intervention strategies (Bandura, 2001). In the present survey, respondents' self-efficacy was explicitly measured through analysing responses to particular awareness and knowledge questions. To some extent, self-efficacy was implicitly measured by analysing responses for risk reduction or addressing the possibility of one's own infection (e.g. condom use, or through uptake of VCT). It was assumed that condom use or uptake of VCT were related to taking charge of own behaviour in relation to HIV/AIDS intervention strategies. The findings on respondents' attitudes and self-efficacy are as presented in Table 5.8.

5.2.5.1 Would be Friends with an HIV Positive Person

Stigma and discrimination against people living with HIV/AIDS has been a primary barrier to effective HIV prevention (Van Dyk, 2005). The following were the pre-survey findings as to whether respondents would be friends with an HIV positive person:

- a) 77% males compared to 90% females would be;
- b) 12% males compared to 4% females would not be; while,
- c) 12% males compared to 6% females did not disclose whether or not they would be friends with an HIV positive person.

Post survey findings indicated:

- a) 18% increase in males compared to 3% decrease in females who would be friends with an HIV Positive person;
- b) 9% decrease in males and 1% decrease in females would not be friends with an HIV positive person; and
- c) 10% decrease in males and 4% decrease in females who did not disclose whether or not they would be friends with an HIV positive person.

Table 5.8: Respondents attitudes and self-efficacy

Respondents attitudes and Self efficacy	Pre -Survey findings						Post Survey findings					
	Male		Female		Total		Male		Female		Total	
	N	%	N	%	N	%	n	%	n	%	N	%
Would be friends with an HIV positive person												
Yes	74	77	213	90	287	86	91	95	224	95	315	95
No	11	12	9	4	20	6	3	3	7	3	10	3
No Response	11	12	14	6	25	8	2	2	5	2	7	2
I don't know												
Own responsibility to protect against HIV infection												
Yes	88	92	217	92	305	92	92	96	223	95	315	95
No	2	2	5	2	7	2	2	2	2	1	4	1
No Response	4	4	9	4	13	4	1	1	6	3	7	2
I don't know	2	2	5	2	7	2	1	1	5	3	6	2
Would go for VCT with partner												
Yes	55	57	186	79	241	73	69	72	153	65	222	67
No	23	24	22	9	45	14	23	24	44	19	67	20
No Response	10	10	13	6	23	7	3	3	14	6	17	5
I don't know	8	8	15	6	23	7	1	1	25	11	26	8
Would get support from friends if tested HIV positive												
Yes	37	39	122	52	159	48	56	58	101	43	157	47
No	7	7	20	9	27	8	11	12	31	13	42	13
No Response	40	42	72	31	112	34	17	18	72	31	89	27
I don't know	12	13	21	9	33	10	12	13	31	13	43	13
Would disclose HIV Positive status to friends												
Yes	48	50	104	44	152	46	50	52	102	43	152	46
No	29	30	85	36	114	34	27	28	78	33	105	32
No Response	15	16	36	15	51	15	11	12	32	14	43	13
I don't know	4	4	11	5	15	5	8	8	24	10	32	10
Would quit university if tested HIV positive												
Yes	10	10	44	10	54	13	9	9	37	16	46	14
No	73	76	237	76	323	71	72	75	171	73	243	73
No Response	9	9	28	9	37	11	11	12	16	7	27	8
I don't know	4	4	13	4	17	5	4	4	12	5	16	5
Would interact and live with others tested HIV Positive												
Yes	72	75	142	60	214	65	65	68	149	63	214	65
No	11	12	31	13	42	13	14	15	38	16	52	16
No Response	10	10	47	20	57	17	9	9	28	12	37	11
I don't know	3	3	16	7	19	6	8	8	21	9	29	9
Would break up with partner												
Yes	13	14	49	21	62	19	10	10	44	19	54	16
No	60	63	131	56	191	58	58	60	128	54	186	56
No Response	17	18	39	17	56	17	14	15	43	18	57	17
I don't know	6	6	17	7	23	7	14	15	21	9	35	11

Where: n = sample size, % = percentage of the sample size.

A comparison of pre-survey and post survey findings for both genders regarding whether or not respondents would be friends with an HIV positive person on one hand showed that during pre-survey study: (a) 86% of the respondents indicated that they would be friends with an HIV positive person; (b) 6% would not be friends with an HIV positive person; while, (c) 8 % did not disclose whether or not they would be friends with an HIV positive person. On the other hand, post survey findings indicated: (a) a 9% increase in the respondents who would be friends with an HIV positive person, (b) 3% decrease in those who would not be friends with an HIV positive person; and (c) a 6% decrease in those who did not disclose whether or not they would be friends with an HIV positive person. Based on these findings it could be argued that majority of the respondents would be friends with an HIV positive person.

5.2.5.2 Own responsibility to protect against HIV infection

According to Bandura (2001) and Fishbein & Yzer (2003) people with high self-efficacy would take it upon themselves to protect against HIV infection. As presented in Table 5.5, the following were the pre-survey findings of the respondents' opinion as to whether or not it was their own responsibility to protect against HIV infection:

- a) An equal proportion (92%) of males compared to females indicated that it was their own responsibility to protect against HIV Infection;
- b) An equal proportion (2%) of males compared to females indicated that it was not their own responsibility to protect against HIV Infection;
- c) An equal proportion (4%) of males compared to females did not respond; and
- d) An equal proportion (2%) of males compared to females did not know whether or not, it was their own responsibility to protect against HIV Infection.

Post survey findings indicated a 4% increase in males and a 3% increase in females who indicated that it was their own responsibility to protect against HIV Infection. Thus, based on these findings, the majority of the respondents believed that it was their own

responsibility to protect against HIV Infection. According to Bandura (2001) this was an indication of a high self-efficacy among the respondent group.

5.2.5.3 Would go for VCT with partner

According to Van Dyk (2005), a decision to go for VCT with a partner is a demonstration of peoples' high self-efficacy. Pre-survey study findings concerning whether respondents would go for VCT with partner as presented in Table 5.5 showed that:

- a) Fewer males (57%) compared to females (79%) would go for VCT with their partner; while,
- b) More males (24%) compared to females (9%) females would not go for VCT with partner.

Post survey findings indicated:

- a) 13% increase in males compared to 14% decrease in females who would go for VCT with their partners; while,
- b) 0% change in males compared to 10% increase in females who would not go for VCT with their partner.

A comparison of pre and post survey findings for both genders concerning whether the respondents would go for VCT with partner on one hand shows that during the pre survey study:

- a) 73% of the respondents would go for VCT with partner;
- b) 14% of the respondents would not go for VCT with a partner;
- c) 7% did not respond; while,
- d) 7% did not know whether or not they would go for VCT with partner.

On the other hand, post survey findings for both males and females showed interesting results:

- a) 6% decrease among respondents who would go for VCT with a partner;
- b) 6% increase among respondents who would not go for VCT with a partner;
- c) 2% decrease among respondents who did not respond; and
- d) 1% increase among respondents who indicated that they did not know whether or not they would go for VCT with a partner.

Based on these findings, it could be argued that majority of the respondents (both male and female) would go for VCT with partner. However, the proportion of the female respondents who would go for VCT with a partner dropped by 10% further affecting the overall percentage of the respondents who had indicated that they would not go for VCT with their partner (6% increase). Hence, an indication of a reduced self-efficacy among female respondents who had indicated that they would go for VCT with partner.

5.2.5.4 Would Get Support if Tested HIV Positive

Besides knowledge about the University of Zululand's HIV/AIDS intervention strategies, students need a guarantee of a support structure about their HIV positive status (Glick, 2005; Sethosa and Petzer, 2005; Solomon, 2004). Generally, HIV positive students with high self-efficacy would have a belief that regardless of their new status, they would get support from friends and family. Pre-survey findings as presented in Table 5.4 showed that:

- a) 39 % males compared to 52% females would get support from friends and family if tested HIV positive;
- b) 7% males compared to 9% females would not get support from friends and family if tested HIV positive;
- c) 42% males compared to 31% females did not respond; while,

- d) 13% males compared to 9% females did not know whether or not they would get support from friends and family if tested HIV positive.

Post- survey findings showed interesting results on the following basis:

- a) 9% increase in males compared to 6% increase in females would get support from friends and family if tested HIV positive;
- b) 1% increase in males compared to 3% increases in females would not get support from friends and family if tested HIV positive;
- c) 8% decrease in males compared to 13% females did not respond; while,
- d) 3% decrease in males compared to 4 % increases did know whether or not they would get support from friends and family if tested HIV positive.

A comparison of pre and post survey findings for both gender on one hand showed that during the pre-study:

- a) 48% indicated that they would get support from friends and family if they tested HIV positive;
- b) 8% indicated that they would not get support from friends and family if tested HIV positive;
- c) 34% did not know; while,
- d) 10% did not know whether or not they would get support from friends and family if they tested HIV positive.

On the other hand, post survey findings for both gender indicated:

- a) 1% decrease among those who would get support from friends and family if tested HIV positive;
- b) 5% would not get support from friends and family;
- c) 7% decrease among those who did not respond; and

- d) 3% increase among those who indicated that they did not know whether or not they would get support from friends and family if they tested HIV positive.

Based on these findings, it might be argued that, despite an increase in the proportion (4%) of the respondents who indicated that they did not know whether or not they would get support from friend and families if tested HIV positive, most respondents indicated that they would get support.

5.2.5.5 Would Disclose HIV Positive Status

Stigma about HIV positive status prevents people from testing for HIV (Solomon, 2004). According to Bandura (1986), disclosure of HIV positive status can be achieved by a high self-efficacy. Pre-survey study findings on whether or not the respondents would disclose their HIV positive status as presented in Table 5.8 showed that:

- a) 50% males compared to 44% females would disclose their HIV positive status;
- b) 30% males compared to 36% females would not disclose their HIV positive status;
- c) 16% males compared to 15% females did not respond; while,
- d) 4% males compared to 5% females did not know whether they would disclose their HIV positive status.

Post survey study findings indicated that:

- a) 52% males (i.e. 2% increase) compared to 43% females (i.e. 1% decrease) would disclose their HIV positive status;
- b) 28% males (i.e. 2% decrease) compared to 33% females (i.e. 3% decrease) would not disclose their HIV positive status,

- c) 12% males (i.e. 4% decrease) compared to 14% females (1% decrease) did not respond; and,
- d) 8% males (i.e. 4% increases) compared to 10 % females (i.e. 5% increase) did not know whether they would disclose their HIV positive status or not.

A comparison of pre and post survey findings for both gender regarding disclosure of HIV positive status on one hand showed that during the pre survey study: (a) 46% of the respondents would disclose their status; (b) 34% would not disclose their status; (c) 15% did not respond; while (d) 5% did not know whether or not they would disclose their HIV positive status or not. On the other hand, post survey findings indicated: (a) no change amongst those who would disclose their status; (b) 2% decrease among those who would not disclose their status; (c) 2% decrease among those who did not respond; and (d) 5% increase among those who did not know whether or not they would disclose their status if they tested HIV positive.

Based on the findings, it could be argued that despite an increase in the proportion of those who did not know whether or not they would disclose their status, majority of the respondents would disclose their HIV positive status.

5.2.5.6 Would quit University if tested HIV positive

HIV/AIDS intervention strategies are designed to develop self-efficacy, self-regulatory behaviour and to give knowledge and skills to deal with a HIV positive result (Kelly, 2001). Pre-survey findings concerning whether or not respondents would quit the University if tested HIV positive as presented in Table 5.5 showed that:

- a) An equal proportion (10%) of males compared to females would quit the University;
- b) An equal proportion (76%) of males compared to females would not quit university;

- c) An equal proportion (9%) of males compared to females did not respond; and
- d) An equal proportion (4%) of males compared to females did not know whether or not they would quit the University if tested HIV positive.

On a comparative basis post survey findings reflected in Table 5.5 indicates the following outcomes:

- a) Fewer males (9%, i.e. 1% decrease) compared to females (16%, i.e. 6% increase) would quit the University;
- b) More males (75%, i.e. 1% increase) compared to females (73%, i.e. 3% increase) would not quit the University;
- c) More males (12%, i.e. 3% increase) compared to females (7%, i.e. 2% decrease) females did not respond; while,
- d) Fewer males (4%) compared to females (5%, i.e. 1% increase) females did not know whether or not they would quit the University if they tested HIV positive.

Based on these findings it can be concluded that despite a 1% increase in the percentage of those who would quit the University if tested HIV positive, the majority of the respondents indicated that they would not quit.

5.2.5.7 Would interact and live with others if tested HIV positive

Pre-survey findings as presented in Table 5.8 concerning respondent's opinion as to whether or not they would be free to interact and live with others if tested HIV positive showed that:

- a) More males (75%) males compared to females (60%) would be free;
- b) Fewer males (12%) compared to females (13%) would not be free;
- c) Fewer males (10%) compared to females (20%) did not respond; while,

- d) Fewer males (3%) compared to females (7%) did not know whether or not they would be free to interact and live with others if tested HIV positive.

Following on the pre-survey, the post survey findings showed:

- a) 7% decrease in males compared to 3% increase in females would be free;
- b) 3% increase in males compared to 3% increase in females who would not be free;
- c) 2% increase in males compared to 8% decrease in females who did not respond; and,
- d) 6% increase in males compared to 2% increase in females who did not know whether or not they would be free to interact and live with others if tested HIV positive.

A comparison of pre and post survey findings for both genders in regard to whether or not the respondents would be free to interact and live with others if tested HIV positive on one hand showed that : (a) there was no change amongst the proportion of the respondents who would be free; (b) 3% increase among those who would not be free; (c) 5 % decrease among those who did not respond; and, (d) no changes among the respondents who did not know whether or not they would be free to live or interact with others if tested HIV positive

Based on these findings, there was no change in the proportion of those who would be free to interact and live with others if tested HIV positive. However, there was an increase in the proportion of the respondents who indicated that they would not be able to live and interact with others if tested HIV positive. According to Airhihenbuwa and Obregon (2000) most people would respond to VCT only if they are assured that they would be able to deal with their HIV positive status. Thus, given the results as presented above, it could be argued that a certain proportion of the respondent group was uncertain as to whether or not they would be able to interact and live with others at the University if tested HIV positive.

5.2.5.8 Would Break up with Partner if tested HIV Positive

Persons with high self-efficacy would not easily break up from their sexual relationships given their HIV positive status or that of a partner (Bandura, 1986). Pre-survey findings as presented in Table 5.8 on the respondents' opinion as to whether or not they would break up with their partner if tested HIV positive showed that:

- a) Fewer males (14%) compared to females (21%) would break up with their partner;
- b) More males (63%) compared to females (56%) would not break up with their partner;
- c) More males (18%) compared to females (17%) did not respond; while,
- d) Fewer males (6%) compared to females (7%) did not know whether or not they would break with their partner if tested HIV positive.

As a comparison to the pre-survey findings, post survey findings showed:

- a) 4% decrease in males compared to 3% decrease in females who would break up with their partner;
- b) 3% increase in males compared to 2% increase in females who would not break up with their partner;
- c) 3% decrease in males compared to 1% decrease in females did not respond; and ,
- d) 9% increase in males compared to 2% increase in females who did not know whether or not they would break with their partner if tested HIV positive.

A comparison of pre and post survey findings for both gender showed: (a) 3% decrease of the respondents would break up with partner; (b) 2% decrease for those who would

not break up with partner; and, (c) 4% increase for those who did not know whether or not they would break up with partner if tested HIV positive.

Based on the findings, there was a decrease in the proportion of both males and females who would break up with partner. This finding was accompanied by an increase in the proportion of both males and females who would not break up with partner. However, there was a 9% increase amongst the males compared to 2% increase in females who did not know whether or not they would break up with partner if tested HIV positive. It could be argued that the proportion of respondents who were uncertain as to whether they would be able to break up with the partner had increased following comparison of pre and post survey findings.

5.2.5.9 Hypothesis 4

Hypothesis 4: 'There is no significant relationship between students' self-efficacy and their responses to the University's HIV/AIDS intervention strategies'

The hypothesis tested the relationship between student self-efficacy and their response to the University of Zululand's HIV/AIDS intervention strategies. According to Bandura (1986), self-efficacy is a person's belief that he or she was capable of performing the new behaviour in the proposed situation (Bandura, 1986). Thus, student self-efficacy for a given behaviour dramatically affected their self-motivation for performing that behaviour. For instance, if a student felt capable of achieving a certain goal, he or she was likely to work harder and give up less easily compared to a student who had a low self-efficacy. A second essential factor for self-motivation is feedback (i.e. through feedback, people are able to control or adjust their own efforts and goals to make it more feasible and realistic) (Bandura, 1986). In addition, receiving feedback on performance accomplishments would improve a students' self-efficacy for the behaviour. While, the third factor that influences self-motivation was the anticipated time to goal attainment (Bandura, 1989).

The hypothesis was tested using a paired *t* –test statistic. The results are presented as in Table 5.9 as follows:

Table 5.9: Student self-efficacy and their response to the University's HIV/AIDS intervention strategies.

Dependent variable = HIV/AIDS intervention Strategies Independent variable = students self efficacy 332 observations used for estimation from 1 to 322								
Independent variables	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Would be friends with a HIV+ person	7.53E-02	.76	4.15E-02	-6.30E-03	.16	1.82	331	.07
Its own responsibility to protect against HIV Infection	5.42E-02	.78	4.26E-02	-2.95E-02	.138	1.27	331	.20
Would go for VCT with partner.	-5.72E-02	1.34	7.33E-02	-.201	8.69E-02	-.78	331	.44
Would get social support if HIV +ve	-3.03E-03	1.62	8.90E-02	-.18	.17	-.034	329	.97
Would disclose HIV + status	-7.83E-02	1.34	7.38E-02	-.22	6.68E-02	-1.06	331	.29
Would Quit university if HIV +ve	-9.04E-03	.84	4.60E-02	-9.96E-02	8.15E-02	-.20	331	.85
Would be free to Interact and Live if tested HIV positive	.00	1.34	7.36E-02	-.14	.14	.00	331	1.00
Would Break up with partner if HIV +ve	-9.94E-02	1.13	6.18E-02	-.22	2.21E-02	-1.61	331	.11
Average	-2.83E-02	1.14	6.27E-02			-0.07	331	.57

From Table 5.9, for differences between pre-survey and post survey findings on students' self-efficacy and their responses to University of Zululand HIV/AIDS intervention strategies:

Mean of differences = - 2.83E-02 (n =332)

Standard deviation = 1.14

Standard error = 6.27E-02

d. f = 331

t = - 0.07

Two sided P = 0.57

A null hypothesis of no difference between the means was rejected; the confidence interval was a long way from including zero. The calculated test statistics was more than the critical value.

5.3 SUMMARY

The chapter was divided into five sub-sections. The first sub-section presented the demographic characteristics of the respondents, while subsequent sub-sections presented several respondents' characteristics in relation to gender. Comparisons of pre-survey and post-survey findings were made in all instances. The findings indicated that, the respondents' were distributed between 17 years to 29 years. It was also observed that female students dominated all the Faculties. Both pre-survey and post-survey findings reported different levels of student knowledge about HIV/AIDS. However, post survey study findings reported either an increase or an acquisition of knowledge about HIV/AIDS.

The findings indicated that respondents' sexual behaviour affected their responses to some of the integrated University of Zululand's HIV/AIDS interventions strategies such as, use of male condoms and abstinence. In addition, post survey findings indicated an increase in the proportion of the students who would engage in transactional sex practices. The findings on students' perceptions about HIV/AIDS intervention strategies indicated that more students (especially males) had tested for HIV or planned to go for VCT in the next three months. In addition, there was an increase in the proportion of the respondents who indicated that everyone should go for HIV testing.

The last sub-section presented findings on student attitudes and self-efficacy skills. This included: Attitudes towards HIV positive friends; Own responsibility to protect against HIV infection; Would go for VCT with partner; Would get support from friends and family if tested HIV positive; Would disclose HIV positive status; Would quit

university if tested HIV positive; Would be free to interact and live with others if tested HIV positive; and, Would break up with partner if tested HIV positive. A comparison of pre-survey and post survey findings indicated that, despite non-responses by some respondents most had developed a positive attitude towards their HIV positive status. However, some declined to respond or did not know whether they would respond to the intervention strategies.

The next chapter is evaluation, conclusion and recommendation.

CHAPTER 6

EVALUATION, CONCLUSION AND RECOMMENDATION

6.1 INTRODUCTION

The primary thrust of research, including its evaluation and conclusion aspects, in spatial and non-spatial sciences, has this objective: to discover those shared characteristics which might provide clues in developing methodological and theoretical insights through analysis of perception, evaluation, learning and response of individuals to their environment. These shared descriptors might also lead to finding new solutions to old problems (English and Mayfield 1972). The ideas expressed above succinctly summarise the important role of research, and how decision-makers and stakeholders should behave in dealing with the enormous venture of managing the depredations of HIV/AIDS.

The purpose of this study was to investigate students' responses to the HIV/AIDS intervention strategies of the University of Zululand. This was done by identifying the objectives and methods of the University's HIV/AIDS intervention strategies. The study also sought to establish the students' knowledge with regard to the existence of HIV/AIDS intervention strategies of the University of Zululand. In addition, the study aimed at ascertaining whether students' self-efficacy principle affected their response to the University's HIV/AIDS interventions strategies. To accomplish this aim, the study attempted to address the following objectives:

- a) To identify the current objectives and methods of the University of Zululand's HIV/AIDS interventions and strategies;
- b) To establish students' knowledge about the University of Zululand's HIV/AIDS intervention strategies ;
- c) To investigate students' perception and response to the University of Zululand's HIV/AIDS interventions strategies;

- d) To establish the relationship between students' self-efficacy and their response to the University of Zululand's HIV/AIDS intervention strategies; and
- e) To develop a conceptual model for new processes and procedures for functionalising the University of Zululand's HIV/AIDS intervention strategies.

A cross sectional longitudinal survey method was employed to conduct the study. Data was collected by use of survey questionnaires. The survey questionnaire was used to solicit information from first year students of the University of Zululand during 2006. The questionnaire was developed with the aim and study objectives in mind. In addition to the demographic data, the research instrument collected information on knowledge about HIV/AIDS and intervention strategies, sexual behaviour, students' perception, attitudes and self-efficacy.

The data collection instrument was tested on twenty post-matric students from Ongoye High school. The responses from the pilot study were incorporated in the main research instrument. The completed questionnaires were reviewed to determine their capability. None of the questionnaires were discarded. Hence, 664 responses were analysed (332 from pre-survey study, and post survey study respectively).

The analysis of data was done using the Statistical Package for Social Sciences (SPSS) and MS Excel computer programmes. Data was analysed by frequencies, cross tabulations and paired t-test statistic. The paired t-test statistics was employed to accept or reject the claims in the formulated hypotheses. Hypotheses were developed to crosscheck the results from the frequencies and cross tabulations. All the hypotheses were tested because the tabulations did not provide adequate results of their claimed relationships.

This chapter, provides the evaluation of the outcomes of the study, gives general conclusions of the study, offers recommendations to improve students' response to

the University of Zululand's HIV/AIDS intervention strategies and makes suggestions for further research.

6.2 EVALUATION OF FINDINGS BY RESEARCH OBJECTIVE

This section summarises the findings of the research objectives and corresponding research hypotheses that were used to guide the investigation into students' response to the University of Zululand's HIV/AIDS intervention strategies.

6.2.1 OBJECTIVE ONE

Objective one of the study was; 'to identify the objectives and methods of the University of Zululand's HIV/AIDS intervention strategies'. The University's HIV/AIDS intervention strategies were influenced by the Higher Education HIV/AIDS policies and objectives. The findings indicated that University of Zululand had its own HIV/AIDS policy which was a framework that shaped and strengthened the institutional response to HIV/AIDS impact, through a multi-sectoral approach. Fundamental principles and objectives of the University's HIV/AIDS policy were identified (see Chapter 3, section 3.3).

It was further established that; prevention of HIV infection, VCT, and University Community-based care and support were recognised as the three main inter-related and complimentary pre-requisite prevention objectives of the University of Zululand's HIV/AIDS intervention strategies. The following HIV/AIDS intervention strategies and programmes were identified: (a) Peer Education (PE); (b) Voluntary Counselling and Testing (VCT); (c) Mainstreaming of HIV/AIDS into the University's Curriculum; and (d) Research.

6.2.1.1 HIV/AIDS Peer Education

The following were identified as the main objectives of the University of Zululand's HIV/AIDS Peer Education strategy:

- a) Provision of an effective and credible HIV/AIDS communications; and

- b) Provision of a physical and socio-cultural access to students HIV/AIDS prevention

The review of literature established that the University of Zululand's PE strategy was based on behavioural theories, which ascertained that, students did not make changes based on scientific evidence or characteristics but by the subjective judgment of trusted Peer Educators who had adopted changes and who acted as persuasive role models for change.

6.2.1.2 HIV/AIDS Voluntary Counselling and Testing (VCT)

The study established that the University of Zululand's VCT model of service delivery was an integrated model (organised within the Campus clinic). The model incorporated VCT in all aspects of ongoing sexual reproductive and health services. For instance, contraceptive counselling, client's sexual transmission infections and HIV risk, and promotion of contraceptive methods that offered protection from Sexually Transmitted Infections (STIs). The study established that the strategy offered an option of testing and determining HIV status through VCT. Further, the study sought to establish the objectives and methods of the VCT intervention. Findings from the review of literature suggested that the University of Zululand's VCT strategy was effective for HIV prevention with sero-positive than with sero-negative students, and was most effective when targeting both partners.

6.2.1.3 Mainstreaming of HIV/AIDS into the Curriculum

The study sought to establish curriculum integration of HIV/AIDS. It was established that this was work in progress and on an ad hoc basis at the University of Zululand. The following Academic Departments were reportedly implementing the integration: Library and Information Science, Social Work Psychology, Law and Microbiology. In addition, the study identified that HIV/AIDS Curriculum Integration was not compulsory, and was still a matter under consideration. The following three curriculum integration models were identified:

- a) An integrated model which placed the onus on every Faculty to ensure that students and Lecturers were AIDS literate and that HIV/AIDS was integrated into the Degree structures;
- b) A compulsory model whereby, some degree (disciplines) offered HIV/AIDS life skills as a compulsory module with credit bearing; and,
- c) The non-formal model, which involved the recruitment and training of yearly cohort of students' as Peer Educators and Peer Counsellors.

6.2.1.4 HIV/AIDS Research at the University of Zululand

The study established that the University of Zululand's HIV/AIDS Research strategy had only an external orientation (collaboration, publications, and commissioned projects) as opposed to an internal focus on the needs of the institution itself. Moreover, the study established that several Academic Departments had generated HIV/AIDS related research which covered such areas as social and communication, and frequently extended to include outreach, advisory and consultancy activities.

6.2.2 OBJECTIVE TWO

Objective two of the study was; 'to establish students' knowledge about University's HIV/AIDS and intervention strategies'. Knowledge about HIV/AIDS and intervention strategies and programmes is an important precursor for students' responses to the University of Zululand's HIV/AIDS intervention strategies. Evidence from the study revealed that prior to their exposure to the University of Zululand's HIV/AIDS intervention strategies, most respondents did not have sufficient HIV/AIDS knowledge. For instance, 34% indicated that HIV was a disease, 2% did not know what HIV was, 48% had not heard of VCT while, 24% indicated that VCT was a place (Table 5.2). Post survey findings reported acquisition of new knowledge and or an improvement in the key knowledge areas about HIV/AIDS and intervention strategies.

In ascertaining the relationship between students' knowledge about HIV/AIDS and their response to the University of Zululand's HIV/AIDS intervention strategies the following hypothesis was tested:

Hypothesis 1: Students' knowledge about HIV/AIDS does not influence their responses to the intervention strategies.

From the statistical analysis of the hypothesis it was concluded that the finding in the hypothesis test in no matter of chance. The hypothesis proposed that: students' knowledge about HIV/AIDS did not influence their response to the intervention strategies was therefore rejected. Lack of knowledge about HIV/AIDS hindered students' response to the University of Zululand's HIV/AIDS interventions strategies. Based on the pre-survey findings, majority of the students (48%) had not heard of VCT, or were not aware of the benefits of VCT. Alternatively, a significant proportion of students indicated that HIV was a disease. However, given the exposure to the University HIV/AIDS intervention strategies, most of the respondents reported high knowledge about HIV/AIDS and intervention strategies. Therefore, in conclusion, the results from the analysis of the hypothesis suggested that students' knowledge about HIV/AIDS did influence their responses to the University of Zululand's HIV/AIDS intervention strategies.

6.2.3 OBJECTIVE THREE

Objective three of the study was; 'to investigate students' perception and response to the University's HIV/AIDS intervention strategies'. Continuums of factors that influenced students' response to the University of Zululand's HIV/AIDS intervention strategies were established. Empirical results showed that students' response was affected by sexual behavioural risks that further influenced their perceptions. Further, results reported a variation in students' reasons for engaging in sex (both pre-survey and post survey findings).

Reportedly, a proportion of the students (32% which increased to 36%) indicated that they would abstain while, 80% indicated that they would not engage in transaction sexual practices. On the other hand, study findings on respondents' perception

about HIV/AIDS intervention strategies showed that: most had tested for HIV (52%), or planned (56%) to go for VCT in the next three months. In addition, findings showed that most respondents reported that the benefit of VCT was; to know your status, be able to plan life and, get support if tested HIV positive.

In order to ascertain the relationship between students' perception and their response to the University's HIV/AIDS interventions the following two hypotheses were tested:

Hypothesis 2: There is no significant relationship between students' sexual behaviours and their response to the University of Zululand's HIV/AIDS intervention strategies.

From the statistical test of the hypothesis it was concluded that the finding in the hypothesis test in no matter of a chance. The hypothesis proposed above that: there was no significant relationship between student sexual behaviours and their response to the University of Zululand's HIV/AIDS intervention strategies was therefore rejected.

The findings from the statistical test showed that there was a significant relationship between students' sexual behaviour and their response to the University of Zululand HIV/AIDS intervention strategies. Most students' behaviour was purposive and regulated by forethought (Bandura, 1989). According to Bandura (2001) forethought is a capability to motivate oneself and guide own actions anticipatorily. Cognition theorists argued that, stimuli influence the likelihood of behaviour through the predictive function of an outcome (Walmsey and Lewis, 1984:45). However, the stimulus was not automatically linked to the response by contiguity (Smith, 2000). Instead, previous experiences created expectations of the outcome that would occur because of performing behaviour, before the behaviour is performed. Therefore, students' expectations of sexual behavioural outcomes more so than actual outcomes influenced the likelihood that they would respond to the University's HIV/AIDS intervention strategies.

Expectantly, students who had had unprotected sexual encounters would anticipate a HIV positive outcome (Pred, 1981). This, to a large extent would be due to perceived stigma and may prevent many from responding to the University's HIV/AIDS intervention strategies. Alternatively, the capacity to regulate sexual behaviour based on expectations and expectancies would provide the mechanism for a foresightful behaviour. Foresightful behaviour was possible because of the capability to symbolise. Through the process of forming symbols concerning HIV Infections, students would represent future risk cognitively in the present. Hence, their responses to University intervention strategies would then be influenced when forethought was translated into incentives and action (for instance, condom- use or abstinence) through the self-regulatory mechanism (Bandura, 2001).

Therefore, based upon the results and opinions from the survey, the following conclusions could be made about students' sexual behavioural risks and their response to the University of Zululand's HIV/AIDS intervention strategies:

- a) More male students compared to female who engaged in sex would use a condom;
- b) Both male and female would engage in sex for fun, love and for marriage;
- c) Both male and female students would be able to abstain if need be; and
- d) Fewer male and female students would engage in transactional sex.

In conclusion, the result from the analysis of the hypothesis suggested that students' sexual behaviour influenced their response to the University of Zululand's HIV/AIDS intervention strategies.

Hypothesis 3: There is no significant relationship between students' perception and their response to the University's HIV/AIDS intervention strategies.

The hypothesis was aimed at establishing whether or not there was an existing relationship between students' perception and their response to the University's HIV/AIDS intervention strategies. It was concluded that the statistical analysis of the hypothesis in no matter of chance. The hypothesis proposed above that: there was no significant relationship between students' perception and their responses to the University's HIV/AIDS intervention strategies was therefore rejected.

Students' self-reflection enabled them to analyse their experiences, think about their own thought processes, and alter their thinking accordingly (Rosenstock, 1974). Through self-reflection, students developed perceptions about their own abilities and characteristics that subsequently guide their behaviour by determining what one tries to achieve and how much effort they would put into their performance (Bandura, 2001). Thus, students' perception to the University's HIV/AIDS intervention strategies developed as a result of their history of achievement in a particular area such as, observations of Peer Educators, successes and failures in maintaining certain behaviours, persuasion of others, and own physiological state (emotional arousal, nervousness, or anxiety) when performing a behaviour (Bandura, 1989).

A social comparison of own performance to others, especially Peers also served as a strong source of motivation for students' response (Rosen, 1973). In addition, the University as a social space was considered a strong source of influence (Golledge, 1981; Golledge and Rushton, 1976). Therefore, based upon the results and opinions from the survey, majority of the respondents indicated a willingness to test for HIV. Similarly, majority of the respondents strongly indicated that everyone should go for HIV testing. In conclusion, the result from the analysis of the hypothesis suggested that students' perception influenced their response to the University of Zululand's HIV/AIDS intervention strategies.

6.2.4 OBJECTIVE FOUR

Objective four of the study was; to establish the relationship between student self-efficacy and their response to the University of Zululand's HIV/AIDS intervention strategies. Evidence from the study indicated a significant relationship between

student's self-efficacy and their responses to the University's HIV/AIDS intervention strategies. For instance: (a) Students' with a high self-efficacy took it upon themselves to prevent against HIV infection (95%); (b) Would go for VCT with partner (67%); (c) Would disclose their HIV positive status to friends and parents (46%); (d) Would not quit university if tested HIV positive (73%); and, (e) Would not break up with partner if he or she tested HIV positive (56%).

To ascertain the relationship between students' self-efficacy and their response to the University of Zululand's HIV/AIDS intervention strategies the following hypothesis was tested:

Hypothesis 4: There is no significant relationship between students' self-efficacy and their response to the University's HIV/AIDS intervention strategies.

Results from the statistical analysis of the hypothesis indicated that there was a strong relationship between students' self-efficacy and their response to the University of Zululand's HIV/AIDS intervention strategies. According to Bandura (2001) through exposure to HIV/AIDS intervention strategies students set both proximal and distal goals. Proximal goals were more effective than distal goals in enlisting their self-motivation to respond. In addition, social and moral standards regulated their behaviour (Gould, 1993). The relationship between their thoughts and conduct was mediated through the exercise of moral agency whereby their evaluative self-reactions (self-approval, self-reprimand, internalised morals and standards) would regulate their conduct (Bandura, 1991). For example, if students internalised the notion that engaging in unprotected sex was risky, they would impose self-sanctions in order to keep their conduct in line with this internal standard. A student faced with a decision of unprotected or protected sex, would anticipate that this action would violate his or her internal standards resulting in self-criticism. As a result, they would self-regulate their own behaviour by deciding not to engage in unprotected sex by using a condom or abstain (Bandura, 1986). Thus, based on the findings, a conclusion could be made that; students' low self-efficacy reduced their responses to the University of Zululand's HIV/AIDS intervention strategies.

6.3 GENERAL CONCLUSIONS OF THE STUDY

Given the aim of the study to investigate students' response to the University of Zululand's HIV/AIDS intervention strategies; the premise of the study model used to determine student response was a function of knowledge, attitudes, perceptions, sexual behavioural risks and self-efficacy. The primary variables in the determination of the response gap comprised of: Student knowledge about HIV/AIDS, intervention strategies; Behavioural risks; Attitudes and perceptions; and Self-efficacy. The identification of the objectives and methods of the University's HIV/AIDS intervention strategies established the following current situation:

6.3.1 HIV PEER EDUCATION (PE)

The PE strategy involved the use of Peer Educators to effect change at the individual level by attempts to instil personal knowledge, attitudes, beliefs, or behaviour modification. The strategy was employed at the University of Zululand level to modify norms and stimulate collective attitudes towards HIV/AIDS intervention strategies. The PE strategy's weakness lied in the following obstacles: students' abandonment of all response attempts, intolerance towards certain sex practices, non-supportive attitude by some students, difficulties in the use of condoms, and cultural norms. The obstacles were possible hindrances to student's uptake of the intervention strategy. This was due to the student's inability to develop self-regulatory skills that through sub-functions would provide motivation for self-directed change.

6.3.2 VOLUNTARY COUNSELLING & TESTING (VCT)

VCT was regarded as an entry point to other intervention strategies for both HIV prevention and related AIDS care. It was assumed that: students who tested sero-positive could have access to a wide range of services including medical care, both ongoing emotional and social support; while, those that tested sero negative could have counselling guidance and support to help them remain negative (Baggaley, *et. al.*, 2002).

Thus, students' major concerns (beliefs) included; the accuracy of the tests in determining HIV status, and skills or access to coping means of the negative consequences of testing HIV positive. In addition, the VCT strategy was found less effective for prevention with servo positive than with servo negative students. Servo negative students' were more likely to continue to engage in unsafe sexual practices.

6.3.3 MAINSTREAMING OF HIV/AIDS INTO THE CURRICULUM

This strategy involved the curriculum integration of HIV/AIDS into various disciplines at the University of Zululand. The integration was work in progress at the University of Zululand and under investigation. Three models were identified, these were, integrated, compulsory and informal model. Informal model was best received. It involved recruitment and training of a yearly cohort of students as Peer Educators who were prepared with the skills to educate others on HIV/AIDS. The mainstreaming of HIV/AIDS into the curriculum was limited to the fact that University education was not compulsory and students had choices over what to study and not.

6.3.4 HIV/AIDS RESEARCH

The University of Zululand's research strategy had both an external orientation (i.e. collaboration, publications etc.) and an internal focus on the needs of the University. Several University of Zululand's Departments had generated HIV/AIDS related research covering different aspects of HIV. However, the University of Zululand's HIV/AIDS research information was not well shared within or between departments at the University. Moreover, a scan of thesis and dissertations from all the Faculties (Arts, Commerce & Law, Education, Science and Agriculture) revealed that HIV/AIDS studies had very little focus on the impact of HIV/AIDS at the University of Zululand or, students' response to the intervention strategies.

6.3.5 CONCLUSIONS FROM THE SURVEY FINDINGS

Both the review of the objectives and methods of the University's HIV/AIDS intervention strategies and survey findings suggested that most students did not

adequately respond to the University of Zululand's HIV/AIDS intervention strategies due to the following:

- a) Lack of knowledge about HIV/AIDS and intervention strategies;
- b) Limited knowledge about HIV/AIDS and intervention strategies;
- c) Students' beliefs;
- d) Students' perceptions and attitudes to the HIV/AIDS and intervention strategies; and
- e) Students' low self-efficacy.

The significance of each individual study variable (i.e. knowledge, attitudes, perceptions, sexual behavioural risks and self-efficacy) in the explanation of students' response to the University of Zululand's HIV/AIDS intervention strategies tested, using the paired *t*-test statistic, indicated that the dependent variable was not monotonous (i.e. real variations in the pre-survey and post survey findings). From the said statistical analysis, it is evident that:

- a) The effect of student HIV/AIDS knowledge on their response to the University's HIV/AIDS intervention strategies predicted that $p = <0.0001$ (differences between pre-survey and post survey findings), with the probability of non-response being 95%,
- b) The effect of students' behavioural risks on their response to the University's HIV/AIDS intervention strategies predicted that $p = 0.07$ (differences between pre-survey and post survey findings) with the probability of non-response being 95%,
- c) The effect of students' perceptions and response to the University's HIV/AIDS intervention strategies predicted, $p = 0.003$ (differences between pre-survey and post survey findings) with the probability of non-response being 95%; while,
- d) The effect of self-efficacy to students' responses to the University's HIV/AIDS intervention strategies predicted $p = 0.57$. This meant that the estimated level of

a students' response gap to the University's HIV/AIDS interventions strategies and was approximately 0.6 = 60% due to students' low self-efficacy.

These findings signalled that due to students' lack of knowledge about HIV/AIDS and intervention strategies, their beliefs, perceptions and attitudes and their' low self-efficacy, they therefore experienced a response gap. The response gap required an integrated intervention strategy to mitigate students' non responses to the University's HIV/AIDS intervention strategies.

6.4 RECOMMENDATIONS

The study recommendations are two-fold. That is, general recommendations and modelling of the response system for HIV/AIDS at the University of Zululand. These are presented as follows:

6.4.1 GENERAL RECOMMENDATIONS FOR THE STUDY

The recommendations emerging from this study are addressed to the University of Zululand, HIV/AIDS Programme Managers, the Institutional Managers, students and all interested stakeholders. These recommendations need to be addressed at the institutional and higher education sector levels. They provide practical implications and suggestions for implementation. They include the following:

6.4.1.1 Review of Objectives and Methods of the University of Zululand HIV/AIDS Intervention Strategies

There is a need for a process evaluation of the University of Zululand's HIV/AIDS intervention strategies. Moreover, methods and objectives of the interventions should be reviewed to examine whether they are being carried out correctly, on time, and within the intended goals. The following basic questions should be addressed:

- a) To what extent are planned intervention activities actually realised?

- b) What services are provided, to students, when, how often, for how long, and in what context?

These questions would assist in the development of:

- a) An intimate acquaintance with the details of the University of Zululand HIV/AIDS intervention strategies; and
- b) An observation of anticipated effects and unanticipated consequences.

This would contribute toward the explanation of the University of Zululand's HIV/AIDS intervention strategies outcomes.

6.4.1.2 End the Institutional Silence, Stigma and Shame

The fear of stigma and deep-rooted discrimination makes students less likely to adopt preventive strategies such as, condom use, VCT, adherence to treatment, or disclosure of HIV positive status. University of Zululand's leadership must: break the silence, challenge the stigma and eliminate the shame associated with HIV/AIDS. The Vice Chancellor, Executive Deans, Dean of Students', Lecturers, Student Leaders and other influential individuals must courageously talk openly (without judgment) about student sexual behavioural risks and the need for response to the University's HIV/AIDS intervention strategies.

6.4.1.3 Provide Students with Knowledge and Information

Students should be provided with sufficient knowledge and information about the University of Zululand's HIV/AIDS intervention strategies. HIV/AIDS knowledge and information should be regularly reinforced and built both in the lecture halls and beyond. It is believed that good-quality education fosters analytical thinking and healthy habits. Therefore, better-educated students are more likely to acquire knowledge, confidence and social skills to protect themselves from HIV infection. It is also essential to reach-out to first year undergraduate students before they engage in high-risk behaviours such as, drug and alcohol use.

6.4.1.4 Equip Students with Life Skills to put Knowledge into Practice

Risky behaviour is not changed by knowledge alone. Students require skills to put what they learn into practice. HIV/AIDS life skills, negotiation skills, conflict resolution, critical thinking, decision-making and communication are vital for students. These skills would help them learn to relate to one another as equals, work in groups, build self-esteem, resolve disagreements peacefully, and resist peer pressure to take unnecessary risks. In addition, life skills could be taught in many creative and innovative ways, both in and out of the University.

6.4.1.5 Provide Student-Friendly Interventions

Student-friendly intervention strategies should be freestanding interventions or attached to existing services such as the campus clinic, or residence facilities. Ideally, these would provide a full range of services and information to students and should be welcoming, confidential, conveniently located for accessibility and affordable.

6.4.1.6 Promote Students Participation in HIV/AIDS Intervention Strategies

Energetic, enthusiastic and creative, students are a tremendous resource in all areas of HIV/AIDS prevention and care. Their input is invaluable in the design of the University's intervention strategies. Further, information concerning participation in HIV/AIDS intervention strategies should be communicated through effective channels. Conveyed messages should be relevant to students' everyday lives. This would lead to their further education about HIV/AIDS giving them a sense of responsibility and pride.

6.4.1.7 Create Safe and Supportive Environment

Providing students with HIV/AIDS information and skills without insurance of health and safety, support and care, limits their ability to protect themselves from HIV infection. The University should create an environment in which students are safe from harm, are equally cared for and treated with respect. The University must be unequivocal in condemning sexual violence, abuse and exploitation, particularly for female students. In addition, HIV/AIDS educational campaigns must encourage equality between male and female students and denounce all forms of violence and discrimination.

6.4.1.8 Build Collective Efficacy

University of Zululand's HIV/AIDS intervention strategies should be comprehensive. The intervention strategies should focus on the provision of HIV/AIDS knowledge, skills and a sense of collective efficacy to mount initiatives that affect student responses. Such efforts should aim at HIV/AIDS awareness, education, mobilisation, policy initiatives and, devising of effective strategies for improving students' health conditions. In addition, knowledge on the development and exercise of collective efficacy would provide guidelines for the enhancement of student responses to University of Zululand HIV/AIDS intervention strategies.

6.4.1.9 Further Research

This study focused on both descriptive and quantitative analysis of students' response to the University of Zululand's HIV/AIDS intervention strategies. The inventory of student response to the University of Zululand's HIV/AIDS intervention strategies was provided. The study did not cover the whole University or the entire Higher Education sector. It is imperative therefore, that further research need to be conducted. The following aspects would provide areas for further research:

- a) Types of intervention strategies and programmes in the higher education sector;

- b) Role of evaluation in University HIV/AIDS intervention strategies and programmes;
- c) Operational approaches to evaluating HIV/AIDS intervention strategies and programmes;
- d) Incorporation of self-efficacy models into HIV/AIDS intervention strategies and programmes;
- e) Mapping as a tool for analysis of potential shocks and stressors in HIV/AIDS intervention strategies and programmes; and
- f) Coping mechanisms and HIV/AIDS resilience.

It is recommended that longitudinal studies be considered to meet data needs at the University of Zululand. Such studies would help in the identification of real response gaps among other University population groups for timely response and implementation of intervention measures. It is hoped that the continuation of these intervention strategies and programmes would result in increased HIV testing and the reduction of risky behaviour, something that the individual and society needs to incorporate, to build a stronger community spirit and re-establish traditional values.

6.4.2 MODELLING OF THE RESPONSE SYSTEM FOR HIV/AIDS AT THE UNIVERSITY OF ZULULAND

Models (systems) are used to solve both simple and complex problems of the practical world (Neumann, 2003). They approximate or abstract reality, which may be construed in various forms. Models (systems) look at how abstractions can bridge the abstraction gap. They look at how patterns can be used to define abstraction and they can be interwoven into intent [mental images of the model (systems)] (Newman and Matzke, 1994). They deal with relevant variables that have major impact on the decision situation. Thus, many forms of models exist, and the particular form selected depends upon the purpose (Neumann, 2003).

In the context of student response to the University of Zululand's HIV/AIDS intervention strategies, it could be mapped from abstract specification to practical model design with relevant sub-systems (Mugula, 1995). In addition, a model is a tentative description of what a social process or system might be like (Ikoja, 2002). It

is a tool of explanation and analysis-very often in diagrammatic-form which attempts to show how various elements of a situation being studied relate to each other. Therefore, models become theory after thorough testing (Watson and Hill, 1996, cited in Migiro, 2006: 123). Thus, a model is a description of reality (Swanepoel, 2000, cited in Ikoja, 2002: 88). According to Migiro (2006), modelling is the last step in the knowledge process. In this study, an Integrated Early Warning Intervention (IEWIS) is explained, illustrated and subsequent steps to establish the intervention outlined (from concept to practice).

Considering the feasibility of reviewing the objectives and methods of the University of Zululand's HIV/AIDS intervention strategies to: (i) end the silence and stigma, (ii) provide knowledge on HIV/AIDS and Interventions and (iii) to develop students' self-efficacy and HIV/AIDS resilience; the issue of student response to the University of Zululand's HIV/AIDS intervention strategies could be resolved by mitigating student non-responses. A way to mitigate such is to integrate an early warning tool within the University's intervention strategies. The benefit of the tool is the timely identification of causal factors that: potentially increase students' HIV vulnerability, non-responses, and responses through efficacious development of vulnerability-reduction actions. In addition, the tool would promote sustainable responses and build HIV/AIDS resilience and self-efficacy. Therefore, an Integrated Early Warning System (IEWIS) is proposed to address the current problems concerning student's response to the University of Zululand's HIV/AIDS intervention strategies.

6.4.2.1 Suggested Response System for HIV/AIDS at the University

The suggested system is based on the findings that there is a student's response gap, and the existing University of Zululand's HIV/AIDS intervention strategies do not adequately address students' response needs. Currently, there is no IEWIS that is comprehensive, or uses a multi-sectoral approach to advocate for students responses to the University's HIV/AIDS intervention strategies. Using mapping and other tools, the IEWIS would aim at the identification of linkages and relationships to understand and efficaciously respond to HIV vulnerabilities and students non-responses to University HIV/AIDS intervention strategies. Thus in modelling a framework for suggesting a new integrated system the following interrelated issues

are discussed: (a) the model, (b) Early Warning System (EWS), (c) the response component, (d) Integrated Early Warning System (IEWS), (e) focus beyond existing HIV/AIDS Intervention Strategies, (f) relevance of an IEWS for HIV/AIDS intervention strategies, (g) coordination of the IEWS, (h) mapping of potential shocks and stressors.

6.4.2.2 The Model

Despite, the existence of functional University of Zululand's HIV/AIDS intervention strategies, there is a need for an integrated response strategy. This is based on the existing University's HIV/AIDS intervention strategies shortcomings in meeting the required student needs, as well as, promotion of the desired responses. The issue arising from the existing University's HIV/AIDS intervention strategies is scaled up from the intervention strategies to students' response. There is a gap between the implementation of the University of Zululand's HIV/AIDS intervention strategies and students' response. University of Zululand's HIV/AIDS intervention strategies are interrelated in one way or another and are all focused on students. There is a need for new approach (an integrated) of scaling up the University's HIV/AIDS intervention strategies if the intended students' response is to be attained and maintained.

The disadvantage of most of the University of Zululand's HIV/AIDS intervention strategies is that: (a) they are not functionally integrated; (b) they do not have an early warning response component to detect shocks and stresses to the system; (c) they do not have a monitoring and evaluation component' and, (d) they are mostly drawn on a voluntary health paradigm.

This study recognised that student response to the University of Zululand's HIV/AIDS intervention strategies required a comprehensive intervention that detected other factors (shocks and stressors) other than health-related factors that would otherwise affect response. In addition, lack of self-efficacy was identified as a de-motivator for students' response to the University's HIV/AIDS intervention strategies.

6.4.2.3 Early Warning Systems (EWS)

Early Warning Systems (well known in physical sciences) were based on historical monitoring, local observation or computer modelling (Hobbbard, *et. al.*, 2002). They predicted, helped to prevent, or reduced the impact of natural disasters. Early warning systems were typically used to monitor potential disasters relating to meteorology, geology or technology (UNDP, 2004). The importance of early warning systems was recognised by researchers and professionals in other disciplines such as, social, economic and cultural factors with a qualitative dimension to complement quantitative information (e.g. early warning system for food insecurity) (Okello and Dube, 2007). All early warning systems have the same objective: to estimate the probability of future events occurring by detecting early warning signals (UNDP, 2004). HIV could create a potential crisis for an individual, community or country. An early warning system for HIV is designed to allow timely actions to prevent and mitigate the potential impact of AIDS and responses to intervention strategies.

6.4.2.4 The Response Component

The IEWS explicitly includes a triggering 'rapid response' to prevent an event from happening (prepared for its occurrence) thus, mitigating the impact of that event (UNDP, 2004). HIV/AIDS has longer-term implications (i.e. long incubation period). There are challenges in the identification and recognition of the associated shocks and stressors as early warning signals of HIV vulnerabilities, as well as, relevant responses. Figure 6.1 shows an IEWS.

6.4.2.5 Integrated Early Warning System (IEWS)

Primarily, the University of Zululand's HIV/AIDS intervention strategies could be seen by many as health related. The responsibility of responding to HIV/AIDS is delegated to the HIV/AIDS Unit, few individuals and the Campus Health Clinic. The consequence is that, other induced causal University-specific factors such as, developmental (human or environmental) and risk behaviour tend to be ignored. The designees implement intervention strategies without the active support of other intra-University sectors. Most of the University of Zululand's HIV/AIDS intervention

strategies are organised within a health paradigm. This places focus on the proximate determinants of students HIV risk of infections. Responses are designed to prevent student risky behaviours and promote responses to intervention strategies. The responses are a reaction to the immediate risk of infection and, to infections once, they occur. Therefore, there is need to go beyond reacting to HIV infections to proactively reducing HIV/AIDS vulnerabilities whilst, promoting self-efficacy and resilience.

The IEWS is not intended to replace existing HIV/AIDS intervention strategies but, it is a complement to enhance them. The IEWS takes a step further by monitoring the

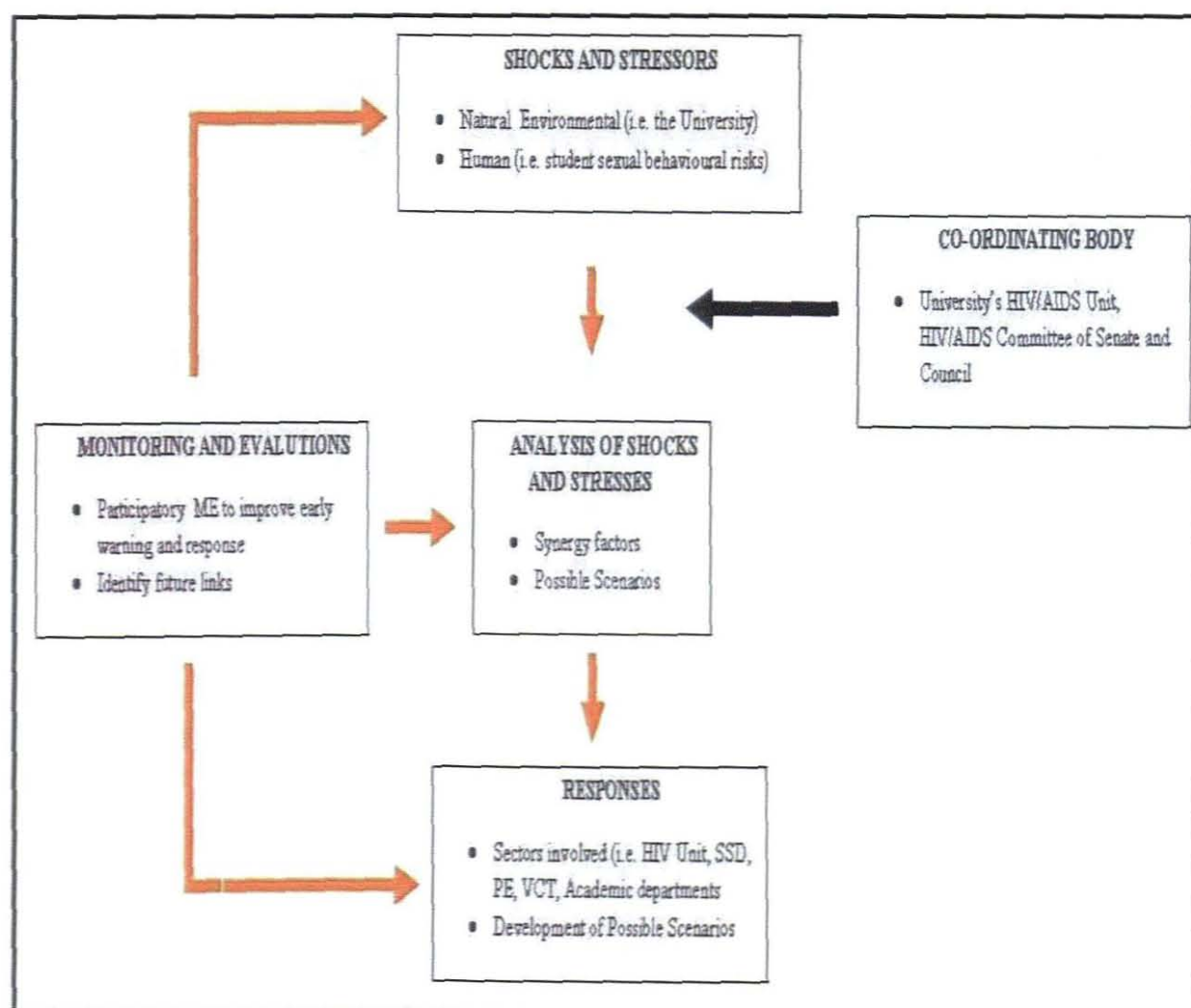


Figure 6.1: An Integrated Early Warning System (IEWS) (adapted from UNDP, 2004: 16)

from structures and processes that affect students' vulnerability and situations that lead to risky behaviours and non-responses to the University's HIV/AIDS intervention

strategies. In this regard the University is challenged to bring about procedures and methodologies, or what we have commonly called intervention strategies, which are understandable, user-friendly and efficacious. A broadly-based methodology for the entire South African tertiary environment is extremely disireable.

6.4.2.6 Focus Beyond Existing HIV/AIDS Intervention Strategies

HIV/AIDS prevention requires an understanding of a situation and taking measures to prevent its occurrence (UNDP, 2004). Thus, an IEWS for HIV/AIDS includes more than just the intervention strategies. It is a simple concept. What is new and crucial to HIV/AIDS prevention is the need for the intervention strategies to look beyond the traditional health domain and consider the effects development (human or environment) has on health and their linkages (Robson, et. al., 2006).

Implementing an IEWS is flexible and inexpensive because it is a re-organisation of the existing human and financial resources. Hence, the IEWS for HIV/AIDS can be developed within the development paradigm. Depended on the developmental, human or environmental processes that influence HIV vulnerability at the University of Zululand, responses could then be developed by an individual person, HIV/AIDS Unit, or the University. It is believed that an effective IEWS would follow a multi-sectoral (systems) approach, rather than a focus on one sector or a group of students.

6.4.2.7 Relevance of an IEWS for HIV/AIDS Intervention Strategies

HIV/AIDS is a long-term phenomenon, an IEWS would mitigate impact and prevent further development and spread of the epidemic. There is usually not one epidemic (Robson, et. al., 2006). Epidemics evolve and create synergies (linkages) and syndemics with other diseases, as well as other clusters of epidemics. Epidemics and clustering are dependent on factors such as geography and population groups involved (UNDP, 2004). Intervention (or non-intervention) at any point or level in these epidemics or clusters of epidemics can bring about changes in the overall HIV/AIDS situation (Robson, et. al., 2006). Preventing and averting the combinations or links with other diseases and other clusters of epidemics enhances

HIV/AIDS prevention. By identifying and addressing root causes and intervention strategies shortcomings, an IEWS could reduce the connections and synergies between local epidemics and prevent against future vulnerabilities that could build into a widespread pandemic.

6.4.2.8 Coordination of the IEWS

An IEWS would require an institutional cooperation and coordination between different levels of authority and departments (sectors). A responsible official entity with sufficient authority must be appointed as the coordinator. An IEWS would also require a new perspective on HIV/AIDS. The following are the recommended steps for establishing the IEWS:

- a) Setting-up of a multi sectoral (disciplinary) coordinating body within the University;
- b) Establishing a research capability within the coordinating body (i.e. to monitor developmental, human or environmental activities and provide data to assist in linking up the responsible players) to decide whether closer monitoring is necessary if increased mobility and HIV vulnerability are expected; and,
- c) An analysis of the warning in order to design appropriate responses.

It is important to create a communication network between different University sectors. An effective IEWS would require regular dialogue between University sectors and the HIV/AIDS unit. The communication network would analyse warning signals, interpret and transmit the warnings (if necessary) and coordinate responses between and among the sectors or departments. The basic steps to establish the communication network are as follows:

- a) Identification and training of key contacts in the sectors [i.e. respective

Faculties (Arts, Commerce & Law, Education, Science & Agriculture), Departments and Units] and appoint them as sectoral HIV/AIDS focal points; and,

- b) A careful analysis of the early warning signals to determine their relevance to HIV and responses to intervention strategies.

6.4.2.9 Mapping of Potential Shocks and Stressors

Collecting information to determine the existence of potential shocks and stressors can, and should involve a variety of methods (Johnston, 1979). Some of the methods used, such as undertaking analysis of planning documents, can be simple, while others may require knowledge of more complex research methods (Robson, et. al., 2006). Mapping as a tool could be used in an IEWS to provide a visual representation of the 'on the ground' situation, to identify where potential shocks and stressors may occur, or even where HIV vulnerability may be modified due to developmental, human or environmental-induced changes or mobility. These scenarios could be analysed before the start of most University activities to: understand the potential impact of those activities, have a clear picture of the existing or future gaps, to facilitate planning for HIV/AIDS interventions and responses, and as an advocacy tool.

6.5 CONCLUSION

This chapter provided an evaluation of the study findings by research objective. This was achieved by the presentation of a summary of the findings from the research objectives and corresponding research hypotheses that were used to guide the investigations. Further to the evaluation of the study findings conclusions of the study were given. Lastly the recommendations of the study aimed at providing a practical implication and suggestions for implementation of response system for HIV/AIDS at the University of Zululand were presented as; general recommendations for the study and modelling of the response system for HIV/AIDS.

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APPENDIX - A

QUESTIONNAIRE

SAMPLE GROUP: 2006. UNIVERSITY OF ZULULAND FIRST YEAR STUDENTS

SECTION 1:

Demographic Characteristics

(Please choose one answer)

1.1 What is your gender?

[a] Male [b] Female

1.2 What is your age?

[a] 17-20 [b] 21-24 [c] 25 -28 [d] 29 – above

1.3 What is your marital status?

[a] Married [b] Single [c] Divorced [d] Widowed

1.4 Whats your Faculty?

[a] Arts [b] Commerce Administration & Law
[c] Science & Agriculture [d] Education

SECTION 2

Knowledge and Perceptions about HIV/AIDS Intervention Strategies

2.1 In your opinion, what do you think is HIV?

.....
.....

2.2 In your opinion, how can you get HIV?

.....
.....
2.3 Have you ever heard or read the terms Voluntary counselling & Testing (VCT)

[a] Yes [b] No [c] No response [d] I don't Know

2.4 In your opinion what is voluntary counselling and testing (VCT)?

.....
.....

2.5 What are the benefits of Voluntary Counselling & Testing (VCT)?

[a] I shall know my status [b] I will be able to plan my life

[c] Will get support grant from the government

[d] All of the above [e] None of the above

SECTION 3

Behavioural Determinants of Students Responses to HIV/AIDS Intervention Strategies

3.1 Do you have a boyfriend/girlfriend?

[a] Yes [b] No [c] No response

3.2 Have you engaged in sex in the last six months?

[a] Yes [b] No [c] No response

(If your answer in 3.5 is YES) Did you use a condom?

[a] Yes [b] No [c] No response

3.3 In your Opinion, why would you engage in sex?

.....
.....

- 3.4 In your Opinion, do you think it would be impossible for you to abstain once you have started engaging in sex ?
- [a] Yes [b] No [c] No response [d] I don't Know
- 3.5 In your opinion, would you engage in sex to give or gain some favours e.g. money, airtime, good grades?
- [a] Yes [b] No [c] No response [d] I don't Know

SECTION 4

Responses and Perceptions about HIV/AIDS Interventions

- 4.1 Have you ever tested for HIV?
- [a] Yes [b] No [c] No response [d] I don't Know
- 4.2 Do you plan to go for VCT in the next three months?
- [a] Yes [b] No [c] No response [d] I don't Know
- 4.3 In your Opinion, do you think everyone should go for HIV testing?
- [a] Yes [b] No [c] No response [d] I don't Know

SECTION 5

Attitudes and Self Efficacy

- 5.1 Would you be friends with an HIV positive person?
- [a] Yes [b] No [c] No response [d] I don't Know
- 5.2 Do you think it is your responsibility to protect against HIV/Infection?
- [a] Yes [b] No [c] No response [d] I don't Know
- 5.3 Would you go for VCT with your boyfriend/girlfriend if he/she asked you to?
- [a] Yes [b] No [c] No response [d] I don't Know

- 5.4 Do you think if you tested HIV positive you will get social support from your friends?
- [a] Yes [b] No [c] No response [d] I don't Know
- 5.5 Will you disclose your status to your friends and family if you tested HIV positive?
- [a] Yes [b] No [c] No response [d] I don't Know
- 5.6 Would you quit university if you tested HIV positive?
- [a] Yes [b] No [c] No response [d] I don't Know
- 5.7 Would you be free to interact and live with other students at the university if you tested HIV Positive?
- [a] Yes [b] No [c] No response [d] I don't Know
- 5.8 Would you break up with your partner (girlfriend/boyfriend) if he/she tested HIV positive?
- [a] Yes [b] No [c] No response [d] I don't Know

THANK YOU !

APPENDIX - B

TRANSMITTAL LETTER

**University of
Zululand:**

DEPT. RECREATION & TOURISM



Private Bag X1001,
KwaDlangezwa, 3886
South Africa
Tel: 035 902 6000
Fax: 035 902 6073
Ref:

September 2005

TO WHOM IT MAY CONSERN

Dear Sir/Madam,

RE: REQUEST TO CONDUCT RESEARCH

Mr Tom Were Okello is a full-time doctoral student at the University of Zululand working under the auspices of the Department of Geography and Environmental Studies, within the faculty of Science and Agriculture. Mr Tom Were Okello would be requesting your assistance in various domains related to his doctoral research investigation, relating to the investigation of student response to the University of Zululand's HIV/AIDS intervention strategies. The actual title of the research project is:

**AN INVESTIGATION INTO STUDENT RESPONSES TO THE
UNIVERSITY OF ZULULAND'S HIV/AIDS INTERVENTION
STRATEGIES.**

The research is undertaken for academic purposes around the University..It is hope that study findings will make a meaningful contribution to the Study of HIV/AIDS in a spatial context.

All the information collected from you through any of the methods required in his research endeavour will be kept in strictest confidence.

Your assistance in this regard will be highly appreciated

Yours faithfully

L.M. Magi (Prof)
Internal Research Promoter
Department of Recreation and Tourism
University of Zululand

cc. Mr Tom Were Okello (Researcher)
