Informing an ICT Intervention for HIV and AIDS Education at Rhodes University

A thesis submitted in fulfilment of the requirements for the degree of

MASTER OF EDUCATION

of

RHODES UNIVERSITY

by

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February 2010

Abstract

This study captures the process and methods used in selecting and organising content for an ontology. In the Information and Communication Technology (ICT) field ontology refers to a way of organising and storing information and facilitating interaction between the system and its users. Ontologies are being used more frequently to provide services that deal with complex information. In this study, I record my experience of developing content for an HIV and AIDS ontology for Rhodes University students. Using several different methods, I started the process of selecting and organising HIV and AIDS information, free of scientific jargon and prescriptive language, and consisting only of relevant information. I used data derived from interviews with six HIV and AIDS experts to develop questions for a survey that was open to all Rhodes University students. The 689 people who responded to the survey indicated that they needed more information on testing, treatment and living with HIV. Responses also showed that students had a lot of information on HIV prevention and transmission. Four focus group discussions revealed that students were tired of repetitions of the 'same' information on HIV and AIDS and wanted to know more about life after contracting HIV. Using this data, I propose some guidelines to populate HIV and AIDS ontology. Ontologies can be customized for particular groups of users, for example according to gender, race, year of study etc. Another advantage of the ontology is that it can be expanded or contracted depending on the scope of one's intervention.

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Glossary of technical terms

Ontology refers to a system for the organization and retrieval of information, which takes into account the meaning of and semantic relationships between concepts.

Semantic Web enables the World Wide Web to define meaning (semantics) of information and services on the web making it possible for the web to “understand” and satisfy the requests of people and machines when using web content.

Agent refers to software that searches the internet for information every time queries are made**.**

A user refers to the students who in this thesis are the people making use of the ICT-based system that this informs.

ICT stands for Information and Communication Technologies.

Relevant information is defined in this study as information that counsellors think students need and that students want.

List of Acronyms

WWW- World Wide Web

ICT- Information and Communication Technology

HIV- Human Immunodeficiency Virus

AIDS- Acquired Immune Deficiency Syndrome

MIE- Minimally Invasive Education

IDRC- International Development Research Centre

UN- United Nations

DST- Department of Science and Technology

CSIR- Council for Science and Industrial Research

NIIT- National Institute for Information Technology

ABC- Abstinence, Be faithful and Condom (ise)

UNAIDS- The Joint United Nations Programme on HIV/AIDS

HEAIDS- Higher Education HIV/AIDS Programme

Acknowledgements

Firstly to God be the glory and honour. Completing this Masters was by His grace. Secondly, I would like to thank the following people who contributed to the completion of this degree in their own special ways:

1. Lorenzo Dalvit, my supervisor, thank you for your patience, and attention to detail. You were my guide and a friend when I needed one throughout the process of this degree.
2. To Robert Kraft and Judy Cornwell, thank you for all the time you put into this thesis, it would not be as it is without your input. I appreciate it!
3. Staff in the Education Department, including Hennie Van de Mescht, Caryn McNamara, and Phoebe Ngalo who helped me immensely at different stages of the research, Thank you.
4. To Markus Mostert, thanks for all the help with running the survey through RUConnected.
5. To Tessa Kirkaldy who worked on the HEAIDS programme thank you for making sure I was always taken care of throughout the duration of this study.
6. My church families; Full Gospel Church in Grahamstown, City of Light in Alice and AFM-Tafara in Zimbabwe. Thank you all for your prayers and words of encouragement.
7. To my Cell group friends, Tracy, Carms, Julia, Cath, Gill, Dany, Shen, Mitch, Hans- Thank you my dear friends for walking this road with me, for all the encouragements and prayers, I wouldn’t have managed without you guys, God Bless you!
8. To my friends, Kuziva, Doris, Reshma, Philiswa, Privie, Jodi, Nobuntu, Zackie, - I cannot thank you enough for all your love and care. I pray that God rewards you a thousand fold…
9. To my colleagues, Mathe Maema, Mighty Masiku, Wilhem Naiteta, Cathy Gorham, Tongai Chizanga, Mitchell Kavhai, Sam Msindisi, Halima Namakula, Thabelang Mathe, thank you for all the input and discussion, insight and the time you put in to read my work and give me feedback. You guys are amazing!
10. To all my research participants, thank you for your time, there would not have been a thesis without your invaluable contribution.

I would like to acknowledge the financial funding I received during this study from the following:

1. HEAIDS bursary, under the auspices of the HEAIDS programme funded by the Department of Education (DoE), South Africa, the European Union (EU) and the, Higher Education South Africa (HESA)[1].
2. Carnegie Bursary, administered through the MIST Research Support Centre, Education Department, Rhodes University.
3. Graduate Assistant bursary from the Department of Education, Rhodes University.
4. The Rhodes Research Office for making funds available for conferences attended during my two years of study.

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[1] "The content of this thesis is the sole responsibility of the author and can in no way be taken to reflect the views of the Department of Education, the European Union or Higher Education South Africa."

Chapter One: Introduction

The purpose of this chapter is to introduce the study. First, I describe the background of the research, explaining the selection of content for ontologies (defined more fully in chapter two) as an educational problem. I briefly outline my decision to work with HIV and AIDS content for the purposes of this research. I then describe the context of the research and identify its goal. A brief outline of the methodology used for the study is also provided in this chapter. The final section of the chapter contains an outline of the whole thesis.

1.1 Background to the research

The use of Information and Communication Technologies (ICT[2]) for educational purposes has been on the increase worldwide (Pelgrum & Plomp, 2005; Trucano, 2005; Valentine, Marsh & Pattie, 2005). This is in part because so much information is now stored on the World Wide Web (WWW). The challenge for users of ICT is to understand how these technologies work to provide access to the required information. For researchers and developers, the challenge is to ensure that relevant information can be retrieved easily and is presented in a useful format. A possible way of doing this is; is to try to make systems more "intelligent" with domain-specific ontologies. In the ICT field, the term "ontology" refers to a system for the organization and retrieval of information (Davies, Van Harmelen & Fensel, 2003). Unlike a database, ontology takes into account the meaning of and semantic relationships between concepts. The use of ontologies will be part of the evolution of the semantic web (Davies, et al., 2003).

The semantic web will enable the World Wide Web to define the meaning of information and services on the web, making it possible for the web to "understand" and satisfy the requests of people and machines using web content (Berners-Lee, Hendler & Lassila, 2001; W3C,

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[2] ICT is the phrase used to describe a range of technologies for gathering/creating, storing, retrieving, processing, analyzing, transmitting, sharing or exchanging information (Miao, n.d; Kouakou, 2003 and Nwuke, 2003). Whereas computers are largely focused on the processing of information, ICTs undertake both processing and communication of information (Moodley, 2005).

2008). Efforts are currently being made to find a way to automatically populate ontologies in various domains using "agents" (Lee, Chen & Jian, 2003).

There are currently three ways to populate ontology. Mitchell, Betteridge, Carlson, Hruschka & Wang (2009) focus on the limitations of these commonly used methods. Manual content entry requires the input of many motivated people, depending on the breadth and depth of the ontology. Developing common ontologies from pre-existing databases is another way, but this method depends on the willingness of owners of the existing databases to develop ontologies. This is highly unlikely due to the complexity of the ontology development process (Hatala, Gasevic, Siadaty, Jovanovic & Torniai, 2009). The third way is to automatically extract structured information from unstructured information online. Although this seems to be the best of the three, success depends on the natural language processing (NLP) methods. This becomes problematic in that computer algorithms remain far from being able to understand natural language tests.

I decided to select HIV and AIDS information for this study. The HIV and AIDS field is a complex one and a lot still needs to be understood and learnt about the pandemic that has scourged the world for over two decades (Steinbrook, 2007). Research is continuous and new information is discovered every day. Ruzindaza (2001, p. 7) says "there is more being written on HIV and AIDS than any other disease in the history of mankind". Not surprisingly, in the context of this vast and growing quantity of information on the subject, there is a real challenge of access for educators, campaigners, learners and citizens to the appropriate information in a form that is both useful and that can be understood. The UN 2008 report on the global AIDS pandemic supported the use of ICT for HIV and AIDS education, saying that ICT can provide powerful tools to bring knowledge and health education to communities. The report suggested that more needed to be done to define the information needs of target groups (Bateson, 2002).

My study focuses on the process of selecting information for an ontology. Teachers interested in teaching HIV and AIDS or any other subject can use the findings of this research to select and organize information without necessarily being an expert in the field concerned. Teachers can achieve this by following the process outlined in this thesis on a small scale for their respective subject areas.

1.2 Context of the research

This research took place within the context of the Higher Education HIV and AIDS (HEAIDS) programme funded by the European Union under the European Programme for Reconstruction and Development. This programme provided for the upgrade of the infrastructure for the promotion of awareness and assessment of the impact of HIV and AIDS interventions at various higher education institutions in South Africa (HEAIDS, 2009). The programme sought to make HIV and AIDS visible at tertiary institutions and to make students more aware of the impact of HIV and AIDS.[3] HEAIDS was launched in 2001 by African universities as a way of acknowledging the effect of HIV and AIDS on their staff and students. According to Tavrow and Omwami (2008, p. 87) “the initiative advocated six coordinated interventions: policy and advocacy, prevention, care and support, teaching, research and community outreach”. Funding for the undertaking of the present study was secured through the HEAIDS programme.

This research focused on Rhodes University students in relation to issues concerning the use of Information Communication Technology (ICT) in HIV and AIDS education. I chose Rhodes University as my research site firstly for convenience’ sake, since I was a full time student at the university and because of its unique characteristics and situation. Rhodes University is located in Grahamstown, in the Eastern Cape province of South Africa. It is a small university with 6358 registered students in 2008 (Rhodes University digest of statistics, 2008). About 80% of those students are undergraduates, and most of them reside in university residences. The university is described as an ICT-rich institution, well resourced in terms of computing (Osunkunle, 2006; Mallinson & Sewry, 2004). For example, students can connect to the university network in residences through ResNet[4].

Using ICTs in education, including HIV and AIDS education, has many advantages, which include breaking through the constraints of space and time, allowing for learning anytime, anywhere (Menda, 2008). There is easy round-the-clock access to information via the Internet that only requires a cellular phone. ICT provides people with anonymity, crucial for HIV and

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[3] For more information on HEAIDS programmed, visit www.heaids.org.za

[4] ResNet is a project within the Information Technology division established in 1996 to provide students with access to the Rhodes network from halls of residence.

AIDS education given the problems of stigma. I am fully aware that the use of ICTs has its disadvantages, such as the limited availability of resources and finances for the Internet connectivity and software, and incorrect information on the Internet (James, 2008). For these reasons a lack of infrastructure and connectivity are not concerns addressed in my research.

The use of ICT for educational purposes has been successfully tested and implemented in other projects using the concept of Minimally Invasive Education (MIE). MIE is defined as a pedagogic method that uses the learning environment to generate an adequate level of motivation to induce learning with minimal or no intervention (Cambridge, 2003). Numerous information kiosks have been developed to address the digital divide and to increase mass computer literacy. A pioneer in this field is the Hole in the Wall project in India (Mitra, 2000). A similar project, the African-based Digital Doorway project installed computers in South African communities (Gush, Cambridge & Smith, 2004). Both the Hole in the Wall and the Digital Doorway projects exceeded all expectations, with the younger members of the communities, in particular, learning basic computer skills without formal instruction (Gush, et al., 2004; Inamdar, 2004). Following these examples, I hope my project will contribute to creating the conditions for Rhodes University students to gain basic HIV and AIDS information on their own and at their own pace. It must be noted that this study did not test the actual use of minimally invasive education for HIV and AIDS education.

In this project, I worked closely with a Master's student in Computer Science who developed a telephony system that could be used to disseminate the HIV and AIDS information selected and integrated into an ontology. Ontologies are the "backbone" of the semantic web and are used more and more frequently in expert systems implemented through telephone, websites, information kiosks, mind maps etc. This means that the content selected during this study can be used by different systems. The study was not dependent on the success of the computer science project mentioned above. Rather, the two studies complemented each other, as my study explored processes to populate the ontology developed by the computer science student.

Continued research on HIV and AIDS is necessary when one considers HIV prevalence rates and mortality figures, which continue to rise in Southern Africa (UNAIDS, 2007). Southern Africa is the worst affected region in the world. Unlike the rest of the region, South Africa's recent statistics suggest that the country's HIV and AIDS epidemic might be stabilizing

(UNAIDS, 2008). However, over five million people are living with HIV in South Africa and this makes it “the largest HIV epidemic in the world” (UNAIDS, 2008, p. 40). In 2007, HIV accounted for almost 50% of deaths in South Africa (ASSAf, 2007). This, despite various national health education and awareness campaigns being conducted such as *Lovelife* and *Komanani* (Brown & Ebert, 2007). South Africa has an HIV and AIDS awareness campaign strategy that begins with the Life Skills subject in high schools (Albee & Gullotta, 1997; Van der Merwe, 1996; South Africa. Department of Health and Department of Education, 1997/8), and extends to public campaigns conducted by both government and non-governmental organizations.

1.3 Research assumptions

The overarching assumption for this study is that some of the HIV and AIDS information offered to the public in HIV and AIDS campaigns via the Internet is not being presented in a useful and accessible manner. This assumption is based on a preliminary review of some HIV and AIDS content, where I found that the information provided had limited utility for its users. For the purposes of this study, I refer to four problems that I identified. These are:

- the use of prescriptive information, which gives people a rigid way of thinking about and dealing with HIV and AIDS issues;
- the use of sophisticated language sometimes difficult for the layperson to understand;
- the limited access to relevant information, partly due to resource limitations;
- Information overload, mainly due to repetition.

I suggest that a way of dealing with these problems would be to give greater attention to the provision of ‘relevant’ information in awareness campaigns. In this study, I will define relevant information as information that counsellors think students should have and that students want or think they need. This is a subjective interpretation of relevance, which is consistent with the research paradigm informing my study as described in the methodology chapter. The improvement of HIV and AIDS information is crucial considering the fact that education, referred to as an ‘effective social vaccine’ by the World Bank, has been identified as key in the response to HIV and AIDS (World Bank, 2006, p. 17).

These problems can be addressed using ICT tools. The integration of ICTs into the education field has generated a number of success stories. Examples of these are the minimally invasive education (MIE) computer literacy projects. Because of the success of these projects in encouraging a new way of learning by discovery rather than by lecture, I assume that MIE can be useful in HIV and AIDS education. Through minimally invasive education, Rhodes University students can experience an alternative way of learning about HIV and AIDS (Smith, 2006).

Another way ICT can be useful is in respect of ontologies. Based on current research, the use of ontologies is fast becoming common due to the large amounts of information now available on the Internet (Davies, et al., 2003). Finding ways of selecting and organizing content for ontologies must now dominate research. I submit that through ontologies some of the challenges associated with HIV and AIDS information can be addressed. For instance, there are different groups of people with different information needs. Some of these needs are not explicitly catered for in current research. The use of ontologies allows for that through customization.

1.4 Goals of the research

The overarching goal of the research was to inform an ontology-based ICT intervention for HIV and AIDS education. I focused on selection, customization, and organization of information on a sample of topics relevant to HIV and AIDS education. I achieved this goal by answering the following questions:

1. ***How can relevant HIV and AIDS information be identified and organized for ontology?***

Information that students need, want and have can be used to identify and organize information for an ontology.

2. ***How can HIV and AIDS information be expanded and customized?***

Information needs to be presented differently and updated to address different information needs.

3. ***What are the attitudes of RU students towards HIV and AIDS information?***

An attitudes test identified information that students thought was prescriptive, was not widely available, was too sophisticated, or that overloaded them. These attitudes can be used to interpret information needs.

The research problem I address in this study is an attempt to find a way to select content on HIV and AIDS that can be used to populate an ontology for university students. In developing an appropriate methodology, I recognized that I am an expert neither on HIV and AIDS nor on ontology development.

1.5 Method of research

The interpretive paradigm was useful for my study, as I was interested in understanding the HIV and AIDS information needs of Rhodes students so as to develop content relevant to their needs. A mixed method approach was used for this study, combining both qualitative and quantitative approaches within the context of a case study. I carried out an in-depth exploration of Rhodes University students and an extensive collection of qualitative data (Creswell, 1998). The aim was to gain a thorough understanding of students' perceptions of, and the meanings they attached to, HIV and AIDS information. A quantitative approach was inherent in one of the data collection tools (the questionnaire) used for this study. The survey was conducted with a sample of students at Rhodes University. The questions for the survey were derived from four interviews with people working in the HIV and AIDS field, together with document analysis. Selected web pages were used as documents for this study. Four focus group discussions were held with selected respondents to the survey.

1.6 Thesis outline

In chapter two, the literature review, I introduce the problems of HIV and AIDS information in the Southern African context as explored in the study. The funding sponsors of the study are described and acknowledged. I then discuss problems or limitations pertaining to the current information available to citizens and learners on HIV and AIDS. I outline the use of ICTs in addressing some of these problems and discuss the specific use and potential of ontologies. Minimally invasive education as an approach is also introduced. Several issues relating to the identification and choice of HIV and AIDS information and content for the ontologies are discussed. The goal of the study is then identified and an introduction to the location and methodologies to be used is made.

In chapter three, I first discuss the research design, that is, the research paradigm and the approach chosen for this research. I then move on to research method, discussing the various data collection methods and describing how the data collected was analyzed. The last section of the methodology chapter deals with the challenges and limitations of the research, my role as researcher, and issues of ethics and validity.

The findings from three data collection tools are presented in chapter four. First, findings from the four interviews with HIV and AIDS experts are presented, followed by the results of the survey run with students. The last section deals with the findings of the four focus group discussions conducted with students selected from the survey respondents.

The discussion in chapter five is divided into four broad sections, content selection for an ontology, implementing the ontology, customizing the ontology and expanding or reducing the ontology.

In the concluding chapter, I summarize the findings of the study and draw some conclusions from them. I reflect on the research process and make suggestions for future research.

Chapter Two: Literature Review

This chapter presents the literature reviewed for this study. Firstly, I define an ontology and provide some background on the semantic web. Secondly, I focus on an aspect of ICT for education, minimally invasive education, and the advantages and disadvantages of using ICTs for HIV and AIDS education. I explain why I chose HIV and AIDS information for this study. The last section focuses on HIV and AIDS education issues.

2.1 Ontologies and the semantic web

In this section, I discuss ontologies – what they are and the advantages of using them – as well as the semantic web.

2.1.1 Defining ontology

The term ontology comes from the field of philosophy concerned with the study of being or existence (Gruber, 2008). In computer science, the term is technical and represents an artefact that is designed to enable the modelling of knowledge about some domain, real or imagined. Ontologies were developed in artificial intelligence to facilitate knowledge sharing and reuse (Davies, et al., 2003). This significantly improves knowledge management efforts and information access. Ontologies are used as a medium for knowledge representation (Brewster & O'Hara, 2007).

The term ontology defines the kinds of things that exist in an application domain (Sowa, 1984). It is "a highly structured system of concepts covering the process, objects and attributes of a domain as well as their pertinent relations" (Li, Raskin & Ramani, 2007 p. 2). In the computing context, ontology is a framework for representing concepts (i.e. ideas about things) that exist between concepts. Most importantly, ontologies can be used for the identification and association of semantically corresponding information concepts. Movement towards a semantic web is imminent and unavoidable.

There are three main directions ontologies can take, a single ontology, a multiple ontology, and a hybrid ontology. In this study, I have chosen to work with a single ontology approach. Since this was an experimental study and I wanted to understand how to populate ontologies, I focused on the simplest available approach. In a single ontology approach, one ontology provides a shared vocabulary for all sources of information. In a multiple approach, each source is described by its own ontology. This means there can be several ontologies working independently of a global/main ontology. Meanwhile in hybrid approaches, as in multiple approaches, several ontologies exist side by side. The advantage with this approach is that once ontologies are developed on the basis of one main ontology, they can be compared to each other.

Domain ontologies are ontologies that formalise the subject matter of learning courses. They formally specify the concepts and relationships of a specific subject domain (e.g. Health). The major hindrance to the widespread use of ontologies in e-learning systems lies in the "complexity of the ontology development process, especially from the perspective of content developers" (Hatala, et al., 2009 p. 141). In a study that saw the development of a framework for populating ontologies, Jokela, Sulonen and Turpeinen (2000) acknowledged the difficulty of identifying users' information needs. The authors nevertheless insisted that populating ontologies with content that satisfies the needs of the user is very important (Jokela, et al., 2000, p. 13).

The benefits of using ontologies in different learning circumstances have been recognized by many authors (Devedzie, 2003; Dicheva & Aroyo, 2006; Naeve, Lytras, Nejdlj, Balacheff & Hardin, 2006; Henze, Dolog & Nejdlj, 2004). Research has been conducted which showed significant improvements in searching repositories with learning content after the issue of ontology supported e-learning systems (Hatala, et al., 2009). For example, Hadzic, Chen and Dillion (2008) outline the process of developing a mental health ontology meant to provide relevant information on a medical condition. The authors acknowledge the need for an ontology due to the vast amount of information sparsely dispersed among various sources. The paper acknowledges the difficulty of finding relevant linked information. Similar challenges were noted in this study.

2.1.2 The semantic web

Ontologies are the backbone of the semantic web and are used more and more frequently in expert systems implemented through telephone, websites, information kiosks, mind maps etc (Dalvit, Gunzo, Maema & Thinyane-Slay, 2008). Ontologies are said to be at the semantic level in that they are typically specified in languages that allow for abstraction (Gruber, 2008). The semantic web is mainly concerned with technological issues, with less attention being given to ontology content and its quality (Ontology Outreach Authority, 2006). The semantic web makes it possible for 'the brain of the computer' to interrelate the various pieces of information that it has (W3C, 2008). This makes it easier for users to find the information that they need. Mizoguchi (1995) states that ontologies foster mutual understanding between humans and humans (common in interdisciplinary fields such as HIV and AIDS); humans and software agents (evident from search engines, which show interaction between the user and the agents in the semantic web), as well as between software agent and software agent (when agents communicate).

Today we are exposed to vast amounts of information in our daily lives, from television, newspapers, radio and now the Internet. The Internet is defined as a physical network of interconnected computers or of interconnected sub-networks of computers (Wikipedia, 2009). This is strongly related to the World Wide Web, defined as a logical network of pages connected by links, implementing a hyper-text. These two (the Internet and the World Wide Web) continue to grow and more than 1 billion computers are expected to be connected to the Internet by the year 2010, while over 40 billion pages had been reached by search engines by December 2008 (Luccio, 2009). This shows the vast array of information to which people are exposed. At present, in order to access information on the web, pages are presented according to page relevance. Three major criteria are used, including *page rank*. This assigns relevance by popularity, and is query dependent. Pages are found on the web and presented depending on how many times they have been accessed. So pages are not ranked in this type based on the importance of information but on the number of times they have been accessed. Because of this, information retrieved through search engines is not necessarily the most relevant to the query.

The current trend is towards a *semantic web*. Semantic means that the web is capable of interpreting customers' queries (Luccio, 2009). At present the web cannot identify or make relationships between pieces of information. For example, a search engine query for articles on *the use of ICT in tertiary education institutions* will provide pages with the words ICT and tertiary education institutions. At the moment, a search engine will not show an article titled *the use of computers at university* because it does not recognize that computers are a form of ICT or that a university is a kind of tertiary institution. This example shows that the search engine does not understand relationships implicit in the meaning of words. Using semantic relationships means that a system is able to make logical links within the information in its various forms (Mizoguchi, 1995).

These information relationships should be based on the information relevant to the people who use that information. Most information found on the Web is generic, with the aim of speaking to a generic though heterogeneous audience. There is no focus on the individual or on particular communities and their specific information needs. This may alienate user by rendering the information irrelevant. Current efforts to classify data into semantic classes and define relationships contribute to addressing the specific needs of individual users (Luccio, 2009).

2.2 ICT for education

ICTs have been used in education for years. In this section of the review I present some of the advantages and disadvantages of using ICT for HIV and AIDS education. Nulens (2003) and Jensen (2003) state that in education ICT holds out the promise of transforming learning in new and powerful ways, with the Internet playing a very central role. ICT also provides people with anonymity, crucial for HIV and AIDS education given the problems of stigma. In a report produced for the International Development Research Centre (IDRC) that reviewed the role of ICTs in HIV and AIDS in developing countries, ICTs were recognised as effective tools for the HIV and AIDS pandemic (Driscoll, 2001). The UN 2008 report on the global AIDS pandemic supported the use of ICT for HIV and AIDS education, saying ICT can provide powerful tools to bring knowledge and health education to communities. The report suggested that more needed to be done to define the information needs of target groups. It is imperative to ensure that ICT programmes are based on the needs of a target group for them to be effective (Bateson, 2002).

2.2.1 Minimally Invasive Education

The Internet exposes people to a lot of information but does not necessarily educate them. The use of ICT for educational purposes has been successfully tested and implemented in other projects using the concept of Minimally Invasive Education (MIE). Minimally invasive education is defined as a pedagogic method that uses the learning environment to generate an adequate level of motivation to induce learning with minimal or no intervention (Cambridge, 2003). It demonstrates a special case of the interplay of information technology (computers) and learning processes, and emphasizes the role of self-directed and participatory learning (Dangwal, Jha & Kapur, 2005). MIE derives its name "partly from the medical term, minimally invasive surgery" (Mitra & Rana, 2001, p. 221). The idea of MIE crystallized over a period of time as a result of observation and educational experiments conducted at the National Institute for Information Technology (NIIT). MIE is described by Mitra (2000) as the acquisition of knowledge through "incidental learning". He explains that for computer skills, for example, incidental learning can take place when access to a suitable computing facility with entertaining and motivating content is provided. Numerous information kiosks have been developed to address the digital divide and to increase mass computer literacy.

In the various experiments conducted by the NIIT, Internet kiosks were provided for children unfamiliar with computers so that they could teach themselves basic computer skills. The first experiment was conducted in 1999 in New Delhi, India, in a village known as Kalkaji, near a slum dwelling. This pioneer project became known as the Hole in the Wall project (Mitra, 2000). This was because researchers fitted a computer into an actual hole in the boundary wall of the small village (Dangwal, et al., 2005). Children manoeuvred using the touch screen that was available on the machines. In this experiment it was observed that children learnt to use the computers and browse the Internet without any formal input, regardless of their social, cultural or economic backgrounds (Mitra & Rana, 2001). Curiosity led the children to explore, and this resulted in learning (Mitra, 2000). When that learning was supplemented with some minimal input from their peers, learning was increased. This led the researchers to conclude that "any learning environment that provides adequate levels of curiosity can cause learning" (Mitra, 2000). Another finding of the first experiment was that the results of such experiments cannot be restricted to computer literacy alone, but can be applied to education more generally.

Following the success of the Hole in the Wall project; similar kiosks were set up in other parts of India, in small towns (Shivpuri), villages (Madantusi and Sindhudurg) and resettlement colonies (Madangir). By 2003, "43 computers were set up at these kiosks and plans were to have 66 installed all over India by 2004" (Mitra, 2003, p. 369). The experiment has since gone worldwide, and there have been similar projects in South Africa, Cambodia, Uganda and Egypt (Dangwal, et al., 2005). When South Africa conducted this experiment it became known as The Digital Doorway project (Gush, et al., 2004). The project was started by the Council for Science and Industrial Research (CSIR) and the Department of Science and Technology (DST). The first site was launched in the rural community of Cwili in the Eastern Cape Province in December 2002. Unlike the Hole in the Wall project, Digital Doorways incorporated adults in the research. In an effort to create a real environment, a key board and mouse were made available. Most importantly the South African experiment already saw the need to make HIV and AIDS information available in PDF format so that people could read in their own time. The findings of both the Hole in the Wall and the Digital Doorway projects beat all expectations, with younger members of the communities, in particular, learning basic computer skills without formal instruction (Gush, et al., 2004 and Inamdar, 2004). The various experiments have also indicated that MIE has an important role to play in education.

Minimally invasive education would be useful for HIV and AIDS education particularly in the context of this study, within a university setting. In this research my argument is that while students would normally not be interested in looking for HIV and AIDS information on the web; this can be changed with the selection and organization of information produced and prepared for the web and other ICT packages. It is my assumption that having HIV and AIDS information prepared free of the challenges discussed in section 2.5 of this thesis would entice young people to looking for HIV and AIDS information on the web.

2.2.2 Advantages and disadvantages of ICT for HIV and AIDS education

Using ICTs for HIV and AIDS education has several advantages that were a motivation for my choosing HIV and AIDS for the purposes of this study. Today people still associate HIV and AIDS with being promiscuous and even people trying to find more information on the topic are stigmatized. Anonymity becomes crucial in such circumstances, especially in small communities (such as Grahamstown) where “everybody knows everybody else”. ICT will be used in the research for this particular reason. ICTs make it possible to have HIV and AIDS information readily available for people to interact with even before they need it. Another advantage is that ICTs – and ontologies in particular – improve the selection, organization and presentation of the content. ICT assists in ensuring that the HIV and AIDS information presented is not prescriptive in nature or too technical for the users. This is possible as content can be customized and organized for a particular group of people. Similarly, ICT also helps with the selection, organization and dissemination of relevant information, which is important in trying to avoid information overload. Another advantage is that information is kept up to date: for example, ontologies can be linked to active websites so that updated information is always available.

A major disadvantage of using ICT for education is resource limitations, both physical and epistemological. I acknowledge these as disadvantages as it is possible that the availability of ICTs plays an integral part in the effective use of these technologies. Another disadvantage is the accessibility of the technologies, that is, the possible inability of people to make proper use of the technologies. It must be noted that these disadvantages do not pertain to students at Rhodes University (the sample location), where ICTs are available and accessible.

2.3 HIV and AIDS education

This section explains why HIV and AIDS information was chosen as a field for content selection and organization for ontology. It must be noted that the study is not *on* HIV and AIDS: rather, the HIV and AIDS field is used as an example for the purposes of the research.

According to Baxen (2009, p. 15), "WHO estimates that 50% of all new HIV infections worldwide are among young people, with 30% of the 40 million HIV infected people being youth in the age group of 15-24 years". The youth make up at least 80% of those currently living with HIV and AIDS in the sub-Saharan region (Gallant & Maticka-Tyndale, 2003). In Southern Africa, HIV prevalence rates and death figures continue to rise (UNAIDS, 2007). The prevalence rate is "the proportion of the population that has a disease at a particular time or averaged over a period of time" (Whiteside, 2008, p. 14). Southern Africa is the worst affected region in the world, and home to two-thirds (24.5 million) of all people with HIV (Nkatazo, 2008).

In a press release the United Nations programme on HIV/AIDS (UNAIDS) warned that the pandemic is not in any way close to over in any part of the world because of the recent recorded declines in new HIV infections and AIDS-related deaths in some countries. According to the UNAIDS report on the global AIDS epidemic of July 2008, there were significant gains in preventing new HIV infections in countries such as Zimbabwe and Rwanda (Barton-Knott and Rich, 2008). Although new infections declined worldwide from 3 million in 2001 to 2.7 million in 2007, AIDS continues to be the leading cause of death in Africa, with 75% of all AIDS-related deaths in 2007 having been in this part of the world.

It must be noted, however, that most HIV and AIDS epidemics in sub-Saharan Africa seem to have stabilized, although often at very high levels. South Africa's recent statistics suggest that the country's HIV and AIDS epidemic might be stabilizing (UNAIDS, 2008), but there is no evidence yet of major changes in HIV-related behaviour. The third national HIV survey presented in June 2009 showed that the country's epidemic had leveled off (HSRC, 2009). The HIV prevalence rate in South Africa's adult population was 18.1 by July 2009 (IAS, 2009). This means that one in every 5 adult South Africans is living with HIV. South Africa still has the greatest number of people living with HIV and AIDS in the world (IAS, 2009 UNAIDS, 200, p. 40, Reuters, 2008). In 2007, HIV accounted for almost 50% of deaths in South Africa (ASSA, 2007). Statistics show that AIDS deaths occur predominantly among the youth (15-49) in their productive years (Phaswana-Mafuya & Peltzer, 2005).

HIV and AIDS education is an important component of attempts to deal with HIV and AIDS. A number of researchers recognize education as a key strategy (Kelly, 2000; Coombe, 2003; Baxen, 2009). These researchers acknowledge that the provision of information confers power (upon individuals) to protect themselves against infection, to influence decision making and to live lives of dignity and equality (Forman, 2004). In South Africa the HIV and AIDS education and awareness campaign strategy begins in the Life Skills subject in high schools (Albee & Gullotta, 1997; Van der Merwe, 1996; South Africa. Department of Health and Department of Education, 1997/8), and continues into a range of public campaigns conducted by both government and non-governmental organizations (Brown et al, 2007). There are various national health education and awareness campaigns conducted in South Africa such as *Lovelife* and *Khomanani* (Brown et al, 2007).

Levels of knowledge about HIV and AIDS issues have not improved over the years. Over two decades after the discovery of HIV, there is still little understanding of the long term impact of the pandemic (Whiteside, 2008). It was evident in the global epidemic report of UNAIDS in 2008 that comprehensive knowledge of HIV and AIDS information is still lacking among young people in the world (see Fig. 1 below). In South Africa, HIV prevention knowledge declined in 2008 among the population 15-49 years at national level (HSRC, 2009).

In cases where education has been provided, HIV and AIDS awareness has not significantly translated into sexual behavioural change (Bloom, Banda, Songolo, Mulendema, Cunningham & Boerma, 2000; Williams, et al., 2003; Stoneburner & Low-Beer, 2004; Thornton, 2006; Oster, 2007). Information contributes to meeting the challenge of limited behavioural responsiveness in Africa. It is not the objective of this study to change behaviour, however, but to use students' views and perceptions to select HIV and AIDS content that can be disseminated through ICT.

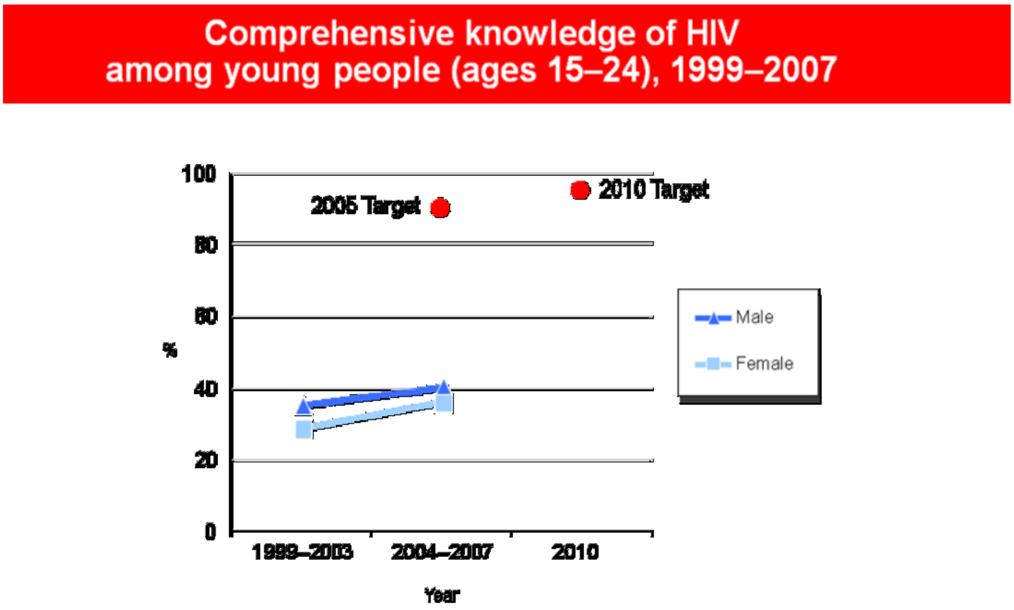

Figure 1: *MEASURE UN- sponsored Demographic Health Surveys (2008)*

2.4 HIV and AIDS at tertiary education institutions

Research on the relationship between HIV & AIDS and tertiary institutions has been ongoing. The research has included the impact of the pandemic on the operations of universities (Tavrow & Omwami, 2008), issues of stigma and denial among staff and students (Kelly, 2001), HIV prevalence (Barnes, 2000), and knowledge and awareness of the pandemic (Odu, et al., 2007; Sabone, et al., 2007; Weston, 2006), among others. These studies have yielded interesting results over the years, uncovering some of the effects that the pandemic has had on universities. In their study on the perceived HIV and AIDS infection rate in tertiary institutions in the Eastern Cape, Phaswana-Mafuya & Peltzer (2005) found that tertiary institutions are as negatively affected by HIV and AIDS as other institutions. They suggested that it is imperative for tertiary institutions to respond to HIV and AIDS through the introduction, among other things, of a holistic approach that involves effective intervention and awareness programmes. However, tertiary education institutions have been slow to respond to the impact of HIV and AIDS. In fact not much is being done at some universities (Tavrow & Omwami, 2008), where there is no HIV and AIDS education for students or where health facilities have not been user-friendly for students.

Various challenges have been identified as facing the tertiary education sector due to HIV and AIDS. Tavrow & Omwami (2008) noticed the reduced quality, productivity and efficiency in services offered by most African tertiary institutions due to HIV and AIDS. Of interest is that most universities are in the dark regarding the impact of the pandemic on their own campuses (Kelly, 2001; Tavrow & Omwami, 2008). Most universities continue not to provide HIV and AIDS prevention education or measures for their students. Some universities have also not taken steps to curtail sexual harassment and rape on their campuses. Although the incidence of these sexual crimes is not well documented, they are apparently rife at universities (Tavrow & Omwami, 2008). It must be noted, however, that universities have latterly started to do their bit towards HIV prevention, "although efforts are still fragmented" (Tavrow & Omwami, 2008, p. 87).

Other challenges facing HIV and AIDS education at universities include peer pressure. A study of Swazi youth (Jones, 2006; Zwane, Mngandi & Nxumalo, 2004) found that peer pressure was an important influence on sexual behaviour. The university setting provides the space for young adults to engage and experiment with their lives. In a study at the University of Botswana (Sabone, et al., 2007) that analyzed undergraduate students' perceptions of HIV and AIDS prevention, students indicated that the campus environment was a "freedom at last" opportunity. The study found that when faced with "freedom" most students overindulged in drinking and unprotected sex (Sabone, et al., 2007, p. 335). In an extreme finding (that cannot be generalized to all university students) in a study of students at a university in Botswana (Sabone, et al., 2007), male students acknowledged using sex, including unprotected sex, to relieve boredom.

The stress of academia which may drive students into risky behaviours such as alcohol abuse (Chwee, Eke-Huber, Eaddy & Collins, 2005) and ultimately expose them to HIV is another challenge for HIV and AIDS education at the university (Sabone, et al., 2007; Simpson, 1996 as quoted in Weston, 2006). Alcohol consumption has been linked to compromised decision making when it comes to safe sex (Phamodi, 2009, p. 9). A study (Simpson, 1996 as quoted in Weston, 2006) was conducted among 176 predominantly white, female second-year students at Rhodes University which assessed students' alcohol use and sexual behaviour and their beliefs about how alcohol use affects their sexual behaviour. The study found that there were significant associations between alcohol abuse and the number of sexual partners one had, with alcohol users having more sexual partners. Although the alcohol users had knowledge of HIV transmission there was no significant relationship between alcohol use and frequency of condom use or the respondents' perceived risk of HIV infection. Meanwhile, a report on the patterns of alcohol usage at Rhodes University for the period 2007 and 2008, (Young & de Klerk, 2008) noted that alcohol abuse contributes to unsafe sex, which puts young people at risk of HIV infection. The university, through the Dean of Students' office, has recently implemented strategies to counter this, including a new responsible drinking policy, an alcohol awareness week, and the Dean-of-Students' Alcohol-Free Challenge.

The perceived low likelihood of contracting HIV among young people makes them vulnerable to HIV infection. Many students simply do not see themselves as likely to contract HIV (Sabone, et al., 2007, Akande, 2001). At a university in Nigeria, less than a quarter of 368 respondents considered themselves vulnerable to becoming infected by HIV (Odu, et al., 2007, p. 5). This finding is consistent with the results of studies conducted among undergraduate students of the universities of Sokoto and Ibadan in Nigeria, who stated that no matter what, they "could not get AIDS" (Saddiq, Ibrahim & Mannan, 2001; Oladepo & Brieger, 1994; Ijadunola, Abiona & Odu,2007). Similarly, Levine and Ross (2002) conducted research on the attitudes and perceptions of students at the University of Cape Town towards HIV and AIDS. Among other findings, students believed that they were immune to HIV and therefore continued to practice unprotected sex. In the discussion chapter I introduce some new literature (not discussed in this chapter) on perceived immunity to HIV to clarify this issue further.

2.5 Challenges in HIV and AIDS education

After a preliminary review of relevant literature, I identified a few problems pertaining to information on HIV and AIDS. In this section I present four problems in relation to content, presentation and selection that I assume are a challenge to effective HIV and AIDS education. These are the use of prescriptive information, which gives people a rigid way of thinking about and dealing with HIV and AIDS issues; the use of sophisticated language sometimes difficult for the layperson to understand; limited access to relevant information partly due to resource limitations; and information overload, mainly due to repetition.

Only relevant HIV and AIDS information should be disseminated to the user; indeed, the provision of “relevant” information will be the most important solution to these problems. Relevant information in this study, as defined earlier, refers to information that students want and need on HIV and AIDS. It is important that information be relevant because research has shown that HIV and AIDS information users feel that “the messages they hear have nothing to do with them” (Mitchell & Smith, 2003, p. 513). This means then even if campaigns are conducted they continue to have less impact than they are meant to. Relevant information in this context is information that “speaks” to its users. This can be ensured by moving away from a “one size fits all” attitude that current (global) programmes have (Mitchell & Smith, 2003, p. 519) towards a more focused approach. Information must be personal and local.

2.5.1 Prescriptive information

Some HIV and AIDS information is prescriptive in approach. The word prescriptive is defined in the American Heritage Dictionary of the English Language (2000) as “making or giving injunctions, directions, laws or rules”. Prescriptive information also refers to information sanctioned or authorized by long-standing customs or usage. The Collins Essential Thesaurus includes the words “rigid”, “dogmatic” and “didactic” as synonyms for the word prescriptive. Abel (2009a) defines prescriptive information as information that instructs or directly produces nontrivial formal functions. It is information that either tells us what choices to make, or it is a re-coordination of wise choices already made (Abel, 2009b). He submits that prescriptive information is usually contained within meaningful messages. This informal adjective, prescriptive, has been used for decades, if not centuries, to describe functional information.

I acknowledge that prescriptive HIV and AIDS information has had success before and continues to have success in some communities. I submit that there is nothing wrong with giving people directions, or popularizing a strategy that has been in use for a long time because it is educational, instructive or moralistic. The problem begins when people who are supposed to use these messages begin to recognize the prescriptiveness of messages. The ABC (Abstinence, Be faithful and Condomize) concept is an example of prescriptive information. There is no doubt that the strategy has had success in countries such as Botswana (Sabone, et al., 2007) and Kenya (Pulerwitz, et al., 2006). However, there have been complications with the concept: for example, a study conducted at the University of Botswana found "problems with the ABC message" (Sabone, et al., 2007). The paper by Sabone (et al., 2007) focused on the participants' expressed perceptions of factors that interfered with curbing HIV and AIDS at the Botswana university campus. The purpose was to share with the nursing community and other stakeholders' issues to be considered when designing and implementing HIV and AIDS prevention programmes, such as the one I inform in this study.

One of the findings of that study was that abstinence does not work for university students. The students at the university of Botswana thought that abstinence was "not practical and …unrealistic" (Sabone, et al., 2007) for university students, who were sexually active and eager to experiment and discover their bodies. Students suggested that abstinence should be directed at primary and secondary school children. They said this was because most students at university would have started having sex already and asking them to abstain would not work. Secondly, students in the study said that being faithful to one sexual partner was not practical in a campus environment (Sabone, et al., 2007, p. 334). Participants said that being faithful was challenged by peer pressure and boredom. Lastly, condomizing also had problems, such as inconsistent and incorrect use due to the binge drinking (Pulerwitz, et al., 2006) that some students were involved in. Participants nevertheless thought that using condoms was the most "realistic" strategy and encouraged it.

In a related study conducted in Kenya it was evident that the ABC concept was problematic. A study that analyzed how Kenyans perceived the ABC injunction revealed that it was misunderstood in different cultural contexts and by different people (Pulerwitz et al, 2006). The concept was first adopted in Botswana but later modified and endorsed by the United Nations as a preventative measure for the pandemic (UNAIDS, 2004). Most countries adopted the ABC concept based on the successes it had had in other countries.

This is where problems with the concept begin. An argument raised is that the ABC encourages people to condomize without emphasizing the importance of using the condom consistently and correctly every time. Although this is now being corrected, people were misinformed at the beginning. And despite it having been said that the ABC needs to be tailored for specific groups, this has not been done extensively. One of the recommendations that came out of the study was that there is need to clarify what is meant by the ABC; in other words, for awareness programs to utilize terminology that is locally appropriate and clearly understood by people. This is an important principle that I bear in mind when selecting content in this study.

2.5.2 Sophisticated language

The use of jargon in HIV and AIDS information is problematic. HIV and AIDS information is often presented in medical journals, written in scientific jargon not easy for the common person to read or understand. Taylor (2008) defined HIV and AIDS information as a human rights issue, meaning that it is crucial that everyone has the relevant information, but at the same time pointed out that it involved complex scientific concepts.

A recent survey in South Africa indicated that even basic information about HIV transmission is relatively sophisticated for the layperson (ASSAf, 2007), especially for youths who are the worst affected group. Granich, Mermin and Sfeir (2000) suggest that the information reported in medical journals is usually obscure due to the use of scientific and medical jargon. Similarly, in a study conducted at the University of Swaziland on the effectiveness of an HIV and AIDS course offered by the university, students felt that the course content was “too deep and too scientific” (Sukati, Esampally & Vilakati, 2006, p. 3). Researchers used students’ views, opinions and suggestions to modify and simplify the content. Central to adjusting the content was the belief that “HIV and AIDS education had to address the needs of learners” (Sukati, et al., 2006, p. 2). As an April 2004 editorial in the *British Medical Journal* agreed, the most effective HIV prevention strategies are ones that are community-driven and able to meet the unique needs of diverse communities (Wilson, 2004).

2.5.3 Limited access to relevant information

Extensive distribution of relevant information is central to the response to HIV and AIDS, yet the provision of HIV and AIDS information continues to face many challenges, particularly in Africa where provision of information is affected by resource limitations (Forman, 2004). The UNAIDS 2008 report on the global AIDS pandemic showed that many young people still lacked accurate, complete information on HIV prevention. Aderonke Sodeinde, an HIV prevention adviser at the United Nations Populations Fund, told journalists that “youths in Nigeria were at an increased risk of HIV and AIDS because of a lack of information” (Daily Trust, 2009). HIV and AIDS information was being disseminated through conservative forms of media, popular amongst these being radio, television, performance (including dramas, theatre, musicals etc). Young people have lost interest in most of these forms of disseminating information with the rise of the Internet (Mitchell, Reid-Walsh & Pithouse, 2004, p. 85-6). This has rendered these traditional sources of information less effective when it comes to disseminating information to university students. Alternative ways of disseminating information must be introduced to address some of these challenges.

In this research, I support the use of ICTs to disseminate HIV and AIDS information to Rhodes University students. Clearly, clicking on a website or using any other ICT-based programme offers South African youths’ access to information that they would find difficult to access through other channels (Mitchell et al, 2004, p. 85-6). This would be additional to existing HIV and AIDS awareness campaigns such as live theatre performances, discussion forums/lectures and printed material. I acknowledge that ICTs are an extremely limited resource in Africa (Mitchell et al., 2004). The table below shows how the continent continues to lag behind in terms of the use of these technologies when compared to the rest of the world (see Table 1). Although the table shows Africa as having the second highest growth in users, the numbers still remain low. South Africa is ranked 4th on the Africa table of top ten Internet countries with 4.6 million users (Internet World Stats, 2009).

Table 1: *World Internet usage and population statistics*

WORLD INTERNET USAGE AND POPULATION STATISTICS						
World Regions	Population (2008 Est.)	Internet Users Dec. 31, 2000	Internet Users Latest Data	Penetration (% Population)	Users Growth 2000-2008 %	Users %
Africa	975,330,899	4,514,400	**54,171,500**	5.6	1,100.0	3.4
Asia	3,780,819,792	114,304,000	**657,170,816**	17.4	474.9	41.2
Europe	803,903,540	105,096,093	**393,373,398**	48.9	274.3	24.6
Middle East	196,767,614	3,284,800	**45,861,346**	23.3	1,296.2	2.9

North America	337,572,949	108,096,800	**251,290,489**	74.4	132.5	15.7
Latin America/Caribbean	581,249,892	18,068,919	**173,619,140**	29.9	860.9	10.9
Oceania / Australia	34,384,384	7,620,480	**20,783,419**	60.4	172.7	1.3
WORLD TOTAL	6,710,029,070	360,985,492	**1,596,270,108**	**23.8**	342.2	100.0

Source: www.Internetworldstats.com

Information disseminated primarily through the Internet or any other form of ICT such as television and radio, continues to sideline the majority in Africa. The statistics below (see Fig. 2) show that although there has been some penetration of ICTs in Africa, there are still many communities that have not been reached.

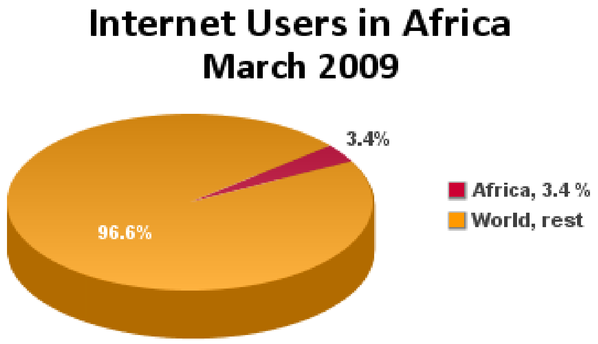

Figure 2: *Internet users in Africa (Source: Internet world stats)*

This supports my stand from the beginning about this research and its purpose. I realize that the use of ICT as an alternative method of HIV and AIDS education is not an option that can be applied everywhere. ICTs are not evenly spread among African universities (Harle, 2009; Farrell & Shafika, 2007; Osunkunle, 2006;). But the context within which I conducted this research was conducive to the use of ICT (see Chapter One), thanks to the availability of the resource at Rhodes University and the existence of the necessary skills amongst students required for use of the resources (Czerniewicz & Brown, 2006).

The value of this research is based on 1) the need better to understand the methods of making information on social problems available to those who do have access via ICT; 2) the fact that universities in Southern Africa often have good ICT infrastructure for students and form an important target community of many who could potentially benefit from ICT-supported education; 3) with the cell phone becoming ubiquitous in Southern Africa, especially in South Africa where millions of people have a cell phone, and the increasing Internet access via the cell phone, the idea of the masses getting access to the Internet may in fact not be that far off.

2.5.4 Information overload

There is a lot of information on HIV and AIDS. This has led to information overload. Information overload is a term coined by an American writer and futurist, Alvin Toffler (Wikipedia, 2009). Toffler's work focused on technology and its effects, including information overload. The term refers to an excessive amount of information being provided. But while there are several definitions of what information overload is, Akin (1997) concluded that there was no commonly-agreed/accepted definition of the concept. Kim, Lustria & Burke (2007: p. 4) define information overload as "a perception of being overwhelmed and thus confused by information coming in that might hinder learning or impair users' ability to make informed decisions". The most common dictionary definition of information overload describes it as the state of having too much information to make a decision or remain informed about a topic. Information overload typically includes too much information coming in, ineffective information management, stress (or anxiety) and ambiguity (Kim et al., 2007). The concept is also known as information flood. It is evident from the definitions that information overload has disadvantages; including the possibility that too much information can lead to people being less informed about a topic.

Information overload is understandable in the digital and information age in which we now live. Due to the spread of the Internet it has become easier to generate, store and share information. The World Wide Web provides access to billion of pages of information (Luccio, 2009). A closer look at health information in 2004 showed that over 400 000 articles are entered into biomedical literature each year (Davis et al, 2004). The general public is able to access this information through the Internet. Although access to the Internet is skewed in Africa, the use of the Internet has increased drastically. According to the world Internet usage and populations statistics presented in March 2009, the number of Internet users has grown in Africa by 1100% and in the world as a whole by 342.2% between 2000 and 2008 (World Internet stats, 2009). However the processing and absorbing of information has become difficult for the individual because there is so much information to go through.

The use of the Internet in the health sector has transformed the dissemination of health information (Eysenbach, 2001). One study found that information seekers prefer the Internet to traditional sources of health-related information (Case, et al., 2004). The advantages of using online information include widespread access, interactivity (that is, the potential to facilitate interpersonal interaction), anonymity, as well as the tailoring of information (Cline and Haynes, 2001). ICT on one hand contributes to the “overload” as a lot of information on HIV and AIDS is now available on the Internet. On the other hand, it is through ICTs that the “overload” can be reversed, by ensuring that only relevant information custom-made for a specific community or age group is made available.

Information overload can be predicted, based on factors that I have adapted from a conceptual framework used to show potential predictors of cancer information overload. I present these in the figure below and adapt it for HIV and AIDS information.

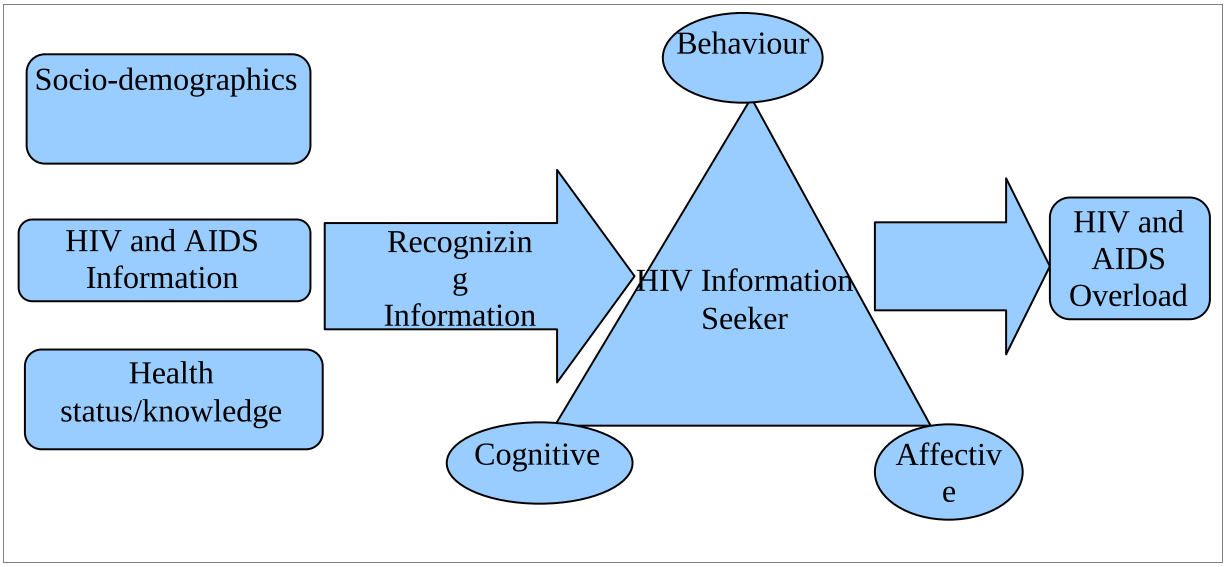

***Figure** 3: Information overload (Figure adapted from the conceptual framework depicting the potential predictors of cancer information overload, Kim et al, 2007).*

Results from the cancer study suggest that information overload was a by-product of the cancer information-seeking process. The same might happen in the HIV and AIDS information-seeking process. The process of seeking HIV and AIDS information depends on the health status of the individual, for usually people start reading and looking for information once they know they are infected with the virus. People who have an interest in the condition, such as researchers and medical personnel, also seek information, regardless of their status. Different clusters of people will seek HIV and AIDS information differently. For instance, a prostitute has an interest in finding out about the condition and protecting herself. Different circumstances lead a person to recognize their information needs. Once these needs have been recognized, one's cognitive and emotional behaviour contributes towards the information one finds and interacts with, which ultimately leads to information overload (Kim et al. 2007).

In the media there is information overload. This is the case for both the consumer and the journalist. It is also easier now to duplicate and transmit information across the Internet (Biggs, 1989 in Kim et al, 2007). As a result there is a lot of information available to those who have access to the Internet. Overload is caused by an increase in incoming information, which is due in part to the numerous channels of incoming information, such as telephone, email, instant messaging, RSS and the many other channels available to people nowadays. Journalists are also overloaded with information on HIV and AIDS. At a media briefing before the 17th International HIV/AIDS conference that was held in Mexico in 2008, a media expert pointed out that there was a general "HIV/AIDS fatigue" (Taylor, 2008). Addressing journalists, Mia Malan said that some people in the media were simply "tired of hearing about the disease" (Malan in Taylor, 2008). Malan added that more and more people in the media are no longer willing to publish stories on HIV and AIDS.

Overload is also caused by inaccuracies and contradictions in available information. This problem is partly because of the Internet, since anyone is free to create, send and store information on the World Wide Web. Another problem is that there is an absence of method for comparing and processing different kinds of information, which means that duplicated information makes up the bulk of the information available on the Internet. Different pieces of information are unrelated or do not have any overall structure to reveal the relationships between them.

Although there is no solution to information overload, there are ways to reduce the effects. Info-engineering seeks to ensure that people only spend time on information they need, focusing on the quality of information rather than quantity, and creating better information. This is important because information overload makes it difficult for information users to select or identify relevant information (Eppler and Mengis, 2004). It becomes the duty of researchers to help users identify and select, for example, HIV and AIDS information that is relevant to them from all that is available. In a study conducted with adolescent learners, it was found that the learners indicated that they were "overwhelmed by too much factual information" (Griessel-Roux, et al., 2005: p. 255). Thus some researchers advocate "a change in the role of information professionals from helping users identity and access all relevant information to 'protecting users from information'" (Bawden, Holtham & Courtney, 1999: p. 254).

A study conducted in South Africa noted that there was a general "we are sick of AIDS" phenomenon among young people (Mitchell, et al., 2003). 9th and 10th graders told the researchers that they were sick of AIDS because they felt that there was nothing they could do about it. In the present study it was evident from their responses that the students were frustrated by information overload. Mitchell et al. (2001) acknowledge that HIV and AIDS messages can be problematic. These authors claim that the youth are tired of hearing about HIV and AIDS and as a result no longer care about HIV and AIDS related issues. Mkhonto (2005, p. 69) points to "the media hype" that has been created around issues of HIV and AIDS and says this gives the youth a sense of "information overload". Mkhonto's study proposed the use of fictional narratives to deal with the problem of information overload. Time has shown that narratives cannot keep up with the speed at which new information on HIV and AIDS is being produced. This is one area that my research addresses. Using an ICT-based repository, updating and adding new information will be effortless. In the case of narratives, the books or magazines would have to be reprinted, which is not only costly but hard to maintain as well. Mitchell et al. (2004) suggested that a new way of programming was imperative, and argued that the programmes would be more effective if "young people themselves were actively involved in both creating and critiquing the accounts of HIV and AIDS" (p. 519).

2.6 Conclusion

In this chapter I have presented a review of literature relevant to my research project. I started the chapter with a description and discussion of ontologies and their functions within the ICT field, and followed this with a brief account of the semantic web. These concepts are of potential value in the dissemination of information in the field of education.

The next section of the chapter gave an overview of the integration of ICTs in education, followed by a discussion of minimally invasive education and an account of how ICTs are potentially useful for HIV and AIDS education. The following section provided a more detailed review of HIV and AIDS education issues. I looked at HIV and AIDS education at tertiary institutions and some of the challenges that it faced. I identified four major information problems in the HIV and AIDS educational arena, and then discussed possible ways of addressing these.

In the following chapter I present the methodology that I have chosen for this study.

Chapter Three: Methodology

In this chapter I discuss the methodology I used in this research. First I talk about the research design, which includes the paradigm, approach and sample for this research. Secondly, I discuss the research tools that I used to collect data. I discuss the development, administration and analysis of each tool. Lastly, I discuss the challenges and limitations of the study. I highlight my role as a researcher, the challenges I encountered, as well as issues of validity and ethics.

3.1 Research Design

This section includes discussion of the research goals, the selected research paradigm, the research methods, and the study sample. It ends with a consideration of the challenges and limitations encountered in the research process. I provide reasons for the choices made and how they facilitated the carrying out of the research.

3.1.1 Research goals

The term goal is defined by Maxwell (2005) to include motives, desires, purposes or anything that leads someone to a study or to accomplish something by doing research. I used my goals to shape the descriptions, interpretations and theories created in this research. The goals became central to all the planning and conducting of the research, as well as identifying potential validity threats and sources of bias in the research results. The overarching goal of the research was to inform an ontology-based ICT intervention for HIV and AIDS education. I focused on the selection, customization and organization of information in respect of a sample of topics relevant to HIV and AIDS education.

As already stated in Chapter One, I define “relevant” information in this study as HIV and AIDS information that HIV and AIDS experts think students should have, and information that students themselves want or think they need. The word relevant was at the centre of the study as it defined the principle governing the selection of HIV and AIDS information for the ontology. I chose to concentrate on relevant information as this had been described in the literature as crucial. For instance, Hoppe et al. (2004) found that students had no interest in

HIV and AIDS education because they felt the messages delivered were not personally relevant to them. The inclusion of students as potential users of the ICT-based intervention added an interesting aspect to the development of the content in this study. Research has indicated that including users in the development of campaigns is an effective way of ensuring that they actually make use of them (Daily Trust, 2009). I documented the process and kept a record of my experiences while conducting the research. This informed the choices I made concerning the paradigm and approaches employed, as well as the data collection and data analysis methods used.

3.1.2 Interpretive paradigm

This research was conducted within the interpretive paradigm. According to Patton (1990, p. 479) a paradigm is a "world view, a general perspective and a way of breaking down the complexity of the real world". The "central endeavour of the interpretive paradigm is to understand the subjective world of human experience" (Cohen, et al., 2007). Subjectivity was a critical factor in this study since I was working with a sensitive topic and the data was based on what people chose to say. The interpretive paradigm speaks of "human action rather than human behaviour" (Cannole, 1998, p. 19). This is based on the assumption that, "to understand actions, practices and institutions, researchers need to grasp the relevant meanings, the beliefs and preferences of the people involved" in the research (Bevir & Rhodes, 2003, p. 1). Theories constructed within the context of the interpretive paradigm are usually not in the positivist paradigm (Cohen, et al., 2007). Positivism is the theory that genuine knowledge is only generated through strictly "scientific" methods to produce objective data (Neils, 2007).

Understanding and interpreting human actions is central to the interpretive paradigm. Giddens (1976, p. 55) defines understanding as "a method of studying humanity through an empathic identification with the other and grasping of their subjective experience". The interpretive perspective made it possible for me to focus on the actions taken by individuals, "thought of as behaviour-with-meaning". This phrase is a synonym for "the actions the individual takes" (Cohen, et al., 2007, p. 21). Behaviour-with-meaning means that everything that people do has a meaning attached to it. Cannole (1998) agrees that human actions necessarily have reasons. After interpretation of these actions (for example whether or not students visited HIV and AIDS websites), I had a better understanding of the students' attitudes towards HIV and AIDS information, what they knew and what they wanted to know. The individual is the main concern of the interpretive paradigm. Focus is brought to bear on each and every respondent in the study, and an effort is made to understand the respondents as individuals and not as a homogeneous collective. In this study “the individual” refers to the research respondent. All the data collected in this study was based on the actions, views, perceptions and attitudes of the respondent.

The interpretive perspective gives an opportunity to understand a phenomenon not yet well understood. Cohen et al (2007) maintains that such a phenomenon must be studied in its natural context. In this case the phenomenon was the selection and organization of content for ontology. Despite the various awareness campaigns and interventions, there is still a gap in the knowledge levels of most people concerning the pandemic. This is in part because the field of HIV and AIDS is a complex one, since the condition is dynamic and information keeps changing due to ongoing research. Using ICT is a way of addressing some of these shortcomings. Rhodes University is an ideal place for such research, for reasons discussed above (see Chapter One). The data gathered and the information selected and organized in this project cannot be said to be exhaustive.

In the interpretive paradigm, theory is emergent and should be grounded in the data generated by the research act. This is known as the “grounded theory” approach (Glaser & Strauss, 1967), in terms of which theory does not precede research but follows it. In this research I worked closely with the data to build my theory of how to select and organise HIV and AIDS information for ontology. By interpreting data I was able to understand the perceptions and attitudes of the respondents. I used the findings to draw conclusions about how they would want the information organized. The discussion of my findings (Chapter Five) shows that there were several ways of selecting and organizing the information for populating ontologies, based on the differences recorded in my respondents’ views and ideas.

The subjective nature of the interpretive paradigm has been criticized. Bernstein (1974, as quoted in Cohen, et al., 2000: p. 27) pointed out that subjective reports may be incomplete and misleading. I was fully aware when I embarked on this study that what people decided to share, especially in relation to a topic like HIV and AIDS, was going to be subjective. I also knew that interpreting data is in itself a very subjective way of analyzing data and drawing conclusions.

3.2 Research methods

The research methods used in this study are discussed in this section. A sequential mixed model design was used, which falls within the mixed method approach. In this design conclusions reached on the basis of the results of one strand/phase (e.g. qualitative interviews) lead to the formulation of questions, data collection and data analysis for the next strand/phase (e.g. quantitative survey) (Greene, Caracelli & Graham, 1989). I found this method to be “a flexible approach in which research is determined by what the researcher wants to find out rather than by any predetermined epistemological position” (Muijs, 2004, p. 9).

3.2.1 Quantitative research method

Quantitative research relies mostly on numerical values and statistics to draw research results. Aliaga and Gunderson (2002, as quoted in Muijs, 2004, p. 1) describe quantitative research as “explaining phenomena by collecting numerical data that are analyzed using mathematically based methods (in particular statistics)”. Using quantitative methods, I intended to gain an understanding of the HIV and AIDS knowledge levels of Rhodes students. The quantitative method was also used to understand students’ perceptions of and attitudes towards HIV and AIDS education. Using statistics I determined which questions or pieces of information were important to focus on in the study. I used the quantitative research mainly to classify features, count them and construct statistical models in an attempt to explain data (Neils, 2007).

Although this is not the primary research method that I used, I mention it here because there are some aspects of this method in my research. A survey was used to collect data. The statistical data generated by the questionnaire was interpreted. Relationships between certain data sets were also used to make descriptions and interpretations of the data based on the numerical values of the data sets. The questionnaire was useful in establishing which information students thought was relevant and which groups of people were familiar with what information. The reasons that I did not use only this research method are embedded in the ways it differs from qualitative research.

3.2.2 Qualitative research method

Qualitative research draws data from “thick” descriptions of the world as perceived by the research respondents. The method is subjective, value laden, biased and an ad hoc process that accepts multiple realities through the study of a small number of cases (Cavana, Delahaye & Sekaran, 2001). This is apparent when looking at how the method is defined. Babbie and Mouton (2001, p. 53) describe qualitative research methods as guided by the “insider’s perspective on social action that is, the individual’s interpretation of social reality” (Bryman, 2004, pp. 19-20). The method seeks to study human action with the aim of describing it “as accurately as possible” (Du Plooy, 2001, p. 49), and understanding rather than explaining and predicting human behaviour. Therefore, the aims of qualitative researchers are to gain in-depth descriptions and understanding of actions in terms of their specific, natural context, rather than attempting to generalize to some theoretical populations (Denzin & Lincoln, 2000).

I used this method because it favours the natural setting of real social factors and focuses on the process rather than the outcome of research. The qualitative aspect was appropriate to my research as I wanted to interpret a social phenomenon (content selection for an HIV and AIDS ontology) in a natural setting (university) by using people’s (students’) experiences, views, actions, attitudes and values, as these inhered in the data gathered from documents, interviews and questionnaires. Maxwell (1996) maintains that there is a great deal of flexibility inherent in qualitative research. Qualitative research is a reflexive process that changes according to the development of the project. This was an advantage as it allowed me to modify the research along the way; consistent with the notion that theory only emerges from the data generated by the research act.

My qualitative data collection tools included interviews to collect data from people within the HIV and AIDS domain, document analysis for selecting information from the web, and focus group discussions.

3.2.3 Case study approach

A case study approach is typically found within qualitative research. It is an in-depth exploration of a particular context, such as a classroom or a group of individuals that involves the collection of extensive qualitative data (Creswell, 1998). In a case study the main goal is to "understand complex social phenomena" – in this case, in order to develop content on a complex medical condition for an ontology, in itself a complex task. The case study method allowed me "to retain the holistic and meaningful characteristics of real-life events" (Yin, 2003, p. 2). The study was based on the life experiences of the individuals who took part, and on their perceptions regarding HIV and AIDS education. Having chosen to work with the qualitative approach I chose to focus on one case for this study.

Sample: The informants I used were Rhodes students and people involved in HIV and AIDS issues in or around Grahamstown. I chose Rhodes students in part for convenience' sake, being a full-time student myself. I anticipated that working with students on campus would be relatively easy. More importantly, I needed the students' views, attitudes and perceptions for building the ontology, as the ICT intervention would be for students.

Rhodes University was chosen because of its unique characteristics and location. The university is located in Grahamstown, in the Eastern Cape province of South Africa. It is a relatively small university which had just 6358 registered students in 2008 (RU digest, 2008). The university is described as an ICT-rich institution well resourced in terms of computing (Osunkunle, 2006; Mallinson & Sewry, 2004, unpaged). At RU students connect to the university network in residences through ResNet.[5] As I mentioned in the first chapter, this background, especially the fact that ICT resources were available for education, made the university a suitable case for study. ICT research could not be undertaken in an environment where resources and skills are limited, as is the situation at some universities in South Africa (Letseka, 2001; Osunkunle, 2006).

HIV and AIDS experts also formed part of the sample for this study. These experts were chosen using purposive sampling. In purposive sampling the researcher uses special knowledge or expertise about a specific group to select subjects who represent this population (Berg, 2004). The interviews with the counsellors were important because they provided the building blocks of information for the ontology. A total of five (5) interviews were held which involved six counsellors. This was so because two of the sites had two interviewees

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[5] ResNet is a project within the Information Technology division established in 1996 to provide students with access to the Rhodes network from halls of residence.

each. This was not by design, as I intended to interview only four people; but the additions were welcome as they added value to the interviews. Over 10% of the Rhodes University population (see Fig 5), 689 students, responded to the questionnaire, while 14 students took part in the focus group interviews.

3.3 Data collection methods

Qualitative methods of document analysis, interviewing, focus group discussions and the quantitative method of the survey were used to collect data. In this section, I discuss why I chose these four data collection methods and describe the development, testing and administration processes of each. I also show how the various data collection methods fed into each other, that is, how one method provided the questions or direction for the next data collection method. Working with two of these methods, the questionnaire and the interviews, was facilitated by the knowledge and experience I had gained from my Honours project.

3.3.1 Interviews

The interview as a research method is discussed in this section. The research interview is defined as "a two-person conversation initiated by the interviewer for the specific purpose of obtaining research-relevant information and focused on content specified by research objectives" (Cannell & Kahn, 1968, as quoted in Cohen, et al., 2007, p. 351). It must be noted, though, that an interview is not an ordinary conversation as interviews are "constructed with a specific purpose and are question-based" (Dyer, 1995, pp. 56-8, as quoted in Cohen, et al., 2007, p. 350). This highlights the centrality of human interaction in interviews and the importance of the social context of research data. The goals of this study, which include informing an ICT intervention and finding out what information students need, want or already have, required the generation of "substantial descriptive data" (Kvale, 1996, p. 11 as quoted in Cohen, et al., 2007, p. 349).

Interviews may be used in research for three reasons. An interview can be used as the main method of collecting data, to test or suggest a new hypothesis, and in conjunction with other methods (Tuckman, 1972, as quoted in Cohen, 2007, p. 351). In-depth interviews were incorporated in this study so that they could be used alongside other methods such as the questionnaire, the document analysis and the focus group discussions. Interviews were also chosen for this study because they provided an opportunity to "interact" (Babbie, 2007, p. 306) with the respondents and gather information on what people "thought, believed and had experienced" (Van der Mescht, 2008, unpaged). For example, the interview with the counsellors aimed to reveal what they thought was relevant HIV and AIDS information, what they believed was important for students to know in terms of HIV and AIDS information, and what, in their experience, had been the information needs of students.

There are different ways of conducting an interview. In this study the face-to-face interview was adapted. Face-to-face interviews allowed me to pick up facial or body cues during the interviews. These guided me in obtaining greater clarity or further explanation – for example if the interviewee showed that s/he had not understood the question. The other two ways of conducting interviews are via the telephone and through email. In an email interview, the respondent is sent the interview questions via email and he/she responds and sends back an email to the interviewer. This type is convenient when both interviewer and interviewee are computer literate.

One interview was conducted via email. This was done since the student did not have time to meet in person due to a busy schedule. I allowed her to email her answers because she had the resources at her disposal and the expertise needed for such an interview. She also agreed to follow up email communication if needed. I could not use this type with all respondents because not all respondents had access to computers and the Internet and their computer literacy skills could not be ascertained. In a telephonic interview the researcher calls the respondent and asks questions over the phone while the respondent responds. Although there are advantages, such as "protecting the anonymity of respondents", more so than in a face-to-face interview, "the responses are difficult to write down or record during the interview" (Cohen, et al., 2007, p. 379-380). This method was not used in this study because it generates limited data as compared to the face-to-face interview.

There are reasons why I chose to use the interview in this study. First, the method allowed for in-depth descriptions of the respondents' actions and their understanding of HIV and AIDS education. I was able to capture the respondents' attitudes and preferences. Secondly, interviews were consistent with the interpretive paradigm. The paradigm focuses on subjectivity, so as to understand and explain the actions of the individual. I realized that I had to interact with the respondents of this study in order to understand their subjective world, and the interview provided this opportunity.

Interview respondents: I had to decide on the number of interview respondents for this study. I was guided by two criteria given by Seidman (1998), sufficiency and saturation of information. Sufficiency relates to the necessity of conducting enough interviews to reflect the range of experiences, while saturation occurs at the point in the study when the interviews start generating the same information with nothing new being introduced. Seeking in my study a balance between these two concepts led to the identification of an optimal range of respondents and the generation of rich data sufficient to meet the research goal it was intended for. Five interviews were conducted, involving six respondents. The interviewees were from four HIV and AIDS organizations in and around the Rhodes University. I carried out in-depth interviews with people who interacted with students regularly, either during the HIV pre- and post-test counseling sessions, or in training sessions. I chose these people to get a professional view of the information requirements of university students. I conducted five interviews with counsellors from the Raphael Centre,[6] SHARC,[7] the university's student counseling centre,[8] and as well as the university's Health Care Centre.[9]

Types of Interviews: The semi-structured interview was chosen for this study. This was based on a review of the various types of interviews by Patton (1980, p. 206, as quoted in Cohen, et al., 2007, pp. 352-356). Semi-structured interviews "combine structure and flexibility" (Legard, Keegan & Ward, as quoted in Ritchie & Lewis, 2003, p. 141), which was important for this study. Semi-structured interviews meant that there were set pre-

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[6] The Raphael Centre is situated in central Grahamstown and caters for HIV positive people. The centre uses voluntary counselling and HIV testing (VCT) to implement its vision of combating the spread of HIV and AIDS in and around Grahamstown. More on the centre is available at: http://nml.ru.ac.za/ngo/raphael/pageTemplate.php?pID=26 One person was interviewed at this centre.

[7] SHARC is a Rhodes University society and stands for Student HIV/AIDS Resistance Campaign. As the name states this is a student initiative, fully supported by the university. The society runs awareness campaigns on campus throughout the year. One person was interviewed.

[8] The counselling centre provides psychological support to Rhodes University students. Two people took part in one interview.

[9] Rhodes Health Care Centre, formerly known as the Sanatorium, offers medical services including HIV testing to students. Two people took part in two separate interviews.

prepared questions guiding the interview, with room for asking follow-up questions. Probing for clarification made it possible for me to understand my respondents better. This is in contrast with the structured and unstructured interviews. In the unstructured interview, also known as the informal conversational interview, questions “emerge from the immediate context and questions are asked in the natural course of things and there is no predetermination of questions” (Patton, 1980, p. 206 as quoted in Cohen, et al., 2007, pp. 352-356). This type was not chosen because it was not systematic and lacked mechanisms to control the interviews and ensure that consistently relevant data was generated from all five of them. This is a risky way of collecting data because identifying themes and trends could be very difficult if the questions and data generated were different.

At the other extreme is the structured interview. In this interview all the questions are prepared beforehand (Cohen, et al., 2007). Structured interviews are usually used to enable responses to be counted or quantified. This was not the purpose of my interviews: I did not envisage quantifying data but rather extracting descriptive data. In the standardized open-ended interview, respondents are asked basic questions with the exact wording and sequence of questions determined in advance. In this type of interview, like the structured interview, there is no flexibility. This is also the case in the closed quantitative interview: all respondents are asked predetermined questions and choose their answers from predetermined fixed responses (Frankfort-Nachmias & Nachmias, 2000, p. 213).

Question development: An analysis of various documents was used as the initial data collection method. Merriam (2001, p. 133) states that “documents of all types can help the researcher uncover meaning, develop understanding and discover insights relevant to the research problem.” I used document analysis extensively in the initial stages of this study after selecting HIV and AIDS as the chosen field for the ontology. As I have mentioned before, I am not an expert in the field of HIV and AIDS and up until then knew as much about the subject as most people know. I had to learn about the field in order to understand it and be in a position to interpret my findings. The documents I used in this study were web pages, mainly because of the limited availability of up to date information on HIV and AIDS in hard copy form. This is understandable in the context of a pandemic that keeps changing.

While reading up on HIV and AIDS I realized that some of the information I found interesting or confusing would probably also be so for other Rhodes students. I used the document analysis for drafting the initial questions that I tested in classroom conversations and interactions with friends on HIV and AIDS. This was a way of building my knowledge and to finding out what information interested students. The web pages were used throughout this research, as I kept going back to find out more information. I also used the web pages for the information that I used to populate the ontology, as well as constantly refining, simplifying and packaging this information. All web pages used in this study were accredited with Health on the Net (HON). HON promotes and guides the deployment of useful and reliable online health and medical information and its appropriate and efficient use (HON, 2008). I chose to consult only accredited sites so that only accurate and reliable information was used.

Document analysis was central to the question development for interviews. The documents (web pages) provided information and an understanding of the subject of HIV and AIDS in general. Literature on HIV and AIDS provided another source for developing questions to include in the interviews. Most of the works that I reviewed dealt with the themes of HIV and AIDS awareness, attitudes and knowledge levels among the youth and university students (Odu, et al., 2007; Sukati, et al., 2006; Hoppe, et al., 2004; Mkhonto, 2005). Some of the questions were derived from my own curiosity about HIV and AIDS. As I have said before, I took the opportunity while working on this research to read up on issues that I was under-informed about, interested in or confused about. I had a few preliminary questions drawn up on medical issues that I myself was eager to know about. An example was the question of some people being immune to HIV: when I read this information I wondered if others knew about it. There were some questions that came from my prior knowledge as well.

I drew questions from casual conversations and classroom discussion. This was done in the Education Department at Rhodes with students that I tutored for ACE – ICT and PGCE computer literacy. I was able to get an indication of the areas that people were interested in and wanted to know more about. I used this information to create questions for the interviews, trying to ensure that each interview question would contribute something to the overall research questions. The questions were prepared and ordered and given to the respondents a few days before the interview. This was an important stage as questions had to be modified to suit some of the respondents (see appendices 7, 8, 9 and 10).

Different types of question were asked during the interviews. All the questions were open ended and allowed for follow-ups. The interviews began with a few background questions which served as ice breakers. I gave the respondents an opportunity to relax into the interview as I asked them about their work, and how long they had been involved in it. At several points in the interview opinion seeking questions were asked. I used these questions as it was an important aspect of my study to establish people's attitudes and perceptions towards HIV and AIDS. During the interviews I asked for respondents' opinions on students' attitudes towards HIV. All the interviews ended with a closing question asking respondents if they had anything they wanted to add or ask or say.

Administration: Interviews were conducted in a venue comfortable for the respondent. This was achieved by allowing respondents to choose the venue. Respondents also suggested the date and time for the interview. All the interviews were audio-recorded and transcribed. I did this since I was aware that I was not going to manage to take notes and listen at the same time. Because I cannot write in shorthand, a lot of data would in any case have been lost along the way. I did my own transcriptions for all my interviews. This not only saved money but also guaranteed confidentiality for my respondents. It also enabled me to interact with my data, which I began to analyze as I transcribed (Hahn, 2008, p. 78). I gave respondents the transcripts for member validation (Maxwell, 2008). This is when a respondent is given the opportunity to see the transcribed interviews, read through and make corrections to what has been typed, or change their mind on an issue covered in the interview.

Problems and possible improvements: I faced a number of problems while preparing and conducting interviews. The biggest challenge was streamlining the questions that I was going to ask my respondents without being biased and leading. I did this by ensuring that I kept my questions as far as possible in line with the research questions and informed by the literature. Since I was going to interview a few people I was wrong to think that logistics would be easy. Time was the biggest problem: setting up appointments with professionals who worked or had other commitments the whole week was a challenge. Asking to meet with the potential interviewees during their lunch break or after hours was inconvenient for some respondents, but I explained the problems I was having with time and timing. I would emphasize that it is important to ensure that there is ample time to make appointments and put all the logistics in place beforehand for each data collection method. Once the interviews were conducted I faced the challenge of transcribing them, which was a time-consuming process.

3.3.2 The Questionnaire

Questionnaires are widely used for collecting data, including survey information and structured, numerical data. As a research tool the questionnaire is convenient for the researcher since “it can be administered in their absence and is usually easy to analyze” (Cohen, et al., 2007, p. 317). In this study I proposed to use a questionnaire to generate rich descriptions of the phenomenon under study. I chose to do this since a questionnaire is “ideal for collecting data from a large population” (Muijs, 2004, p. 44). Using a questionnaire made it possible for me to make sure that every student had a chance to participate and share with me what they thought was relevant HIV and AIDS information. The survey method also made it easy to guarantee respondents’ anonymity, important for HIV and AIDS issues in a small town like Grahamstown.

Types of questionnaires: Questionnaires can be either paper-based or electronic. In this study I used an electronic questionnaire, because of the low costs involved in its administration compared to a paper-based questionnaire. I was aware that this type of questionnaire required respondents to be able to use computers to respond. This was not a challenge because the sample had both physical and epistemological access to computers (Czerniewicz & Brown, 2006).

There are three major types of electronic questionnaire: email, email invitation linked to URL (web address) and web page-based questionnaires (Thomas, 2004, pp. 15-16)**.** In this study I chose to use the *web page-based questionnaire*. The questionnaire resided on the web server and could be accessed on the home page of the learning management system, RUConnected. Among the advantages of this questionnaire type is the possibility of grid-type responses and being able to program filters and skip patterns for respondents. A greater variety of response formats are available than are possible on paper. Using the web-based questionnaire saves time as responses can be automatically transferred to a database, so that there is no need to code in data for analysis (Andrews, et al., 2003). This type of a questionnaire was chosen also because it is considerably cheaper to administer than a paper-based questionnaire.

The *email* questionnaire would be sent within an email, as the name implies. This type was not used because the questionnaire would have had to be sent out and returned via respondents’ email addresses, which would have compromised confidentiality. Respondents use the reply button to answer questions in the email questionnaire, and when they reply the email address becomes part of their response. Although the university has an emailing list for students, I found out from informal conversations from students on campus that not everyone checked their email often and when they did, the chances of their responding to such an email were minimal**.** The *email via URL* is close to the email questionnaire. In the email via URL respondents receive an invitation to respond to the questionnaire through an email and they must click on an embedded URL (web address) to respond. This type of questionnaire was seen as problematic as it would limit respondents to only those students who check their email regularly.

Question development: Questions play an important role in the development of the questionnaire. They determine the data that is collected and its relevance to the research goals and purpose. I took some time to develop my questions as I wanted to ensure that the process of collecting data using the questionnaire would be worthwhile. Questions were developed from the literature I had reviewed and the interviews I had conducted with professional counsellors on HIV and AIDS (see appendix A). It must be noted that many possibilities for exploration were raised through the initial interviews and the literature review, as might be expected of a big field like HIV and AIDS. Not all question suggestions or information gathered for question development purposes were used: in the end, I used only a sample (two or three questions) of the information within each of the classifications that I had drawn up on HIV and AIDS as a proof of concept for the ontology. The questions that made it to the questionnaire were a sample of questions that I found too contentious or on the borderline. There was information that came out of the initial findings that had to be included in the ontology, for instance, the contact details of VCT areas. Such information was not included in the questionnaire as I did not see the need to ask students about such information again.

While working on the questions I made sure that the subjects of all acronyms not commonly known were given in full first. In my questions, however, acronyms such as HIV, AIDS and ARV were left as such as these were seen to make more sense to people than when given in full. Thomas (2004, p. 43-44) states that a questionnaire "should not be used as a measure of people's reading skills", meaning that it should be kept as short as possible: the questions must be short, concise and very clear. I put every effort into following this suggestion (see appendix B).

There are many pitfalls that one has to look out for when developing questions. These include ensuring that the questions are not ambiguous. In trying to be direct but not too blunt I found myself formulating ambiguous questions. An example that was re-worded after the questions were initially reviewed by a colleague is the statement: "I use condoms from the beginning to the end of every sexual act". The statement could have been referring to the beginning and the end of a sexual act or a relationship. Some people use condoms when they start a relationship, but as the relationship grows and they get used to each other, trust builds and they stop using a condom. Sometimes people use a condom halfway through a sexual act. I settled on using a condom "within a sexual act" as it was closer to what I wanted to understand about students' behaviour when it comes to HIV prevention.

Several **closed ended questions** were used in the questionnaire. These questions are often referred to as multiple choice questions (Eiselen, 2009). I had more *closed ended questions* than *open ended* ones because they were standard, easy to complete (for my respondents) and easy for me to analyze (Bailey, 1994, p. 118 as quoted in Cohen et al, 2007, p. 321). Formulating clear short questions became a priority.[10] I expected an easy questionnaire to increase my chances of getting more completed questionnaires and an increased response rate. Closed ended questions prescribe the range of responses from which respondents can choose (Cohen, et al., 2007, p. 321). I used closed ended questions with the intention of making comparisons across groups in the sample (Oppenheim, 1992, p. 115 as quoted in Cohen, et al., 2007, p. 321). My sample was diverse and my assumption was that the

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[10] In my Honours project (Gunzo, 2007) I learnt from the comments I got on the questionnaire that students were willing to answer the questionnaire because it had short questions that were easy to understand and respond to. Closed ended questions gave this impression to my respondents who were also university students.

differences within the sample would influence the differences in the data collected for the study. It was interesting for my study to be able to point out differences in the information students have or wanted that are influenced by their race or year of study. For example I expected that statements such I use my peers/a counselor as a source of HIV and AIDS information" (see appendix B) would yield different responses because some racial groups allow for the free communication of HIV and AIDS and related issues, while some, such as the African cultures consider talking about such things taboo (Menka, 2003).

A few **open ended questions** were included in this questionnaire. This was mainly because of the difficulty associated with coding and analyzing such questions (Cohen, et al., 2007). I also realized that such questions required time and effort on the part of the respondent and might act as a hindrance to people taking part in the study. Open ended questions were nevertheless included because they have the potential to "catch the authenticity, richness, depth of response and honesty crucial in qualitative data" (Cohen, et al., 2007, p. 330). Several opinion questions were included in this questionnaire so that respondents' attitudes and perceptions could be revealed. As Neuman (2000) suggests, I had some factual questions closely related to the opinion questions I asked. Neuman (2000) says that it is useful to assess the knowledge of respondents about an issue as well as their attitudes, as people often base their opinions on inaccurate factual knowledge.

I used the **funnel ordering of questions** for the questionnaire. I placed demographic questions at the beginning of the questionnaire since they are non-threatening and factual. Demographic questions, also known as background questions, form part of the general questions and are used to describe the characteristics of those who respond to the questionnaire. They thus provide a way of disaggregating one's data into subgroups to make comparisons in one's analysis (Thomas, 2004). I found these questions useful in filtering respondents on the basis of certain experiences. The America Psychological Association recommends a minimum of age, gender and race (APA, 2001). Putting demographic questions at the beginning means questions move from the general to the specific (Thomas, 2004, Frankfort-Nachmias & Nachmias, 2000). This was contrary to the common belief that the impersonal easy questions should start the questionnaire and the demographic questions should be placed at the end (Sapsford & Jupp, 2006; Thomas, 2004). I expected that general questions would be easy for respondents to answer and easy enough for them to settle into the questionnaire (Eiselen, 2009) before the sensitive questions on HIV and AIDS. This order of questioning is becoming popular with researchers (Eiselen, 2009).

On **question formats** I used four formats in the questionnaire. I used the *Likert-type rating scale format* for several questions. This format consists of several related items designed to measure the same idea or construct. I used the Likert scale format to gather students' attitudes on different statements. The ratings on related items are added together to yield a total score for each respondent (Johnson & Christensen, 2000). Although the Likert scale now has choices ranging from 4 to 11, rarely are more than seven scale points used because respondents may be challenged in making very fine distinctions. Rating scales with four points are not as reliable as those with five to seven rating points (Nunnally, 1978). I used six points: the five developed by psychologist Rensis Likert from strongly agree to strongly disagree (Likert, 1932 as quoted in Thomas, 2004), to which I added an "I do not know". I thought this was important for respondents so as not to oblige them to guess. This came up in a pilot study that I conducted in which "I do not know" was not included. One comment from the pilot was:

> The questionnaire won't let you leave some answers blank. This was difficult where I did not know the answer, and then I just had to make up something. I need an option saying "I do not know" because otherwise it will look to you like I have a false perception instead of a lack of knowledge, and this may affect the outcomes of your research.

As Neuman (2000) suggests, this gave respondents the option of expressing no opinion when they did not actually have one. In a 6 point scale a neutral position is always included. Neuman (2000) suggests placing this position in the middle so that respondents do not all opt for the neutral position. Placing neutral in the middle would also be helpful since most people "tend to choose categories at either ends of the scale" (Neuman, 2000, p. 263). I was aware that question ordering could affect results through "habituation" or response set. Habituation refers to "questions that have the same response choices", such as the Likert scale; some respondents might start marking the same response choices without really reading the question carefully (Thomas, 2004, p. 76). While trying to avoid this, I balanced these questions in a way that forced respondents to read carefully and think about their responses. I used a technique whereby I positively worded all the statements for my Likert scale questions – for example, "Deep kissing is safe" – and I started the scale from the negative end that is from "strongly disagree" instead of the usual strongly agree.

Three other formats were used in the questionnaire. I used the *Radio buttons* format which creates a circular button on the webpage that can be selected by the respondent. Only one radio button in a group of radio buttons can be selected at a time. For questions that had more than one correct answer I used the *Check boxes.* This format allowed the respondent to select one or more options from the set of answers available. All the open ended questions used the *Essay box* format.

Administration: Administration of the questionnaire was done electronically. Once a pilot study was conducted and analyzed the final version of the questionnaire was prepared (see Appendix B). It was then uploaded onto the Rhodes learning management system, Moodle,[11] known as RUConnected. A link to the questionnaire was posted on the front page of RUConnected. This facility is used by all students for various purposes and posting the questionnaire there gave it maximum exposure. It must be noted that respondents needed to be told of the existence of the questionnaire (Thomas, 2004).

Several options were available to advertise the questionnaire. It must be noted that posting the link on the RUConnected front page was in itself a way of advertising the questionnaire. It was almost guaranteed that all students who did coursework would see this as soon as they connected to RUConnected even before they logged in. I prepared a printed appeal to people to fill in the questionnaire and pasted one on each computer screen in all public labs on campus. I sent out emails to societies such as the Hindi and Muslim societies that I felt would assist in spreading the word to students with less representation on campus. I also spoke to people about the questionnaire, asking people I knew to pass on the message to people they knew. Announcements were made to the societies I belonged to and to my church members.

When I designed the questionnaire a central goal was to make it easy to navigate for respondents. As such all the questions appeared on one screen and there was no need for respondents to move from one page to the next. The questionnaire included an introductory

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[11] Moodle is also known as a Learning Management System (LMS) or a Virtual Learning Environment (VLE). Moodle is a free web application that anyone can use to create effective learning sites. More on this application is available on http://moodle.org. At Rhodes, RUConnected houses all course content, tutorials, notes and instructions. It also provides for general communication between the students and the academic staff.

section which explained the reasons for the questionnaire and introduced me to the respondents. This acted as a covering letter, since "web-based questionnaires do not have cover letters like paper-based" ones (Thomas, 2004, p. 73). Clear instructions were included at every point I felt they were necessary throughout the questionnaire. No colours or stylish fonts, word art etc were used in the questionnaire so as not to distract respondents. Bolding and italics were only used to make it easier for the respondents to distinguish the instructions from the actual questions. A white background was used, consistent with the finding that light backgrounds are most readable (Solomon, 2001). No graphics were used to avoid respondents having to use considerable bandwidth, thereby slowing down the downloading time of the questionnaire. Only plain text was used throughout the questionnaire.

A **pilot study** was conducted before the full administration of the questionnaire. Denzin and Lincoln (1994, p. 213) advise that: "Before devoting oneself to the arduous and significant time of the qualitative study, it is a good idea to do a pilot study". A pilot investigation is defined by Sapsford & Jupp (2006, p. 103) as "a small scale trial before the main investigation intended to assess the adequacy of the research design and of the instrument to be used for data collection". Running a pilot test at least once "with a group from the population but not part of your sample" (Cohen & Manion 1994, p. 95) is a crucial step in the research process. According to Huysamen (1993, p. 205 as quoted in De Vos & Strydom, 1998) a pilot study, is "an investigation of the feasibility of the planned project and [aims] to bring possible deficiencies in the measurement procedure to the fore". The pilot test was very important as it led to the refining of questions prior to the full administration of the questionnaire. For example, through the pilot some questions (e.g. the question on age) had to be left out after it was realized that the question on year of study was serving the same purpose of stratifying the sample.

De Vos et al (1998, p. 179) views the pilot study as "the dress rehearsal of the main investigation". Since I was administering my questionnaire online I wanted to make sure that it worked and that people were able to use it. I wanted to anticipate and fix any technical problems that might arise. I ran the questionnaire the same way during the pilot and the full administration. I also made an analysis of the pilot so that I could see if the pilot was going to generate the data I wanted for the full study. I chose the PGCE class for the questionnaire pilot since the actual survey was going to be conducted during the 3rd term of the university year, when all PGCE students would be out at schools for 6 weeks doing their teaching practice. The pilot generated a 39% response rate.

I made sure that I had a good **response rate** for the full study. A response rate refers to the number of people who respond to a questionnaire (Punch, 2003). A high response rate is important in ensuring that accurate, useful results are obtained from people representative enough of the targeted population (IAR, 2007). For my research a good response rate was desirable but not central to the study. One way of helping to ensure that the response rate was high was to use questions that were "not offensive, intrusive, misleading biased, misguided, irritating, inconsiderate, impertinent or abstruse" (Cohen, et al., 2007, p. 318). As discussed in the question development section, I ensured that questions were appropriate. Different response rates are acceptable, depending on how the questionnaire is being administered. For online questionnaires, "an average of 20% to 30% is considered a good response rate" (Hamilton, 2003 as quoted in IA, 2007). Thomas (2004) made some suggestions on how to increase the response rate that I implemented in this study. For example, I clearly stated the time period for which the questionnaire was going to be available, and kept the questionnaire simple so it could load quickly. I also offered spot prizes of airtime recharge vouchers, recognizing that incentives increase cooperation from the survey respondents and are widely used to boost online survey response rates (Groves, Presser & Dipko, 2004). As a result a total of 689 students responded to the online questionnaire.

Problems and possible improvements: I encountered certain problems in the course of designing and developing the questionnaire. After analyzing the pilot I realised that I had to rearrange the questions according to themes, as analyzing them in the way they were presented in the pilot stage proved very difficult. For example in the pilot questionnaire, questions on prevention were at numbers 5e, 8, and 13. Although respondents did not raise this issue I realized that it would be easier for both myself and the respondents were I to group them together. Question development was a long and intensive process. The wording of the questions had to be correct, simple and straightforward. Through asking friends and colleagues to constantly review the questionnaire I was able to get the final set of questions right (see questionnaire, appendix B). The survey did not only feature themes derived from the interviews, but included questions relating to some of the rating scale questions.

While using the Likert format I discovered that some questions contained double negatives. This should be avoided (Eiselen, 2009). Double negative questions happen when respondents are asked whether they agree or disagree with a negative statement. If the respondents disagree then they express a double negative. Developing questions for the questionnaire was a challenge for me, given the many areas one can focus on regarding HIV and AIDS, and trying to come up with questions relevant to the research questions and goals was not easy. Constant reworking of the questions coupled with a pilot questionnaire assisted in this area. It was also difficult to alert students to the existence of my questionnaire, and I discovered that face-to-face announcements made the most impact.

3.3.3 Focus group interviews

Focus groups are “a form of group interview drawing data from the interaction within the group” (Morgan, 1998: p. 8 as quoted in Cohen, et al., 2007: p. 376). They constitute “a carefully planned discussion designed to obtain perception on a defined area of interest in a permissive, non-threatening environment” (Krueger, 1994 as quoted in Litosseliti, 2003, p. 1), and in which respondents share and respond to comments, ideas and perceptions. Instead of yielding individual views, as is the case with in-depth interviews, focus groups provide multiple views and attitudes. My interest was to see how people defined, discussed and contested issues through social interaction with other, and to explore the way knowledge and meanings were produced (Tonkiss, 2004). Group discussions present a more natural environment than an individual interview, as focus group respondents are “influencing and influenced by others – just as they are in real life” (Krueger, 1994 as quoted in Litosseliti, 2003). This interaction and mutual stimulation among the group respondents added to the value of the data generated. This data reflects the collective view of the group and not of the individual. This sums up both the strengths and weaknesses of the focus group. The following extract summarizes these succinctly:

> they are unnatural settings yet they are very focused on a particular issue and therefore yield insights that might not otherwise have been available in a straightforward interview, they are economical on time producing a large amount of data in a short period but they tend to produce less data than interviews with the same number of people on a one to one basis. (Morgan 1988, p. 19 as quoted in Cohen, et al., 2007, p. 376)

This method was chosen so that I could gather qualitative data on attitudes and opinion from different subgroups of Rhodes students on HIV and AIDS education issues, “quickly and at a low cost" (Cohen, et al., 2007, p. 377). Since the end goal of the project was to develop relevant content on HIV and AIDS for the ontology, the focus groups were seen as a good way to empower students to speak out and voice their opinions. I also chose this method so that I could triangulate with the other methods that I had chosen for the study. These were the questionnaire, interviews and documents. The focus group allowed me to explore the sensitive and complex topic of HIV and AIDS in relation to the shared understanding of particular groups of students at Rhodes University. However, this method is often underused or misused because it is a demanding method in terms of organising, conducting, moderating and analyzing the data generated (Litosseliti, 2003).

Focus group respondents: Respondents were selected because they had certain characteristics in common. All my respondents were drawn from those who answered the questionnaire and their homogeneity was determined by the purpose of my research (Krueger, 2000). Respondents were selected from groups which were expected to be interesting and capable of shedding light on particular patterns and trends. Invitations to the focus group discussions were issued in the questionnaire. A note was included at the end of the questionnaire announcing my intention to hold the focus group discussions and inviting interested people to leave their contact details.

I conducted group discussions with 14 people (three people in each of two groups and four people in each of two groups). Four groups divided along gender and racial lines were set up, that is, black females, black males, white females and white males. Students of coloured and Asian decent were put into the black category. This was done since the numbers of these racial groups were too small to have their own groups. For instance there were only four and five students of Asian and Coloured descent who were willing to take part in the discussions. In each of these groups I wanted a representation of each of the years of study I had included in the questionnaire, so I included respondents in their first, second, and third years as well as a postgraduate student. I invited two people for each level to ensure that even if someone did not turn up for the discussion there would still be enough people to run a decent focus group, while at the same time ensuring that the number, should all those invited turn up, was still manageable. Morgan (1988, p. 44 as quoted in Cohen, et al., 2007: p. 377) suggests "over recruiting by as much as 20%". This was done in full awareness of the challenges posed by larger groups in terms of managing, moderating and analyzing them successfully (Litosseliti, 2003). A group of eight was seen as "small enough for everyone to share insights and bounce ideas off each other, yet large enough to provide diversity of perceptions" (Krueger, 2000, p. 10; Tonkiss, 2004, p. 194).The focus group discussions were run the moment enough people to form a group were available.

I also decided to separate the groups (along racial and gender lines) to avoid cross stereotypes. For example I acknowledged that having males and females in one group might bring in gender dynamics, such as the males trying to dominate the group. Likewise, having blacks and whites in one group might being in some tension. Given the sensitivity of the topic isolating the groups to avoid such complications was seen as a good option.

Question development: Questions for this method were conversational and used words that respondents were familiar with; in other words, no scientific jargon was used. Where it was impossible not to, explanations of the concept were given. All the questions were predetermined. I developed my questions on the basis of the research questions and from the data generated by the questionnaire. Questions were open-ended and were directed by the interview schedule. I ordered my questions in such a way that simple, general questions were at the beginning to help people start talking and thinking about the topic (Krueger, 2000).

The following are the types of questions that, according to Krueger's (2000) taxonomy, were included in my focus group questions (see appendix C). *Opening questions* were easy to answer and required no opinion. These questions were meant to give every respondent a chance to talk. I avoided questions on age and area of study at that stage as such questions emphasize the differences among people. I was also afraid that such questions might make some people think that they were wiser, older or more experienced than the others and create unnecessary tensions and barriers within the group. Level of study was an important variable for me. *Introductory questions* were used to encourage conversation among members of the group. A number of *key questions* were included that focused on the questions important for my research. Although the wording of the questions was the same as it was in the questionnaire, they were asked in a way that left a lot of room for probing. The last question was an ending question that provided respondents with an opportunity to reflect on their previous comments, and gave me an opportunity to ensure that nothing had been overlooked.

Administration: Focus group discussions were held at locations convenient for all students. On the day of the focus group, respondents signed a consent form (see appendix D). The discussions lasted between 35 and 55 minutes. An interview guide (see appendix E) was used to structure all group discussions. I avoided the use of yes/no questions, and when there was such a response I probed to find out why the respondent gave a yes or no answer. I tried involving all respondents in the conversations. The questions were ordered from the general (background questions) to specific (HIV and AIDS issues). All focus group discussions were audio recorded. This was helpful in that I concentrated on guiding the discussion and managing the group. Taking down notes to complement my recordings would have been a distraction for me. I transcribed all recordings immediately after the discussions and analysis started at that stage.

Problems and possible improvements: Managing the groups was a challenge. Getting willing people to participate in the discussions proved very difficult. As a result, the composition of groups was uneven. This meant that data collected from the discussions could not be compared. Another problem was that of non-participation on the part of some members and domination by others (Cohen, et al., 2007). This led to false consensus (when respondents with strong characters dominate the discussion while others remain silent). I countered this by asking people for their view once I realized that they had not aired their view although the group was ready to move on to the next topic. This ensured that everyone on the group got an equal chance of speaking. The method required skilful facilitation and management so that I would not be in the way of the interaction within the group, and at the same time not lose control of the group.

Another problem lay in distinguishing individual from group views. Focus group discussions should deliver a group view, and ensuring that the views were not just those of the dominant respondents was a challenge. I had to ask at the end of discussion on a topic, if everyone agreed or what their thought was on the topic, before moving to the next section. Bias on the part of the researcher and the possibility of my manipulating the respondents was another problem that I faced. I did everything I could to make sure that the study focused on the group/respondents, and let them lead the discussion. Leading questions were also avoided. I was aware of another limitation of focus group discussions, which is that they are difficult to analyze and interpret because of their open-ended nature. To counter this I used the questions from the questionnaire as they were. This helped bring some structure to the discussion, as the main themes were set before the discussion even began.

3.3.4 Data sets

The data sets used in the study can be clearly seen in Table 2, below. In the table, I show how the different kinds of data were linked to each other. The data was collected in the sequence that is shown in the table. It must be noted that the use of documents in this study was not a one-off activity, as I kept referring to web pages to clarify and adjust the information as it was being collected. The initial document analysis of web pages led to the development of questions for the interviews with the counsellors. After more consultation of the web pages, interview data led to the development of a semi-structured questionnaire. Focus group respondents were drawn from the questionnaire respondents. Questions used during the focus group discussions came from the questionnaire.

The table also shows the why each method was used to gather the data it did, and the people involved with different data collection methods.

Table 2: *Data sets used in the study*

Data set	**Who/Which (people or papers)**	**Why (do this)**	**What (data)**
Interviews	1. Rhodes student counseling centre (two separate interviews were conducted). 2. Raphael centre (One interview). 3. SHARC- peer education unit (One interview). 4. RU Health Care Centre nurse (One interview, with two respondents).	To get from a (professional point of view) the information that students ought to be exposed to.	Actual information relevant for HIV and AIDS education at Rhodes.
Documents	Web pages	1. To find out existing HIV and AIDS awareness campaigns available to students through the Internet. 2. To get relevant information.	HIV and AIDS information students should have.

Data set	**Who/Which (people or papers)**	**Why (do this)**	**What (data)**
Survey	Rhodes Students (689 respondents)	1. Find out how students feel about existing media for HIV information and the current awareness campaigns. 2. To use it to find out what students know and want to know. 3. To find interesting trends and groups of students for the focus group discussions.	Qualitative data on knowledge levels and information preferences.
Focus groups	4 groups with two groups with 3 people while the other two had 4 (chosen as described above)	To obtain an in-depth understanding of: 1. Trends and patterns from the questionnaire 2. What information is relevant 3. Experiences with HIV and AIDS education 4. ICT use in HIV education	Data to supplement and triangulate with the questionnaire and in-depth interviews

3.3.5 Data analysis

Data analysis started the moment this study began, with document analysis. The documents were important as they paved the way for the rest of the study. While familiarizing myself with the subject I also started a preliminary analysis of the information each website contained and how educational and useful the information was to me. A list of the “useful” sites was drawn up and kept for further scrutiny. As I have mentioned above, data gathered from the web pages was used to develop questions for data collection and the information that populated the ontology. I also kept a journal with my reflections from early on in the research. I referred to this journal on a number of occasions and gained insight into some important issues that I had to revisit. For example, references to useful web pages were noted in this journal, and drawing up a list was simply a matter of going back to my journal entries.

The use of ICT made questionnaire data easy and quick to analyze. I was able to analyze large amounts of data quickly and as soon as it was submitted. The data from the questionnaire was analyzed statistically and all variables except the three background variables were treated as categorical variables, that is, responses fell into one of five categories: prevention, transmission, testing, treatment, living with HIV and AIDS. The background variables of gender, race, and year of study were treated as nominal variables. Each question was considered as a separate item and analyzed independently. Mindful of the fact that a questionnaire generates structured and often numerical data, the focus was on interpretation of what the statistics meant and not just on the statistics themselves. My task was to interpret the numbers in such a way that I understood why respondents opted for the responses they did. In order to generate more thick description I included several open ended questions in the questionnaire.

I used the ordinal measurement for some of the questions. This was following the suggestion by Frankfort-Nachmias and Nachmias (1996). Responses to Likert-type questions were considered as ordinal (and not numerical) variables. In fact, as pointed out by these authors, “rating scales … are most often measured on ordinal levels, which only describe whether one level is higher or lower than another level but do not indicate how much higher or lower” (Frankfort-Nachmias & Nachmias, 1996, p. 258). The gradated order of the “strongly disagree”, “disagree”, “neutral” , “agree”, “strongly agree” and “I do not know” positions allowed for the convergence of the first two and the last two types of response into categories of general disagreement and agreement, respectively. This was sometimes done to simplify the statistical analysis and the presentation of the findings. The rest of the survey questions were analyzed using descriptive statistics.

I made use of three strategies for qualitative analysis. These three are “categorizing strategies (such as coding and thematic analysis), connecting strategies (such as narrative analysis and individual case studies), and memos and displays” (Maxwell, 2008, p. 236). Categories may be derived from existing theory or generated during the research (the basis for what Glaser and Strauss, 1967, term “grounded theory”), and help with sorting data into themes. In this study I used various research strategies, attempted to understand the data in context, and had recourse to various methods to identify the relationships among the different elements of the text (Maxwell, 2008). Displays and memos facilitate thinking about relationships within the data and making ideas and analysis visible and retrievable (Maxwell, 2008). They were used extensively during the creation of the mind map in the research process (see Chapter Six). What all these strategies have in common is that they look for relationships that connect statements within a particular context into a coherent whole.

Based on the document analysis and findings of the study the following classification of HIV and AIDS information was used for this study:

- Prevention
- Transmission
- Testing
- Treatment and
- Living with HIV and AIDS.

For each of these five themes, I focused on one aspect. For example, under prevention I focused on condom use only. This was a way of streamlining the information. The one aspect that I focused on was derived from the findings of the document analysis and interviews with aspects.

In the analysis of my data I had to distinguish between different groups to see the differences among their answers to questions. I chose to use thresholds in order to make distinctions between different groups. I highlight a similar ontology when I have a high threshold and a different ontology when I have a lower threshold. For example: if 75% of the respondents agreed, then the question would not be added to the ontology as it is evident that the information is well known. If I want a bigger ontology then I can increase the threshold to 90%. Lowering the threshold will result in a smaller ontology.

3.4 Challenges and limitations of the study

In this section I discuss the challenges I faced during the research, my role as a researcher and the key issues of ethics and validity.

3.4.1 Challenges

Generalisability was one limitation this study faced. Marshall and Rossman (1989, p. 146) states that “a qualitative study’s generalisability to other settings, that is its external validity may be problematic and is seen as a weakness in the approach”. Although this is may be true of qualitative research in general, the situation was a bit different in the case of my study. I acknowledge that generalizations cannot be made to other university students based on the HIV and AIDS information I got from Rhodes University students, nor can I generalize their opinions and preferences. The results I obtained are peculiar to Rhodes students and are based on the context within which the university finds itself (see the sample). However, it must be noted that the theory of selecting and organizing information for an ontology can be generalized to any context. Using the same structure and process as I did in this study, any person in a different field, for example, environmental education, could select and organize information for an ontology on environmental education. This is the contribution that I anticipate to make to the research community: a blueprint, open to corrections and modifications, for how people can collect and organize information for an ontology.

I faced the challenge of avoiding researcher bias in the questions used in the study, a matter with ethical implications. I tried to avoid leading questions or any other form of subtle bias. I realized that there were cases, in which bias could not be avoided – in cases, for example, where the suggestion or lead given was factual. Other leading questions were based on my findings in the literature. For example, Mitchell (2003) talks of the concept of “sick of aids” (see Chapter Two). In her article she discussed how a research study undertaken had shown that most young people in South African were “tired of hearing about HIV and AIDS”. I thought this was an important piece of information and decided to see if the same applied to Rhodes students. I therefore imported the statement verbatim (see appendix B question 16d).

Once the research problem was in place and the research was under way, I faced the immediate challenge of the field I had chosen to use in building the ontology, HIV and AIDS. After the preliminary readings I felt overwhelmed by the bulk of information available on the medical condition. The next challenge was therefore to find a way of selecting and sifting the initial information I needed on HIV and AIDS to start the research. I had to conceptualize the very terms that defined HIV and AIDS to do this. I focused on information that I assumed would be pertinent to young people living in a country badly affected by HIV. Casual conversations, classroom discussions as well as constant reading streamlined the information and resulted in the identification of five themes: prevention, transmission, testing, treatment and living with the condition.

Setting my own deadlines and attending meetings and writing up the research report required discipline and dedication. Everything that I thought of including in the research had to be in line with the research questions. Time constraints underscored the importance of focusing on research questions and remaining focused throughout the research process. In my case challenges within the structures where my research was situated also had an impact on the time I spent on the thesis. Changes in the focus of the main HEAIDS project of the University that I was originally working on meant a change in the focus of the thesis. Although not all work from the original project and focus of the study was lost, this still meant that time had to be spent on refocusing the research and adjusting it to new constraints.

On a more personal note, during this study I had to deal with the loss of my father, who passed on in September 2008. I had to travel frequently between South Africa and Zimbabwe during that period.

3.4.2 My role as researcher

In this section I discuss the various roles I had to play to ensure the successful completion of this research. Glensner and Peshkin (1992, p. 25 as quoted in Mkhonto, 2005, p. 44) state that “the researcher needs to clearly define his/her role” in the research, and indeed, clarification of my roles helped in the planning for this research.

First I had to reconcile insider-outsider roles in this research. I was an insider since I was a student at Rhodes at the time that I conducted this research. As an insider I had the opportunity to freely interact with students informally on HIV and AIDS issues. Understanding that I had this insider role made it possible for me to realize that this status brought a risk to my study, in that my subjectivity had to be managed so that it did not compromise interpretations of the findings. However, I realized that through the study I learnt new things because I was partly an outsider (I had previously been studying at the University of Fort Hare). Having started studying at Rhodes the year I embarked on this study (2008), I had a lot to learn about Rhodes students and their way of doing things. On questions of the research that were culturally inclined I became an outsider, being foreign to South African cultures. I did not know or understand the cultural practices that had an impact on the information needs and knowledge levels of some of the groups that I came across at Rhodes. This was important in this research because understanding what could influence the sample's attitudes was central to the study.

I had a bridging role in the study. I worked within three unrelated domains of ICT, education and HIV and AIDS. I had to show the link between ICT, in particular ontologies, education and the HIV and AIDS field. I undertook this research fully aware that I am no expert in any of the three fields. I was confident, however, about the assumption that I made for this study, that HIV and AIDS education using ICT needed to involve three important players: 1) the HIV and AIDS experts who have the content knowledge; 2) the ICT experts who have the technical knowledge; 3) the users who know the *relevant* information they need. My role in this research was to bring these three together and thereby attain the goal of the research. Despite my limited ICT background, I had to learn and understand the basics in the field of search engines and ontologies to fully understand the significance of ontology development in education (see Chapter Two). I was also new to the education field, since my background is in communication studies.

Effective planning and organizing of the research was very important. I drew on the experience of other researchers in order to play the administrative role effectively (Weston, 2006; Odu, et al., 2007; Hoppe, et al., 2004). I made prior arrangements for all meetings and interviews. These sometimes had to be rescheduled, or follow up meetings had to be arranged. I also made plans to attend HIV and AIDS-related activities supported or arranged by the University. I always made journal entries to capture my thoughts on the meetings or activities as part of my research. Reflection on such entries proved very useful during the discussion of my findings.

Data collection was another role I had to play in this research. This was an important role, as Creswell (1994, p. 163) attests, maintaining that in qualitative research, "the role of the researcher as the primary data collector is necessary for the identification of personal values, assumptions and biases at the beginning of the study". Working on the ontology for HIV and AIDS with university students obliged me to identify my values, assumptions and biases before I started collecting my data. I realized that due the way I had been brought up and my religion (which was obviously different from most of my respondents), I had biases towards certain areas of the pandemic and made assumptions regarding most questions, some of which turned out to be false (see Chapter Six)

Interacting with the respondents was another role I played during this research. In the interviews and focus group discussions I had to engage with the interviewees so that they could feel at ease to divulge the data I was looking for. I also interacted with students (colleagues and those I tutored or taught) to get general information outside the actual data collection. I did not have to negotiate entry with Rhodes students since I was one of them, but I certainly had to with counsellors who were not students. The role of negotiating entry was done through formal and informal contacts within organizations.

Another role I played was analyzing data. Once the data was collected I had the role of "making sense of the data generated by sifting and interpreting them" (Pope, Ziebland and Mays, 2000, p. 114). I had a lot of data generated for this study from the transcribed recordings of interviews and focus groups, questionnaires, document analysis, field notes (from a few activities attended) and journal entries. My role was to give meaning to the data by giving a plausible and coherent explanation of the phenomenon under scrutiny (building an HIV and AIDS ontology), and making a link between the data and the theory development process.

I was an inexperienced researcher when I embarked on this study and my role was to learn the research process. I had to gather information and improve my own understanding of the fields that I had chosen to work in, that is, HIV and AIDS, education and ICT. I had been almost ignorant, for example, of HIV and AIDS issues although I was interested in the issues. Having had people close to me infected with and affected by HIV and AIDS, I already the motivation to learn as much as I could. Most of my time was invested in reading literature in the area of HIV and AIDS in order to acquire knowledge and understand the current debates. I also had to learn and understand research design and the research process. I was able to do this through a research design course which focused on "qualitative research: design and implementation" that I took in August of 2008. The course was run by the department of Education at Rhodes University.

3.4.3 Validity

In this section I discuss the several threats to the validity of my research and the ways in which I dealt with them. In dealing with validity I was aware of the effect personal bias could have on the results of my study.

Bias in my study included my possible bias as regards interpretation of the data. As Hammersley and Atkinson (1983, p. 191) state, “data in themselves cannot be valid or invalid; what is at issue are the inferences drawn from them”. I made an effort to minimize the influence of my personal bias on the data, accounts and conclusions reached (Maxwell, 1992). Bias, according to Rossi (2001, p. 2), is likely if the researcher has “too much in common with the respondents”. In order to minimize the impact of my presence, I opted for focus groups instead of personal interviews with students. The researcher may also direct responses by giving personal views or opinions, or through his/her tone of voice, appearance and the way questions are read. I avoided giving my personal opinions or interrupting the respondents, and focused more on listening to them and probing.

Secondly, there is the question of bias based on my personal beliefs on the subject I was researching. I realized that both being a Christian who does not drink alcohol and a more mature student than most at Rhodes would have an impact on my position, for example with regard to abstinence. While preparing questions and fields to focus on I had to address my personal views so that they would not affect the study. I did this through engaging in lengthy discussions with people (including my supervisor) who had different points of view and attitudes on the issues.

I had to make sure that my qualitative data was not based on my opinions. I did this by ensuring that interview data was based on the respondents’ lived experiences (Van der Mescht, 2008). I was especially able to do this within the probing questions, where I asked my respondents to base their answers as much as possible on their experiences with students. Ary, Jacobs and Razavieh (1990, p. 444) argue that the “findings of a qualitative study may simply be a matter of opinion”. I used triangulation (Seal, 2004) to avoid this validity threat. Triangulation reduces the risk that conclusions reflect only the systematic biases or limitations of a specific method. It allowed me to gain a more balanced assessment of the validity of the explanations that I had developed (Maxwell, 2008, p. 236). Triangulation compares data derived from different data sets to give credibility to the data used (Cohen, Manion & Morrison, 2000). I used data derived from the documents, interviews, questionnaires and focus groups together to validate interpretations that were drawn from different sets of data. Data generated from the interviews with the counsellors on what information was relevant for a student was compared with the data from the questionnaires, where students indicated what they thought was relevant. I compared the themes that I got from the questionnaires with the ones from the focus group discussion (see Table 2).

Respondent validation or member checking is another way of validating findings. This was done by way of making transcripts of the interviews available to respondents so that they could read through them and verify that I had quoted them correctly in the transcript. Member checking thus minimizes the risk of misinterpreting respondents and helps to ensure that the data accurately represents the views of the respondent(s). I informed all interview respondents at the end of the interview that they would be free to double-check the transcript before I used it for my study.

3.4.4 Ethical issues

Ethical issues received sustained attention in this study. Permission was obtained to conduct all my interviews. I had to gain permission from the heads of the counseling units where the counsellors I spoke to worked. Obtaining this permission was beneficial in that I learnt some information about the people I was going to interview. A venue that suited my respondents was agreed on in each case. I obtained permission to record the interview (see appendix D). I made sure that all respondents were informed of the nature and consequences of the research (Christians, 2008). Informed consent is defined by Diener & Crandall (in Frankfort-Nachmias & Nachmias, 2000, p. 73) as “the procedure in which individuals choose whether to participate in an investigation after being informed of the facts that would be likely to influence their decision”. This process involves three elements that I ensured were covered in the study. The first was *competence*: all the respondents were competent to make their own decision on taking part in the study – for example, no minors were going to be interviewed.

Participation in this study was *voluntary*. No one was forced to fill in the questionnaire or to be part of a focus group discussion. Only those interested in taking part in focus groups were asked to leave their contact details. I informed respondents that there were free to abandon the research at any time. I also ensured that respondents agreed to the participation on the basis of full information about the study. Soble (1978 p. 40 as quoted in Christians, et al., 2008, p. 192) states that "respondents must be told the duration, methods, possible risks, and the purpose of the research before they participate in the study". All respondents were asked to sign a consent form as a record of their voluntarily participation and undertaking that they understood the purpose of the study (Bassey, 1995). All respondents were informed that they had the right to withdraw at any stage of the research from either the interview or focus group discussion.

Anonymity was upheld in this study. Due to the stigma attached to HIV and AIDS I had to ensure that confidentiality was guaranteed. The code of conduct of ethics stipulates that people's identities and those of research locations must be safeguarded (Christians, et al., 2008, p. 193). I ensured that respondents to the questionnaire remained anonymous so that their personal data could not be divulged and that my respondents would not receive "unwanted exposure" (Christians, et al., 2008, p. 193). No credentials were required to fill in the questionnaire online. I realized that this was not possible for interviews and focus groups. Respondents who chose to take part in the focus group discussion left their contact details. However, pseudonyms were used in all interviews and focus group discussions, unless a respondent specifically indicated otherwise. In this study the locations were not disguised.

3.5 Conclusion

In this chapter I described the methodology used in this research. The chapter is divided into three parts, covering research design, research methods and the challenges and limitations of the study.

I first described my research design. I outlined my research goals and discussed the interpretive paradigm. I then discussed the three research approaches, that is, the quantitative approach, the qualitative approach and the case study approach. I outlined the three data collection methods I used in the study, that is, interviews, questionnaire and focus group discussions. In the section on data sets and analysis, I used a table to show how my four data collection methods interacted with each other and how I used each method to feed into the next.

In the section on the challenges and limitations of the research, I described the challenges and limitations that I came across while conducting this research, which included avoiding researcher bias and constraints on generalization. I then discussed my role as researcher, outlining the various roles I undertook such as reconciling my status as both insider and outsider. I also discussed validity and ethical considerations. I identified validity threats to my study and outlined how I tried to eliminate these. For example, I made sure that the questions I used in the study were not biased, and that when interpreting the findings I excluded my personal opinions. I also avoided leading questions and took a back role during interviews to allow my respondents to speak freely about their own experiences. Finally, I sketched the ethical considerations that I faced and dealt with in the study, which included an insistence on voluntary participation on the part of the participants and a respect for confidentiality with regard to their identity.

In the next chapter I present the findings of my research.

Chapter Four: Findings

The findings of the study are presented in this chapter. Five interviews were conducted with experts directly involved with HIV and AIDS counseling with students at Rhodes. Based on the findings of the interviews I developed questions that I used in a survey with students. Data from the questionnaire is presented followed by the findings of the four focus group discussions.

4.1 Interviews

In this section I present findings from five interviews conducted with experts in the HIV and AIDS field.

4.1.1 Ben[12]

Ben worked at the Student Counseling Centre (SCC) at Rhodes University. He was involved with the Higher Education HIV and AIDS project and was part of the University's HIV and AIDS Task Team. Among the services offered by the SCC is HIV testing pre and post counseling sessions. I chose to interview Ben because he understood the project and was involved with the counseling of students at the centre. Having worked there for several years, he was aware of what a typical pre and post counseling entailed and was in touch with what students wanted to know and what they thought about HIV and AIDS. He also indicated that he interacted with students almost on a daily basis. Ben explained the relationship between the universities' Health Care Centre (HCC) and the counseling centre, saying that all voluntary counseling and testing (VCT) for HIV was done at the HCC by a counselor from the student counseling centre. During the interview I asked Ben what HIV and AIDS information he thought would be useful for university students to have. My assumption was that he would have been able to pick from his conversations with students their information needs.

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[12] As indicated in the sub-section 3.3.2 of the methodology chapter, pseudo-names are used in **ALL** interviews to protect the privacy of respondents.

On HIV **prevention**, Ben stated that often students confused the morning after pill with PEP[13] which prevents the risk of contracting HIV. He said that explaining to students that emergency help was available on campus; in order to prevent HIV was very important so that people can make informed decisions, in cases of rape. He explained how students often delay coming forward and only visit the HCC after 72 hours when PEP is no longer effective.

Concerning **testing**, Ben said that educating students on testing was important as misconceptions around testing fed student's anxieties and stopped them from getting tested. He stated that it was important to inform students on what happens during a test, the actual process and the reliability of the rapid test. He mentioned that he had received several questions from students on the reliability of the rapid HIV test with emphasis on the window period and when one should actually test for HIV. He also said that information on the process of the testing, that is, explaining that there is a pre-counseling and a post-counseling session that goes with the test was vital. Ben went further to say that information on what the rapid HIV test, checks for would also be important for students to know.

As far as **treatment** was concerned, Ben felt that the one of the areas where students' knowledge was lacking was information on the course of HIV infection and treatment. He believed that one of the major reasons students were scared to test or find out more about HIV was that there was an assumption that the moment that somebody tested HIV positive then they would immediately have to start taking ARV treatment. Ben emphasized the importance for students to understand how the ARV treatment works if they wanted to understand HIV and AIDS. Clarity on the fact that a person could be HIV positive and still be asymptomatic was important so that students were aware that even with the virus they would still live a 'normal' life. Educating students on this point would combat the beliefs that one can tell if somebody has HIV by just looking at him or her.

Ben acknowledged that students at Rhodes had a lot of information gained from school and the Internet but reiterated that implementation was the challenge. In his experience and interaction with students, they knew a lot about condom use and other preventative measures.

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[13] PEP means Post- exposure prophylaxis. A potentially preventative treatment using antiretroviral drugs to treat individuals within 72 hours of a high-risk exposure to prevent HIV infection (http://www.aidsetc.org/aetc?page=gl-p).

Ben also said the topic of safe sex was central to an effort to respond to HIV and AIDS especially for university students who are experimenting with their sexuality. He suggested that the topic of safe sex could include negotiating condom use for females and negotiating condom use in a relationship within which condoms were not used previously. He emphasized the fact that it is one thing to tell people to practice safe sex and a different thing to actually empower them to implement safe sexual practices. He also spoke about the safety of the condom, mentioning research that proves that condoms are strong and effective ifs and when used correctly and consistently.

Several additional areas of interest for students were mentioned by Ben during the interview. Firstly he spoke about his assumption that most students did not test for HIV due to fear of what would happen after the test if it turns out positive. He said it would be important to mention ongoing support both medical and emotional provided by the university to all students. Ben also spoke about the perception amongst some white students that if one had sex with another white person they were less likely to contract HIV and so they would not use protection. Ben thought that campaigns should take the initiative to inform students that this was dangerous and to emphasis that any person could be HIV positive regardless of race. Ben stated that the relationship between alcohol use and inappropriate behaviour was real at Rhodes. He felt that students were exposed to HIV and AIDS because they abused alcohol which clouded their judgment. Mentioning the effects of alcohol would be important for students. Most importantly Ben thought it was imperative to teach students how to implement the knowledge that they learn about HIV and AIDS. He said that it was one thing for someone to know and have access to HIV and AIDS information but another to do the right thing. Implementation of what people know seems to be the sticking point at the moment in HIV and AIDS education and awareness. It must be noted that in this research I focus on the process of providing information and not so much on how this information is used in people's lives.

4.1.2 Elizabeth

Elizabeth was a counselor at the Raphael Centre[14]. The centre is located in the city centre

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[14] This is a centre that caters for HIV positive people in Grahamstown. More on the Raphael centre can be found on this site http://nml.ru.ac.za/ngo/raphael/pageTemplate.php?pID=26

within the vicinity of Rhodes University. It served mainly the Grahamstown township community. Like all the counselors at the centre, Elizabeth was HIV positive and was not a qualified counselor but a peer educator. She educated herself and took pride in sharing her knowledge with anyone who needed it. Given her background some of the questions were too complicated. The original set of questions I had for the counselors had to be reworked. Elizabeth had been working at the centre for eight years and was involved in the daily counseling sessions as well as with the support group and the education awareness campaigns that the centre undertook in the community.

On HIV **prevention**, Elizabeth emphasized that most students during the sessions had shown a misconception that 'the pill' (a contraception for preventing pregnancy) could also protect one from HIV. Information on condom use, including how to start secondary abstinence[15] was important for students at Rhodes. Meanwhile, on **transmission**, Elizabeth had picked that students had wrong information about saliva and getting HIV from kissing or sharing clothes. Elizabeth recalled that she had been asked about risk associated with contracting HIV from oral sex. On **testing**, Elizabeth was asked questions about testing and the accuracy of the rapid test. She added that students needed to be informed on the window period. Concerning **treatment**, like the students Ben had interacted with, Elizabeth said some students did not understand the course of the condition and believed that once one tested positive they would need to start taking ARV drugs, which is untrue. Elizabeth said it would be important then to explain how the CD4 count works and how it determines when one must start taking ARV treatment. She also spoke about re-infection and its importance for people who test HIV positive. She also stated that it was important for students to know that they could not see someone with HIV.

Elizabeth acknowledged that most students knew a lot about HIV and AIDS. According to her this knowledge depended on the kind of degree one was pursuing (she gave an example of Pharmacy students being well versed with HIV and AIDS knowledge). Information well known to students included HIV transmission and prevention. Elizabeth stated that many of their clients at the centre were Rhodes students. She assumed that the large numbers of students was because there was no need to make an appointment for an HIV test at the centre

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[15] Secondary abstinence is when a person chooses to stop having sex after they have already had sex (Fernandes, 2009). For more visit http://www.sexetc.org/story/deciding_sex/5557

as VCT was conducted every day for the whole day. This was unlike at the University Health centre where VCT was done only in the afternoon for four students who would have booked in advance (see Sister's transcript). To preserve anonymity and privacy some students would prefer the centre, located off campus in a house in a quite part of town over the university facility where they might meet with people they knew. Mostly white students visited the centre. Elizabeth said that she had noted that these white student clients were not interested in listening to them and what they were saying during the counseling session. She stated that students though were ignorant and not 'eager to learn about HIV'. She stated that most of the students who visited were at high risk of contracting HIV. This is in contrast with the students that had been visiting the university's health centre which the nurses there said were low risk. Elizabeth said that most students visited the centre after drinking nights where condoms were not used in casual sex or rape cases. This highlighted a gap in the information of such students as HIV cannot be detected the next day after engaging in a risky behavior.

4.1.3 Meg

Meg was part of a TAC-aligned student run organization at Rhodes University known as Student HIV and AIDS Resistance Campaign (SHARC). Meg was a fully trained and experienced peer educator who had been involved with SHARC for three years. Over the years, Meg recalled that she had had several opportunities to speak on behalf of SHARC, to facilitate workshops, interact with students and ensuring that the organization's commitments were met. She met with students twice in a month formally but daily on an informal basis. She stated that SHARC had a peer education unit which was involved particularly in the training of students and facilitating workshops.

On **prevention**, Meg stated that while most students knew that they had to use condoms to prevent themselves from catching HIV most of them still made "crucial errors" that could cause the condom to be ineffective. She suggested information on how to properly use a condom as essential for university students. She suggested that abstinence should still be "preached" as an important method of HIV prevention albeit not worthwhile for university students. Meg said that students' did not have accurate information on the procedures involved with sexually transmitted diseases which have implications for HIV prevention. In terms of testing, Meg said that most students did not know where to get tested in

Grahamstown, and any other import details on the process of getting tested for HIV such as appointment or cost. For **treatment**, she added that students lacked information on HIV management and treatment. Meg said it was important to educate students on what it means to be HIV positive and to inform students on the support available from the university. Such information would make it easy for student to understand that a person can live a ‘normal’ **life with HIV**. Students were also unaware of how long a person can live with HIV.

Meg stated that students who got involved in 'safe sex' workshops and testing campaigns were “very low risk” and mostly females. She acknowledged that low risk students were still as important as high risk students because of their capability to inform and educate others about HIV and AIDS. Meg mentioned that as a way of ensuring that most students get HIV and AIDS information the safe talks had been made compulsory for all first year students and plans were underway to have an HIV and AIDS representative in every residence. Meg stated that most students at Rhodes had the **perception** that HIV could affect them or their friends. She emphasized the need to educate students about the effects of alcohol on HIV prevention or treatment. Based on her interaction with students Meg said students indicated the “need for creative, fun ways of learning” about HIV. She noted for example, the unwillingness of students to attend events defined as HIV and AIDS events. She noted the importance of using different methods as a way of attracting different kinds of students.

4.1.4 Maria

Maria was a psychologist at the student counseling centre. She had been working at the counseling centre for several years. I interviewed Maria to complement the interview I had conducted a year earlier with the head of student counseling centre. Maria stated that she interacted with students only during her own private sessions which sometimes focus on HIV and AIDS. Maria revealed that VCT was conducted by intern psychologists at the centre who were masters’ students. The experiences she shared with me during the interview were from these contact sessions as well as from the time she was involved with the HIV test drives on campus.

In terms of **prevention**, Maria said while there were students who preferred abstinence as a preventative measure, she usually encouraged students to discuss other preventative measures as she felt that abstaining was not a “realistic” measure for university students. During her consultations Maria had got several questions on the safety of the condom in preventing HIV and felt this was an important area to educate students on. On **transmission**, Maria had been asked whether or not saliva could transmit HIV. She also noted that students seemed to know about the ways HIV was transmitted.

She however believed that most students were a “little resistant to HIV information” due to the exposure from school and other sources before coming to university. Maria thought that this presented a barrier in the education and transmission of new information. She concluded that students were “half aware of HIV” as they did not realize the volatility of the condition**.** Maria thought students were exposed to a lot of information, citing literature available from the health care centre and SHARC workshops for 1st years during the orientation week**.**

Maria thought most students who accessed HIV and AIDS information and services through the student counseling centre were not at high risk of contracting HIV. She explained that students who felt they were at risk were usually not willing to have counseling or test for HIV. She suggested that HIV and AIDS education be the most important service for students who do not actively seek HIV information and are probably at high risk. She suggested the information for these students focus on how to lower their risk, safe sex practices and responsible sexual relationships. She added that all students needed to be informed of the services available to them throughout the year so that HIV and AIDS awareness can be a continuous activity on campus.

4.1.5 Pumla and Sarah

Pumla and Sarah were nurses at the University Health Care Centre. Pumla had been working for the university clinic for three years while Sarah had been with the clinic for six years. The two interacted with students on a daily basis.

In terms of **prevention**, the nurses said most students did not fully understand post exposure prophylaxis, how it works and the procedures to be followed in order to access it. **Transmission** information is well known to students according to Pumla and Sarah. On **testing, t**he nurses suggested encouraging students to know their status and educating them about the window period so that they understand when they should test for HIV to get an accurate result. On **treatment**, Pumla and Sarah said students need more information in this area saying that it was important for students to know that there was life after testing HIV. They added that students did not understand the course of the condition.

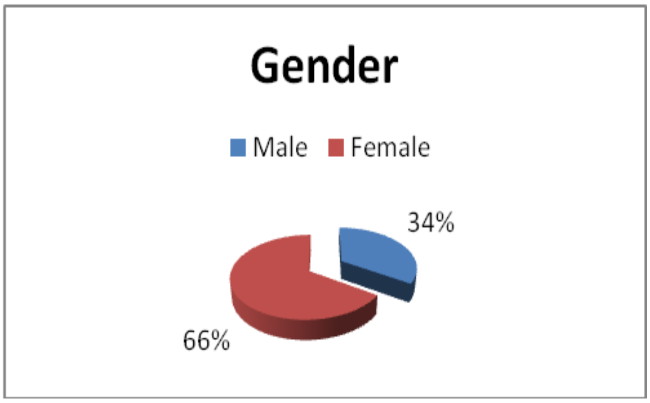
Sarah said that students had access to a lot of information at Rhodes, from pamphlets at the health care centre and in residences. The nurses said this was also supported by the little time that students were spending in the counseling sessions before and after the test. The nurses agreed that they saw mostly low risk students; this was consistent with description of students given by Maria as well. Maria suggested a focus on information on risky behaviors such as alcohol abuse and casual sex and how to avoid them for university students. Sarah stated only four students visited the HCC for VCT every day because the centre did not have a resident counselor. The nurses had noted a perception among some students that they were not at risk of contracting HIV. They said that this hindered students from learning about HIV, and suggested that students be educated about the dangers of such a perception.

4.2 The questionnaire

In this section I present the findings from the survey. As mentioned above in 3.1.1, the questionnaire had twenty questions (see Appendix B) which were developed from the interviews conducted with the HIV experts (see Appendix A which shows the development of questions). The section has three subsections, composition of the sample, knowledge and attitudes as well as general questions section. In this section, the symbol ‘MC’ is used to show the questions where respondents could choose more than one answer; the total for such questions may exceed 100%. For the likert-scale questions, the symbols ‘SD’ (Strongly disagree), ‘D’ (Disagree),’ N’ (Neutral), ‘A’ (Agree), ‘SA’ (Strongly agree), ‘IDK’ (I do not know) and ‘B’ (Blank) are used.

4.2.1 Background questions

Over 10% (689)of Rhodes University total population of 6358 in 2008 (RU Digest of Statistics, 2008) responded to the questionnaire. In this section finding of three background questions are presented, these are gender, race and year of study of the respondents.



The sample was reflective of the Rhodes student population in 2008 in which female students were 58%. In the sample females were a slightly over represented with 454 (66%) while 235 (34%) were males.

Figure 4: *Gender*

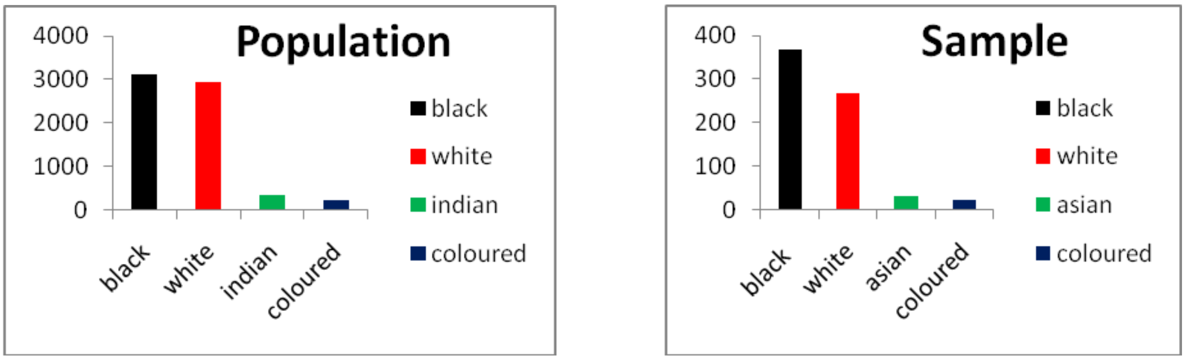
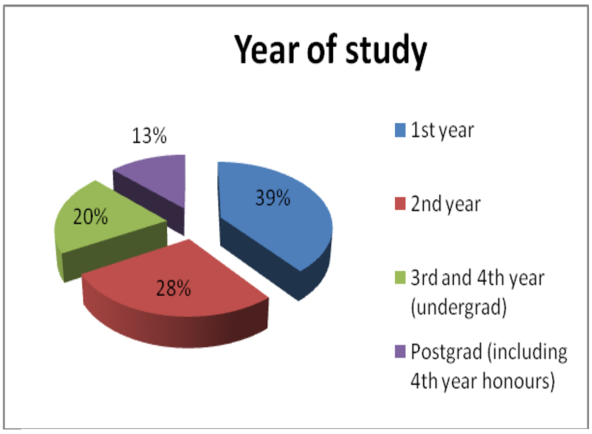


Figure 5: Race figures for the population and sample ***Source:*** *Digest of statistics 2008*

The racial diversity of the Rhodes campus was seen in the sample. There were similarities in the registered racial groupings in the year 2008 for students of Asian and Coloured descent but not for black and white students whose representation was slightly different from that of the population. In the population black students were 47% of the total while whites were 45% (see figure 5 above). In the sample, most respondents 368 (53%) were black, 268 (39%) were white, 32 (5%) were Asian while 21 (3%) were Coloured.



For the year of study 3rd year students were combined with 4th year undergraduate students. This was done because there are some four year degree programs which the university recognizes as undergraduates. Most of the respondents were 1st years 270 (39%), followed by 2nd years 191 (28%) then 3rd and 4th undergraduate students

Figure 6: *Year of study*

140 (20%) and 88 (13%) postgraduate students.

5.2.2 Knowledge and attitudes questions

In this section I will present findings of the sample knowledge of students from five themes on HIV and AIDS used in this study. These five are prevention, transmission, testing, treatment and living with HIV and AIDS. I also present findings of several attitude questions.

Prevention (focusing on condom use only)

There were three questions in the HIV prevention section focusing on condom use only.

The majority of the respondents 513 (74%) said that government condoms were just as safe as the ones they bought. Only 176 (26%) said this was not true. The free government condoms are just as safe as bought condoms as they undergo the same safety checks bought condoms undergo.

Figure 7: *Safety of the government condom*

Table 3*: Lubricants*

Which of the following can you use as lubricant (s) with latex condoms? MC	Responses	Response by %
K-Y Jelly	375	54%
Massage oil	12	2%
Baby oil	35	5%
Vaseline	40	6%
I do not know	263	38%

A total of 375 (54%) of the respondents knew that K-Y Jelly was the correct lubricant to use with latex condoms. A significant number of people 263 (38%) indicated that they did not know the answer.

Table 4: *Condom tips*

Which of the following are GOOD tips on how to care and use latex condoms? MC	**Respondents**	**Respondents by %**
Store in a cool dry place	534	78%
Always check the expiry date	636	92%
Use two condoms at the same time for maximum protection	17	2%
Hold the closed end of a male condom (reservoir tip) as you roll the condom down	532	77%

In table 4 respondents were able to identify the three good condom tips for care and use of latex condoms. The results show that 92% of the respondents knew the importance of checking the expiry date on each condom before using it, storing condoms in a cool dry place 78% and how to wear a condom 77%. Respondents also showed that they knew that using two condoms at the same time was not safe for latex condoms with only 17 (2%) respondents choosing this option.

Transmission questions (focusing on sexual transmission in heterosexual relationships only)

	SD	**D**	**N**	**A**	**SA**	**IDK**
Male circumcision reduces the risk of HIV infection in men	5%	13%	18%	30%	29%	5%

A total of 405 (59%) respondents agreed with the statement that male circumcision reduces the risk of infection in men. Only 124 (18%) disagreed with this statement.

	SD	**D**	**N**	**A**	**SA**	**IDK**
Deep kissing is safe	34%	17%	11%	21%	12%	5%

Responses on the safety of deep kissing were surprising. Deep kissing in terms of HIV infection is considered a low risk activity (Hook, 2008). HIV can be transmitted through deep kissing but in certain complicated circumstances. It was surprising to note that people actually knew that it was not as simple as saying yes/no. This is consistent with findings from the focus group discussion which showed that students understood the complexity. 349 (51%) disagreed with the statement that deep kissing is safe when strongly disagree and disagree are combined.

Table 5: *Unprotected sex*

Please indicate what you think of the following statements.	***SD***	***D***	***N***	***A***	***SA***	***IDK***
Unprotected anal sex is safe	85%	11%	1%	-	1%	2%
Unprotected oral sex is safe	58%	23%	9%	5%	2%	3%
Unprotected vaginal sex is safe for women	88%	7%	1%	-	2%	2%
Unprotected vaginal sex is safe for men	87%	8%	1%	-	2%	2%

Respondents showed that they understood the effects of unprotected sex in term of HIV infection. For all questions, over 80% of the respondents disagreed with the statements. Except for oral sex, the other three statements recorded at least 95% of the respondents disagreeing with the statements in table 5 when strongly disagree and disagree were combined. The responses to the oral sex statement were interesting in that they show that respondents thought of different technicalities involved in oral sex. The responses were still high when strongly disagree and disagree are combined, 80%. It was evident that respondents did not differentiate the susceptibility of contracting HIV across gender.

Testing (focusing on the rapid test only)

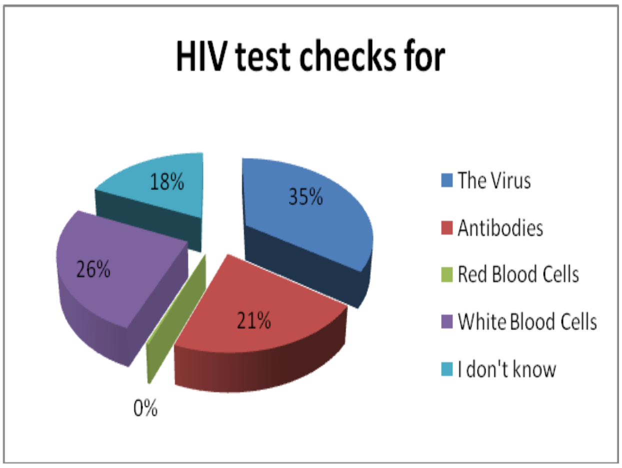
There were three questions in this section of the survey.

Table 6: *Please indicate what you think of the following statement.*

Please indicate what you think of the following statements.	***SD***	***D***	***N***	***A***	***SA***	***IDK***
The rapid HIV test (which gives results in 15-20minutes) is reliable	4%	8%	19%	42%	16%	11%

In table 6, over half of the respondents, 400 (58%), agreed that the rapid HIV test was reliable when strongly agree and agree are combined. Only 82 (12%) disagreed to the statement.

Some respondents 73 (11%) indicated that they did not know about the reliability of the rapid test.



Only 147 (21%) knew the correct answer to this question that a rapid test checks for antibodies in the blood. Most respondents 238 (35%) thought the test checked for the virus. This was probably derived from the name of the condition, HI virus.

Figure 8: *What does the HIV test check for?*

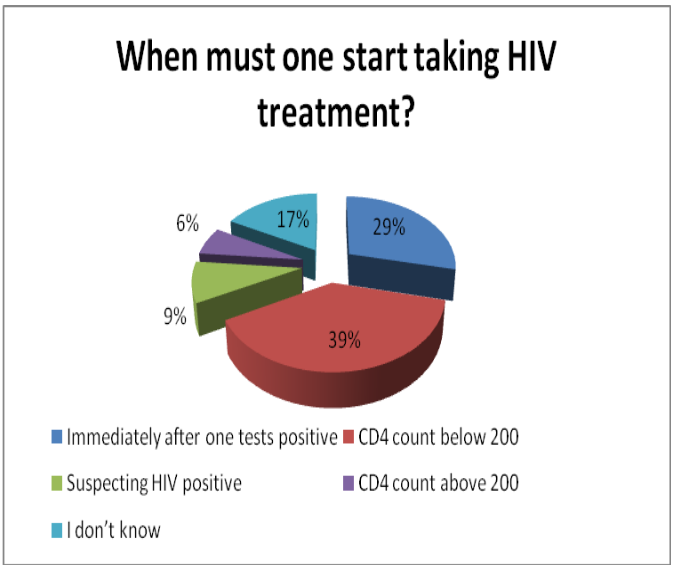
Table 7*: HIV test result*

If someone's HIV test result is negative it could mean: MC	Respondents	Respondents (by %)
The person is really negative	369	54%
The person might be in the window period	590	86%
The person might be immune to HIV	27	4%
I do not know	13	2%

Responses in table 7 show that respondents knew about the window period with 590 (86%) correctly choosing this option. The 369 (54%) who said a person could really be negative did not think of other technicalities which were not covered by the question such as when the person would have taken the test. Since the question does not specify if the question was the 1st of a 2nd test, there is no way one can say that a test result means a person is really negative. The findings show evidence that respondents were not familiar with recent discoveries of people who are said to be immune to HIV (Alexander, 2008; Altenroxel, 2000). Only 4% chose this option.

Treatment (focusing on ARVs (HIV treatment) only)

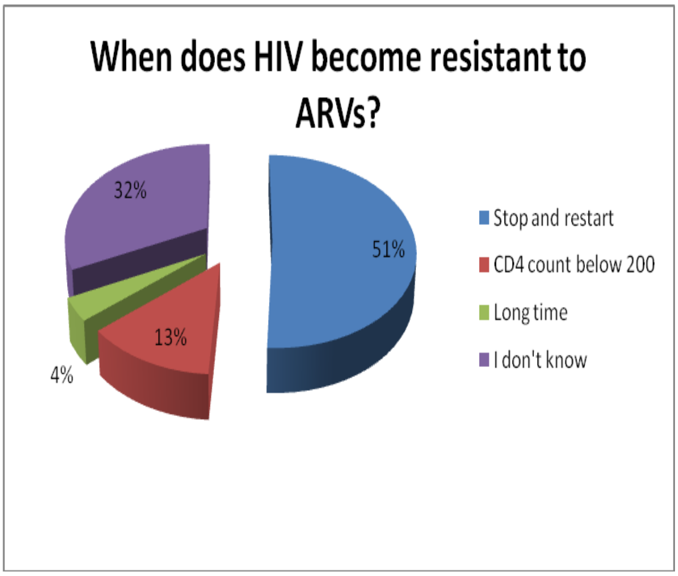
There were two questions on HIV treatment.



Only 267 (39%) of the respondents knew that ARVs are only administered once the CD4 count is below 200. At the time of running the survey, this was true for South Africa, but has since changed as South Africa has announced that treatment will start at a higher CD4 count of 350 (Tay, 2009).

Figure 9: *Starting ARV treatment*

About 197 (29%) thought it was immediately after somebody tested HIV positive, while 118 (17%) said they did not know the answer.



The question on resistance further confirmed that knowledge on treatment was limited among students. Although just over half of the respondents 351 (51%) knew that HIV becomes resistant to ARVs when one stops and restarts taking the ARV treatment, 221 (32%) said that they did not know the answer to this question.

Figure 10: *Resistance*

Living with HIV (focusing on the HIV cycle)

There were two questions, one of which was a likert scale question.

An HIV positive person can get re-infected with HIV if they have unprotected sex with an HIV positive partner	**Respondents in %**
True	74%
False	26%

The majority of the respondents 510 (74%) knew that unprotected sex between HIV positive partners could lead to re-infection. HIV has different strands it is recommended that even between positive partners condoms continue to be used to prevent passing each other's strands to one another.

Table 8: *Rank the following*

Please rank the following to show how infectious a person is at different stages of the condition ^{MC}	**% of those who said the level of infectiousness would be high**
When one has full blown AIDS and is taking ARV treatment	73%
When one is HIV positive and has other sexually transmitted diseases	87%
When one test HIV positive but does not have AIDS yet	46%
When one has full blown AIDS but is not on ARV treatment	87%
Right after being infected when one's test is still showing HIV negative	68%

The second question in this section was to rank how infectious a person would be at different stages of the condition. This was a way to see if respondents understood the HIV cycle. Table above shows the combined percentage of respondents who said that the level of infectiousness would be high and very high at the stated stages of the condition. According to the respondents to this study the person with the highest infectious level would be one with full blown AIDS and not taking ARV treatment 596 (87%) and the one with HIV and other sexually transmitted diseases 598 (87%). These would be followed by a person with full blown AIDS taking ARV treatment 500 (73%), a person who has just been infected but whose test still shows negative 466 (68%) and lastly an HIV positive person who does not have AIDS yet 318 (46%).

Below is the correct ranking starting with the stage at which a person is most infectious?

Correct ranking

1. Right after being infected when one’s test is still showing HIV negative
2. When one has full blown AIDS but is not on ARV treatment
3. When one test HIV positive but does not have AIDS yet
4. When one is HIV positive and has other sexually transmitted diseases
5. When one has full blown AIDS and is taking ARV treatment

HIV information (including the media)

Table 9: *Sources of HIV and AIDS information*

Sources	**Never**	**Seldom**	**Sometimes**	**Often**	**Almost always**	**Blank**
Websites	30%	22%	24%	16%	7%	1%
Help lines	67%	18%	7%	4%	2%	2%
Printed material	6%	11%	35%	28%	18%	2%
Television	9%	13%	28%	29%	19%	2%
Radio	19%	24%	25%	19%	11%	2%
Workshops/seminars	24%	21%	28%	16%	9%	2%
Peers	11%	19%	35%	22%	11%	2%
Counsellors	33%	25%	22%	13%	5%	2%

Table 9 shows how respondents defined the way they used different sources to gather HIV and AIDS information. As expected the **television** was highest on the list, with 202 (29%)

and 133 (19%) saying they use television often and almost always respectively. **Printed materials** had the second highest number of people using them for HIV and AIDS information, 195 (28%) said they used printed material often while 121 (18%) said almost always. **Peers** were the third highest used source of HIV and AIDS information according to this study. Of the respondents 155 (22%) said that they used their peers often for information. Following that was the **radio** with 78 (11%) of the respondents saying they used the radio almost always. It was interesting to note that only 16 (2%) of the respondents said they almost always used **help lines**. Similarly, 38 (5%) of the respondents said they used **counsellors** almost always. The results for **websites** were also quite surprising. With the Internet easily accessible to students at Rhodes one would have expected that students would use it more, but the results showed that only 47 (7%) of the respondents used websites as sources of information. About 175 (25%) of the respondents said they often used **workshops and seminars** on HIV and AIDS as a source of information.

The purposes of my study, I would like to focus on help lines and web sites as these are sources that will benefit from research on ontology carried out in this study. Resulted showed that these two sources recorded the lowest number of people using them. This could be because of the assumptions I have made earlier about HIV and AIDS information.

Table 10: *Please indicate what do you think of HIV and AIDS information*

Please indicate what you think about HIV and AIDS information	***Strongly Disagree***	***Disagree***	***Neutral***	***Strongly Agree***	***Agree***	***Blank***
I have come across HIV and AIDS information which was too scientific for my understanding	26%	38%	12%	18%	4%	2%
I struggle to find what I really need to know about HIV and AIDS	36%	35%	16%	8%	3%	2%
I am tired of hearing about HIV and AIDS	28%	23%	23%	15%	9%	2%

The first assumption was that the use of **sophisticated language** can be problematic**.** In this question I asked people if they had encountered some sophisticated information. The findings show that 151 (22%) of the respondents agreed with the statement (strongly agree and agreed combined). I asked respondents view on the assumption that there is limited access to relevant information. 73 (11%) of the people agreed with the statement (strongly agree and agreed combined). On the question of **information overload**, a total of 161 (24%) agreed (strongly agree and agree combined) that they were tired of hearing about HIV and AIDS.

4.2.3 Groups

In this section I present findings of different groups that made up my sample. The groups are divided along the background variables presented above (see 5.2.1). I highlight the difference in responses of distinct groups to certain questions. This data can be used to customize the ontology to suit the needs of different groups.

Gender: In terms of **prevention**, it was interesting to note that 338 (66%) of the females thought that the government male condom was as safe as the bought condom. Only 175 (34%) of the males thought this was the case. There was no significant different between the females (254, 55%) and males (121, 51%) who knew that the correct lubricant to use with latex condoms was K-Y Jelly. Condoms tips were known across gender.

On **transmission** questions both males and females disagreed with most of the statements that were given. For example, 258 (57%) of the respondents disagreed with the statement, male circumcision reduces the risk of HIV infection in men. Most males, 102 (43%) agreed with the statement on male circumcision with 91 (38%) disagreed.

In terms of **testing**, across genders, respondents knew about the window period and agreed that the rapid test was reliable. On the question of what the test checks for, the results are almost similar for both males and females, 46 (19%) of the males chose the correct answer, antibodies while 101 (22%) of the females chose the same answer. It was evident on both sides that students thought 'the virus' was the correct answer seen by the larger numbers who chose this response. 73 (31%) of the males chose 'the virus' as the correct answer with 165 (36%) of the females doing the same. On **Treatment** and **living with HIV** question did not have a significant difference between males and females as the results indicated that these areas were not well known to all students.

On the sources of HIV and AIDS information there was no significant difference across males and females. For instance, 16 (7%) males used **websites** almost always as a source of information, while 37 (8%) females also used websites almost always. Similarly 74 (31%) males said they never used websites while 132 (29%) females said the same. In terms of talking to **peers** about the condition, 30 (13%) males said they used peers almost always while 44 (10%) of the females did. Meanwhile, 29 (12%) males said they never used conversations with peers as sources of information when compared to 44 (10%) females.

When asked about their attitudes on HIV and AIDS information, males and females did not show any significant difference. For the three statements given, males and females had almost similar responses. For instance, 152 (64%) of male respondents and 288 (63%) of female respondents disagreed with the statement on scientific HIV and AIDS information (see Appendix B, question 16). On the other hand, 50 (21%) males and 101 (22%) females agreed with this statement. Similarly 127 (53%) males and 227 (50%) disagreed with the statement that they were tired of hearing about HIV and AIDS while 52 (22%) males and 109 (24%) females agreed. It must be noted that these findings are similar to those of the whole population (see figure 8). The only notable difference between males and females was on slightly more males 35 (14%) agreeing that they struggled to find what they wanted on HIV and AIDS compared 38 (8%) females.

Race: Most of the respondents in this study were black students (see figure 2). The same racial groupings used by the university were used to identify respondent's race (see RU Digest of Statistics, 2008). The percentages of students of Asian and Coloured decent were consistent with the statistics of the university's. In 2007, 4% of the total population of Rhodes students was Coloured and Indian and most students were blacks, 51% (RU Digest of Statistics, 2008). In this study the figures were almost the same with black respondents being 53% of my sample. In this study, black students included those of Asian and Coloured decent. This was done because Asian and Coloured were too few to have their own groups in this study. Only 32 (5%) of the total sample were Asian while 21 (3%) were Coloured.

It is worth noting that there were questions where black students were glaringly unaware or unable to engage because of their race. This is easy for me to comment on such since I am also black and can relate to some of these questions and the reactions that came from black students. An example is that of the **prevention** section, most black respondents 201 (55%)

did not know about lubricants to use with latex condoms compared to only 46 (17%) of the white respondents who did not know. Meanwhile, 215 (80%) of the white respondents correctly chose K-Y Jelly as the lubricant to use with latex condoms, while only 129 (35%) black respondents chose the correct answer. For black students talking about such issues is difficult as it relates directly to sex. Talking about sex and sexual issues is a taboo among the black African people (Menka, 2003).

In terms of **transmission**, a significant difference on the question of male circumcision reducing HIV infection in men was noted. Of the blacks, 143 (39%) agreed with the statement while only 69 (26%) whites did. Meanwhile, 162 (44%) blacks and 161 (60%) whites disagreed with the statement. In terms of deep kissing, 195 (72%) white respondents agreed that deep kissing was safe compared to only 183 (50%) black who agreed with the same statement. While only 73 (20%) of the black respondents disagreed with the statement the rest 88 (30%) of the black respondents remained neutral on the issue. For white respondents, 40 (15%) of them disagreed with the statement, leaving only 27 (13%) neutral.

On **testing**, more 233 (64%) black respondents agreed that the rapid test was reliable, compared to 144 (53%) whites. Some 39 (14%) white respondents chose to be neutral on this question compared to 25 (6%) blacks. On **treatment** and **living with HIV and AIDS** there was no significant differences across races as the results showed that these areas were not well known to all students across racial division.

Although not that much difference is recorded it must be noted that more white students 21 (8%) said they used the Internet to search for HIV and AIDS information when compared to the black students 23 (6%). Meanwhile, more black respondents 50 (13%) used talking to peers as a source of information while only 17 (6%) whites used this source. On the question of respondents' attitudes on HIV and AIDS education, the findings were not that different from those of the whole populations. Of interest is that much more blacks 219 (61%) disagree with the statement 'I am tired of hearing about HIV and AIDS' whereas 113 (41%) white said the same.

Year of study: In this section I show findings according to the year of study of the respondents. It must be noted that the different years show differences in what people know because of a variety of reasons. It can be argued that those in their first years might know a lot of information as they are coming from a formal school system which deals with HIV and AIDS issues. At the same time students that have been at Rhodes more than a year, would have been exposed to the university's awareness campaigns and resources to an extent that they might know more about HIV and AIDS. The results in this section do not serve to compare or evaluate the impact of Rhodes HIV and AIDS campaigns, but as an acknowledgement that the above is a possible explanation on the differences in knowledge levels that will be highlighted here.

1st year: First year students were the majority 270, 39% of the respondents (see figure 3). In terms of **prevention**, 204 (76%) of the 1st years believed that the government condoms were just as safe as the bought condoms. This group had the highest number of people 114 (44%) who did not know the lubricant to use with latex condoms.

On **transmission**, 1st years agreed with the statement deep kissing is safe 166 (62%) when compared to the population which had only 33% of the people agreeing with the statement. Meanwhile, on male circumcision reducing HIV infection in men only 70 (29%) of the 1st years agreed with the statement while 143 (53%) disagreed quite different when compared to the whole population. In terms of **testing**, only 44 (16%) 1st years knew what an HIV test checks for, 48 (18%) did not know while the majority 113 (42%) thought the answer was the virus.

Findings of the attitudes on HIV and AIDS information were not significantly different from the findings of the whole population. For instance, while in the whole population 24% of the respondents agreed that they had encountered information overload of the 26% of the 1st years did. Similarly, while the 22% of the whole population agreed that they had come across scientific jargon, 19% of 1st years said the same.

2nd years: There were 191 (28%) second year students who took part in the study (see figure 3). Of interest on **prevention**, 71 (27%) of these students did not know the correct lubricant to use with a latex condom. In terms of **transmission**, respondents differed significantly with the whole population, for instance, fewer 105 (55%) of 2nd years agreed that deep kissing is safe when compared to the populations' 227 (33%). Even less 56 (29%) agreed that male circumcision reduces the risk of HIV infection in males compared to 405 (59%) of the total population. Similarly, there were inconsistencies on the number of people who disagreed with the same statement; in the population only 124 (18%) disagreed while a majority 107 (56%) did for the 2nd year students.

In terms of **testing**, there were no significant differences recorded. On **treatment**, more 87 (46%) of 2nd years knew when a person must start taking ARVs when compared to the total population (see figure six). There was no significant difference between **living with HIV** findings for second years and the total population. There was no significant difference recorded on 2nd year students' views on HIV and AIDS when compared to the whole population. Similar findings with no significant difference from the population were also found on the sources of information.

3rd and 4th year (undergrad): This group was represented by 140 (20%) respondents. In terms of **prevention**, most of the respondents were aware of the information in this section. This is evidenced for example by a small number 42 (16%) of the respondents who did not know the correct lubricant to use with latex condoms.

On **transmission**, more 88 (62%) of the respondents agreed that deep kissing is safe, while only 24 (17%) disagreed. This was in sharp contrast to the whole population. Almost a third of respondents 48 (34%) in this group agreed that male circumcision reduces HIV infection, much lower when compared to the whole population 405, 59%). **Treatment** and **living with HIV** recorded the same results as the whole population. Similar findings on sources of information and attitudes about HIV were recorded.

Postgraduate: A total of 88 (13%) of the respondents were post graduate students. Only 33 (13%) of the respondents did not know the correct lubricant to use with latex condoms. It was interesting to note that postgraduate students recorded the least number of people 57(65%) who agreed that government condoms safe. Similarly over half of the respondents 46 (52%) also agreed that deep kissing is safe, while 43 (49%) agreed with the statement on circumcision. When compared to the population, most post graduates knew that the HIV test checks for the antibodies. However this group also lacked information on **treatment** and **living** with HIV.

4.2.4 General questions

In this section I present findings of the general questions section. Three questions will be presented in this section. The last question on comments is not presented here as I used the comments to improve the questions and access to the questionnaire.

> ***Question 17:*** *If you could ask ONE question on one of these themes (Prevention- focusing on condom use, Transmission- focusing on sexual transmission in heterosexual relationships, Testing-focusing on the rapid test, Treatment- focusing on ARVS and Living with HIV and AIDS- focusing on the HIV cycle) what would it be?*

In this section, I give a sample of the questions students asked. In this study, questions asked by respondents were treated as information students wanted on HIV and AIDS and can be used to inform the content of the ontology. A total of 435 (63%) respondents asked a question with 254 (37%) opting not to. Questions asked were divided into the five themes, condom use, sexual transmission in heterosexual relationships, the HIV rapid test, ARVs and the HIV cycle, consistent with the sections of the knowledge and attitudes questions of the questionnaire (see 4.2.2). However, the topic under each of these themes is presented, for example condom use under prevention.

Questions that did not fall in the five themes of HIV and AIDS that I had chosen beforehand were left out for the obvious reasons discussed in the first chapter. These include the fact that there is a lot of information on HIV and AIDS and I acknowledged that I will not be able to cover all there is on HIV and AIDS in this research project.

Prevention: Condom use

Under the section of condom use several questions were raised by the students. A total of 74 (17%) questions were asked on various aspects of condom use. The following are example of questions that can be used in the ontology:

> ***Respondent 453:*** *What is a latex condom?*
> ***Respondent 54:*** *As a guy can I get infected if I use the same condom in three different girls?*
> ***Respondent 447:*** *Can you properly use them (condoms)?*

> ***Respondent 192:*** *Can one get infected if a condom blows in the middle of the intercourse?*

There were a few questions that I will not include in this discussion that related to other aspects condom use which was outside the topics that I chose for the study. However, these questions are important should there be need to expand the ontology, the questions outside the focus of the study can be used them. For an example, questions on the female condom:

> ***Respondent 12:*** *We forever hear about the male condom, how about female condoms? I do not understand how they work or anything about them, because as women we also need to be empowered.*
> ***Respondent 520:*** *How often do women actually use the female condom, it seems like a horrible device for women.*
> ***Respondent 338:*** *How does a female condom work?*

Questions on the morality of encouraging condom use and not abstinence:

> ***Respondent 446:*** *Why do we promote everything except abstinence?*

Lubricants: Questions on lubricants were expected given the 263 (38%) respondents who had indicated that they did not know the answer to an earlier question on which lubricant to use with latex condoms. Some of the questions were exactly the same question that was in the questionnaire. With others specifically asking what K-Y Jelly was. Other questions here wanted to know if lubricants should be used at all with condoms as they assumed that condoms were already ‘lubricated’. Questions such as:

> ***Respondent 142:*** *I would like to ask if it is safe to lubricate a condom even, because the ones I have seen are already lubricated.*
> ***Respondent 61:*** *Is it necessary to use lubricants when using a condom?*

Other questions pertained to the safety of lubricants and the need to know more about lubricants. It was evident that some respondents were not clear on the use of lubricants and how they are used during a sexual act. I thought this was very interesting information for students to know what a lubricant does. I imagined that this information could assists condom users. The questions on lubricants made me realize the need to address which lubricants are compatible with different condoms and then focus on latex condoms as they are widely available. It was obvious from the questions posed that some respondents simply did not understand what lubricants were and why they are used:

> ***Respondent 464:*** *Use of lubricants-What does it mean? Why use them?*

This meant that explaining what lubricants are and what they are used for would be important for the ontology.

Reliability of the condom: Almost half of the questions (31) on condom use were on the reliability and safety of the condom, particularly the government condom. There was reference to conflicting and damaging reports on recall of government condoms in 2007. For example:

> ***Respondent 533:*** *After the various re-calls of the government condoms, it is hard to have faith in them. Why should they be trusted?*
> ***Respondent 477:*** *Can they (condoms) really protect people from getting AIDS?*

I think the most dangerous thought and feelings I picked up are that all condoms even brands that were not involved in the 2007 condom recall are being labeled as unsafe. This attitude needs to change as condoms are among the best preventative measure of HIV. Some of the questions and comment I got were:

> ***Respondent 155:*** *How safe is a condom exactly?*
> ***Respondent 318:*** *Is it true that condoms are not 100% safe?*

Other questions included the name of the standards authority that certifies the safety of condoms as well which condoms are safe between the free ones and the ones that people buy. I realized that people had doubts with the condom in general as the problems that were faced with condoms in general in the past should not make people think that they do not need to trust the condom. The ontology will show the relationship between these.

Using two condoms at the same time: There were several questions the use of two condoms at the same time. This had come as an option on the condom use question I had in the questionnaire. Although it was evident that people knew that they should not use two condoms at the same time some respondents still wanted to verify this fact. Questions I got included:

> **Respondent 17:** *How safe is it to use two or more condoms at the same time?*
> **Respondent 274:** *Is it true that using double condoms is for maximum protection?*
> **Respondent 283:** *Will it be safe for both the male and female to use condoms during sex?*

So even though I had not specified what I meant with using two condoms, which was using two male condoms at the same time, the last example I gave above was also brought up and it also makes sense. There were also questions about when to use a condom such as:

> **Respondent 597:** *Do you have to wear a condom when the girl has just gone off (stopped having) her period*
> **Respondent 86:** *Is it safe for the female to be on top, in terms of when the male ejaculates. Would the semen not flow downward and out of the condom?*

I realized the need to take people through the practical ways of using a condom and what must be done.

Types of condoms and possible allergies: I assume the questions on the types of condom were triggered by the questions that specifically mentioned latex condom as a type of condom (see question 5 & 6). There were questions about allergies associated with latex, which I thought were interesting and worth addressing.

There were questions that were on prevention but not within the topic of condom use such as:

> **Respondent 71:** *Does taking a bath prevent one from (getting) infected (with) HIV?*

Transmission: Heterosexual relationships only

There were 52 (12%) questions on transmission. Most of the questions were related to the not so commonly talked about ways of transmitting HIV. For example:

> **Respondent 292:** *Why have we got circumstances whereby two married partners who have sexual intercourse regularly but one of them can be tested HIV positive whilst the other tests negatively?*

The questions that stood out were on oral sex and deep kissing and I think this is understandable given that the while the two ways are generally low risk behaviours they can become very risky. I guess it’s this uncertainty about these two that made them some of the top questions of the respondents.

Oral sex: Most of the questions (12) were on oral sex and (9) on other ways of transmitting the virus. This showed that while respondents are aware of the ever talked about ways of transmitting HIV they still worried about the other ways that are not talked about all the time. The questions on oral sex showed that either people asked them did not know what oral sex was and were based on technicalities, what if this happens what happens next or how can that be dealt with. Examples of these questions include:

> **Respondent 245:** *How exactly do you get HIV from oral sex?*
> **Respondent 478:** *Can I get infected during oral sex from swallowing vaginal fluids of an infected person?*
> **Respondent 150:** *How can one protect one’s self when having oral sex?*

Deep kissing: Just as oral sex questions, respondents asked real practical questions so that they can know their chances of risk. One of the questions was:

> **Respondent 19:** *Is there a high risk of transmission through kissing, if there are small unnoticeable cuts in the mouth or does there have to be a substantial amount of blood present?*

People also asked ‘what if’ questions, for example:

> **Respondent 641:** *If I have unprotected sex with my partner but he pulls out before coming and then we break up and after like a year I start dating someone else and we too have unprotected sex but he pulls out before coming...does that put me at risk? We do not do this all the time though; we do use condoms ….just sometimes.*
> **Respondent 246:** *Can one get infected by mere contact of the penis on the vagina without penetration into the vagina?*

Questions like this for me showed how sometimes the information that people have falls short of addressing pertinent questions to people. It is obvious from the examples that the respondents above know that using condoms is advised and even admits to using one. But the message that the respondent did not get I suppose is that ways of preventing pregnancy such as withdrawal will not protect one from contracting HIV. This is a dangerous idea and needs to be corrected. Also the respondent shows the issue of consistency when using condoms, and changing sexual partners frequently are risky behaviours for HIV transmission.

The rapid test

There were 102 (23%) questions on testing. The questions ranged from issues of how the test works, how often one should take the HIV test, accuracy and reliability to places one can test in Grahamstown, dealing with results and how best we can encourage each other to test.

Most of the questions (36) respondents had on testing were on the reliability of the 'rapid test'. Fully aware that the test takes about 20 minutes to show results it is not surprising that some respondents had questions with the trustworthiness of that result. Respondents were comparing the rapid test to the one done at a doctor which takes days before results are given. For example:

> ***Respondent 394:*** *Should a person get tested again at hospital (or doctor) after the test (rapid test), or is it just as reliable?*

The second highest number of questions was on how the test works. There were questions on what it means to get a false negative and an inconclusive result. Respondents also asked what the rapid test checks for during the test. Explaining these aspects would give respondents more faith in the rapid test.

> ***Respondent 236:*** *What is the probability of getting a false positive result?*
> ***Respondent 140:*** *How does the rapid test work?*
> ***Respondent 75:*** *Can we have kits that can do rapid test at home?*

Other questions related to the rapid test asked that I found very really important. For example:

> ***Respondent 495:*** *How different is it from a pregnancy test because to me they look the same.*

Some respondents wanted to know where testing is done on Grahamstown and I think this is very crucial. There were several questions on how often a person should test as well as the need to explain the window period and how it affects one's test results. Respondents also wanted to know how to deal with results after testing. Information on what is available to students in terms of counseling facilities on campus would be necessary in this regard.

Treatment: Antiretroviral (ARV)

A total of 97 (22%) of the questions were on ARVs. I put these into different themes. As with the other sections questions outside the focus of the study were asked. These questions included those on post exposure prophylaxis, how many drugs make up the ARV treatment, questions on the accessibility of the life prolonging drugs, the quality of the drugs that South Africans are exposed to and questions of the government's commitment to the ARV rollout programme. These questions will not be made part of the ontology.

There were lone questions not directly related to the questions I had in the questionnaire but that I still retained because they made sense and could be linked to the information for the ontology. These included questions on the costs involved for taking ARV treatment, the importance of talking about HIV treatment to young people, side effects associated with ARVs. These questions I found very interesting and relevant to the issues of HIV treatment.

Starting ARV treatment: There were questions on when one must start taking HIV treatment. For example:

> ***Respondent 40:*** *Where does one get hold of ARVs? How easy is it to obtain them?*

This is not surprising as 422 (61%) respondents did not know when one must start HIV treatment. The number of people who asked this question shows that this is relevant for Rhodes students. Related questions included asking where people can get ARVs and the process one must go through before they can start the treatment plan. There were questions about the costs involved and the availability of the drugs at the University clinic. The questions assisted me deciding on the inclusion of this information in the ontology.

How do ARVs Work: Most of the questions in this section of HIV treatment were on how ARVs actually work? I think that it's important that people know and understand all there is to about ARVs so as to demystify HIV treatment. Once people understand how ARVs work then they may begin to understand that there is life after being positive. This realization I believe will lead to more people testing and taking care of themselves in the long run. Questions on how ARVS work included the relationship between the CD4 count and the drugs. They included these questions:

> ***Respondent 603:*** *How do ARVs actually work?*
> ***Respondent 465:*** *If a person with a CD4 count below 200 and taking ARV's, what is the maximum level does the CD4 count reach if, you take your medication right (like it reaches a CD4 count of 400,600,800.....), and does the normal person have the CD4 count thing or once you are HIV positive then its where you have to worry. If the normal person has CD4 how much (should it be). Please I really need an answer to this question because it what I always ask myself*

There was a lot of interest in the contribution of ARVs to the quality of life one leads, and on the number of years that the drugs actually give to a person.

> ***Respondent 679:*** *Can one lead an ordinary life if infected with HIV and on treatment?*

While I think these are interesting questions, worthy of addressing, I think they also need to be explained well so that people understand the conditions attached to these situations. The question of the effectiveness of the ARV drugs was also asked.

While trying to understand how ARVs work there were also questions on the issue of resistance. This was also as expected since 338 (49%) of the respondents did not know the answer to question on resistance that was in the questionnaire. Only 12 respondents asked questions related to ARV resistance showing how this area of information is a bit confusing to students to the extent I think that they do not even know what exactly to ask about resistance. For example:

> ***Respondent 223****: How long do they (ARVs) actually take before a person becomes resistant to it after having using it for a long time?*
> ***Respondent 182:*** *Can you be resistant to ARV treatment?*

For the ontology more information on the drugs and how they work should be included. A little information on other aspects can hopefully be added once people understand the basics.

Living with HIV: The HIV cycle

A total of 54 (12%) of the questions were on the HIV cycle. Examples of questions that would be worth including in the ontology include:

> ***Respondents 70:*** *How long does HIV stay outside the body?*
> ***Respondent 211:*** *How long does it take for (an HIV) positive person to exhibit signs of HIV?*
> ***Respondent 172:*** *How it (HIV) transforms from HIV to full blown AIDS*
> ***Respondent 328:*** *What are the first symptoms of HIV?*

Many questions (35) were on a question of levels of infectiousness a person is at different stages of HIV (see question 14). For example:

> ***Respondent 170:*** *I was really not about this (levels of infectiousness) I was under the impression that you can contract HIV during most stages of the illness*
> ***Respondent 345:*** *I want to know when people are the most infectious, as per question 14. Is it a graduated thing, or are they either infectious or not (i.e. infections as soon as they are HIV positive/have AIDSÂ and not if they are not)?*

It was evident based on these questions that most people did not know the variance in viral load at different stages of the condition. I understood since the question and the information was really scientific and explaining this in plain language would be really hard for awareness campaigns. This question was kept as it was important to explain that people are infectious just after contracting HIV even before their tests show positive. This would be most important and relevant for university students so that they do not think because someone's result was negative then they are really negative, because of the window period.

I realized from some of the questions the kind of "giving up" attitude that can develop once one has HIV. I think it's very important that people know that a positive result is not the end of the world. Some questions showed that disbelief that someone could be at different levels of HIV infection. For example:

> ***Respondent 190:*** *When are you most infectious if you have HIV? I thought you were always highly infectious.*
>
> ***Respondent 525:*** *Is there a difference on how infectious an HIV positive person is, e.g. is a person on ARVs less infectious than a person with full blown AIDS?*

There were also questions about how long the progression of HIV to AIDS, how to prolong this. There were a couple of questions of questions on re-infection based on question (13) in the questionnaire.

Other questions

There were 56 entries that were outside the scope of this study. For the purposes of this study these questions would have to be left out of the ontology. However, such questions can always be used later should there be need to expand the ontology. These include:

> ***Respondent 586:*** *Do you get aids from dirty crack houses?*
>
> ***Respondent 691:*** *What is being done about the primary education about AIDS*
>
> ***Respondent 659:*** *Why is it so difficult to cure it (HIV?)*
>
> ***Respondent 322:*** *How does HIV spread during circumcision rituals?*
> ***Respondent 254:*** *Is AIDS curable now?*
>
> ***Respondent 128:*** *How many are they (ARVs) or is it just one pill?*
>
> ***Respondent 127:*** *the HIV Cycle: it has been proven that the African potato improves the white blood cell count, although it DOES NOT cure HIV. Is it true that it can delay acquiring AIDS when one is HIV positive?*

I acknowledge that these questions are a reflection of what students need to know about HIV. The focus of the study was not to include everything there is about the medical condition but to use the sample of the information available from the five chosen themes to achieve the goal of my research.

Secondly entries to question 17 were regarded irrelevant when they were comments instead of a question. Below are a few examples of what students put down in response to this question:

> **Respondent 163**: *why can't they make learning about HIV a bit interesting? Because some people are tired of hearing and learning about it because we hear the same thing a thousand times and we end up not interested any more*
> **Respondent 326**: *Could a person die from just HIV alone? The answer is yes, since HIV also targets specific neurons in the brain that can cause death if significantly affected. HIV-related dementia. The mammalian immune system evolved from the nervous system, thus viruses that target the one could also target the other. Is there a test for HIV that doesn't have a window period? RT-PCR?*
> **Respondent 488**: *it's a good idea to use a condom every time if one has multiple partners though it's not 100% safe, having one sexual partner who you know their status is a good thing because it reduces the risk of infection but using a condom is always a wise but do not rely on it that much it's better to have one sexual partner*

Lastly there were entries of people indicating that they did not want to ask anything. These entries included:

> **Respondent 493:** *I can't think of any right now*
>
> **Respondent 612:** *none*
>
> **Respondent 414:** *I have no questions*
>
> **Respondent 143:** *I elect not to ask*

Question 18: *State one term/phrase on HIV and AIDS that you find difficult to understand*
Of the 689 respondents 328 (47%) stated a term or phrase that they did not understand on HIV and AIDS. More than half of the respondents 363 (53%) did not respond to this

question. This question was also important as it helped identify the problems with the use of scientific jargon. The following terms shown in table 11 below asked:

Table 11: *Unfamiliar HIV term/phrases*

Term/Phrase	Number of respondents who asked
CD4 and CD4 count	119
ARVs	20
Window period	20
AIDS (including the phrase full blown)	9
HIV (including HIV cycle, latency, rapid test)	8
Relationship between HIV and AIDS	5
Immunity to HIV	5
Syndrome	4
Vaginal sex	3
Antibodies	2
Discordant couples	2
STI	2
Oral sex	2
Latex (including latex condoms)	2
White and Red blood cells (including T cells)	2
Reverse transcriptase/transcription	2
Sperm washing	1
Asymptomatic	1
Deep kissing	1
Dental dam	1
HAART	1
HIV Government grant	1
Immune	1
Heterosexual relationships	1
X4 tropic virus	1
Viremia	1
VCT	1
Re-infection	1
Irrelevant phrases (none, I understand all, comments)	109
Total	**328**

Question 20: *Please leave your contact details if you are available for an interview. Also feel free to suggest a date and time.*

From the survey respondents, 201 (29%) were interested in taking part in a focus group discussion since 488 (71%) of the respondents did not respond to this question. Out of the 201 respondents, 35 (15%) could not take part as they indicated that they were busy, not interested in an interview or not available. I had 166 (19%) of the whole sample from whom I could contact for focus group discussions. The respondents available for focus groups are broken down follows:

Table 12: *Sample for the focus group discussions*

Gender	Race	Year of study	Total		Total per gender
Male	Black	1st	15	**(31)**	**48 Males**
		2nd	9		
		3rd	3		
		Post-grad	4		
	White	1st	6	**(14)**	
		2nd	3		
		3rd	3		
	Asian	3rd	1	**(2)**	
		Post-grad	1		
	Coloured	Post-grad	1	**(1)**	
Female	Black	1st	45	**(77)**	**118 Females**
		2nd	26		
		3rd	3		
		Post-grad	3		
	White	1st	12	**(35)**	
		2nd	8		
		3rd	8		
		Post-grad	7		
	Asian	3rd	1	**(2)**	
		Post-grad	1		
	Coloured	1st	2	**(4)**	
		3rd	2		
		Post-grad	2		
Total sample for Focus group discussion					**166 people**

4.3 Focus group discussions

In this section I present finding of the four focus group discussions. The four groups were drawn up along gender and racial lines. Students of Asian and coloured decent were put together with black students (see chapter 3). The findings from the white males, white females, black males and black females are presented in this section. Email invitations were sent to eight people from each group at a time from all the people who had indicated (in the survey) their willingness to participate in the focus group discussions.

Questions for the focus group discussion were drawn from the questionnaire (see appendices). All focus groups were audio recorded and full transcripts are available as appendices (see appendices)

4.3.1 White males

Three people responded to the invitation to take part in the focus group. This was mainly because people were busy and unable to attend during the times I had suggested. This group was made up of three respondents, Denis, a 1st year Journalism student, Grant, a 3rd year BA student and Tom a 3rd year Environment student. Two of the respondents said they would never use the government condom because they questioned its safety. Denis supported the use of this condom stating that his father worked for the SABS and so understood that the government condom was just as safe as any other condom. He also knew about lubricants through his father while the other two respondents said that they knew nothing about lubricants as no one had spoken to them about them. However the three agreed that condom use was an important piece of information for university students and that on campus, SHARC had done a lot to educate people on proper condom use including demonstration during their campaigns.

On the question of male circumcision, Denis and Tom said that they assumed that it had nothing to do with HIV infection as they had not heard anything about it. Grant, who had attended a course in Cape Town on HIV and AIDS, and was therefore interested in the subject had “read somewhere” that male circumcision reduced the chances of contracting HIV in men. All respondents said that deep kissing was not a big risk and that it poses minimal risk if both partners had sores in the mouth. The same with oral sex, all the respondents said that they did not know much about it. They all also said that they did not think there was a difference in the chances of contracting HIV between men and women.

Tom had never taken a rapid HIV test but knew of its existence. He was not aware of how the test worked. Denis had never heard that there was an HIV test that could give results in 20minutes. Grant knew about the test and how it worked as well as procedures that followed it. All the respondents thought that once a person is infected with HIV they had the same levels of infectiousness throughout the various stages of the condition in their lives. They were not able to rank infectiousness at different stages in the questionnaire. they agreed that it did not matter whether a person got HIV a week, month, year or decade ago, they remained infectious at all stages.

The group cited high school, SHARC, and doctors as the most common sources of information. They added that they did not go to these people to seek out HIV and AIDS information, unless they were working on a project. They also spoke to friends in rare cases, as they all agreed that it was not a common subject with their friends again unless there was a need. Within the family the group agreed that the subject of HIV and AIDS came up but never as a discussion about themselves. They all showed that they never considered HIV as issue for them to worry about. For example, Tom said that his father was a farmer and HIV and AIDS always came up when they spoke about his workers who were on ARV treatment. Grant said his “parents thought it was not an issue or that he had heard enough already”.

While there were concerns in the group that some HIV and AIDS information was contradictory, the group also gave examples of prescriptive HIV and AIDS information and offered some suggestions to remedy that. Tom gave an account of a story he had heard of a community that was shown how to use condoms using a broomstick for a penis. He narrated how after a few weeks the researchers went back to the community for evaluation and found that people were indeed using condoms, except they were putting them on broomsticks as they had been shown during the demonstration. This group agreed that it was important to highlight the differences in understanding, knowledge and information needs of different people. Although I understood that this example was not relevant to university students, it was important in showing the need for dedication in developing HIV and AIDS information relevant to a community in tune with the context.

All the respondents agreed that there are “some bits” of HIV and AIDS information that they were tired of hearing. These included basics on HIV and AIDS and statistics. The group believed that these were causing people to switch off to new information on the condition as they had little or no impact on students anymore. Tom suggested that information needed to be more personal, to focus on the individual and the effect HIV would have on that person's immediate family. The group agreed that scientific jargon existed in HIV and AIDS but it was not a problem for a university student who had the Internet to find out what a difficult word meant. They agreed that it was dangerous for communities where the Internet was not available. The group also said that jargon must be used in moderation as they would draw people away even if they could find out what is meant by words. It was interesting that although Denis pointed out that he was tired of hearing the statistics on HIV and AIDS, he had a question on the statistics “on the prevalence of HIV at university and at schools around the country”.

4.3.2 White females

For this group the discussion started off with three ladies, Jodi, Claire and Robyn. Erin joined the group at a later stage as she arrived late and her contributions were recorded from the time she joined the group. These were Jodi a Masters student (6th year at Rhodes), Claire a final year law student (5th year at Rhodes) and Robyn a 3rd year TV journalism student. Claire's parents were both doctors and she was the head of SHARC’s peer education unit. She was responsible for training peer educators to give the safe sex talks to 1st years during O-week. Robyn had been in house committee for two years and so had been exposed to SHARC's workshops. All respondents supported the free government condoms initiative. They believed they promoted safe sex for students who might otherwise not afford to buy condoms all the time. The ladies had no complains on the quality of the condom or safety. This was because they all agreed that they went through the same standard check with SABS as any bought condom. In fact Claire said that they were “thicker”. This group also acknowledged the work done by SHARC in this area.

Jodi had chosen to abstain and used this to explain why she had not bothered to find out about some things on HIV and AIDS such as lubricants as she was not using them. Robyn and Claire knew that water based condoms could be used with latex and also knew the effects of using oil based lubricants. There were concerns raised about the expenses attached to lubricants and that that could be the reason people opted for commonly known things that were not necessarily safe.

Jodi and Robyn did not think that circumcision reduced the risk of contracting HIV in men. Claire had been exposed to some research on the topic which concluded that there was no difference in the risk between circumcised and a non circumcised man. All respondents agreed that deep kissing presented a risk for HIV infection if the two people had sores in or around their mouth. Jodi also added that another risk was that deep kissing would lead to sex and thus expose people to HIV more than just from the actual kiss. The group also agreed that oral sex was risky. Claire added that the mouth was an “inhospitable area” for HIV; they agreed that the passing of any body fluids from one person to the next would put someone at risk of contracting HIV.

While Robyn did not know much about the difference in the risk of contracting HIV from for men and women through vaginal sex, Claire and Jodi understood that women were more at risk mainly due to biological reasons. The group noted that all tests, no matter how reliable cannot be 100% accurate. They agreed in principle that the rapid test was accurate and that people needed to follow up on the test should it be reactive (positive) with the conventional one (that takes 3days) to ascertain whether or not they have the virus in the blood. They noted that lack of this information sometimes led people to think that rapid testing was inaccurate or unreliable.

On the issue of viral load and ranking when a person can pass more HIV to others at different stages, the group was divided. Claire knew that this was possible; Jodi, Erin and Robyn had never heard of the term viral load and so did not know that this was possible. However Erin said that it would make sense that there would be differences in how infectious a person could be. All respondents said they never actively looked for HIV information as it seemed to be everywhere. Various sources were named with SHARC being the main one on campus, TV, magazines, billboards, pamphlets and the Internet. Family and was also another source of information albeit superficially. Jodi said she rarely spoke to friends and family about HIV and when they did it was only briefly on the surface. Claire regularly spoke to her family mostly because her parents were doctors, while Robyn's fostered some HIV positive children so the subject came up a lot in their family. Similarly Erin had people close to her die from

HIV related condition and so speaking about HIV at that personal level was easy for her. She said that they used that talking as a way of sharing information on the condition.

The group agreed that there was some HIV information that was prescriptive. They noted information presented to the while at school particularly merely told them what to do without showing how it worked or explain why. On information over load the group agreed that there was a lot of information on HIV and AIDS. They said they sometimes felt bombarded. What came out of the discussion was that the group was tired of repeatedly hearing basic information often irrelevant to them. They said that the repeating of such information caused people not to bother listening when relevant information was presented. Claire said SHARC was trying to get round this by providing more practical oriented information. Respondents said there are assumptions that everyone knows all the words and phrases (jargon) commonly used for HIV and AIDS as a result. Claire supported this by saying that she had noticed the same during workshops, that there would be students unaware of some information but pretends to know. In conclusion Claire made a comment on anal sex stating that it was not just risky for gay men but for heterosexual couples too. Jodi spoke of the need for education for poorer communities of South Africa.

4.3.3 Black males

This group was made up of three men, Siya, a Master's student, Themba a 3rd year science student and Tray a 1st year BA student. Tray had lost family members to the pandemic and had developed an interest in HIV and AIDS issues. The group showed their suspicion in as far as the cure for HIV was concerned. They argued that given the caliber of scientist and the financial gain associated with HIV, it was possible that there could have been an interest to not "finding" the cure. Although all respondents agreed that it was good to provide free condoms, several issues were raised. Tray thought that free condoms encouraged sexual activity. He also thought a condom was not totally safe because of the risks of bursting. Siya also did support the use of free condoms. Themba believed that the free condom was safe. All the respondents lacked trust in the government citing the 2007 condom scare when there were defective condoms.

All respondents did not know the differences between oil and water lubricants. They also believed that male circumcision reduces HIV infection in men. Respondents cautioned that such information was dangerous for people with limited academic competence. Themba and Siya knew that deep kissing presented a risk for HIV if two partners had open sores in or around the mouth. Tray knew that deep kissing posed limited risk of HIV transmission. The group agreed that it was possible to contract HIV through oral sex albeit to a limited extent. Themba and Siya had heard that women were more at risk of contracting HIV in vaginal sex than men. Tray had not and added that he wanted to find out more about it. All respondents knew what the rapid test was, two (Siya and Themba) were not sure about its reliability when compared the conventional test. Tray believed that the rapid test was just as reliable as any other test and that it was just a matter of technological advancement that made the result quick.

Although the group agreed that levels of infectiousness differed at different stages of the condition, when asked to rank the different levels they were not able to do it correctly. Themba and Tray agreed to some extent that there was some prescriptive HIV and AIDS information while Siya said he had not encountered such information. All respondents said they got to a stage when they were “sick of HIV and AIDS” because it was everywhere. Tray added that he could not even watch TV because every other commercial was about HIV. Everyone had some problem with scientific jargon. Siya added that it was worse for people who were not English 1st language speakers because even in an African language, certain words cannot be translated and so it would be hard to understand the information.

The Internet was mentioned as the most used source of information. The group agreed that they would never seek for HIV and AIDS information. The group said that they rarely spoke to friends about HIV. Within the family the group agreed that it was hard to speak about HIV as it was related to sex, a subject that it is never discussed between parents and children. Themba made a comment that there were some students at Rhodes who believed that was no AIDS on campus and suggested that students needed to be educated about this so that they know that even on campus, there was HIV.

4.3.4 Black females

Four ladies showed up for this group discussion. The group was made up of two 1st year students, Nokubonga, and Sibonile a 3rd year coloured student, Julia and a Postgraduate student, Tamara. This group was very outspoken. The group acknowledged that HIV affected everyone and that though they thought they knew a lot on the condition they realized after the questionnaire that they did not know as much as they thought they did. After losing four family members to the pandemic, Tamara felt that nothing much was being done about HIV and AIDS. These sentiments were shared by Sibonile who said that the poverty stricken communities were hardest hit with the pandemic and yet nothing much was being done for them.

It became apparent early in the interview that respondents shared a negative view about the government's role in HIV and AIDS. On the question of the government condom it was surprising that the group said they would never use that condom because they did not trust SABS and the government. They cited the 2007 condom recall as an example. Despite these reservations the ladies agreed in theory that the condom was a safe preventative measure albeit any other than the government free one. There was confusion in the group about lubricants and how they are used. Three of the ladies thought the lubricant was used on the condom and not the person as is the case. For this reason respondents thought the condom already had lubricants and none were supposed to be added lest they damaged the condom. Tamara explained the correct use of condoms and gave reasons people might want to use a lubricant and how that was related to HIV infection. All the respondents did not know which lubricants were ideal for latex condoms and so did not know the correct answer to the question in the survey.

Similarly there was confusion with the question on circumcision. Some group members thought the question was referring to the act of circumcision and not being circumcised. Once this was cleared up they all agreed that circumcision had nothing to do with HIV infection and that the risk was the same for both a circumcised or uncircumcised man. Tamara had heard that circumcision lowered the risk a bit but chose to say that the risk was the same. On deep kissing the group knew that there had to be open sores or cuts in order for the exchanged body fluids to pose a risk for HIV infection. Even then the group agreed that the risk was minimal. They showed the same understanding for oral sex. It was evident from these two discussions that the respondents had detailed knowledge about the body fluids such as pre-cum (pre-seminal fluids) and how they are a risk in HIV transmission. Three of the group respondents did not know that there were differences in the risk of contracting HIV from vaginal sex between men and women. Julia explained to the group the difference adding that these were biological. The group agreed that while they found the information fascinating they felt it needed to be explained clearly for everyone to understand.

The word “rapid” confused the respondents at the beginning. Once the test was explained they all knew the test or testified to having taken it before, though they were unaware that it was called the “rapid” test. The group agreed that it was a reliable test, not different from the other conventional doctor’s test. They added that if someone was in doubt they could always take the one at a doctor to verify their result, a process that is common for a positive test result anyway. Some of the reasons the group supported the rapid test was that it was usually free or relatively cheap for everyone to afford getting a test and that the waiting period before one gets the result was shorter. One respondent thought that the three days that the test took at the doctor was the window period. This was clarified by other group members through explaining that the three day waiting periods at the doctor was just for results while the window period has a three month waiting period before the antivirus can be detected in the blood. Tamara showed that she understood the cycle of HIV explaining that ‘in that 3months (of the window period) it can’t be detected and yet they say that’s when it’s very dangerous, that’s when one is most infectious’. All respondents said they wanted more information on the different levels of infectiousness a person is at different stages of the condition.

It was evident from the discussion that race played a significant role in the acquisition of information for HIV and AIDS. When I asked the group if they spoke to family about the pandemic three of them said they did not because of cultural reasons. The group also noted that HIV and AIDS was often too depressing, uncomfortable to bring it into conversations with friends and family. Respondents noted school, SHARC, TV, brochures and the Internet as sources of information. The group thought the TV programs were prescriptive in nature, telling one what to do and rarely why they had to do that.

4.4 Conclusion

Findings of the study were presented in this chapter. I started by presenting data generated from the six interviews conducted with HIV and AIDS counselors. I showed how this data was used to develop questions used in the survey. Then I presented the findings from the survey, by way of presenting each question as a standalone theme. I also presented the findings of special groups. The data from the focus group discussion was then presented.

In chapter five I discuss how these findings contribute to content development of the ontology.

Chapter Five: Discussion

The purpose of this chapter is to discuss the findings presented in the previous chapter. The discussion is underpinned by relevant literature as presented in chapter two of this thesis. This chapter is divided into four sections which outline the process of populating ontology. The four sections are; content selection for the ontology, implementing the ontology, customizing the ontology and expanding the ontology.

5.1 Content selection for the ontology

In this section, I discuss the findings that led to the selection of the content for the ontology. The content was selected and organized based on the data collected as presented in the previous chapters. Findings are presented for the five HIV and AIDS themes used in this study. These are, prevention, transmission, testing, treatment and living with HIV and AIDS. Under each theme I discuss the quality of knowledge displayed by students and their information needs under each topic.

5.1.1 Prevention

On the topic of prevention, findings showed that Rhodes students are aware of the importance to prevent HIV. This was consistent with findings of other studies with students (Sabone et al, 2007; Odu et al, 2007; Sukati, 2007; Mitchell et al, 2003; Brown et al, 2007). This finding was not surprising as HIV prevention has been and continues to be the area of emphasis for a condition that more two decades since its discovery, still does not have a cure. There are particular topics under prevention that students indicated they were unfamiliar with or had incorrect information. In this study, the focus was on condom use consistent with literature that the topic is relevant to students (Odu et al, 2007). In a study conducted with university students at a university in Botswana, it was found that 'there is need to intensify condom education because it is clear that "condomisation" is what makes sense to students' (Sabone et al, 2007: p. 336).

In this study HIV prevention focused on the use of the male condom only. This was done as the use of the male condom has been seen to be the single most effective way of preventing

HIV transmission (UNAIDS, 2008). It became apparent from the findings that while students agreed that condoms were a useful preventative measure and supported its use, they had problems trusting the government free “choice” condoms. This is not surprising following government recall of thousands of condoms twice in 2007 that were found to be faulty (Turning point, 2008; SABS, 2007; Tshabalala-Msimang, 2007; Mahlangu, 2007). Although the free government condom is widely available at Rhodes University, findings showed that some students still do not trust the condom enough to use it. Information on the government condom was included so that students understand that the condom is just as safe as bought condoms.

While respondents showed that they knew the benefits of using a condom, it was evident that there was need to continue educating people on using the condom correctly and consistently. Most respondents indicated that while they knew that they should use condoms, they often did not wear it properly because no one showed them how to. One respondent captured this succinctly saying ““people do not always realize how complicated a job (wearing a condom) it is”, A step by step process of wearing a condom would be most crucial for students who might be too embarrassed to seek assistance on this issue.

Results on lubricants were different for different groups. Most of the respondents who got the question right in the survey were white students with the while females group showing greater knowledge and understanding of lubricants. However, the rest of the focus group showed that respondents were not aware of lubricants. One respondent said a “condom has its own lubricant”, clearly showing that people did not know much about lubricants. This was evident from some of the questions students asked, such as, “doesn’t it cause something to the condom? Like damage the condom?” Thus the conclusion is that there was limited information among students around the issue of lubricants. Researchers recommend the use of water-base lubricants such as KY jelly as ‘oil base lubricants weaken, dissolve and break latex condoms’ (Avert, 2009). Vaseline, baby oil, massage oil and cooking oil all have an oil base. The information on lubricants was selected for the ontology as incorrect use of lubricants has dangerous repercussions for HIV prevention.

Post-exposure prophylaxis, commonly known as PEP is another area of HIV prevention that came up during discussions with my respondents. A question on PEP was included in the pilot study and results showed that students were aware of PEP and the procedures involved.

This could be attributed to the exposure PEP has received in South Africa given the rate of rape cases that are reported in the country (Hunter-Gault, 2009). This was left out after the pilot as respondents showed that they knew a lot about PEP.

5.1.2 Transmission

Results of this study showed that students knew that any type of unprotected sex was not safe. Over 80% of the respondents knew that it was risky to engage in unprotected sex. This is understandable as practicing protected sex is probably the oldest preventative campaign for HIV. Research (Sabone et al, 2007, Odu et al, 2007, Sukati et al, 2008, Uys, 2002) has also shown that students are aware that unprotected sex is risky and knowledge of protecting one from contracting HIV is also high. After the adoption of the ABC concept in Botswana, several countries in Africa, South Africa included also adopted the ABC concept and implemented it in their own awareness campaigns (Brown et al, 2007). High levels of knowledge in this area can also be attributed to sex education, covered in life skills subjects in high schools which also contribute to knowledge levels of university students (Albee and Gullotta, 1997; Van der Merwe, 1996; Department of Health and Department of Education, 1997/8).

On deep kissing, I expected that students would not know the complexities involved with this piece of information. Slightly, over half of the respondents 349 (51%) disagreed with the statement, 'deep kissing is safe'. This was in agreement with recent research which has found that the case of deep kissing is not as straight forward as it appears. For examples if both partners have sores in their mouth, bleeding gums, or bruising from extensive brushing then deep kissing becomes risky and HIV can be transmitted. This result shows that respondents were actually thinking about the statements that were presented to them and even question what they would otherwise support. The greater number still of students were ignorant about the risk involved in deep kissing. It was evident from the focus groups that respondents understood this aspect and even gave examples of when deep kissing becomes a risk.

Another area of HIV transmission that I focused on in this study was male circumcision. It was interesting to note that most respondents agreed that male circumcision reduces the risk of HIV infection in men. This is consistent with recent findings which have found ‘conclusive evidence that male circumcision significantly reduces the risk of HIV infection in men’ (WHO & UNAIDS, 2007: p. 29). Studies in South Africa showed that circumcised men reduce the risk of acquiring HIV by an average of 54% (AVAC, 2007). However, it was evident from the focus group discussions that such information must be communicated to people carefully as some might discard other preventative measures such as condoms and engage in more risky behaviours if they are circumcised.

The difference in risk for men and women from vaginal sex was interesting. The survey findings were that students believe that there was no difference in risk between men and women. This showed that students did not know that there is actually a difference between males and females. A woman is significantly more likely to contract HIV infection during vaginal sexual intercourse’ than her male counterpart (Padian, Shiboski & Jewell, 1991; UNAIDS, 2004).

5.1.3 Testing

The window period is a period of three months that an individual must give between HIV tests before one can say for sure that they are HIV negative (About.com, 2008). It was interesting to note that while over half the respondents (58%) agreed that the rapid test was reliable; there were some who did not know what the test was. I realised during discussions that calling the test “rapid” was jargon to some people. This was evident from the focus group discussions whereby some students indicated that they had never had of the rapid test, but said they knew the test that gave results in twenty minutes (see transcripts).

One of the questions brought up the issue of immunity to HIV. I found this area worth talking about because it is rarely mentioned. Only 27 people (4%) knew something about immunity to HIV. I understood why only a small proportion of the respondents knew about this concept of immunity to HIV. This is due to the fact that very few people are in fact immune to HIV. This is according to some studies that have been conducted in South Africa, KwaZulu Natal, with sex workers along the ‘notorious trucking route’ which found that there were women who had remained HIV negative despite being sex workers for over five years (Altenroxel, 2000). The research found that the genetic makeup of the women under study generated specific immune responses which they believed gave them protection against HIV. Similar studies done in Kenya (Alexander, 2008), Uganda and Thailand generated the same results (Altenroxel, 2000). It must be noted that the issue of immunity relates more to HIV transmission than prevention.

On the question of what the HIV test checks for, it was evident from one the interviews I conducted with Ben (see Appendix G), that making the issue of testing clear and understandable to people is very important. Only 147 (18%) of the respondents chose the correct answer, antibodies. I found this to be interesting information, that people have taken the test but would not know what the test checks for. The test check if there are antibodies in the blood which confirm that someone has been infected with the virus I am fully aware that it can be argued that so long people test knowing what the rapid test checks for is irrelevant, but I think that it is important to know these details which help distinguish the type of test one will have and has implications on how long before results are known and the accuracy of the result (About.com, 2008).

5.1.4 Treatment

Most people did not have the facts on issues of treatment. The highest number of people who chose "I do not know" was in this treatment section. In total of 339 (49%) of the respondents said they did not know the answers to the two questions in this section. Given that findings of the focus groups and initial interviews showed that students did not think that HIV and AIDS was a direct threat to them, I took this to mean that people assume that since they are not affected there is no need to know about information on treatment. These findings from Rhodes University were in line with findings from other universities and on other students who did not see themselves as at risk of contracting HIV (Weston, 2006, Odu, et al, 2007; Sabone et al, 2007). The moment someone does not identify with their condition it is understandable that they would not seek out much information, especially as detailed as treatment. People should be encouraged to learn and know about HIV treatment even if they are not yet infected because the knowledge gained can be used to benefit others who are infected or affected. It would also influence how one interacts with people who are infected.

From the findings it was evident that students were aware of ARV treatment and that it was a life prolonging drug for people with HIV. However, students were not aware of how it works and when one should start the treatment. One respondent said “they (students) understand that being positive equals ARVs”. Students need to know that there is a course that the condition follows, that testing positive does not mean taking ARVs immediately and that for a long while, people with the virus remain asymptomatic. This is crucial, for people who still conduct physical HIV test on themselves and partners. Students need to know that while someone might look healthy, they can still be infected with HIV. This is important especially considering that a person is most infectious soon after contracting HIV when one is still showing a negative test results and a normally healthy appearance. It is evident that the issue of HIV treatment links to various other themes on HIV and AIDS such as testing, life cycle and testing. These relationships can be shown in a mind map as nodes.

5.1.5 Living with HIV and AIDS

Respondents showed that they did not know a lot about living with HIV. Information that I highlight in this section benefits people after contracting HIV and trying to live with HIV. Results to this section showed that respondents made assumptions that most people make about HIV as a 'disease', assumptions that are mostly wrong. For instance, contrary to common belief of diseases that if a person looks and feels healthy then one is healthy, HIV is different. People with HIV remain asymptomatic while yet most infectious at that same time, that is, just after contracting HIV, when the HIV test still comes out negative and a person still feels and looks healthy. This difference in the course of HIV is very important for people to understand, because without understanding this people will continue to make errors in judgment and continue to contract HIV without suspecting it.

Similarly, contrary to what people would expect on levels of HIV infection (also known as viral load) research has found that ‘individuals recently infected with HIV and those with advanced HIV disease (also known as full blown AIDS) are most infectious or have the highest levels of HIV infection’ (Pilcher as quoted in Carter, 2007). People who have recently been infected with HIV are in the Acute HIV infection or Primary stage which is characterized with ‘extremely high HIV viral load’ (Carter (2007: p. 1). Similarly, ‘people with full blown AIDS (as known as chronic/advanced HIV disease)’ had the highest viral loads together with those recently infected (Bernard, 2007: p. 1).

In this study respondents were not able to rank the levels of infection in one's body at different stages of the condition. Respondents were able to identify that a full blown case would have a high viral load but not the rest of the levels (see table 7a and b chapter five). It was evident that students are aware of some details about HIV but lack some complex information. In an interview with Ben (see Appendix G), he emphasized the need for students to be educated about the course of the condition because lack of that information causes fear and ignorance on HIV. Meg associated this with stigma saying "There is still a huge amount of stigma at Rhodes and the comments made about people living with HIV are of deep concern and reveal a huge amount of ignorance and fear" (see Appendix H). Research has showed that fear and ignorance are some of the most popular reasons people do not bother paying attention to HIV and AIDS information (Odu et al, 2007; Sabone et al, 2007; Weston 2006).

Understanding the course of the condition also assists people in making some important decisions once they know and understand how the condition progresses and develops in the body. Decisions such as taking an HIV test and learning more about the condition are examples. It is important for people to know and understand that being HIV positive does not mean that one starts taking ARVs immediately or has AIDS as the data suggests. It was quite surprising to note that most respondents knew about re-infection (see table 7). Re-infection is explained as the chances of contracting a different strand of HIV when an already HIV positive person engages in unprotected sex with an HIV positive person (About.com, 2009). It is aspects such as this that the ontology seeks to coordinate. While it is important for people to understand the course of the condition in order to understand this concept, it is also important to note that this is a prevention issue. Through the ontology links such as this can be made explicit so that it becomes clear to people how the issue is both prevention and about living with HIV.

5.2 Implementation of the ontology

In this section I present the various issues I investigated and realized would be in the way of successfully implementing the ontology. I discuss the four assumptions I made on HIV and AIDS information. I have divided this section in two, selection of the content and presentation of the content. Within these two sections I discuss four problems that I believe must be avoided to ensure that content selected for the ontology is perfect and that the content is presented in a way that makes it easy to access.

5.2.1 Presentation of content

In this section I discuss prescriptive information and use of jargon. I focus on how information should be presented, without being prescriptive and using scientific jargon.

Prescriptive information: In this thesis, I defined prescriptive information as information that tells people what to do, what choices to make, but not necessarily why they have to make this choice. I identified the ABC campaign as an example of prescriptive information. Although the concept has worked over the years changes in people and the course of the condition require that such information be reworked, taking into consideration what is relevant to a specific group of people. In this study, it was evident from the interviews with one of the HIV experts that part of the ABC concept, abstinence was not useful for students at Rhodes (see Meg’s transcript, Appendix H). She said this view is based on the behaviour of students and how sexually active students do not benefit from this message. It must be noted that secondary abstinence is possible as was mentioned by Elizabeth in an interview (see Appendix I). Such a concept is not captured in the ABC concept as it is at the moment. Secondary abstinence refers to the act of refraining from sex even after one has been engaged in sexual activity. One respondent summarized this issue of abstinence saying:

> ***Black female**: “I think government should focus on abstinence, I know that condomising is ok as part of the ABC, but focusing on the abstinence and getting back to teenagers because that the group they should focus on them because they are the future generation”.*

Starting at the grassroots will be a good beginning, while also urging secondary abstinence at universities. I acknowledge my own bias towards issues of abstinence as discussed in chapter three. These findings are consistent with literature. In a study conducted at the University of Botswana with undergraduate students’ researchers found that 'problems with the ABC message' were hindering the success of HIV and AIDS awareness campaigns (Sabone et al, 2007). One of the findings was that abstinence does not work for university students. The students at the university of Botswana thought that abstinence was 'not practical and was unrealistic' (Sabone et al, 2007) for university students who by nature were sexually active and at eager to experiment and discover their bodies. These students also questioned ‘Be faithful and condomise’ as campaigns for university students citing why they would never work in a campus environment. In a related study conducted in Kenya it was evident that the ABC concept was problematic. A study that analyzed how Kenyans defined and perceived the ABC's revealed that the concept was misunderstood in different cultural contexts and by different people (Pulerwitz et al, 2006).

In focus group interviews respondents highlighted that information they accessed from high school particularly was prescriptive. While respondents acknowledged that they were young, a factor that could have determined the character of such information they insisted that it left them with more questions than answers (see appendices L to O). Respondents mentioned information such as that disseminated through the media especially television as most likely to be prescriptive because of the nature of advertisements, that is, being short and precise reasons why people have to do something are usually not covered. Black female respondents thought that television also “glamorize HIV” through soap operas. Respondents mentioned that while focus would be on HIV, the nature of television films such as Soul City is to focus on the relationships formed among people and not so much on HIV (see Appendix L). Meanwhile, white females argued that educating people on ‘the why’ of HIV and AIDS information might help in motivating people to willingly change their behaviours as far as HIV infection is concerned (see Appendix M).

White males had a more practical example of the consequence of prescriptive information. An example was given of a condom use campaign in which people were shown how to wear a condom using a broomstick. The field workers neglected to tell the people, why they were using a broomstick for example and why they must wear a condom correctly all the time. Apparently after a few weeks’ field workers were surprised to not that people were still putting the condom on a broomstick as they had been shown during the campaign but not on themselves. Although this might be an extreme example I think its captures the argument for non-prescriptive information perfectly. People need to know why and to be given an opportunity to ask why. Giving people HIV and AIDS information that is relevant to them in a specific context generally deals with the problem of prescriptive information because then people do not feel information is being imposed on then but they contributed to what they are being taught. This is part of what this study does use information that student need and have contribute to its development to ensure that concepts and issues are captured correctly and remain relevant to students. This study is my interpretation of how this process could be facilitated.

Scientific jargon: Although scientific jargon cannot be totally eliminated from any medical condition, ways can be found to use the jargon to a minimal or to explain the jargon for people to understand. There is a general agreement in literature that HIV and AIDS information is complex (Steinbrook, 2007). In a study conducted at the university of Swaziland on the effectiveness of an HIV and AIDS course offered by the university, students felt that the course was 'too deep and too scientific' (Sukati et al, 2006: p. 3). In this study I wanted to be able to identify information that students felt was too scientific and confusing so that I could try and explain clearly, (without leaving out any important information) those aspects in the ontology.

First I had to see what students thought of the current campaigns and information they accessed and if they thought it was too scientific. A total 440 (64%) of the respondents said they either strongly disagreed or disagreed with the statement that they had come across information that was too scientific for them to understand. This was confirmed by the questions that asked respondents to state a term or phrase they thought was too scientific. I asked this question because I wanted to include in the ontology for students was a glossary of all terms and phrases that they found difficult to understand. This was another way of making sure that only the terms that students needed to know were included on ontology. The majority of responses were on CD4 which was asked by 119 respondents (see table 8). After ARVs and the window period which had twenty students each, the rest of the terms had nine or less respondents asking about it.

During the focus group discussion it was clear that indeed HIV and AIDS "terminology is often scientific, which makes it obscure and presents a problem even among the literate" Granich et al, (2000). One respondent from the white males group had suggested that jargon was not a problem for students saying "I think we have worked that it's a problem for some sectors of the community but not here at varsity" (Tom, appendix N). However in the black males group, One respondent said "I've had a problem with scientific staff, I mean up to now I do not know what they mean by body count (referring to CD4 count) (Tray, appendix O). Another respondent in the white males group said he had never heard of the rapid HIV test and did not know anything about it. Results of this study showed that while students might not want to be known to be ignorant about HIV and AIDS there are a few who actually come across information that they did not understand. I suppose as the SHARC head peer educator said sometimes people say they know when they do not because they do not want to be embarrassed.

5.2.2 Selection of relevant content

In this section I discuss information dissemination and overload. Relevance of information is central to the selection of content. Only relevant information was selected for the ontology in this study.

Limited access to relevant information: In this study it became apparent that there is a lot of information available on HIV and AIDS but not so much information is available on what is really relevant and to the level complexity at which it is relevant. I would like to acknowledge some of the reasons why there is limited access to relevant HIV and AIDS information. Firstly there is information that could prove dangerous to share with the general audience. This information requires that people understand completely the different angles before they can use or depend on information. An example is on the issue of people who have been found to be immune to HIV. While this can be noted as a ‘big’ discovery for HIV research, sharing this with everyone could lead in more cases of HIV infection as people might not care to find out whether or not they are also immune to HIV. Other information that people might misuse is on male circumcision. As was noted by the black males focus groups, spreading the word that male circumcision reduces the chances of contracting HIV can cause abuse of the act of circumcision as people might choose to interpret ‘reduce’ as ‘non-existent’. Themba said “I think such information is dangerous problem in the public domain because Joe Blogs when he hears this he is going to get circumcised and he will throw away his condoms away I’m fine now”. It must be noted that there are people who take what they want from information and interpret it in a way that is appealing to them.

In terms of limited access to relevant HIV and AIDS information, respondents agreed that at Rhodes a lot of information was widely available to students. In the interviews with HIV experts (see appendices G to K) they all agreed that there were several sources of information available to students on campus. These sources included the health care centre, SHARC, the student counseling centre, and other centres involved in HIV and AIDS outside the university such as the Raphael centre. Respondents also mention at the various centres information for students to take away such as pamphlets, posters and flyers were available. Sisters at the health care centre mentioned that wardens were also free to pick up posters or information for their residence notice boards. Elizabeth added that students at Rhodes "have access to the Internet (so)[16] they must know everything (about HIV and AIDS)".

In the survey I firstly asked respondents if they had difficulties finding what they really wanted to know about HIV and AIDS. My assumption was they would agree with this statement given the limited access to new findings about HIV and AIDS which made up most of my survey questions. Instead based on the results, the majority of respondents 488 (71%) said they did not struggle to find HIV and AIDS information (see figure 8). This result showed some inconsistencies when compared with the question that asked students to show the sources of information they used to gather HIV and AIDS information. According to those results, students did not show an active seeking out information. The results showed that the most conventional sources of information television, printed materials and the radio were the most commonly used by students at Rhodes (see table 9). All these sources are easily available to students, televisions are provides in common room in each residence, print material is provided on campus by those who are involved in HIV and AIDS while the university has its own radio station which can be accessed through live streaming from the Internet. The most surprising finding was on web sites. From this study it became apparent that most students do not use the Internet as their source of HIV and AIDS information. This is despite the fact that ICTs (in particular, the Internet) are the cheapest way of distributing updated information on HIV and AIDS.

Students were not very inclined to using counsellors as sources of information, I can imagine that this is difficult as HIV and AIDS is currently provided only in the context of testing for HIV, unless of course if someone if someone is seeing a counselor privately and the issue of HIV and AIDS is related to their problem then the counselor might talk about it. Maria said providing information does not necessarily have to be linked to testing; she said "my feeling about that is that if you are not testing the people that are at the high risk then you need to be

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[16] Brackets show information that I have added to make the quote clear based on what was being discussed in the interview.

educating them”. Resource limitations make it impossible for the counsellors responsible for this to be available. The fact that people will be talking face to face might also be the reason a few people would not use counsellors as sources of information. People are conscious about stigma and the need to protect themselves from that through being as confidential as possible when it comes to HIV and AIDS issues. As I mentioned in my chapter two this is quite understandable since Rhodes is a small town where people know each other.

It was interesting to note that help lines which have resulted in South Africa setting up a national AIDS helpline were the least used source of information. It must be noted as well that these sources provide pre packaged programmes on some random information and rarely so will a person indeed find what they will be looking for on HIV from watching the television. With the radio and printed material such as the newspaper it is possible that some current information can be covered. I took the results to mean two things, students were satisfied with what they were receiving through the sources of information they chose or the students were merely ignorant about HIV and AIDS issues. By this I mean a person cannot seek something they do not know exists or care to find out. The issue of getting and learning about HIV and AIDS is first and foremost about a person, making a decision to get to know more about the topic before a person can seek this information.

However, it must be noted that different groups of students would access information through different sources of information, and so while the results indicated some sources as favourites and others as not, it must be noted that no one source of information will address the needs of all people. All sources depending of course on their accessibility, both physical and epistemological access are important and should continue to co-exist. As Sabone et al (2007 p. 336) says, it is vital that the feasibility and actual use of a particular source be weighed for it is implemented for each community just as I have in this study, this is a very important part of any intervention project as a poor feasibility study might lead to the introduction of a programme or campaign that people are unable to access or use.

Limited access to relevant information largely encompassed the issue of access to information. I acknowledge that there are also other issues concerning access that are worth mentioning in this section. Two major issues with access to HV and AIDS information that came out of the finding were limitations with language and racial group. In the discussion with black males it was evident that the issue of language was of concern to the respondents.

Siya summarized it by saying “I think it depends on language proficiency. A lot of information is available in English then if you do not understand English, this might be a problem”. While information might be available and physically accessible to people, language might be a barrier to any learning taking place. Racial grouping was also brought up mainly by black respondents as a potential barrier to accessing HIV and AIDS information. I realized from the focus groups that culture was somehow involved in the information people access and how they accessed it.

Information overload: Being fully aware of the plethora of information on HIV and AIDS available I asked the respondents if at all they felt overwhelmed by this information. My assumption while framing this question was that people would be watching a lot of programmes related to HIV and AIDS, listening to programmes on radio, reading material that covered the topic or attended workshops and seminars. Based on the results these respondents did not feel overloaded with HIV and AIDS information. Over half 354 (51%) of the sample disagreed with the statement that they were tired of hearing about HIV (strongly disagreed and agreed combined). Another (160; 23%) respondents decided to remain neutral on the question of information overload. Only (24%) agreed with the statement (strongly agree and agree combined).

This result highlights inconsistencies in the responses given in the area of information overloads in this study. While only 24% of the respondents said they were experiencing HIV and AIDS information overload the question on the sources of information the respondents used had such small numbers that it is hard to understand how and from which sources students felt bombarded with information. This is actually a bit confusing because in both questions people had the option to actually say “I do not know”, but these were not chosen to make is easier to see what students thought and felt. All groups in the focus group discussion indicated that they were tired of hearing about HIV and AIDS. Through the focus groups I was then able to find out reasons why people felt they were overloaded with HIV and AIDS information.

Students indicated they were tired of hearing the “same thing over and over again”. Students also noted that they were tired of having HIV and AIDS related information that includes everything from the beginning. The inclusion of definitions of HIV and AIDS and how it all began was particularly noted. Specific examples included basic facts about HIV such as definitions of HIV and AIDS. Students said that this led them to switching off from before important was discussed. The frequent use of irrelevant information for a particular group of people or person was also named as a reason why people got tired of hearing about HIV and AIDS. Jodi said “It sometimes annoys me that it is assumed that everyone is sexually active – it condones, or even expects, that behaviour”. For most people who are not sexually active information discussed or presented is often leaning on the prevention side and that condom use and how to use a condom, information that is indeed irrelevant to someone who is not yet sexually active. This is in line with what Hoppe et al (2004) found in a study with some students in Washington who indicated that information was not personally relevant to students so they were not interested in it.

Relevant information is central to reducing information overload. In this thesis that’s what I present. Providing the information user with relevant information during their information seeking process is vital for well informed people. Sifting through information, identifying and selecting relevant information can become very confusing for the information user and lead to poor health decisions (Eysenbach, 2001). In this study I present a model that can ensure that the user has relevant information.

5.3 Contexts for the implementation

In this section I discuss the attitudes and perceptions students showed towards HIV and AIDS related issues. Attitudes and perception help understand the sample and also understand the comments and choices respondents made to some of the questions.

5.3.1 'There is no HIV on campus'

I noted the view from some focus group respondents that some students think that there is no HIV on campus. This is consistent with other research at different tertiary institutions (Uys, 2002; Levine and Ross, 2002; Sabone at al, 2007) One respondent put it this way:

> ***Themba (Black male):*** *“There is a definite perception that I have encountered on campus amongst students that this is Rhodes no one has AIDS, AIDS is in the township, it’s blatant like that but people have this feeling and that’s really dangerous, because the prevalence of HIV is not different here than it is in the rest of South Africa. In reality I think people are*

> *increasing their chances of being infected. But it's a definite perception among students"*

With this perception it is difficult then for students to care about HIV information. Such perceptions need to be dispelled so that students can actively seek HIV information knowing that they are at risk just as the rest of the country is. In a previous research with Rhodes students, Weston (2006 p. 58) found that the majority of white students felt that were unlikely to contract HIV and AIDS. This was also evident from the interview with professional who stated that Rhodes students felt that they were not at risk of the condition. An example is that of the interview with Sister Sarah (see appendix J) from the campus health care centre "there are students that think that they are not at risk of contracting HIV ...so students just do not associate themselves with the HIV, they think they are too sophisticated for the virus".

5.3.2 Othering and HIV and AIDS

The issue of 'othering' came out in this study. Othering is described as "the belief that it only happens to other people" (Uys, 2002 p. 388). Othering has implication on a number of areas that were not the focus of this study but help in understanding why I chose to focus on it in the ontology. Othering leads to stigma, segregation and exclusion, aspects that South Africans are familiar with coming out of the apartheid regime and I'm sure willing to never experience again. It is important to understand that there are many different forms of othering. In this study I focus on othering according to race and sexual orientation as these are the most common at Rhodes.

According to Uys, 2002 (as quoted in Weston, 2006 p. 94) 'there is a trend where black people are othered and assumed to be more likely to be HIV positive than white people. This attitude was confirmed in an interview with Ben (see appendix G):

> ***Ben (interviewee):*** *"...there are whites students who think that it's safe to have sex (unprotected) with a white person you are much less likely to be infected (with HIV) so in other words they (students) cannot use protection (and) that it's really a kind of black condition...".*

One common thread between all the four focus groups which were divided along racial lines was the active othering of HIV and AIDS. In this study white students said HIV was not a topic they felt affected them and they did not know anyone with HIV. As a result the topic never came up with either friends or family. This perception that HIV does not affect me, it affects others makes people stop seeking information. Elizabeth said in an interview:

> ***Elizabeth (interviewee):*** *"most of the time white clients do not want to listen they just say they understand everything they do not even give you chance to speak they just want to do the test you fill in the form and then just go for the test but they are few that they are listening but most of them do not want to listen"*

This was a bit different when compared black student who showed eagerness to learn more about HIV and AIDS. In discussions with these students it was obvious that they were not only doing this for themselves but for their family and friends. Most of the black participants knew someone who had either died or was living with HIV and AIDS, and felt that knowledge about the disease would assist them, assist that person.

5.3.3 Lack of trust in the government condom

There were several questions and comments on the safety of the government condom. This was consistent with other studies that found that generally students have a negative attitude towards condom use (Uys, 2002). In this study I used the government condom which I thought would be easily available to all students as it is free and widely distributed. I wanted to see if students firstly appreciated the free condom and from their responses if they thought it was safe. From the finding from the questionnaire 513 respondents (74%) said that the government condom was just as safe as condoms people buy. Knowing that people trusted this condom and would actually use it was helpful for me to decide to include information on the free condom on campus. This information includes where it is available and who to contact when the containers were empty. I assumed for people who used and trusted this free condom that information would be useful information to have.

From the questions people asked in the survey (see question 17 of the questionnaire, appendix B) and the views that came from the focus group discussions (see appendices L to appendix O) it was evident that respondents had concerns about the safety of the free condom. Speaking to activate a campus newspaper, the president of SHARC said that 'some people just do not trust government condoms and that some have indicated unwillingness to use them (SHARC, 2009). These questions and concerns are understandable given the recent history of the government condom in South Africa. In August 2007 a breaking story in a newspaper alleged that Latex Surgical Products (LSP) had been supplying the government with ‘substandard and faulty condoms’ (Turning point, 2008; SABS, 2007). The then minister of Health, Dr Manto Tshabalala-Msimang had to recall a batch of about twenty million condoms in line with the tests that were conducted on government condoms (Tshabalala-Msimang, 2007).

Later in the same year in September, 2007 it became apparent that condoms from three other government suppliers were according to SABS had ‘anomalies’. (Turning point, 2008). Yet again in October, 2007 tens of thousands of unused faulty and sub-standard condoms were found dumped along the side of a road in Inanda and in Isipingo, near Durban (Mahlangu, 2007). These series of events have made it hard on the people to trust and depend on the free condom. I think it would be necessary to mention in the ontology that despite these unfortunate incidences condom testing is thorough and therefore safe. Also people need to commend the vigilance of SABS in identifying the anomalies. This is itself should give people the confidence they need with the free condom. These unfortunate incidences need not be in the way of a decision to use a condom, whichever brand they maybe.

5.3.4 Low risk vs. high risk

There are perceptions in the difference of students' risk of HIV which categories students as being low or high risk. Students who are defined as at low risk of contracting HIV and AIDS are those who are not sexually active, in a stable relationship with one faithful partner, who use condoms consistently and correctly all the time (although this is depended on what a person says and cannot be verified). High risk students were described as those who involved in multiple sexual partners or those who came in for morning after pills. In interviews with Maria she noted that testing for HIV was not always a reliable measure of the extent to which Rhodes students were receiving HIV and AIDS education. She also wanted to highlight that though I could use the discussions during pre and post counseling sessions it was vital that I show that students whose views were being used were those considered to be in the low risk categories (see appendix K). This is an important fact because the information needs of people who are not necessarily at risk of contracting HIV and those who know they have been engaged in risky behaviours may be different.

In this study, data gathered from the interviews with experts was triangulated with students' survey data and focus group discussion. Although no question asked respondents about their perceived risk, it is my opinion that 689 respondents to the survey would no doubt include students who are at high and low risk. The ontology also increases the chances of reaching all students in the high risk category as they do not have to be seen or take any action to acquire HIV and AIDS information (see chapter two).

5.3.5 Risky behaviours

There has been research on the relationship between risky behaviours and HIV and ADS knowledge and attitudes (Weston, 2006; Chwee et al, 2005; Kelly, 2001). In a study that examined the knowledge and attitudes of college students towards HIV and AIDS information, Chwee et al (2005) found that different genders behaved differently, with males engaging in more risky behaviours than females. Although risky behaviours and who engages in them more was outside the scope of this study, I realized that looking at risky behaviours helped me understand the differences in the knowledge levels, or information needs of the respondents. It also became apparent from the interviews that most of the people that interacted with the counsellors that were interviewed in the study did not engage in high risk behaviours and belonged to the low risk category (see section 5.4.3). It is worth noting that although risky behaviours will not form part of the ontology, understanding what they are and how they affect students at Rhodes helped me understand the sample better and make more accurate inferences on the information needs of this sample. For example, at Rhodes University a report on the patterns of Alcohols usage at Rhodes for the period 2007 and 2008, (Young and de Klerk, 2008) noted that alcohol abuse contributed to unsafe sex which puts young people at risk of HIV infection.

5.4 Customizing the ontology

This section aims to show that information for ontology can be customized. I sorted the findings according to background variables to show how this can be done.

5.4.1 Gender

The gender difference has implications on the differences in information needs. Noting the differences in gender helped in this study towards the 'development of gender-specific, gender-balanced information about HIV and AIDS for audiences in different settings' (SHARC, 2009, p. 37). This suggests that different information can be presented to males as opposed to females.

The question on the safety of the government condoms would have to be included in an ontology for males. Based on the survey results only 175 (34%) of the males agreed compared to 338 (66%) of the females with the statement that government condoms are just as safe as bought ones. Meanwhile the female ontology would have to include information on male circumcision and HIV infection. Only 125 (27%) of the females agreed with the statement that male circumcision reduces the risk of HIV infection in men.

5.4.2 Race

Rhodes University is a racially diverse campus. The university has transformed from a previously predominately “white” university (Osunkunle, 2006) to one that included all races. This means that in the past the university catered mainly for students from the white racial group. Although the questions themselves did not have anything to do with race directly I wanted to include it so that I could use the racial component to discuss and explain some of the responses of the participants to some of the questions.

For HIV and AIDS information race is an important demographic since research has found that people of different races have different attitudes towards HIV and AIDS issues (D’Alessandro, Mikl and Kelley, 1995 as quoted in Weston, 2006 p. 52 & 93). The question on lubricants used with latex condoms would have to be added on an ontology for black students. It became apparent from the survey and focus group discussions that most black students 201 (55%) were unaware of lubricants and their use compared to only 46 (17%) of the white student who did not know the answer to this question. Meanwhile, 215 (80%) of the white respondents correctly chose K-Y Jelly as the lubricant to use with latex condoms, while only 129 (35%) black respondents chose the correct answer.

The question of male circumcision should be on the ontology for whites given that143 (39%) blacks and only 69 (26%) whites agreed with the statement that male circumcision reduces the risk of HIV infection in males. Information on deep kissing and the complexities involved would have to be included in an ontology for white students because based on the results 195 (72%) white respondents agreed that deep kissing was safe compared to only 183 (50%) black who agreed. On testing, more 233 (64%) black respondents agreed that the rapid test was reliable when compared to 144 (53%) whites so this would have to be on the ontology for whites as well.

5.4.3 Year of study

This variable can be used to customize the information that students at different levels have access to. It was evident from the findings that at different levels of study students were exposed to different information. While I acknowledge that people's levels of education on HIV and AIDS is not depended on one's university year of study, there are reasons why I say this is true for this study.

It was evident from the findings that there is information that one can customize depending on one's year of study. An example is of the findings on the lubricants that were different for different levels of study. At 1st year 114 (44%) students did not know the correct answer or the question on lubricants, 71 (27%) at 2nd year level, 42 (16%) at third and fourth year undergraduate level and only 33 (13%) at postgraduate level.

5.5 Expanding or reducing the ontology

In this section I discuss how content on the ontology can be expanded or reduced depending on what one would like to access and or make available. Firstly, content can be expanded or reduced content is through adjusting the threshold on each question. Secondly, I have put the content in three areas, information on HIV and AIDS that students want, need or already have. Thirdly, I asked respondents to ask questions on HIV and AIDS. Using these areas I will show how ontology content can be expanded or reduced.

5.5.1 HIV and AIDS information students have

In this section I feature the information that I found out from the study that students already had. In this study an area of HIV information was deemed well known to students based on a set threshold of 70% of students knowing the information. The use of thresholds is one way of organizing information in the ontology that I used in this study. It must be noted that even though this information would not be part of the information collected for the ontology in this study, it might very well be used when and if the ontology is expanded or reduced.

My interpretation was that such information was already known to student and therefore did not have to be in the ontology. The second way of identifying this information was to look at the information HIV and AIDS experts identified during interviews as redundant. The last selection method of information student have was to look at the information that I left out from the pilot study due to more people knowing the correct answers to those questions.

There were some questions that I expected students to already know about. This was based on a review of literature on university students and being aware that students do get some education on HIV and AIDS issues from school. The five topics below recorded responses above the 70% threshold (see appendix P) and for purposes of organizing information for the whole population would not be included in the main ontology[17].

- Safety of government condoms
- Good condom tips
- Unprotected sex is not safe
- The window period
- Re-infection

Information classified as redundant from the interviews with HIV and AIDS experts is as listed below:

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[17] It must be noted that some of these topics might be relevant for people in particular groups, for instance, black females in (from the focus groups) indicated that they did not trust the government condoms. The exclusion of this information is based on the statistics of the whole population, not groups. As such if an ontology had been customised for females (as will be discussed below) then the topics excluded or included would very well differ from one group to the next.

- Basics of HIV and AIDS such as what is HIV
- Basics about modes of transmission (i.e. blood, sex, unborn baby, sharp objects)
- That a condom is a preventative measure for HIV transmission.
- Abstinence (this was considered redundant because of the belief among interviewees that it does not work for university students and was also not part of the focus of the study- condom use)

The above information was not included in the survey. Instead I used informal classroom conversations with two of the classes I tutored part-time in the education department at Rhodes University to find out if indeed the information was well known to students. I also used the opportunity around campus through the various projects I was involved in including my church family and community engagement projects to speak to people and see what their knowledge levels were like in the areas mentioned above to ensure I could safely exclude them from the ontology. Findings from those informal conversations supported that this information was well known to students.

The pilot study was another source of sifting well known information among students. After running the pilot I had to leave out a number of questions because they were well known to students (I also used the threshold concept). The areas covered by the questions are as follows:

- Body fluids that contain HIV
- PEP
- Multiple concurrent partners
- Changing partners frequently as a risk for HIV infection
- Why must one test for HIV
- Personal hygiene and HIV infection

This process of sifting through the information was crucial to this study. This information had to be identified and left out because there is such a large amount of information on HIV and AIDS that this study could not cover it all. This exercise of sifting through the information was one way of building boundaries for my research and working with them.

5.5.2 HIV and AIDS Information students need

I had two sections from the study that explain the information students need. Firstly information students did not know based on the survey, confirmed also through the focus group discussions. These were questions that were below the lower threshold of 30%. This means that every question that more than 30% of the people did not know the correct answer was included in the ontology. The following topics had more than 30% of the respondents (see appendix P) either indicating they did not know or choosing the wrong answer in the survey:

- Lubricants
- What the rapid test checks for
- When to start ARVs
- HIV resistance to ARVs
- Levels of HIV infection at different stages of the illness.

The topics that were used in the survey were derived from the interviews with HIV and AIDS experts. The topics were information that they though students needed. I have attached an appendix (A) that shows interview excerpts that actually informed the development of some of the questions that were used in the survey.

5.5.3 HIV and AIDS information students want

The following information was derived from the open ended questions of the survey. Information is based on what students actually said they wanted to know, and not on experts like information that students need. The following areas (with some examples of questions) are what students want:

- Lubricants: What to use with latex condoms as well as the effects of using the wrong lubricant on condoms. When and why some people use lubricants with latex condoms?

- Deep Kissing**:** When does it become risky for HIV and AIDS infection?
- Male Circumcision: Emphasis on the fact that reduction does not mean protection and explaining how it actually works.
- Difference in risk from vaginal sex for men and women: Why there is a difference and what it means for females in terms of HIV infection
- Reliability of the rapid test: What it is, its reliability
- What an HIV test checks for
- Starting ARV treatment and resistance
- Level of HIV infection: Explaining when a person is most infectious

5.5.4 HIV and AIDS information students MUST have

Information in this section was not pointed out by students neither did the HIV experts indicate that this information is necessary for students. From my literature review and document analysis (of web pages) it was evident that some information was going to be important for students and expected to be included in such a system. For this section, I have grouped all practical information about HIV and AIDS that a student at Rhodes who uses a system that provides HIV and AIDS information would expect to find. This information includes contact details of where to get tested for HIV, services available to students from the university and around as far as HIV is concerned as well as fees (see appendix Q).

5.6 Conclusion

This chapter was a discussion of the findings presented in the previous chapter. The chapter was presented in five sections, content selection for the ontology, implementing the ontology, contexts for the implementation, customizing the ontology and expanding or reducing the ontology.

In the first section, content selection for the ontology, I focused on the five themes on HIV and AIDS that were covered during this study. Results from the survey and the focus group discussions were used for the discussion. Throughout the discussion, I showed information under each theme that included in the ontology while giving an explanation for each decision. The second section discussed how the ontology can be implemented. I made a brief discussion of the four assumptions I introduced in the first chapter of this thesis. These four were discussed under two sections, selection of the content; this section outlined how I used two assumptions, information dissemination and overload to select relevant content for the ontology as well as presentation of the content; where prescriptive information and scientific jargon were discussed as potential barriers to proper presentation of information in the ontology.

The third section of this chapter discussed the various contexts for implementing the ontology. In this section I discussed the attitudes of students as interpreted from the findings. These were that some students believe that there is no HIV on campus, issues of othering and HIV and AIDS, lack of trust in government condoms. The fourth section was on customizing the ontology. The discussion was directed by the three background variables, gender, race and year of study. I was able to show that using any of these variables a custom ontology for different groups of people can made. The final section of the thesis was on expanding or reducing the ontology. In this section I explained how the ontology can be made bigger or smaller depending on the information I choose to give to people.

In the next chapter I make concluding remarks on this study.

Chapter Six: Conclusions

In this chapter I make reflections on the research process, present a summary of key findings and make suggestions for future research.

6.1 Reflections on the research process

In this research I used web pages to gather information HIV and AIDS issues, I then interviewed experts in the field and used the findings to develop questions for a survey I ran with students. I also conducted focus groups discussions with some of the respondents. From the beginning my research was a practical component of a bigger project that Rhodes University was embarking on. Working within HEAIDS project was enriching for my understanding and for the purpose of my study. However, the HEAIDS project faced some challenges which led to the reorganisation of my whole research project. This put pressure on me as changes to the main project meant changes to what I had to focus on in my study. The fact that I had external pressures from these changes made me realise that research is not simply a futile exercise, but that it has practical implications and real life constraints. Despite the challenges working within projects has many merits and provides a scope to learn more than just the research process, but to develop as a person. Areas that I developed include being patience (when dealing with other people) and working within a team.

Keeping a journal through this research process was worthwhile. It was particularly important for me working in the interpretive paradigm as it allowed me to reflect on my own interpretations of what was happening in my study and on bias. Re-reading my journal entries gave me an opportunity to interact with and understand my data. I had the chance to reflect on the research process through looking at myself as the researcher from an outsider's perspective. I found the idea of making a journal entry before or after every significant activity during the research process very useful. For example, I made entries after brainstorming for interview questions, after each interview, after analysing pilot data for the survey, before writing a chapter, before and after supervisor meetings and so on and so on. This was helpful in that I captured my thoughts and feelings while they were still clear in my mind. While it will not be possible to include all the entries that I made to the journal in the two years an appendix with some of the entries has been attached (see appendix R).

In this study I constantly referred to the questions below, adopted from Ndauti and Kiai (1997). In their book they discussed ensuring effective communication with adolescents about HIV and AIDS.

1. **Was there a needs assessment?** - This was done through the process of determining the problem and the aggravating factors as has been shown in this chapter. I reviewed several published works, secondary sources and the interaction with participants to establish what their HIV and AIDS information was.
2. **Was there user involvement?** - This was done through the survey and the interviews both personal and group interviews. This ensured that the information I used to populate the ontology was relevant and culturally appropriate for the target group. This was important for my research. It also developed a sense of ownership and usability of the programme that will be developed.
3. **Was there professional involvement? -** In this study I worked closely with HIV experts and professionals who worked in the field of HIV and AIDS as well as experts in the ICT fields.
4. **Was there a clearly defined target group?** - This was crucial as it helped in clearly defining the context which was important for the success of such a project.
5. **Were tools pretested?** - The survey was pretested several times. The survey questions were tested several times with friends and willing students that I tutored. Once the questions were considered reasonable, one main pilot study was conducted in the department of Education.

I found using interviews with the HIV and AIDS experts very useful. Working within the HIV and AIDS field with a lot of complex information, the interviews gave me a guideline. This helped me deal with potential information overload. It must be noted that some of the suggestions were not used and that after running a pilot questionnaire I still left out some of the themes that were not relevant for the study.

While conducting interviews I realised that sometimes one person could not adequately speak for the many different clients that visited their institution or for counsellors in other organisation. I think having focus groups with different people in one organisation would have added value and encouraged discussion among the experts. Based on the experience on one interview which involved two counsellors at the same time, I think it could have generated richer data.

The survey proved necessary and appropriate especially since the views of many students were important for the study. Using a web based questionnaire helped cut costs and assisted me majorly with data analysis especially after receiving 689 responses to the questionnaire. It became apparent at the time of analysis the importance of spending time developing questions and making sure that the questions chosen address the research questions.

The focus groups with students were not very useful. Since I used questions that were part of the survey, discussions were often limited to that and nothing more. Although at the time of taking the decision I felt that this would deal with the problem of too much information, I realised afterwards that I could have asked other questions, directly related to the questions from the survey.

I think focus groups with students on HIV and AIDS did not work out very well. It would be better to have interviews instead. I think this was part of the reason why I had a few willing participants for the focus group discussions, the fact that students are uncomfortable talking in groups especially about HIV and AIDS. I should have had focus group discussions with people working in the HIV and AIDS field first then interviews with students at the end.

I found using the sequential mixed model design a useful and constructive way of involving all respondents in my study as the design gave an opportunity to all parties to contribute. Development for questions for the each instrument were made much easier as they were derived from data collected from findings from one data set (e.g. the interviews- qualitative informed the questions for the survey- quantitative). The use of multiple methods and sources added complexity to the process but allowed for triangulation and I feel it made my research more articulate. If the research were to be replicated on a smaller scale, I would recommend using fewer sources, involving fewer participants and asking fewer, more focused questions rather than eliminating one of its components.

6.2 Summary of Key findings

The selection and organisation of content for ontology is the first stage of the process of populating an ontology. The categorisation of the information was systematic and important for the purposes of populating an ontology. In this study, selection of content was based on findings from interviews held with HIV and AIDS experts and a review of literature. Five themes were identified (prevention, transmission, testing, treatment and living with HIV and AIDS) and formed the basis of the content selection process. Within these five broad themes I chose and focused on one topic (e.g. Prevention- condom use; transmission- sexual transmission in heterosexual relationships etc.).

Once content has been selected, effort must be made to ensure that any challenges or problems with the content and its presentation are addressed before implementation. It must be noted that the use of intelligent systems can be explored as an avenue for addressing some of these challenges. In this study, I identified four problems with some HIV and AIDS information. The four problems were the prescriptive information, use of sophisticated language, limited dissemination of relevant information and information overload. I realised that the four problems affected the presentation of content and the selection of relevant content for the ontology. Other challenges that can impede the successful implementation of the ontology relate to the context surrounding the whole process of populating an ontology. In my study, I had to identify the attitudes and perceptions of students towards issues of HIV and AIDS. I was aware that the attitudes and perceptions of students towards HIV and AIDS issues would have implications towards information seeking behaviours and information needs. For example I found that there were indications of othering and engagement in high risk activities such as alcohol abuse which can lead to HIV transmission. Another challenge that I found from my study was that most students did not use new media to search for HIV and AIDS information. This is an important finding since the intervention I suggest in this study is ICT based. My interpretation of the limited use of ICTs is based on the various problems and challenges associated with HIV and AIDS content I have mentioned in this paragraph.

Customising the ontology is an important aspect in the presentation of an ontology. It highlights the value of ontologies as an information management tool. Customising the ontology means that one is able to prepare and store information custom-made for a particular group of people. This is especially useful in trying to minimise information overload, as only relevant information will be given to one group. There are several ways of customising the ontology presented in this thesis. I described how information for university students can be customised along gender, race and year of study line. As such, different information can be presented to different students from the same ontology. An example is if a telephony system with this ontology is deployed to a female residence then only information relevant for females will be presented.

Similarly, an ontology can be expanded or reduced as a way of managing the ontology. Expanding or reducing the ontology depends on how big or small the ontology should be. For example in this study I selected information for one section under each of the five themes I identified for HIV and AIDS. One way of expanding the ontology would be to include more topics under each of the themes. Thresholds can be used as a way of managing the amount of the content presented from the ontology. For the purpose of this study, I suggested using a 70% threshold as a cut off point. This means that only information known by less than 70% of the respondents was considered relevant. This is an arbitrary figure and by using a higher threshold (e.g. 90%), more content could be included. Once the ontology is implemented, the threshold can be defined by the user to decide how much content he or she wants to be exposed to.

6.3 Suggestions on future research

An area of research that is important is the comparison of the automated methods currently used for populating ontologies (such as agents and automatic extraction of concepts and relations) and the more humanities approach such as the one I have presented in this study. While in the information systems or computer science field agents are used to find information on the wed or in databases and depend on the relations the agents make based mainly on text, I suggest the involvement of users in the content development process such that they help identify relationships between concepts and information. More reflections are needed on how the automated method can be combined with the humanities methods such as presented in this thesis. Research is needed to try and find way of reconciling these two models.

Further research is needed on the issue of relevance, particularly on how information can be identified. In this study relevant information referred to information users want, need or must have as well as information that lay within the set thresholds. Research should be carried out on other ways of assessing the information needs of users and to check if the ways I used in this study are an appropriate way of defining and identifying relevant information. The question what constitutes relevant information can still be asked and new ways of answering it identified. Research can be carried on other ways of organizing and customizing this information in an ontology.

Another area of interesting research would be to apply the same model used in this study to populate an ontology on HIV and AIDS for a different area. It would be interesting to do similar research at the same level in a different domain such as environmental education or any other. Research can follow these steps that are, conducting focus group discussions with key respondents while reading information from certified websites on a specific topic. Then, formulate questions for a questionnaire, pilot it before running it with a larger sample of the population and based on the findings organize interviews with respondents. It would be interesting to see if this kind of research can also result in the population of an ontology that can be used for environmental education. Similarly, this same process can be followed by teachers in their classrooms for a smaller domain or with a smaller sample.

At the time of completing this thesis, the computer science project mentioned in Chapter One was still on-going. In that project, an ontology was built for a telephony system. I mentioned from the beginning that HIV and AIDS information could be used to populate this ontology and that the telephony system could be implemented with Rhodes students. A study on the impact of the system on Rhodes students can be done. This would require a baseline study on knowledge levels of students and then checking to see what the levels are after the system is implemented. Included in that could be study on how often the ontology (telephony system) is used, by whom, to find which information. From the technical point of view this can be done easily through implementing a system that captured the data of the interaction between the ontology and users. From an educational point of view, it would be interesting to find out if such an ontology is used and its impact on the knowledge levels of students.

A crucial area of research is the relationship between HIV and AIDS information and behaviour. As one of the respondents mentioned students need to be empowered, but research on the difference between knowing and being empowered is needed. This research is especially important for the type of process presented in this thesis. After relevant information has been selected, organized, customized, stored in ontology and implemented, it would be important to know if it contributes to changing Rhodes students’ behaviour.

Another area of research would be to find out as was evident in this study why young people do not use the new media (ICTs) to access information on HIV and AIDS. Documenting the reasons could assists people find appropriate interventions for HIV and AIDS education using ICT. I propose that using “intelligent” systems based on ontologies could contribute in solving this problem. The use of ontologies to inform educational ICT interventions, though promising, is still largely unexplored.

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Appendix A: Development of survey questions from interviews[18]

Statements from the interviews	*Related question from the survey*
Maria: " I have been asked how safe condoms are in a session" **Pumla:** "Students behave recklessly; they do not use condoms..." **Ben:** "…I also think that it's helpful to have information on safe sex and maybe even information on negotiating safe sex. **Sarah:** " ...students coming in and saying that the condom broke or that they did not use protection" and "…those that come in for the morning after pills for example, which means that they are having unprotected sex…	**Question 4:** Government/free condoms are just as safe as condoms you buy.
Meg: "There are a large number (students) who think they know how to use a condom properly, but in fact make crucial errors that could cause the condom to be ineffective…it is important for people to have basic factual information in terms of HIV transmission such as condom use…" **Ben: "…**It's all very well saying use a condom, but how do people do that…I can't tell you how often I hear about condoms breaking…" **Sarah:** "…We get that a lot, students coming in and saying that the condom broke…" **Pumla:** "Students behave recklessly; they do not use condoms..."	**Question 6:** Which of the following are **GOOD** tips on how to care and use latex condoms (You can choose more than one)

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[18] All names used are pseudonyms

Statements from the interviews	*Related question from the survey*
Mariah: "I have been asked about saliva being a risk and I always say that research shows that it's not a huge risk". **Elizabeth:** "Some of them think If you kiss someone you can get HIV. Someone came to test because she kissed someone and she thought maybe he was HIV positive"	**Question 7a.** Please indicate what you think of the following statement: Deep kissing is safe. and **Question ^{P}:** Indicate the concentration level of HIV found in the following body fluids : Saliva
Maria: "…often we realize that they are not working in their best interest in terms of sexual behavior…" **Pumla:** "…students that are involved in multiple relationships…some even say that 'I just slept with a person that I don't know last night'…" **Elizabeth:** "…the other day I can remember she said the she woke up next to someone she doesn't know…" **Sarah:** "Once I spoke to a student who was saying that he had slept with a girl he didn't know because he just wanted someone for the night and didn't want to know anything about the girl. I think they call it 'casual sex' because they do not want any attachment or real relationship…that is very risky and students must get that information."	**Questions ^{P}:** In terms of HIV infection, changing sexual partners frequently is risky and In terms of HIV infection, having multiple concurrent partners is risky
Elizabeth: "…they (students) think oral sex is not a risk (that) you are not at risk if they are having oral sex…"	**Question 7d.** Please indicate what you think of the following statement: Unprotected oral sex is safe is safe
Maria: " I think that sometimes people that feel that there is a high possibility that they are HIV positive or they think that or know that they are engaging in high risk activity are actually sometimes too scared of confirming that result that its prevents them from having an HIV test" **Sarah:** "I think there should be focus on the importance of knowing one's status…" **Meg:** "…students lack information as to how to take care in terms of HIV management and prevention." **Ben:** "…I think that people need to know as much as they can about testing, about HIV testing there are a lot of misconceptions…"	**Question ^{P}:** It is important to test for HIV :

Statements from the interviews	***Related question from the survey***
Elizabeth: “I also say to people why they want to test, some people don’t know why they test…”	
Ben: “… I think that people need to know as much as they can about testing, about HIV testing I think there are a lot of misconceptions people talk about…and how reliable the tests are…a lot of questions about how reliable the tests are.” **Elizabeth:** “…they just ask …if it is accurate…”	**Question 8:** Please indicate what you think of the following statement: The rapid HIV test (which gives results in 15-20minutes) is reliable
Ben: “…information around testing, uhm people do not realize that the test is not to test the virus, it’s a test of antibodies…”	**Question 9:** The HIV test checks for the presents of :
Meg: “…very few know when they can get tested…” **Ben:** “…issues around the window period and when they can be tested.” **Elizabeth:** “if a person has a result and its negative, I will say that this is not a true result because you were at risk in four weeks time, so you have to come back after three months …we make sure that you are really negative…” **Sarah:** “Students do not know that you can’t test the next morning after engaging in unprotected sex… I think it’s important to explain that this does not happen that way that the virus cannot be detected immediately after an unprotected sexual act. They need to know that they must wait for at least three months before they can get an accurate result.”	**Question 10:** Is someone's HIV test result is negative it means:

Statements from the interviews	***Related question from the survey***
Ben: “People do not always understand what being HIV positive means...they think they must immediately go on ARVs...” **Elizabeth:** “...some know that if you test positive you must get ARVs. They do not understand that your CD4 must be below 200 all they understand is positive=ARVs” **Pumla:** “...antiretroviral treatment should be highlighted I think that's where the focus should move to now so that people know that there is life after an HIV test especially after testing HIV positive” **Meg:** “Where the knowledge seems to be lacking is in what it means to be HIV positive...and information about treatment...”	**Question 11:** When must one start taking ARV treatment :
Elizabeth: “because some of them say…she was raped…” **Ben:** “PEP is another part of information that you could have…if people are raped on campus they do not have to go to Settlers Hospital or the Police, they just go to the San (HCC)…people don’t know about PEP….they don’t know that the treatment need to be started quickly…we have had cases where a person having been raped on the weekend and they only come in on Tuesday, it might still be within the 72hours, but obviously the efficacy drops…” **Meg:** “HIV and AIDS treatment” **Pumla:** “…rape victims for example do not know about PEP, you find most rape victims come in after 72hours when the waiting period has lapsed to get this emergency treatment. So I think there is need to instill this knowledge in people, explaining the stage at which someone must get PEP”	**Question ^{P}:** If one has been raped he/she can get free ARVs within 72 hours to decrease the chances of contracting HIV
Pumla: “...they must know that even if you take a single dose of the ARV treatment, you can develop resistance to the medication...”	**Question 12:** Under what conditions does HIV become resistant to ARVs:

Statements from the interviews	*Related question from the survey*
Elizabeth: "I also promote condom use because even if you and your partner both have HIV condom use is still very important because they say the strains are not the same so you have to protect yourself from each other. To protect yourself you have to use a condom and not get re-infection..."	**Question 13:** Please indicate what you think of the following statement: An HIV positive person can get re-infected with HIV if they have unprotected sex with an HIV positive partner
Ben: "...they (students) do not know much about the course of the illness..."	**Question 14:** Please rank the following to show how infectious a person is with HIV at different stages of the illness.
Ben: "So we have information, we have a protocol, but it's not widely distributed…" **Meg:** "Using as many different methods as possible is always good- different mediums attract different people." **Sarah:** "…I think students have access to a lot of information here, for example we have pamphlets here…the campaigns I have mentioned…are another source of information **Meg:** "…the way that students learn most is through discussion with peers which is why I believe focus groups discussions around relevant films and literature and interactions…" **Maria:** "…the San (Health Care Centre) has a lot of information which is available to everyone when needed. Also the orientation week SHARC also has workshops in each residence and making it compulsory for all first years, I think that kind of makes people who might not have gone to the session get the information." **Meg:** "…feedback we get from those workshops is always very positive…" **Elizabeth:** "…they (Rhodes students) have access to the internet they must know everything…they just say no I understand I had a workshop on HIV and then I go through the internet."	**Question 15:** How would you define the way you use the following sources to get HIV and AIDS information?

Appendix B : Student questionnaire

Hi there!
My name is Fortunate. I am a Masters student in the Education Department. I am doing research on HIV and AIDS education. Please help me with this study by filling in the following questionnaire.

Your responses will be anonymous and used for this study only.

Filling in the questionnaire should take you about 10minutes.

Thank you so much for your time.

Background questions

5. Gender: a) Male b) Female
6. Race a) Black b) White c) Asian d) Coloured
7. Year of study a) 1st yr b) 2nd yr c) 3rd and 4th yr d) Post-grad

Prevention (focusing on condom use only)

8. Government /free condoms are just as safe as condoms you buy a) True b) False

9. Which of the following can you use as a lubricant with latex condoms?
   a) K-Y Jelly b) Massage oil c) Baby oil d) Vaseline

10. Which of the following are **GOOD** tips on how to care and use latex condoms (You can choose more than one)
    a) Store in a cool dry place
    b) Always check the expiry date
    c) Hold the reservoir tip as you roll the condom down.
    d) Use two condoms at the same time for maximum protection.

Transmission (focusing on sexual transmission in heterosexual relationships)

11. Using a scale of 1 to 5 where **1=strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=Strongly Agree**; please indicate what you think of the following statements.

	Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*
Male circumcision reduces the risk of HIV infection in men					
Deep kissing is safe					
Unprotected anal sex is safe					

	Strongly Disagree	***Disagree***	***Neutral***	***Agree***	***Strongly Agree***
Unprotected oral sex is safe is safe					
Unprotected vaginal sex is safe for women					
Unprotected vaginal sex is safe for men					

Testing (focusing on rapid testing)

12. Using the scale of 1-5, where **1= Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=Strongly Agree**; please indicate what you think of the following statement.

Statement	***Strongly disagree***	***Disagree***	***Neutral***	***Agree***	***Strongly agree***
The rapid HIV test (which gives results in 15-20minutes) is reliable					

13. The HIV test checks for the presents of :
    a) The virus
    b) Antibodies
    c) Red Blood cells
    d) White Blood Cells (CD4)

14. Is someone's HIV test result is negative it means:
    a) The person is really negative
    b) The person might be immune to HIV
    c) The person might be in the window period

Treatment (focusing on ARVs)

15. When must one start taking ARV treatment
    Immediately after one tests HIV positive
    Immediately after one's CD4 count is below 200
    Immediately one suspects that he/she might be HIV positive even before taking an HIV test
    While one's CD4 count is still above 200

16. Under what conditions does HIV become resistant to ARVs:
    a) If one stops and then restarts the ARV treatment
    b) If one's CD4 count is below 200
    c) If one takes the ARV treatment for a long time

Living with HIV and AIDS (focusing on the HIV cycle)

17. Using the scale of 1-5, where **1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=Strongly Agree**; please indicate what you think of the following statement.

Statement	***Strongly disagree***	***Disagree***	***Neutral***	***Agree***	***Strongly agree***
An HIV positive person can get re-infected with HIV if they have unprotected sex with an HIV positive partner					

18. Using a scale of 1 to 5 where **1=Very low, 2=Low, 3=Medium, 4=High and 5=Very High,** please rank the following to show how infectious a person is with HIV at different stages of the illness.

	Very Low	***Low***	***Medium***	***High***	***Very High***
Right after being infected when one's test is still showing HIV negative					
When one tests HIV positive but does not have AIDS yet					
When one has full blown AIDS but is not on ARV treatment					
When one is HIV positive and has other sexually transmitted diseases					
When one has full blown AIDS and is taking ARV treatment					

HIV information (Including the media)

19. How would you define the way you use the following sources to get HIV and AIDS information?

	Never	***Seldom***	***Sometimes***	***Often***	***Almost Always***
Websites					
Help lines (e.g. AIDS helpline)					
Printed material					
Television programs					
Radio programs					
Workshops and seminars					
My peers					
Counsellors					

20. Using a scale of 1 to 5 where **1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=Strongly Agree**, please indicate what you think about HIV and AIDS information

	Strongly Agree	***Agree***	***Neutral***	***Strongly Disagree***	***Disagree***
I struggle to find what I really need to know about HIV and AIDS					
I have come across HIV and AIDS information which was too scientific for my understanding					
I am tired of hearing about HIV and AIDS					

General questions

21. If you could ask **ONE** question on one of these sections (Prevention- focusing on condom use, Transmission- focusing on sexual transmission in heterosexual relationships, Testing-focusing on the rapid test, Treatment- focusing on ARVS and Living with HIV and AIDS- focusing on the HIV cycle) what would it be?
Please indicate the section before writing down your question e.g. Testing- How often should a person get tested
....
....
....
....

22. State one term/phrase on HIV and AIDS that you find difficult to understand?
....
....
....

23. I would love to hear your comments on the questionnaire…..
....
....
....
....

24. Please leave your contact details if you are available for an interview. Also feel free to suggest a date and time.

....
....

Appendix C: Focus group discussion questions

1. Can you tell me a bit about yourself, which year you are in and what you are studying here as well as what you think of HIV and AIDS in general?
2. What do you think of free condoms?
3. Do you know the right lubricants to use with latex condoms?
4. Do you think male circumcision has any effect in terms of HIV infection in men or women?
5. Do you think deep kissing has anything to do with HIV infection?
6. Do you think unprotected oral sex has anything to do with HIV infection?
7. Do you think vaginal sex has the same risk for man and women?
8. What do you think of the rapid HIV test? Do you think it's reliable?
9. Do you think there is a difference in the levels of infection someone has at different stages of HIV and AIDS?
10. Where do you get your HIV and AIDS information from?
11. I have four assumptions about HIV and AIDS information that I would like to ask what you think about them:
    a. Prescriptive information- Do you find some information tell you what to do and not so much on why to do what they say? Give examples
    b. Dissemination and overload – I feel there is so much information and yet relevant staff is not distributed enough to people what do you think?
    c. Jargon- Do you feel there is use of words/abbreviations that you do not understand in HIV and AIDS information.

Appendix D: Consent Form- Interviews and Focus group discussions

I hereby agree to participate in an interview with Fortunate Gunzo and give her permission to audio-record it as part of her data collection process. I understand that she will be making an enquiry around the topic of HIV and AIDS. I understand that transcripts of the interview will be made and that she may use extracts in the final report.

Signed (respondent)…………………………….. Date……………………………

Appendix E: Interview guide

1. Introduction
2. Explain the purpose and nature of the study.
3. Ethical issues:
    - Confidentiality- Explain that pseudonyms will be used in the final report to preserve anonymity.
    - Explain that this is an academic research and that no financial gain or otherwise will arise from taking part in the study.
    - Obtain written consent (signing of consent form see appendix I) to partake in the study, for the audio-recording of the interview and the use of extracts in the final report.
    - Explain that member-checking will be conducted.
4. Guide the interview process.
5. Closing: Make sure I maintain the tone set throughout the interview that is friendly and courteous. Make a brief but not abrupt ending of the interview. Thank interviewee for their time and explain that I will contact them again to build or clarify issues arising from the interview.

Appendix F : Interview questions

1. What is the process that a student must follow if they want to do Voluntary Counseling and Testing (VCT)?
2. How often do you interact with students for HIV and AIDS related issues in a week?
3. Can you tell me what happens in a pre-testing counseling session?
4. Can you think of questions that you have been asked during a counseling session?
5. In your experience with Rhodes students would you say they know about HIV and AIDS? What do they know?
6. Do you think that the students that you talk to might have had HIV and AIDS education before?
7. From your experience in counseling students, can you tell me the knowledge gaps that you have identified?
8. Do you think it's easy for students to get HIV and AIDS information? In your sessions do students mention where they get this information from?
9. What wrong beliefs or wrong information about HIV have you identified from your sessions with students Are there any misleading information (e.g. myths, misconceptions, inaccurate or wrong information) that students have?
10. What HIV and AIDS information would you say is very well known to students?
11. What information would you say is important for students?

Appendix G: Interview with Ben[19]

Interview held at the then Student Union building on the 20/08/08 1030am

Fortunate: Thank you Mr. Young for meeting with me, can we begin?
Ben: Yes, I am ready

Fortunate: how often would you say you interact with students in your line of work?
Ben: Almost daily, sometimes not directly in contact sessions but I do meet students regularly

Fortunate: I would like to find out the information you would consider important for university students?
Ben: I think the most important information really, I mean think there is lots of information you can have and probably you should have around this illness. People don't always understand that being HIV positive, uhm you know they have a test and they think they must immediately go on ARVs, so I think that it's quite useful for people to understand that there is a course that the illness follows and that for most of the time people are asymptomatic, or they could suffer minor symptoms. I think that should all be there. But perhaps even more importantly what I think that people need to know as much as they can about testing, about HIV testing I think there are a lot of misconceptions people talk about it all the time, that, you hear about someone getting false positive and what it actually entails, and what will happen and how reliable the tests are and what the counseling is about and how it's all going to happen. And I think some of the misperceptions or even people not knowing feeds their anxiety and then causes them not to get tested. And I think if people understand that it's relatively a painless simple and straightforward procedure and it very reliable, painless in terms of uhm,
Fortunate: it's only a prick
Ben: Yah, uhm and then that there ongoing support in case that someone is HIV positive, I think that should all be there, A lot of questions about how reliable these tests are. So we have information, we have a protocol, but it's not widely distributed, I can give you that information Fortunate,
Fortunate: I think that will be very useful.
Ben: and you can maybe use that, so that sort of information around testing, uhm people do not realize that the test is not to test the virus, it's a test of antibodies uhm, that there are current issues around window period and when they can be tested. So I think that should be there. But alongside all the other information I also think that it's helpful to have information on safe sex and maybe even information on negotiating safe sex. It's all very well saying use a condom, but how do people do that and how do they introduce a condom if they haven't been using it before without causing conflict within a relationship. So that sort of information should be there. But from my perspective I think, and one thing I'd say information around testing clear up some of the myths. And you know the problem is although pre and post counseling and testing is wide spread that sometimes it's done so badly that sometimes that as a result there are all sorts of rumours that get passed around. Well they are not rumours but these information that gets passed around about people assuming that it applies to all testing and we can clear about how it happens at Rhodes and how it happens at Raphael Centre.

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[19] Not his real name

Fortunate: and those are two centres that we have in Grahamstown

Ben: yah look there are other places, I mean all sort of primary care centers are places where you can get tested. In fact you know Tessa?

Fortunate: Yes

Ben: She just put together a pamphlet uhm but a lot of our staff and students either tested here at the San or the Raphael centre I suspect other people, on medical aid sort of academic staff, if they get tested at all possibly they do it through their GPs or something. Uhm or I suspect they don't get tested, uhm, but I, which is unfortunate, but I think clarifying

Fortunate: You mention that there is support should somebody be positive can you expand on that?

Ben: Yes, most of the support is provided by the San, and it's very very good, so they can advice people on healthy living, they can treat any sexually transmitted infections, any sort of you know, they have advice on helping a person to stay healthy for as long as possible, treat TB and things like that and then when the point comes that the person needs go on ARVs because they are getting ill then the San can also arrange that but that will be done through Settlers hospital and day clinic and then the San can continue to kind of support that person through that.

Fortunate: OK

Ben: Uhm so they are very good at that , sometimes it's just the counseling that people need and sometimes it's the actual kind of medical advice.

Fortunate: so all the counseling is done here? And then you go to the San

Ben: counseling, Pre and post test counseling happens at the San so we send someone there.

Fortunate: ooh OK

Ben: this unit is only available to students unfortunately, although we will help staff in crisis, short term, you know somebody who was in deep crisis, we could support them but then eventually arrange for them to be referred somewhere else. Uhm unfortunately that's just the way it is

Fortunate: well in the other email you sent me earlier; you said that you do not get so many questions or queries about HIV and AIDS? Can you tell me more about that?

Ben: well I think a lot of people know a lot, people aren't off lights. I think people have problems sometimes implementing. You know e.g. I remember somebody saying to me we were talking in a pretest counseling about she had had some unprotected sex and we were talking about that and she kind of said well it kind of ruins the moment. She knew she knows how to prevent or how to minimize risk of being infected. But somehow, you know so it's one thing having information it's a different thing converting that information into kind of behavioural change. So she was also saying it kind of ruins the moment, it's the trajectory because HIV does more than just ruining the moment.

Fortunate: Yah

Ben: But yah my experience certainly mostly in pre and post test counseling has been with students, they kind of know what to do, they don't know that much about the course of the illness and ARVs and what that entails, but they know enough about what they need to do in order not to be infected, but that doesn't mean that they necessarily do it. There are kind of myths on campus, and which are problematic.

Fortunate: what kind of myths?

Ben: well I think there are whites students who think that it's safe to have sex with a white person you are much less likely to be infected so in other words they cannot use protection that it's really a kind of black illness those myths do exist, unfortunately putting themselves at risk and contributing to the stigma of HIV by doing so. But I think mostly people know that unprotected sex is risky with however you have it with and yah.

Fortunate: that's an interesting myth, do you know of any other myths that are circulating around?

Ben: Any other, No, uhm I mean that's the main one. I mean there are myths that you can tell if someone is HIV positive, there is this sense that if you look healthy then you are ok, yah I mean that's pretty the main one

Fortunate: ooh OK

Ben: so have you heard any myths?

Fortunate: (chuckle) no, not on campus, I've heard the usual ones, not at Rhodes but for example if you sleep with a virgin they will cure you if you have HIV

Ben: yah I think I would think that most people on campus would know that that's not true, staff and students I might be wrong but its optimistic for me to be assuming that in this community people don't have all those sorts kind of myths but there are certain myths of when one gets infected or and also people assuming that they know a lot about their partners sexual history and therefore its safe, whereas often they don't.

Fortunate: do you think there are some activities on campus or behaviours that maybe should be looked into that contribute to risky behaviours or HIV and AIDS.

Ben: Drinking, I think the main one on campus is drinking and I think when people have unprotected sex amongst students it's often because they are drunk. And students are falling pregnant often and if they are falling pregnant they can also be contracting HIV. And often it's because the sex encounter is unprotected or they always claim that the condom has broken, I can't tell you how often I hear about condoms breaking, I looked at some of the research. Condoms very very rarely break and they might break occasionally and often because they are not used correctly but actually when you probe more you find out that they didn't use a condom, the reason they didn't use a condom is because they both didn't try to use it and of course they regret it and then they rush off to the San in the morning to get morning after pill.

Fortunate: Is PEP offered here?

Ben: PEP is another part of information that you could have. The San does supply PEP, well they supply the starter kit and if people are raped on campus they don't have to go to settlers or the police station, they just got the San; the university is committed to ensuring that people go onto PEP. People don't know about PEP, they don't know how effective PEPs are and also they don't know that the treatment need to be started quickly, which is why you get the starter packs so we have had cases where person having been raped on the weekend and they only come on Tue, it might still be within the 72 hours, but obviously the efficacy drops the longer it takes between possible exposure and the start of PEP. So I think information there would be helpful

Fortunate: would you know if it's for free

Ben: it's free through the state if you are raped. It's free for students I presume it's also free for staff members. If for some reasons don't want to report the rape. Reporting can be traumatic sometimes, and there are some people who for various reasons don't want to go through the process the university is willing to pay for the PEP, so what will happen is they will go the San a private doctor will come out and prescribe it to them. And you can get PEP from GPs but you will have to pay. So there is that. We don't have much of a policy here on occupational exposures, I think that its mostly for universities that have a medical school, for needle stick injuries I don't see how one would get exposed to HIV here in their work, it might be some people doing research or pharmacy or the life sciences and presumably it's the same things will apply if one is exposed to HIV and require PEP then the university would be responsible for carrying the costs. But Yah, PEP will be good; testing will be good, squashing some of those myths. I mean I think I don't think some of these myths still exists, there used to be people who thought if you have sex with a virgin not that it cures but you can't pick up or if you couldn't contract HIV when you have sex for the first time, I heard long time ago that if you have sex while standing up you can’t pick up HIV I actually don’t believe that those continue I think most people know better now. But there are still some myths that you can somehow, through either racial profiling or looking at somebody’s health you can manage your risk in that way and I think that is extremely dangerous. That's about it.

Fortunate: Thank you so much for your time.
Ben: You are welcome

Interview ends…

Appendix H: Interview with Meg[20]

The following was conducted as an email interview with Meg President of a TAC- aligned society on campus involved in HIV and AIDS awareness, SHARC.

Can you tell me what SHARC is and what the society is involved in?
Meg: The Student HIV/AIDS Resistance Campaign (SHARC) is a TAC-aligned student organization of Rhodes University, Grahamstown. It is comprised of registered student members and run by a committee of students. SHARC aims to lead a Rhodes' student response to HIV/Aids that is progressive and encourages student involvement and activism. We seek to stop the spread of HIV, help those already infected and de-stigmatize the virus. Our philosophy is not to fall into despair or a sense of hopelessness, but to take a positive, dynamic approach towards tackling the obstacles that prevent HIV from being treated like any other chronic disease. SHARC strives to collaborate with the Grahamstown and Eastern Cape community in addressing all the intersecting socio-economic aspects of HIV, such as access to resources, gender-based violence and cultural or generational barriers and stigmas. In order to do so, our programmes must be sustainable, developing skills that will allow young people to impact change in their communities after they leave university.

What do you do within the society?
Meg: I am society president and am also a fully trained and experienced peer educator. My job really involves being the voice of SHARC, coordinating the committee and the year planner and playing a vital role in setting objectives. I am responsible for monitoring and guiding our progress in achieving our goals. I do a lot of administrative work, but I am also present and participating in every event. I am a constant helper to all the portfolios and constantly push for new, creative ideas. Obviously, it is also my job to monitor what is being done and ensure that our commitments are met. As a peer educator and as SHARC president I speak at a variety of events and facilitate workshops frequently.

How long have you been involved in SHARC?
Meg: This is my 3rd year

How often do you interact with students?
Meg: Daily, on an informal basis and at least twice a month, on a formal basis.

Can you tell me about the programmes you have as SHARC?
Meg: There are a number of different portfolios within SHARC. These are run by committee members and change according to need. SHARC members choose their portfolios at the beginning of the year. At the moment our portfolios are:
Peer education: involves training students to present workshops on HIV/Aids, sexual health and gender, and facilitates these workshops amongst students, school learners and the community
Community: works closely with local HIV/Aids NGO’s and especially with vulnerable children either infected or affected by HIV/Aids.
Media: produces posters, pamphlets, information boards and articles.
Events: organizes forums, focus groups, film-based discussions and social events

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[20] Not her real name

Activism: This portfolio is divided into
Health monitor: seeks to assist clinics in terms of ARV roll-out and health care by providing resources or volunteers
Gender activism: encourages the engagement and involvement of SHARC members in gender issues that intersect so strongly with HIV/AIDS. We are especially involved in solidarity events and protests around gender-based violence.
Testing and services: organizes testing drives and ensures constant condom and femidom roll-out.

In your view are campaigns such as yours reaching the right kind of students?
Meg: I am unsure what you mean by the right kind of student. All students in my view are the right kind. We are all affected by HIV/Aids in some way and are all capable of making a positive difference – we encourage all students to be involved in positive engagement and activism. With regards to workshops on ‘safer sex’ and testing campaigns, it is true that many of the students who get the information are very ‘low-risk’. However, this does not mean to me that they are the wrong kind of student because they have the ability to inform others. We do face a great difficulty in attracting men, which is obviously a great problem. However, we have started addressing the problem. Last year we had our first men’s only forum which was very successful and this year we seem to have attracted a larger male membership. This year we have aligned ourselves with Men as Partners which should be a great help.

In your view how do these campaigns impact students?
Meg: Since workshops are compulsory in first year, I think these do really impact students and the feedback we get from those workshops is always very positive. Our media campaigns and testing drives are also very popular among all students and attract a lot of positive feedback. As for forums and community events, it is always very difficult not to continuously attract the same crowd. There is most definitely a great sense of student apathy when it comes to voluntary participation. This year we aim to really penetrate the residences (go to ‘them’ instead of having them ‘come to us’). We aim to have an HIV/Aids representative in every residence who will maintain an information board and aid SHARC in facilitating small focus groups within residences.

What can you say about students’ HIV and AIDS knowledge levels?
Meg: They have definitely been improving over the years. Each year in the first year workshops, students appear to be more knowledgeable than the year before. I think the majority of Rhodes students know enough about how to *prevent* HIV. They just don’t seem to think HIV affects them or their friends so they don’t bother to take precautions. Where the knowledge seems to be lacking is in *what it means to be HIV positive.* There is still a huge amount of stigma at Rhodes and the comments made about people living with HIV are of deep concern and reveal a huge amount of ignorance and fear.

Do you have any suggestions to making students more knowledgeable about HIV and AIDS?
Meg: While it is important for people to have basic factual information in terms of HIV transmission, where to get tested, condom use etc, the way that students learn most is through discussions with peers which is why I believe focus groups, discussions around relevant films and literature and interactions with affected community members are key in formulating a real student response.

What is your comment on the availability and accessibility of HIV and AIDS

information for Rhodes students?

Meg: As I said before, I think most students are aware of basic facts about transmission, but what is lacking is information about support and treatment if you are positive. Further, students lack basic information as to how to take action in terms of HIV management and prevention – very few know where and when they can get tested, what the procedures are, if it costs anything etc. SHARC tries to supply this information and is stepping up the effort this year. Further, almost know students know where and how they can get tested for STI's, what the procedures are etc. Managing STI's is obviously very important for HIV prevention.

Are there any misleading information (e.g. myths, misconceptions, inaccurate or wrong information) that students have?

Meg: A lot of students aren't aware of how long you can live with HIV.

1. There are a large number who think they know how to use a condom properly, but in fact make crucial errors that could cause the condom to be ineffective.
2. Many students are either uninformed or have the wrong information about STI's
3. Finally, there is always this misconception that the HIV positive person is a sexual predator and others need to be 'protected' from them. Students appear perfectly willing to disclose someone's status without their consent in order to 'save' someone else. HIV positive people are not considered able to make careful, sensitive decisions when it comes to their sex lives. It is always thought that if an HIV negative person has unprotected sex with an HIV positive person, all the responsibility (to engage in safer sex or not have sex at all) rests with the person living with HIV.

In your interaction with students have you identified any knowledge gaps in what students know? Can you think of any specific examples?

Meg: Some of this I have already mentioned, but here are some key areas:

HIV/Aids treatment
STI's
Where and how to get tested in Grahamstown for STI's and HIV
What it means to be HIV positive (i.e. there are still a lot of underlying prejudices in what students say)

What HIV and AIDS information would you say is redundant, that is very well known to the extent that it is better not to repeat it?

Meg: Of course abstinence is risk free and therefore the best way of preventing HIV transmission. While it is important to mention abstinence as an important method of HIV prevention, making it the focus of a workshop or campaign is not worthwhile.

Other than that – while some information is generally well-known, it is always worthwhile repeating and explaining it. There is often at least one student in the group who is new to information that you consider obvious. It is about figuring out how much the group knows and moving on quickly if you can tell they are familiar with that section of the workshop. It is always better to repeat stuff than to assume people know when they don't.

What information would you say is really important for students to have?

Meg: I think the following sections

How to use a condom properly
When, where and how to get tested
The affects of alcohol on HIV treatment and prevention
Most importantly – to engage with wider social issues around stigma, the law and gender-based violence so that they can be part of a positive response to HIV/Aids

How best would you say HIV and AIDS information must be disseminated to students?
Meg: Using as many different methods as possible is always good – different mediums attract different people.
The only times we can be certain that students really listen and engage with the information given is in workshops, focus groups and discussions.

In your interaction with students have they indicated how they would want to learn about HIV and AIDS? If yes, can you think of examples?
Meg: Many indicate the need for creative, fun ways of learning – which have proven useful. Because of the information overload around HIV, students are often unwilling to attend an event or workshop that describes itself as an HIV/Aids workshop. We have done and continue to do this through films, poetry evenings, articles, artworks, music and more. A lot of this has proved affective in highlighting social issues around HIV/Aids. The UBOM! Production was highly successful and has received a lot of positive feedback from students – we hope to continue using drama as a means of disseminating information.

Interview ends

Appendix I: Interview with Elizabeth[21]

Interview held at the Raphael Centre 19 February 2009 at 2pm

Fortunate: Thank you Elizabeth for your time, I will just go through the questions as they are there and then I will be asking the questions and you just answer nhee?
Elizabeth: Yes, we can start

Fortunate: Can you tell me what the Raphael Centre is?
Elizabeth: It's a place that gives support to people the leaving with HIV, for emotional healing, it also provides HIV test here and we also have a support group so people get healing, emotional healing.
Fortunate: What else do besides VCT?
Elizabeth: with the support group
Elizabeth: We are doing education and prevention e.g. like if they fall pregnant, what they can do, also about STIs warn them about STI and also adherence to treatment because some are in treatment and drug abuse because some they are drinking and they default on treatment because of drinking so we talk about that.

Fortunate: So which people do you deal with? Is it for people here in town or location?
Elizabeth: The people are from the location especially and town, we talk to adherence on treatment to the people who come here also in clinics, we do outreach in clinics.
Fortunate: So you go out to clinics and talk to people about these things.
Elizabeth: Yes, but not on in drug abuse at clinics we promote VCT and adherence and we also talk about TB because most people with HIV will get TB.

Fortunate: And yourself what do you do here?
Elizabeth: I am doing counseling for people that come here for VCT; I also work with the people downstairs with education, the one I already talk about, prevention and drug abuse.

Fortunate: How long have you been working here?
Elizabeth: Since 2002
Fortunate: Do you like it?
Elizabeth: Sometime sits stressful, I like to work here because it's part of my healing but sometimes
Fortunate: What do you mean its part of your healing?
Elizabeth: It's because when I encourage people to live positive it also says to me that I must live a positive life because I'm also HIV positive so that is why I say it's part of my healing as well.

Fortunate: So how often do you meet with students here for VCT?
Elizabeth: Most of the time and during December and November when they are writing exams our statistics are getting low
Fortunate: Are getting low? Ooh ok so a few of them are coming?
Elizabeth: Yes
Elizabeth: Because they are busy
Fortunate: But ok let's say in a week how many students do you see for example? Or in a

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[21] Not her real name

day?
Elizabeth: Maybe if they are five, four of them are students
Fortunate: Aah ok everyday
Elizabeth: Yes
Fortunate: Ok that’s good. So what do student have to do if they want to do VCT here? What process must they follow?
Elizabeth: We don’t do appointments you just come in and then you have to meet counselor first and then you talk to the counselor and then you go to the nurses room, a professional nurse and you do your pricking and then you come back with your result here to do post test counseling
Fortunate: so they don’t make any appointments
Elizabeth: Ah ah (No)
Fortunate: Does it get busy here?
Elizabeth: not too much
Fortunate: is it possible that someone comes in and has to wait?
Elizabeth: yes, but not too long maybe 20 minutes
Fortunate: how many counselors are here?
Elizabeth: We are three I can say we are three but we are four, because one is in charge the kitchen but she did training on VCT
Fortunate: so it means all the three are working all the time so if three people come in at the same time they can see a different person?
Elizabeth: Yes

Fortunate: So can you tell me what happens in a Pre test counseling session?
Elizabeth: In a pretest I introduce myself and I get to know the client where does the client stay, with who doing what and also I ask if the client has ever lose a family member sometimes to maybe try and see if he/ she can accept a problem if she can test positive and then if he said yes so I ask how long does that take and how was it for the first time that you lose a family member the first step how was it and then you we see if he is easily accepted that things or she is negative or positive.
Fortunate: And then what else do you talk about
Elizabeth: We talk about the results
Fortunate: No before the results come in
Elizabeth: before they come in we talk about the results so that she must understand that there is negative, non-responsive, there is positive and there is window period and then we explain what is all that mean

Fortunate: so do you talk about what the person knows about HIV?
Elizabeth: Yes it’s the most things I ask, most of people have information about HIV and my counseling is about giving information to clients so it’s what I ask what do you know about HIV how you understand HIV

Fortunate: can you think of some of the questions that they ask you during the session?
Elizabeth: They….
Fortunate: like the information that they want to know or the information that they tell you that they know already
Elizabeth: They understand…. They don’t understand they think oral sex is not a risk, you are not at risk if they are having oral sex, also for family planning you are protecting yourself even if you are not using a condom it’s what they understand but we do correct them
Fortunate: which kind of contraception do they think is safe?

Elizabeth: like the pill they think you are safe with a pill
Fortunate: any other questions people ask you?
Elizabeth: they just ask while you are still talking they are ready to go to the nurse and ask how long does it take for the test and if it is accurate
Fortunate: do they ask what the nurse is going to do?
Elizabeth: No just we tell her be4 she goes that you are going to the nurse and she will prick you and also everything they will see and we also talk about confidential
Elizabeth: Actually people don't have much to ask, they just want to go and test.

Fortunate: In your experience with Rhodes students would you say they know about HIV and AIDS?
Elizabeth: some of them do especially those who are Pharmacist, they will come and say I know everything I am a pharmacist and they say everything and I get that they understand. But some they understand how to live positive with HIV but some know that if you tested positive you must get ARVs. They don't understand that your CD4 must be below 200 so they understand that positive= ARVs
Fortunate: so when the students come in do you talk about what they are doing at Rhodes?
Elizabeth: Yes when we introduce yourself, what are you do and where do you come from

Fortunate: the students that come in do they show that they got HIV education before or that they have been taught about HIV like do they show if that they might have had HIV and AIDS education before?
Elizabeth: aha I don't know if I am discriminating people or I don't know maybe they are undermining us, but most of the time white clients don't want to listen they just say they understand everything they don't even give you chance to speak they just want to do the test you fill in the form and then just go for the test but they are few that they are listening but most of them don't want to listen

Fortunate: Do you think the students that come in here are at risk of having HIV?
Elizabeth: yes, if their partners can be HIV positive but because some of them don't use condom or some of them say she was drunk and she was raped, the other day I can remember she said that she wake up next to someone she doesn't know and doesn't understand what happened
Fortunate: so you would say the ones that come here are at risk
Elizabeth: yes like I said the other one say she was drunk and she wake up next to someone, but some just come because they just want to know their status

Fortunate: when you are talk to student do you notice knowledge gaps from what they know, information that is lacking from what they know?
Elizabeth: they don't have same information, some do have full information and some don't
Fortunate: what do you mean if you say they have full information?
Elizabeth: they don't understand what is to accept
Fortunate: what is to accept?
Elizabeth: yes what is to accept your problem because I understand that if you accept the problem you don't mind even if your friends are talking about it you don't mind that doesn't stress you. I don't know how I can put it, even if there is something about HIV on TV you just focus on that you want to know you want to learn you are just curious to learn about it
Fortunate: they are not like that?
Elizabeth: yes
Fortunate: you mentioned earlier that the white students don't want to listen to you so they

come here and act as if they know everything already, is it different when you talk to students of other races
Elizabeth: yes they do listen and ask questions and they are open its where ask if they are at risk, if you are doing this and this are you at risk if you are doing this and this are you at risk

Fortunate: can you think of some of those things that they say if you are doing this and this are you at risk
Elizabeth: oral sex and anal sex because some because some maybe they are of the same sex
Fortunate: so sometimes they come together
Elizabeth: no just one
Fortunate: just one and they ask you about anal sex
Elizabeth: do you think why I said that they undermine us because sometimes they just go straight in the waiting area they don't greet they just look around and go out and then come or they just go straight to that room at the white lady it's not a nurse that one
Fortunate: is she a counselor
Elizabeth: No the administrator, the other nurse she was black she resigned on January this year
Fortunate: so the nurse you have now is white?
Elizabeth: Yes
Fortunate: so if they go straight to her does she bring them here
Elizabeth: now they have to wait here because there is this door. Sometimes you open for someone and then she just pass you, and then look around and then come back saying nothing
Fortunate: So, can they have the test without the counseling if someone says they know everything
Elizabeth: No I have to counsel them and make sure that they understand
Fortunate: which group of students would you say come here often
Elizabeth: whites
Fortunate: and blacks, don't come often
Elizabeth: Well Rhodes students come but most of them are white

Fortunate: Do you think that it easy for Rhodes students to get information on HIV/AIDS
Elizabeth: Yes
Fortunate: why do you say that
Elizabeth: because they have access to internet they must know everything
Fortunate: do they ever tell you where they get information from?
Elizabeth: They just say no I understand I had a workshop on HIV and then I go through internet
Fortunate: Do they also mention from High school
Elizabeth: Yes sometimes

Fortunate: you said that when you get 5 clients 4 will be students, why do you think that most students come here because at Rhodes we have the san, why do you think they come here and leave the san there
Elizabeth: it's not easy to test, HIV is confidential and it's not easy to go to people that will see you every day. Maybe students think what if I test positive that person will see me everyday maybe if that person sees me they see HIV and I think they are not comfortable with that. And they know that we just see them here and in town we don't know them and then we keep it here its confidential

Fortunate: Do you think there is any other reason
Elizabeth: Well maybe because we only offer VCT so they don't have to wait for a long time and then anytime you come you get tested we don't say you have to come on Monday or Tuesday every day we test

Fortunate: so talking to them have you picked any wrong information or wrong beliefs, maybe myths that are going around.
Elizabeth: like saliva you can't get infected because of saliva. Some of them think if you kiss someone you can get HIV. Someone came to test because she kissed someone and she thought maybe he was HIV positive and also from sweating or sharing clothes. They ask these things, if they can share clothes with someone who is HIV positive.
Fortunate: so when someone comes back with their result they come here and then what happens.
Elizabeth: we check the result, if it's negative I say you see your result its negative.
Fortunate: so the result will be written down on a paper?
Elizabeth: the result will be written down by the nurse
Elizabeth: So if the person has a result and its negative, its non-reactive maybe if she was at risk in four weeks time, I will say that this is not a true result because you were at risk in four weeks time, so you have to come back after three months and make sure that you use condom for this period until you come back so that when you come back we make sure that you are really negative so if you don't use condom you will keep on testing and keep on staying on window period so if you continue using condom until the time so e will make sure if you are negative or positive you will know what are you result.
I also say to people why do you want to test, some people don't know why they test, others just say they want to know their status I say to then sometimes you test if you want to get married or have a child or if you want to abstain. If you want to do one of these you must know what you want to do you can't come every three months for a test once and then you tested negative you come back after three months and your partner must also com and test so if you trust your partner then you can continue and there must be no one between you
Fortunate: So what if the result is positive
Elizabeth: if they are positive I encourage them, your result is reactive that means there is a virus in your blood. That doesn't mean you are sick, if you are working you can work if you are studying you can continue with your studies. What you can do is if you get a flu you can go to the clinic, we refer them to the nearest clinic
Fortunate: if they are a student at Rhodes?
Elizabeth: We never get students.
Fortunate: what do you mean?
Elizabeth: well myself I have never counseled a positive student
Fortunate: but if there are you will probably refer them to the San
Elizabeth: well the one student some time ago said she preferred to go to the private doctor,
Fortunate: for a CD4 count
Elizabeth: yes, so we refer them for a CD4 count and I tell them if your CD4 is lower than 200 then it means you are qualified for ARVs still strong if its above 200 it means you are strong and you are not at risk of getting sick so we have to continue to keep you healthy like they can get supplements from the clinics they are free and I also tell them to eat because it's very important to eat. And if you feel you are sick you can go to the clinic. I also promote condom use because even if you and your partner both have HIV condom use is still very important because they say the strains are not the same so you have to protect yourself from each other. And they also say if you are not using condom you get skin problems anyone can see that you are not healthy you are sick, so to protect yourself you have to use a condom or

not re-infection and other sicknesses
Fortunate: so when the person takes the CD4 do they come here?
Elizabeth: no they see the nurses at the clinics, they will see if they are dropping or going up. Unless someone wants to come to talk they are stressed they can come we allow that.
Fortunate: Are you involved in the education and prevention here
Elizabeth: Yes we take turns.

Fortunate: Ok so if I were to ask you what you think is very important for students to know like which HIV and AIDS information you think is important for students what would you say
Elizabeth: they must know that they cannot see someone with HIV, they must always treat everyone as an HIV positive person, even if the person is nice or what or got money they are rich, anyone can get HIV so they must always use a condom or they can choose to start secondary abstinence, maybe you started to engage in sex with no condom you can start by testing and depending on your result then you can decide to stop and continue with your life

Fortunate: is there any information that you think is very well known that we can we can do without telling students again? Something about HIV that you think has been said too many times that e can just leave it out
Elizabeth: I don't understand
Fortunate: let's say for example we want to come up with an awareness campaign nhee? Is there any information that you think has been said over and over again that by now people know
Elizabeth: ooh yes how to get HIV and how not to get it and how to keep yourself healthy

Fortunate: do you think people know a lot about treatment
Elizabeth: no, because they don't know when to get it and how they only know that if you test positive you must get ARV because sometimes I ask a client what do you know about HIV " I know that its killing I know that if you have HIV you must live a healthy life' and I ask what is healthy life, and they continue " exercise eat healthy like vegetables and fruit and take your treatment" and I ask which treatment because there are also the supplements and they say 'The one for AIDS' s they don't know when to get it.
Fortunate: so is there anything you want to say
Elizabeth: NO
Fortunate: anything about HIV and AIDS, education , information
Elizabeth: just maybe to say anyone even if you are HIV positive you can continue with your life you can fulfill your dreams but it depends to you there is no one who can die now with HIV unless you want you choose to die now
Fortunate: why do you say that
Elizabeth: because there is VCT there is a counselor there is treatment so you go for VCT while you are still strong and then you check your CD4 count and you always look after you CD4 count until it gets down then you get treatment early. So if you just sit and say you don't want to know your status you are killing yourself, because if the virus is in there it won't change, and maybe sometimes you say I have HIV I must spread maybe you don't have it while you are saying you are spreading you get it.
Fortunate: yah that's very true, thank you very much for your time and for your answering my questions
Elizabeth: You are welcome
Fortunate: Bye

Interview ends...

Appendix J: Interview with Pumla and Sarah[22]

Interview held with two sisters from the San 24 February 2009 held at the San at 1700. F (Interviewer)

F: Can you tell me what you do at the health care centre
Both: We are nurses here at the centre

F: How long have you been working at the Health care centre?
Sarah: I have been here for six years now.
Pumla: I have been here for three years

F: How often do you interact with students on HIV and AIDS related issues in a week?
Pumla: Every single day we have to deal with students and there is always something related to HIV
Sarah: Yes, daily we have VCT takes 4 students every day. I must also add that students who test positive come in regularly to talk about HIV related issues and their medical needs, to pick up medicines or supplements and for treatment of minor ailments in what we call comprehensive care programme.

F: What other HIV and AIDS programmes can students access at Rhodes?
Sarah: We have a number of programmes here at the san including care and treatment
Pumla: And the comprehensive care and treatment programmes in which we take blood for staging of the illness. We also do follow ups of PEP.
F: What do you do in terms of treatment?
Pumla: Well, we treat minor ailments and just make sure that HIV positive students remain as healthy as possible.
Sarah: The San also provides education
F: What kind of education
Sarah: Education in various areas, for example re-diet in HIV positive clients, healthy and positive living, we also conduct education on nutrition and provide information on the support that students can get here
F: Would you like to expand on the support that you give here
Sarah: For example we give the multivitamin tablets and just emotional support during the course of the illness for those that are positive and also support in terms of giving advice to students on what they can do to stay healthy and to prevent HIV transmission.
F: Is there anything else that you do?
Pumla: Yes, we also do awareness campaigns.
F: How often do you run these campaigns?
Sarah: We can say twice a year. You know that one done by SHARC?
F: Yes
Sarah: Yah, we are there to support campaigns such as that one, so if there is any campaign on campus we are always involved.

F: What has been the response to these programmes by students?
Sarah: The response has been very good; especially the response to VCT after such

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[22] Not their real names

awareness campaigns is very encouraging. Although the prevalence rate is very low amongst students, the response is very good. Also those that are positive respond well to the services offered here at the San by taking up the CCT programmes.
Pumla: Actually I can say that we can't meet the demand.
F: Why do you say that?
Pumla: Students are aware of the importance of knowing their status now and they are really coming out in numbers to take the HIV test. The numbers increase during weeks when we have the awareness campaigns or drives. At times someone can come and book for VCT and they will get a date for a month later.
F: Really? Why is that?
Sarah: It's mainly because we only test 4 students a day and the number of students wanting to do this test like she said is on the increase
F: Why only four students
Pumla: We do not have a nurse dedicated to VCT here at the San, so we only offer VCT in the afternoon because that is when the counsellors come in and they have time for only four students.
F: These are counsellors from the student counselling centre?
Pumla: Yes

(Three students walk in the middle of the interview and asked if the san had already closed. The nurses explain that they close at 5pm and that it was time for emergencies only. The students say that they wanted to book for an HIV test. Since we were on the subject Sister M decided to book them in order to show me the waiting period for students. As it turned out the earliest date available for VCT was 9 March, 2009 and there was space for one appointment. The other two were booked for the 10th of March, 2009. After the slight break the interview continues…)

F: So in your view how the campaigns you mentioned impact students?
Pumla: I think the previous question answers that question. The fact that we have an increase in the number of students coming in for VCT means that the message is getting to the students and they are doing something about it I think.

F: Do you think these HIV and AIDS programmes are reaching the right kind of students?
Sarah: I think the answer here is both a yes and a no. What I mean here is that we get more low risk students coming in for VCT actually, which is good but they are not the specific groups we would want to see coming in. There are few students in what I would call high risk categories.
F: would you like to explain what you mean by the low and high risk students?
Sarah: Yes, I mean students that are maybe not sexually active coming for VCT, and those that say they are in a steady relationship or that they use condoms all the time. These students are at risk but not at a very high risk to contracting HIV. The high risks ones are those that come in for Morning after pills for example, which means that they are having unprotected sex, you do not see more of those students coming in for VCT.
Pumla: Also students that are involved in multiple relationships. I think we can say those students who are vulnerable to HIV do not often come for VCT.

F: What is your comment on the availability and accessibility of HIV and AIDS information for Rhodes students?
Sarah: Aah I think students have access to a lot of information here, for example we have

pamphlets here, in all our counselling rooms and here in the reception. And also those campaigns that we mentioned that are run twice a year are another source of information.
Pumla: One other thing, these pamphlets can also be available in residence common rooms, although their availability is depended on the residence warden and how often they come to get them.
Sarah: Residences will not have many posters as well because at some point it was not allowed to use prestik on the walls but now that they have notice boards I'm sure the information is there.

F: What can you say about the HIV and AIDS knowledge levels of the students you have interacted with?
Sarah: I think I would say that the students here are well informed about HIV and AIDS; you can see that from VCT, its taking much shorter these days for students to go through counselling. Long ago we had to educate students and explain what the illness means and all those things, but now when they come in they already know a lot that the process is short now. But I think there are some who are not very educated in that I mean there are students that think that they are not at risk of contracting HIV so you find that the knowledge is there but the students just do not associate themselves with the illness.
Pumla: And also Rape victims for example do not know about PEP, you find that most rape victims come in after 72hours when the waiting period has lapsed to get this emergency treatment. So I think there is need to instil this knowledge in people, explaining the stage at which someone must get PEP.
Sarah: Another thing is that students do not know that you can't test the next morning after engaging in unprotected sex, We get that a lot, students coming in and saying that the condom broke or that they didn't use protection and they want a morning after pill and they want to test for HIV
Pumla: And some even say that 'I just slept with a person that I don't know last night' so when they start to panic all they want is to take an HIV test immediately.
Sarah: Yes so I think it's important to explain that it doesn't happen that way that the virus cannot be detected immediately after an unprotected sexual act. They should know that they must wait for at least three months before they can get an accurate result.
Pumla: I think they need to understand that there is a procedure as well for PEP. It has to be a rape for the state hospitals to give out PEP and they do that after testing to verify that one is negative. But you find people who do not want to test and yet they want the PEP that will not work. Because they must know that even if you take a single dose of the ARV treatment, you can develop resistance to the medication if you turn out to be positive. Although these days a person can get a 3day pack while they decide to take the test or not, but it's important that they know that it's risky to do that.
F: So which offer do students get here
Pumla: If they report the case then process is initiated at the state hospitals and we do follow ups here. But if it's a student and they do not want to report the Dean of students usually takes over that case and they take care of the whole process. Otherwise people can go directly to the private doctors if they are on medical aid.

F: Are there any misleading information (e.g. myths, misconceptions, inaccurate or wrong information) that students have?
Sarah: I think most of the areas that we mentioned in the previous question you can use them as inaccurate information for example people coming in late for PEP or people thinking that they can test for HIV the next day after they have sex with someone they do not know. Myths….uhm

Pumla: People are well informed these days about myths. It was long ago that people used to believe myths like if you sleep with a virgin you will not get HIV or that you will cured of HIV. But now I'm sure people especially our students know that it is a lie.
Sarah: Yes, I think it's only now that people are starting to understand because they have the information. There was a time when there was an HIV positive student staying in residence and other students found out somehow and people used to come here to ask questions like 'am I at risk sharing cutlery with this person' or 'is it ok for me to sit with this person in the common'. But like sister Pumla said I would like to believe that students are now aware of myths and can distinguish those from truths.

F: What HIV and AIDS information would you say is redundant that is, very well known that it is better not to repeat it.
Sarah: What do you mean better not to repeat it? In VCT?
F: NO I mean for example if you would like to put together an awareness campaign what information do you think is not necessary to include because it's well known.
Pumla: Ooh basics about HIV and AIDS, like what is HIV? Modes of transmission and prevention of HIV.
Sarah: But I have also noticed that people are still unable to distinguish HIV from AIDS
Pumla: I'm sure not amongst our students here
Sarah: You will be surprised; I have had experiences where students were not able to give a clear distinction so maybe not all basics are not that important anymore.

F: What information would you say is important for students?
Pumla: Patho physiology and the Antiretroviral treatment should be highlighted I think that's where the focus should move to now so that people know that there is life after an HIV test especially after testing HIV positive.
Sarah: I think there should also be focus on the importance of knowing one's status because that will encourage more people to come for VCT.
Pumla: Yah and also information on behaviour changes amongst students. Students behave recklessly, they do not use condoms and others drink a lot. I think they must be made aware of these and encouraged to change this behaviour.
Sarah: Yes, risky behaviours, information on risky behaviours should be made available because most students here do not associate themselves with HIV some of them think they are too sophisticated for the virus. They must be made aware that such behaviour is risky. Once I spoke to a student who was saying that he had slept with a girl he didn't know because he just wanted someone for the night and didn't want to know anything about the girl. I think they call it 'casual sex' because they do not want any attachment or a real relationship. The student had been here three years and I asked him why and he said because he only looked for a girl for the moment that he felt like he needed someone and so he always picks a girl each time that happens. That is very risky and students must get that information.

F: Well thank you very much for your time especially since it's after hours. I am very grateful.
Both: You are welcome.
F: Thanks, bye

Interview ends

Appendix K: Interview with Maria[23]

Interview held at the student counseling centre at 830am

Fortunate: Can you tell me what types of students come for counseling?
Maria: you are talking in terms of just the VCT counseling hey?
Fortunate: yes
Maria: Well in my experience it has been a wide range of students I would say though largely a lot of student that are not necessarily what I would call the high risk category. I think that sometimes people that feel that there is a high possibility that they are HIV positive or they think that or know that they are engaging in high risk activity are actually sometimes too scared of confirming that result that its prevents them from having an HIV test, to come clarify whether they are HIV positive or not. In my experience the VCT counseling is kind of encouraging people to come for testing but it's not enough, for me it doesn't seem to be reaching those in the high risk categories, and I'm basing that a lot on, I in the last two years haven't been involved a much as the interns psychologist have cause they are the ones who are involved in the VCT counseling up at the San throughout the year I'm only involved with the HIV testing drives which are usually once or twice a year and then definitely during those drives the people coming for the HIV testing are not high risk, cause a lot are not sexually active and so it almost feels like to me that they kind of already know that they are ok, but they want to know and that's kind of start being aware of their status, it's ok but for me that's not making it available to all the people.
Fortunate: So seeing as it is that testing is voluntary do you think there is any way of encouraging people who are in the high risk category to come forward and test during these drives.
Maria: I can't think of any way at the moment, I don't really think so, my feeling about that is that if you are not testing the people that are at the high risk then you need to be educating them about, okay if you are at high risk how can you lower that or how can you practice and have a sexual relationship in a way that will not leave you safe. I don't know maybe the focus should then not be more on knowing your testing but on responsible sexually
Fortunate: are you already engaged in something like that
Maria: not me personally, not unless if I'm seeing someone who has psychological problems and then I can ask if they have had a sexual relation, then it sort of comes up and we deal with it then and I would promote safe sex and but no we don't have sort of a campaign. So it would happen indirectly not sort of like a campaign no.

Fortunate: What is the process that a student must follow if they want to do Voluntary Counseling and Testing (VCT)?
Maria: What they do is they go up the san and make a appointment they don't come here anymore, but we don't anymore, and then we have all counseling in the afternoon and one intern goes up there and is available to meet for students every day.
Fortunate: How has been the response?
Maria: yes it's been really fully booked
Fortunate: In the case of rape what's the procedure
Maria: In that case we deal with it immediately they don't have to make an appointment or anything. once we become aware there is two ways they can go through the hospital and

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[23] Not her real name

access their ARVs from there after a medical check is done or if you don't want to go through the hospital procedure they can go to the San and Rhodes has undertaken to meet that need and make sure that students are covered and provided with PEP.
Fortunate: The VCT is a free service right?
Maria: Absolutely

Fortunate: Can you tell me what happens in a typical pre-testing session?
Maria: What I have for you is a brief thing about what we cover in the pre-test session. It's basically to ascertain the knowledge that somebody has on HIV and AIDS because sometimes people get it confused, AIDS and HIV so what AIDS is, then the ways of transmission of HIV and exploring what the risk is for the person, why they are wanting to have an HIV test where they think they might have been exposed to HIV and then talking about the what the actual test entails, so talking about what the rapid test entails, talking what it would mean having HIV positive result and how an HIV positive result will affect their lives but also how they deal with the result and what are the support base like because it could be quite a devastating diagnosis, and the to offer counseling service they might need always remembering that its voluntary so we make time available but it's up to the person to take it up. also we re-enforcing that the counseling is confidential and also how someone can reveal their status if they test positive and just really to try and explore ways that people can be with their result and also to encourage that they change their sexual behaviour so identifying is there are any risks behaviour and how will a person change their behaviour. Often we realize that they are not working in their best interest in terms of sexual behaviour so we try to have them rethink things for example if you couldn't negotiate using a condom why didn't you in sort of a non judgmental way which is quite difficult in my field. It's hard to portray that you are not judgmental. And also remembering that you only depend on the information that someone gives you so if someone doesn't tell you that they don't use a condom then you wouldn't know
Fortunate: counseling is done by interns so they are students here?
Maria: yes they are they are in their 2nd year of masters they have had 6years of training and they have had a course on HIV pre and post counseling and HIV and Aids and they are psychologist so its people coming in with good knowledge.
Fortunate: Have you had cases of students having problems/issues talking to other students? For example maybe they might know each other?
Maria: they might how to get from that is we ensure that the counselor who goes to the san would see the names and if it's of someone they have had interaction with then they would make a plan and what we do in HIV drives there usually four to six of us so if you see somebody that you recognize then we swap immediately, from an ethical point of view for us as psychologist it's not right to counsel someone you know we always have the client's interest at heart.
Fortunate: how often do you have the HIV drives?
Maria: twice a year, it's whatever SHARC negotiates
Fortunate: how long does the whole counseling session take?
Maria: about 20mins can be quicker, if someone clearly knows about HIV or if someone is evidently not sexually active. Or if somebody has had a test before

Fortunate: Can you recall any questions that you have been asked during sessions?
Maria: I can't think of many but I have been asked how safe condoms are in a session in preventing HIV. And I always quote a research that they are safe. I've also been asked about saliva being a risk and I always that research show that it's not a huge risk.

Fortunate: Judging from the interactions you have had with students, what you say about students' knowledge levels
Maria: I think it's quite good, a lot of people are quite if I can out it that way tired they are kind of resisting the knowledge about the ways of transmitting HIV. it seems like the input they have had at school or somewhere in between the school and tertiary institution, somehow they are have a tolerance level that they have reached before they are a little resistant to HIV information there is that sort of presents a barrier. But I think generally people seem to know what the ways of transmission are probably more conscious in some sense than less conscious. I think people are half aware about the HIV virus, in terms of not realizing the volatility…but that's not necessarily a bad thing just that people need to be aware knowing the
Fortunate: so let's say someone goes through pre-test does the test what happens when it comes out positive what sort of services do they get here
Maria: certainly here they get counseling if a student is HIV positive and they are leaving Rhodes then they are referred to someone where they will be going.

Fortunate: What do you talk about in the post counseling?
Maria: It's mostly looking at the result and discusses what it means for the person for either result. If someone is negative what the student is going to do to ensure that that is going to be there status from here on, or if they had put themselves at risk how they are going to minimize that. If not sexually active we realistic look at what happens when they do get sexually active, what protective measures are they going to put in place and sometimes they say I will abstain, and I always say that say but let's look at it realistically, that's how you are feeling now, but later on that might change how are you going to deal with it then so it's trying to picture where a person is at. If positive what are the implications for you personally, how to negotiate future sexual relationship how you are going to stay as safe as possible.
Fortunate: Do people always come back after the window period
Maria: In most cases they do. I think people are actually a bit scared, so they do. I think having had the counseling somehow it goes a bit better that they had thought, I think it takes a lot of courage to come for HIV counseling and testing when you don't know what it entails its actually quite scary and they always say at the end that it wasn't as bad as they would have though. The second time always goes better than they expected.
Fortunate: In your experience do students make reference of other campaigns either on campus or off during the counseling sessions?
Maria: No, they don't.

Fortunate: What's your comment on the availability and access to HIV info at Rhodes?
Maria: I have no idea of what information is available in residences to be honest whether they have pamphlet programs like we have here, the san has a lot of information which is available to everyone when needed. Also the orientation week SHARC also having workshops in each res and making it compulsory for all first years I think that kind of makes people who might not have gone to the session get the information. I don't know if making it compulsory puts people off. But my feeling is that for 1st years that fine it's also not just about what people know because they pick a lot on the questions that other people ask. So I think it's a good program

Fortunate: Any suggestion to improve what's being done on campus
Maria: no not really, only how could we encourage people who are engaging in high risk category to test for HIV. And for me the focus shouldn't just be during that HIV awareness week for me it's about making sure people get the services which are available throughout

the year. It’s an ongoing question I don’t have an answer to.

Fortunate: Any misleading information or myths that you have picked from students
Maria: I can’t really think of anything really except people always ask if it’s true that the prevalence rate is one to four, and I always say we don’t know what the answer is and we don’t keep statistics of how many people are HIV positive. For me it’s always about that particular individual, how do you put yourself at risk, how will you remedy that and if you are HIV positive how can you live your life without that diagnosis permeating or even defines you and even preventing you from living a productive life.

Fortunate: Any redundant information for students you can think of?
Maria: I can’t think of anything specific and maybe it’s something that needs to be asked to students. I can’t think of any.

Fortunate: Ok then that’s about it, thanks for your time.

Interview ends…

Appendix L: Focus group discussion with black female students[24]

Discussion held on the 29 August 2009 at 2pm at Rhodes University

Fortunate: Can we begin with you saying your name, what you are doing and what you think generally about HIV and AIDS education
Nokubonga: I'm Nokubonga doing 1st year Bcom management. I think what people do not realize is that HIV and AIDS affects everyone. Like some people try to block it out and say it affects other people, but it does affects everyone.
Julia: I'm Jamie 3rd year Journalism student, what I used to think about HIV/AIDS I have always, it's like aarggh! can people stop now about this illness, it's on TVs, on posters its everywhere why are the numbers still going up, and I was confronted with the question is enough being done for HIV and normally I would think okay yes, because a lot of governments focus on that too, because in all the health I think they focus on that too. And so I think a lot is being done but seeing that my knowledge was a bit limited I was like okay not a lot is being done.
Sibonile: I'm Sibonile, I'm doing first year BA, I think there is a lot being said about HIV but I think they are not reaching to the very poor of which they are the most affected because their lives, they don't live good lives like some of us here, they don't have enough resources to cater for themselves, so they die quickly. So I think they should reach out to those poor, fine there is a lot being said but the poor they are not really reaching out to the poor.
Tamara: Hi guys my name is Tamara, I'm doing post grad diploma in journalism, well I don't know what to say about HIV, but my exp has been very tough, I have lost four family members from HIV. At this point I feel like nothing is being done about HIV and AIDS yet, no one is doing anything, that's how I feel, especially the government who are suppose to be the ones providing these things to people, the last person who died from HIV, she was fine, she looked fine as a result they couldn't put her onto ARVs so my worry is that they have to wait for procedures while people are dying, and that's my serious concern about HIV, so I feel like HIV is there and is killing everyone, people we love, it's a sad situation, it's a sad issue.

Fortunate: What do you think of government condoms?
Julia: I would normally just think I wouldn't use this if I was sexually active
Fortunate: Why
Julia: Because I think it's not as safe as they think it is because it comes under the logo of government and I must admit I don't not have a lot of trust in government, so that why I would think their products wouldn't be as efficient as their services are as well so I would rather go to a private company that will guarantee that
Fortunate: Tamara you are agreeing
Tamara: Yah I'm agreeing why would you trust them, I mean they are the ones who couldn't roll out ARVs for years while people were dying, and now they say we have to use their condoms how we can use their condoms if they have failed us in other areas, I mean I would rather buy my own condoms.
Fortunate: But you do know that these condoms are certified by SABS
Julia: So they claim! because there was a year, I think 2007 to be specific, where a condom

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[24] All names used are pseudonyms

scare came and it was the government condoms and how can you tell people ooh watch out there is a whole batch that's malfunctioning,
Tamara: Remember the SABS is also under government, they authorized condoms that were not up to standard, so how you trust condoms that are certified by the SABS (after that).
Nokubonga: I think that's why people end up using two at a time,
Julia: Ooh my word
Tamara: Is that safe?
Fortunate: No, you can't because then they rub off each other and break.
Tamara: Ok

Fortunate: Ok then I had a question on lubricants and you had to choose the correct one in a list. Did you guys know the answer, or did you know anything about lubricants at all?
Julia: Well I first think no lubricants should be used on a condom, but there was no option there for no lubricants so I just clicked KY Jelly because it was unknown to me, and I thought maybe that's that one
Sibonile: So using lubricants, doesn't it cause something to the condom? Like damage the condom?
Fortunate: What do u guys think?
Tamara: I think lubricants the way they are meant to function is that if someone is dry they can apply the lubricant and then my understanding is that if someone is dry a condom can break easily so if you use a lubricant I think it helps the condom, it makes it easy for the condom not to break
Julia: But then the condom has its own lubricant
Fortunate: Aah it does, but do you guys understand what this lubricant that I was talking about here, where you put it. Because it's not like you put the lubricant on the condom,
Julia: Yes that what I thought
Fortunate: Is that what u also thought Sibonile?
Sibonile: Yes that what I though
Tamara: I understood that a condom is used not on the condom but on the person
All: Ooh ok
Fortunate: Yah so there are lubricants you can use with latex condom and lubricants you can't
Julia: And they are
Fortunate: The correct one from the questionnaire was K-Y Jelly because it has to be water based for u to use it on latex condoms. You can't use any oil based lubricant, people usually lie to each other that if you are dry use, massage oil, baby oil, cooking oil or whatever they say but it's actually not the correct thing
Tamara: My goodness me, we are killing each other
Fortunate: Yah so the lubricant just to clarify is not one that you put on the condom, you put it on the person, because if you are too dry then the condom breaks from the friction like Tamara said.
Is there anything about condoms that you would like to raise before we move on, any questions or anything?
Tamara: Ok this is most probably the last question you want to hear me asking but I'm going to have to ask it. How safe are condoms? For real, how safe are they
Fortunate: What do you guys think?
Sibonile: I'm also wandering how safe they are
Fortunate: Does somebody have an idea?
Julia: According to my knowledge they are 98%. I don't know how they measured the 98%

but they claim they are 98%. Like my mum to me to the dry, I was getting glasses and she said while we are here you might as well go on contraceptives and I was like no I would rather use condoms, I think they are safer and they kill two birds with one stone as well so they safer than the contraceptive themselves, yah so I think 98% is very reliable
Fortunate: What do you mean killing 2 birds with one stone?
Julia: Falling pregnant and HIV
Fortunate: Aah so you think they are 98% reliable, so what happens with the 2% I suppose that your question Tamara right?
Tamara: Yes there is that 2% which is like 1 in a million so in a way I feel that a risk because if someone is approached by an HIV positive person if you like say no I can't date you because you are HIV positive you are discriminating that person, because there are condoms that you can use, but if there is that 2% there are still chances.
Fortunate: Yah there are chances
Julia: But 98% is a high guarantee like is they said 75% they you would say well, but 98% is high
Fortunate: Yah I would say that 98% is a good guarantee
Tamara: Something that one can work with
Julia: Yah if people say you have 98% of coming out of this operation alive then you know
Fortunate: In short they are saying you are going to make it, unless if something seriously goes wrong.
Tamara: Ok

Fortunate: Then I had a question on male circumcision, I just wanted to hear what you guys think about it, does have any effect on the chances of either the man or female on contracting HIV?
Julia: I don't think it does, I just think circumcision is cleaner it avoids you getting extra illnesses
Fortunate: So u don't think it has any effect on HIV?
Julia: No I think any exposure is risky
F: What did you want to say Sibonile?
Sibonile: Isn't it in circumcision they use one blade to cut everyone, is that what you mean?
Fortunate: No I mean after somebody has had it already, let's say for example you meet a guy who is circumcised and he tells you listen there is no need for us to use a condom because I'm circumcised, do u think that somebody who is circumcised has a lower or higher risk of contracting or transmitting HIV?
ALL: No
Tamara: It's not lower, I think what they are trying t tell us is if one is one is circumcised he has a lower chances of contracting HIV that the one who is not but that doesn't mean they do not have chances at all but their chances are a bit lower than the other one, they explain it like that, I have read about it somewhere why they say that. But the thing is if someone is circumcised and say well because I'm circumcised so, well that bull dust...it's not on at all, circumcised or not they all are at risk
Fortunate: So you guys if a guy comes to you and tells you I'm circumcised and all I can be assured that you won't fall for that right
ALL: Yes

Fortunate: Ok then I had a question on deep kissing; do you think it has anything to do with HIV infection?
Julia: Well what I've heard is that if you have a litre of saliva from deep kissing you can catch the virus, but I don't think you can get it unless the person has an open sore on the

mouth then you can get it.
Sibonile: That what I wanted to say that if two people have cuts or sores then they can transmit it to one another, otherwise even if you do deep kissing, because you will need litres and litres of saliva
Nokubonga: I don't think you can go that far
Tamara: Yah I have heard that all the body fluids of an HIV positive person have got the virus but it's minimal in saliva and sweat etc
Fortunate: So you guys are aware which body fluids have got more concentration of HIV
Tamara: Obviously blood
Julia: Semen and vaginal fluids and maybe breast milk
Tamara: Yah because when someone is positive they are told not to breast feed

Fortunate: Ok how about oral sex?
Nokubonga: Don't they have like stuff to protect things
Fortunate: To protect what
Nokubonga: Your tongue and mouth
Sibonile: How about those who just do it without, I think there are chances of contracting
Julia: Once again if you have an open cut in your mouth then you get it, but if he doesn't come in your mouth then I don't think there is such a high chance of getting the illness I'm not saying there is no chance of getting, but it's a bit safer
Fortunate: So would you guys say that oral sex (unprotected) is safer than the other types of sex?
Julia: Yes I would
Tamara: I don't know actually that's where u get lost, I don't trust it. For me it's more like the other form of sex. If a person is HIV positive then you are at risk
Julia: So what's your conclusion?
Fortunate: Who me? Well, if you have sores it's a no, if you know that you brush teeth till you bleed then oral sex is a no for you because any fluid will have HIV and you will transmit
Julia: So if you don't have the sores, or anything its relatively safe right
Fortunate: I would say that, it wouldn't be as risky as the other types of sex
Tamara: I have a question, I've read that sometimes people swallow semen (ooh that's gross) I'm now thinking that the semen would have HIV and so the person should be at risk, the reason why I'm asking is that I've also just realized that the stomach has got acids so are those acids strong enough to kill the various?
Julia: Anything that you take in or digest will get into your blood stream be it alcohol, drugs etc, so if you swallow it will get into your blood stream eventually
Fortunate: What do you think Nokubonga?
Nokubonga: I've also heard that you mustn't depend on whether he comes in your mouth or not, because some fluids get excreted before he comes and that's risky
Julia: Yah precum, it's risky, you can fall pregnant even on precum

Fortunate: How about vaginal sex, do you think the risks are different for men and women? When you have vagina sex?
Tamara: This is one argument because people say as women we are more at risk, they are like you can have a one night stand if the guy if positive its finished for you but a guy can have a one night stand and if the woman if HIV positive there are chances that he might not contract HIV, is that true?
Fortunate: Do you guys understand why they say women are more at risk?
Tamara: No
Sibonile: No

Nokubonga: No
Julia: It’s because women receive internally and the penis is external from the body
Tamara: It’s more like we are waiting for them to pour
Fortunate: Yho sis your expressions!
Julia: She is a journalist
Fortunate: But do you think that that aspect is explained properly for people to understand that that’s the reason there is a difference between a man and a woman.
Tamara: No
Sibonile: No
Nokubonga: No
Julia: No it’s not properly explained.
Sibonile: Because people just think if people have an intercourse and they HIV then they are both at risk it’s not really explained, I never really understood it,

Fortunate: Who is more at risk than the other? Okay. Ok we had several questions on testing, and I had a question on the rapid testing,
Julia: What is the rapid test?
Tamara: Which one is that?
Fortunate: Rapid test
Tamara: The 30minute test?
Fortunate: Yes
Julia: Aah ok
Fortunate: Do you know it now?
Julia: I didn’t know the wording but I know what it is now
Fortunate: So do you think there is a difference in the reliability of that short test and the one that you would get done at a doctor and you have to wait for 4days?
Julia: I think it’s the same
Sibonile: It’s the same, it’s just technology
Tamara: I think I don’t know, I think the rapid one, fine its good because it give you , I mean if I were to be positive it would show, but this one the one that takes four days, its more thorough, because it’s more like it would look at what is happening in your body. Whereas the other one doesn’t
Fortunate: Well but your interest in this case will just be to know if you are HIV positive or not
Tamara: Well I guess as people we prefer the one that takes a few days
Julia: No
Fortunate: Why Tamara do you trust the one that takes a few days?
Tamara: It’s a matter of trust it more than the other one
Fortunate: You trust the one that takes a few days?
Tamara: Ok fine I think it’s just one and the same thing, I suppose it’s just like the one for pregnancy, people buy it and it will show (I don’t know how it shows) that one is pregnant and when you go to the doctor he will confirm what has been said. So maybe with the rapid test you take it, if you don’t trust it you can go to the doctor, and you are positive and that test says you are positive the doctor will have to just confirm that you are positive.
Julia: Just to add something I have two points, I appreciate the rapid test because obviously like she said the poor are enriched and that’s why I think a lot has been done to get the rapid test, because not a lot of people have access to a doctor and the fees that go with it, and 2ndly the waiting period...its anxious enough to wait for 10mins or 20minustes
Tamara: Oh my goodness it’s hard, I’ve done it
Julia: Me too I have done it

Tamara: It’s very long
Julia: Now can you wait for 4days? Come on, that’s why I appreciate the rapid test
Tamara: I think the reason I was comfortable with the rapid test was that I had started with the rapid test and it had showed me that I was negative, and then I went to the doctor to confirm. So in a way my waiting wasn’t all that traumatizing
Fortunate: You already knew your result
Tamara: Yes I just wanted to confirm
Fortunate: Now imagine for someone who is doing it for the first time?
Sibonile: I also think people, like she was saying she wanted the longer one, you just need assurance that this is so real this is my status
Julia: But why would they authorize a rapid test and know that it’s not so reliable, and know that we are exposing so many people to it and saying ooh no you are negative and they go out and live life like they have been b4 or you are positive they go and hang themselves so I would think its reliable
Nokubonga: How about the window period isn’t the four day one the like giving you a window period?
Julia: Window period takes up to three months,
Tamara: It’s after, hey, this AIDS I’m telling you it’s the devil, in flesh because it’s like in that 3months it can’t be detected and yet they say that’s when it’s very dangerous, that’s when one is most infectious, so if you are sleeping around u r given it to more people. So how come it cannot be detectable and yet it’s killing at the same time?
Fortunate: That’s HIV for you
Tamara: No
Fortunate: So we all understand now that the window period has nothing to do with the period u wait for the actual test it’s a totally different thing like she explained. The next thing was what Tamara just brought up that immediately after you contract HIV that’s when you are most infectious. Did we all understand that? Because I had a question on that and most of the comments I got had something to say on that question and so I wanted to find out why people had questions.

Fortunate: Did you guys understand that there different levels of infectiousness at different stages of the illness.
Nokubonga: No
Sibonile: No
J**ulia**: I sought of have a vague idea
Tamara: Me too but I would like some clarity on that

Fortunate: How do you get your information or how have you accumulated it over the years?
Julia: Workshops on HIV I have attended some
Fortunate: Where?
Julia: At my school and there was like the welfare, an NGO that organized workshops. And then TV and commercials and staff a lot of them, and then brochures
Sibonile: I haven’t gone to any workshops, but it’s everywhere, everywhere you go people are talking HIV and AIDS and I also have an aunt who is research on HIV and AIDS but I haven’t really gone so much into it.
Fortunate: For you Nokubonga
Nokubonga: SHARC and life orientation at school
Fortunate: Tamara
Tamara: Hey I Google a lot,

Fortunate: Why would you Google HIV of all things
Tamara: I'm telling you I just do, I mean there are days when you read something on the newspaper or u hear something and then you feel you have exactly what they are saying. Or maybe you think the world is falling apart and just feel like let me know more about it. Also after my aunt's death I was goggling it and finding out what we could have done as her family, I try to read about it just to be aware of what happening

Fortunate: do you guys talk to your friends and family about it
Julia: No
Sibonile: No
Nokubonga: No
Tamara: Not really
Fortunate: Why not?
Nokubonga: It's everywhere else; we don't have to bring it into our conversations as well
Sibonile: Besides that people are not yet into talking about these things you know freely, people just keep it to themselves. People haven't really got to the heart of this, because I think through talking to people through talking to each other that's how we get to know more about it and the risk it has in our lives.
Julia: In my family it's still seen as, usually it was cancer seen as a big illness now its AIDS ooh she has a big illness and that's where it all stays we don't talk about it, the TV we all sit there and there the information comes up and we are all taking this in, but we never talk about it
Fortunate: Do you think it has anything to do with your cultural backgrounds?
Tamara: I think what I have seen is that in my family it's a depressing topic, we talk about it sometimes and I have noticed that as we are talking we are becoming more and more depressed just so we just decided not to talk about it
Fortunate: So it's too uncomfortable to talk about?
Tamara: Yes it's a very uncomfortable topic. in some cases we talk about it when I mean because sometimes I get paranoid and I would rather go for a test when I start feeling that paranoid I just go for a test, because I can't help it I'm an adult I'm active so when I get to that panic status I say okay let me just go for a test and then after that I will talk about it with Thandiwe (my twin sister) and tell her you know I went for an HIV test blah, briefly and then after that we leave it you know, we don't talk outside that
Fortunate: Ok do you think there are particular reasons why it's uncomfortable esp. for friends and family because I would think those are the people closest to you?
Julia: In my cultural background for me I don't think it's uncomfortable in my family, people are just laid back and saying ooh it's not going to happen to me I'm not infected why should I talk about, why should it concern our family so it's not in our family so we don't speak about it so that's what happens
Fortunate: Do you think if you had had an illness in the family then it would have been up for discussion?
Julia: Yes maybe
Sibonile: But I also think, in my culture it's still sort of a taboo for people to talk about HIV IDS, because the moment you start talking about HIV/AIDS you start talking about sex you know, and sex issues are issues for the older people and you are just too young to talk about HIV and AIDS and sex, so I think culture really plays a big role esp. in the African context.
Tamara: Yah I think there is I don't know its attached to what she has just said, I will repeat what she has just said, it has to do with the fact that as Africans we have never looked at sex as this wonderful thing that it is that needs to be appreciated. We have always looked at it as something for elderly people, it's not something they can discuss as well, so not with HIV

attached to sex, that is the worst thing as a result when a parent realizes that my daughter is HIV positive they get embarrassed they are like people are looking at me my neighborhood and really this child has brought disgrace to the family because of that connection. So there are many things attached to it and culture

Fortunate: So how do you think we can, because what I'm trying to do at the end of the day is to try and get as much information to people if I speak to you know something, and you have all told me that you are not going to share with your friends what we have learnt here today, how best then do you think we should try to get people to know

Tamara: For me it's not like we are not going to talk to our friends, sometimes you know you realize that even among a group of friends it's a tired subject, they just don't want hear about it

Julia: It's a tired subject, leave me alone

Tamara: And they will say stop bringing up depressing topics why are we supposed to talk HIV all of a sudden, is someone dying here, please guys can we drop this subject. So it's a tired subject, people feel like they have heard enough about it.

Fortunate: But guys while we are at it, when we started you told me that fine I understand that you all think this is a tired subject and you all think that you have heard a lot about this subject but when the questions came, you still didn't know...

Sibonile: Exactly

Nokubonga: Yah

Tamara: Aah yes

Julia: Yah that's what I was saying at the beginning

Tamara: I think we are ignorant, that's what I can say

Nokubonga: Yah

Julia: That the word

Sibonile: Yah

Tamara: Because when you sitting there all by yourself and reading something about HIV you get shocked ooh my goodness I didn't know this even though yesterday when your friend wanted to talk about it and you didn't want listen, you think I already know enough, but when you start reading for real you realize that Aah I don't know at all.

Julia: Can I make a general comment?

Fortunate: Yes go ahead

Julia: In my discussions with friends which rarely come up, but these few discussions I've had, in one instance my one friend had done a project on HIV where they had gone into rural areas and actually told people like how to use condoms and all that and they used a broom during the demonstration because they didn't have a cucumber or anything, and two weeks after when they came back to ask people how they, and how were they managing and so on, and she said they were like yes we used it , and they asked it how, was it comfortable for you and so on, and they were like yah I put it on my broomstick when I got back home, and that shocked me. There were few translations, but I think language is a major barrier because also here you are coming with your western culture and you find us with our cultures here and some obviously appreciating the efforts being done, but look at that, it saddened me that yho they think they are protecting themselves when they put the condom on the broom and the other one friend, she is very sexually active.

Fortunate: Is there a difference

Julia: Well let's just say she has sex often and she does have multiple partners so like and for me personally I abstain I'm still a virgin and I'm proud of that and will continue to be so until marriage and that may be a taboo issue for people here but not for me, so she talks about her issues, and I'm glad she shares like that but there are times that she comes and she is like flip I had this incident with the condom bursting, or flip, sometimes she doesn't even use a

condom and they just withdraw to avoid pregnancy and she gets test done just to make sure she is safe and she can just continue on like that and its really scary and we assume that she knows enough and then the 3rd one was my friend in Germany they don't know what the acronyms for HIV stand for, because they were thinking if you are negative then it's a negative things, and then I told her to condomise and she had a few wrong perceptions of condoms and then I realized that these people have got the internet they have the information at their finger tips they are bombarded with it, yet they have the same equivalent information with people in the rural areas who don't have any yah, so just to bring in that computer aspect that you are working on I think it's a good idea but then if people don't search like she does then they will never know.
Fortunate: Ok for my projects I have made 4 assumptions, one we have already talked about that is there is just too much information out there and people are just sick of it they don't want to hear about it anymore, we have already talked about overload, but then at the same time I made a comment that although we might say that there is too much there is limited dissemination of what I have termed in my research as relevant information. The information that people need to know, practical things that people need to know, for example, don't use 2 condoms because they will burst if you use two condoms, but what we do is we just have information that is another flaw I have identified, that is prescriptive. Information that tells you what to do but not necessarily telling you why for e.g. we have had a lot about use a condom use and how exactly will it help you, people might not know answers to these questions. Do you agree to that?
Julia: Yes
Nokubonga: Yes
Sibonile: Yes

Fortunate: Do you have any other example of information that is prescriptive?
Julia: TV programs they wouldn't say why, they just make illustrations or like have one partner and giving all the ways of staying safe but not saying why this is the issue so many people are dying or its not curable yah
Tamara: And also I don't know if this is relevant but I think the issue around treatment it's not addressed properly like when people need to take their treatment. I've heard that back in the day people had to be below 200 to take the treatment, and I've heard that the CD4 has been increased people can't wait till the cd4 count is below 200
Fortunate: Really
Tamara: Yah I have heard something like that and I'm not sure if that is being implemented yet. But I heard that's what they want to do. So I'm thinking even the terminology can be very tricky, people don't know anything about the cd4 count. Secondly when someone is sick all they think about is that I need to go to the clinic or I need to see a traditional healer because I've got this and the traditional healer will make something for me quick or whatever because people are still in denial, yah so there are still a lot of issues hanging, like TV is covering ABC, but still it's not enough and they show like soul city they look into the issues of HIV and even the way the sopie is done they concentrate on issues to do with HIV, but somehow I feel like they glamorize HIV and people don't need facts and reality not glamour.
Julia: That's what I'm saying; show how many are dying what's the situation
Tamara: Exactly because people look into those lives that people are having good lives and people want that life whether it gives them HIV or not, you know. So I think with campaigns esp. on TV need to be radical so that people can see how brutal HIV is.

Fortunate: Do you think you have learnt anything in terms of HIV while you have been here at Rhodes?

Sibonile: No
Tamara: For me I haven't seen, the university is not that active in terms of HIV
Fortunate: And how long have you been here
Tamara: Three years the information that I have I have learnt from my goggling, otherwise I don't see that much from the university
Fortunate: Sibonile you wanted to say
Sibonile: I also wanted to say I haven't seen a huge stance, what you just see is people saying HIV it kills, you know it's not so much into details, they real deal, people just sit out there the SHARC, at the library quad, it's not like they are doing a bad thing they just need to go into detail to really educate everyone to really make sure everyone understands that this is how HIV is and how it affects other people.
Fortunate: For you Nokubonga?
Nokubonga: Well I did learn a thing or two from SHARC during O-week
Fortunate: And after that?
Nokubonga: No not really
Julia: I think it's a very distant thing, I think this university creates an ooh you are in a haven you are separated from the world. I would say I appreciate the test drives SHARC gives, the free test drives where people can go and get tested and making fashionable and saying if you get tested you get this band or something and then people can say I got tested get tested and you will get this too. But in terms of education posters in terms of having a visible stance on education on campus, well no

Fortunate: Any last comment you want to say this is the time, if say someone uses this to come up with an awareness campaign what should they include
Nokubonga: I have a question, I wanted to ask what they really check for when they test for HIV, there was a question on that and I didn't know the answer
Fortunate: Did you guys know the answer?
Tamara: I'm not sure; I think it's the antibodies
Sibonile: I also wanted to comment what we talked about earlier about people putting condoms on broomsticks, you can't just get to a place and say there is HIV/AIDS use a condom, I think the first thing is to understand how the apple live, their culture and way of doing things, how many people are educated there so that you know who is going to understand what before you go in there to educate them on how they should prevent HIV.
Julia: Just a general comment, I really appreciate that you are doing your studies on this but it's softened because of the victims, like you just see the red ribbon and you should wear one, but do people know the tremor behind it? so I think people need to know the why and one last thing, I think government should focus on abstinence, I know that condomising is ok as part of the ABC, but focusing on the abstinence and getting back to teenagers because that the group they should focus on them because they are the future generation.
Fortunate: Ok sorry I'm just going to ask this last question, do you think abstinence or being faithful are relevant or would work for students here at Rhodes? Or for people generally at university?
Tamara: I think it's worth a try, it's up to the person, and anyone can abstain even if they were sexually active you can decide to abstain,
Julia: There was an article in activate about revaginising
Tamara: See so yah you can try abstinence, it can happen , it's just that there is a lot of issues when you talk about HIV, like alcohol, when you talk of teenagers and they go out in most cases they don't have money and you know what's happening out there (girls engage in prostitution), so there is a lot involved, and so if elderly people who are not leading by example who when they see a young girl see a woman, so that's the issues we have to start

dealing with before we get to this HIV and AIDS thing. I were to really be in control, ok I know I might never be in control of any community
Fortunate: You never know
Tamara: Yah for me I would start by closing the SAB, of course that might be hard because government looks at what it does for the community people are working and they are sponsoring this and that, and that they gave bursaries. But for me that's where the problems start its liquor. And the government doesn't see the problem in that anyway, because its business, even HIV is business now we have centers and institutes we have a lot of things surrounding HIV. So in a way HIV is a cash cow and who would want to demolish a cash cow.
Julia: I'm thinking back when I first got to Rhodes I was very impressed and I that wow, I saw two packs of 10 condoms each in my cupboard and they had them in the bathrooms as well. And then I understood that they were just saying if you are active we just want you to condomise. But if you try to close down corporations that's not going to do the trick. You have to start in communities society should teach itself within schools, churches etc to encourage a form of thinking, because if you can't get into the thinking of people it's like putting on a cream on your skin when the illness is in your blood it's not going to work you can't put petrol at the deck of your car and expect it to be full you have to put it inside. I think you have to enter people's thinking and change it from there
Tamara: I understand that but when I look at some countries that have low cases of HIV/AIDS I realize that the governments there are using drastic measures and they do work, somehow it's not like it's going to work because we are at this stage we are small I don't know it's because we have taken this democracy thing too far, children have rights if you do this to them you face consequences. For me alcohol is the problem
Julia: How about drug abuse
Tamara: Yah that too, even rape which no one chooses on oneself its one of the problems. There is quite a lot of factors but alcohol is one of the problems involved in it even in rape you find that even the rapist was drunk or was high on drugs and the government seems to be ignoring them because they are making money for them and the society. We are so capitalistic and as result we forget the core values of society.
Fortunate: Sibonile any last thoughts
Sibonile: No
Fortunate: Nokubonga
Nokubonga: No

Fortunate: Ok thank you so much guys for coming and for all your inputs in really grateful.
Tamara: Thanks it was a nice discussion

Interview ends…

Appendix M: Focus group discussion with white female students[25]

Discussion held on the 29th of August 2009 at 2pm at Rhodes University

Fortunate: Thank for being here, ok to start can you tell me your name, which year you are in and what you think of HIV and AIDS in general?

Jodi: My name is Jodi, I am a Masters student in HKE, and this is my 6th year at Rhodes. I am writing a thesis on the effects of living and working conditions on the health of nurses.
I think HIV/Aids is a big problem, especially in Southern Africa, and in developing areas.

Claire: I'm a final year law student, so it my 5th year at Rhodes. I am also on the SHARC committee in charge of peer education so I teach everyone how to give the safe sex talks. It's my second year doing it. I love it. I think it's the best way to teach people about HIV. We talk to them not as like your friends but as people on the same level as you. I really enjoy the first year talks. It feels like I'm actually doing something.

Robyn: I'm in my third year studying TV journalism. I thought I knew a lot about HIV and AIDS because of the SHARC peer educators, because they do talk about it a lot in high school in like life orientation and all that, but after reading your questionnaire I figured that I don't actually! And that was quite worrying.

Fortunate: Thanks, so what I have done is I have taken some questions as they are from the questionnaire, questions that I thought or felt that people needed to say more but couldn't because it was a questionnaire and it was mostly closed ended. Or questions I thought people were left with questions afterwards, I just thought we could talk about those questions today.
Ok, so the 1st section I had was on condom use and if you remember the first question I had was on free condoms so I would like to find out what you guys think of free/ government condoms?

Jodi: I think it's a good idea to give out free condoms to those who are sexually active
(or have them available for them), as I think that otherwise some people might not bother to use them or they might feel ashamed about going to buy them, or not have them available when needed. Although, in a way, they might be seen to promote sexual behaviour, as they are put explicitly in various public places. And if people have condoms available they might think it's fine to have sex whenever, without considering further moral principles besides getting infected. I also think free condoms are especially important for poorer communities (rather than for the student population, for example, who would generally be able to afford to by contraceptives – if they are willing to take responsibility for the consequences of their sexual behaviour), also because HIV/Aids seems to be spread so prolifically amongst the poor.

Claire: Well I think they are awesome because they are free and they are thicker. Well I advocate government condoms because we get so many of them and they are just easy to get.

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[25] All names used are pseudonyms

Fortunate: If you were not on the SHARC team would you still advocate for them?

Claire: Yah I would, because I'm a student, I'm broke!

Fortunate: And you Robyn?

Robyn: I think it's good that they are so freely available, but I think they could be made more available especially on campus. There are so many of those condom container things in all the Res's, under the library and the bathrooms and stuff. But there has been quite a few that have been empty all the time and they really must be filled. Because like she said they are free they are available and everyone is a student, and you can't stop students from having sex but if there are no condoms available freely and with easy access then that's an issue

Fortunate: So do you think they are not providing enough?

Robyn: I think they are providing a lot on campus, in residences and things but there are just a couple of containers that just aren't ever filled especially in public places the bathrooms like the library, and I think that's problematic because if we do have so many it's very easy just to put them in there.

Fortunate: Ok, what do you think of the safety of the government condom?

Claire: Well they are exactly the same as all the bought condoms because they go through the same SABS standard thing. Just on that note, it's one of SHARC reasons that we have a problem with the university because condom distribution on campus is not our problem, it's the varsity's problem but they don't do it. So we always get the slack for it and they keep charging us to do it but it's also the government's because they go through so days where there are shortage of them and like during AIDS week, I had to go home to Johannesburg to get some because we didn't have some in Grahamstown. Yah, it does suck that they are freely available but no one can get them

Fortunate: How about lubricants. What do you think about lubricants?

Jodi: I really don't know much about lubricants. As I have chosen to be abstinent, I haven't felt the need to find out about them.

Robyn: Its water based lubricants, I don't see the reason why oil based lubricants are available they are not safe and if they are available it should say very obviously on it not for use with latex condoms

Claire: Well you see the problem with that is for people who don't know the difference will use like Vaseline, or easy things, baby oil, that's why when we had the sex-po we had a lot of different types of lubricants showing people what different types you get. But lubricants that you buy in shops are quite expensive, like those durex ones, those small ones are like R60, which is expensive.

Robyn: Is K-Y jelly oil based or water based?

Claire: Water based

Robyn: I'm asking because in the questionnaire I didn't know, and everyone was telling me its K-Y jelly.

Fortunate: Let's talk about male circumcision. Do you know if it has any effect in terms of HIV/Aids infection for men or for women?

Robyn: I wouldn't think it would be more risky or less risk so long as its properly healed, obviously it would be stupid to go and have sex straight after or reasonably soon after any open wound. But I would imagine that non circumcised men and fully healed circumcised men have the same risk of contracting HIV or giving HIV and AIDS

Jodi: No, I don't think it makes much of a difference in the transmission of HIV. Perhaps there are some advantages in men being circumcised in terms of STDs, as it is cleaner, or whatever; but I don't think that is to a significant amount. I think the main risks involved with circumcision, particularly with traditional circumcision, is when they are not performed correctly or hygienically, which could cause infections or other problems.

Claire: Well it used to be that if you are circumcised you had less chances of contracting and giving HIV because there was less area, but now with better cleaning rituals and cleansing things it actually doesn't make any difference, that's the research I found said that.

Robyn: You mean there is no area for wounds to be on?

Claire: It's more like, because underneath the skin if you don't clean it properly it can get septic and get sores, and the moment you get sore you are more susceptible to HIV.

Fortunate: How about deep kissing do you think it's any risk?

Jodi: Well, I think the main risk in deep kissing, is that it can lead to sex, which would be the primary source of risk of infection. Otherwise, the risk would be if people have sores in their mouths.

Claire: Well yes if you any sores in your mouth and your partner also have a sore in their mouth and you swap blood then there is a risk.
Robyn: I think that's gross! But then sometimes if you flossed you can cut your gum and you don't realize it or if you brushing your teeth at the same with your partner if you live together and then you have a kiss.

Claire: That's why they say if you are really worried about it doesn't brush your teeth too hard, rather use gum. But there's got to be exchange of blood not spit.

Robyn: Yah apparently you have to swallow a bucket full of spit.

Claire: 50litres

Robyn: That's gross

Fortunate: How about oral sex. Do you think oral sex is safe? Under what circumstances does it become risky?

Jodi: Um, I don't really know. I would say it is more risky than kissing, as there is more direct contact of bodily fluids, but I'm not really sure. So I'd say it would become more risky if people have sores in their mouths.

Robyn: I think if you are not using protection then it becomes risky. If a woman is giving oral sex and the man is not wearing a condom then there is sperm present, there is pre-cum present and that's, any body fluids like that, there is a risk of transmission especially if she has like a sore inside her mouth and it's just really, really risky and so to eliminate that best use condom.

Fortunate: Would any of you support that?

Claire: Yeah just that bit about unprotected oral sex is low risk because your mouth is an inhospitable area for HIV for the virus but also as Robyn said if you have cuts then you really have to worry about it. If there is STIs you can transmit them into your mouth and have throat infections and throat cancer.
Robyn: Well likely most of them are visible so people can see, but the problem is with those you can't like HIV and Chlamydia.

Fortunate: How about in vaginal sex do you think there is a difference in the risk that men have compared to women when it comes to unprotected vaginal sex? If you think there is what do you think causes this difference.

Claire: Ooh so you mean during vaginal sex?

Fortunate: Yes

Jodi: All sex is risky, for both partners. But women seem to be at a higher risk, just from stats on the topic. I don't know, though, whether that is because of sociological or biological factors.

Claire: Well it's more risky for the females because it's easier for semen to get into the vagina than for vaginal fluids to get into the penis. My parents are doctors and mum had a patient where a couple had been together for 5years and they stopped using condoms and she got pregnant and she said ooh I'm HIV positive and it turned out that man was not. So it just shows you that female to male transmission is really rare. I think it also depends with the kind of sex you are having, I mean if you are having more rough sex then yah, and it also depends on how high the viral load is at the time. Because the higher the viral load the greater the chances of passing the virus

Robyn: What causes the viral load to be higher?

Claire: As you get sicker the viral load gets higher, but also when you 1st get HIV it's higher.

Fortunate: Great, how about rapid testing. Do you think it is rapid testing for HIV as reliable as other tests that are done, for example, over 3-4 days at a doctor?

Robyn: I read in one of the campus newspapers last year that there is a guy who went for the rapid testing at the San, I think it was during one of the testing drives, anyway the test came back positive, he obviously freaked out that it was inconclusive, then they took it to the labs for the 4day testing and it came back that he didn't actually have what he thought he had for 3days. Which was quite horrible! I think that the rapid testing is fairly accurate because apparently they do two tests at once and then obviously if they don't match up then there is an issue and that seems to make sense that it would be more accurate that way.

Jodi: As far as I know. Although I don't think HIV test results can always be seen as 100% reliable or conclusive. And I think it also depends on what stage the person may be in as to whether the test shows up as positive or not.

Claire: In terms of those tests they are not looking for the HI virus they are looking for the antibodies, that the virus produces, so you do not come back negative or positive, you come back reactive or non reactive. If you are reactive then they send you for a blood check to see if you have the virus. I have heard they are reliable but then all test have a flip side and also people have to make sure about the window period and make sure that you test afterwards

(Erin joins the group at this stage and I make a quick recap of what the group had discussed so far)

Fortunate: Ok so now the other question was on how infectious a person is at different stages of the illness varies. Did you know that, or do you have any comments about that?

Jodi: Yes I had heard about that; but I don't know when those stages are. I haven't known or at least used the term "viral load" before.

Robyn: I really didn't know about that. I didn't know about the different levels of infection, I'm quite interested to find out more about that. It's one of the things that worried me most because I didn't realize that there were different levels of the infectiousness.

Erin: I felt the same sort of, but it made sense that there would be, based on the idea of the window period and all those sort of things, it made sense that there would be times when you would be more infectious to others.

Claire: Well I knew that.

Fortunate: How do you guys get your HIV/Aids information, what are the sources that you use? Claire you don't have to respond to this one…

Jodi: I haven't really thought about how I receive that information – it has just seemed to be everywhere. I think we got some information at school, also res talks in first year, and talks done in orientation. I have also heard someone talk about HIV/Aids at a leadership camp – which I found more interesting than just hearing the basics repeated (e.g. Abstain; Be Faithful; Condomise, etc.). Also billboards, pamphlets, magazines, and TV are a big source of information. I don't think I have ever intentionally searched for HIV/Aids information, except when finding statistics for my research.

Robyn: I also learnt a lot from SHARC. I got it in 1st and I was in house comm. in 2nd year and they did the same things as well. And there was that amazing race things, where you had to demonstrate how to properly condom use, you had to put on a condom on a wooden penis, you had to hold the tip and check the expiry date so that was really informative. But I guess the internet, for other information that's a bit complex to explain in a workshop, like the different level of infection

Erin: I learnt a lot back at school, and then I learnt a lot from SHARC because I'm a peer Ed now.

Fortunate: Ok now do you talk to your friends or family about it (HIV)?

Robyn: Not really, no

Erin: I have gotten into debates with my friends and family, we would speak about it sometimes but it's not like a huge debate.

Fortunate: for you Jodi?

Jodi: No. It hasn't seemed relevant as I am not sexually active. Although I suppose I have spoken about it to friends in terms of risks of catching it from others in ways aside from romantic relationships (such as in community service activities - contact with HIV+ people). I don't think people are very open about having HIV/Aids. I don't think anyone that I have known on a personal level (i.e. friends or family) has suffered from HIV, so maybe that is why I haven't ended up talking about it. I think it might be hard for some who would like to talk about it, due to the stigma attached to it (-which may be because of its association with homosexuality, poverty, or debaucheries lifestyles??? Perhaps a fear of condemnation). It isn't very Politically Correct (or even ethical) to ask about a person's HIV status – especially, for example, for jobs, or other interviews. I'm not sure if this is contributing to the stigma associated with it; as it is not treated the same way as other sicknesses are. I do hear stories of people being dis-communicated from their families or friends, for example, because of their status – it just seems weird to me – doesn't make sense.

Fortunate: How about you Claire?

Claire: My parents are both doctors, my mum used to work with HIV infected people back in the day, she is a blood specialist so one of my memories of being a child, is my mom stuck me in a hospital and there was this little baby whose mum had just died of HIV and it tiny so that stuck with me throughout my life. But also I love the internet I get lots of my information from there, and also because of SHARC we get a hold bunch of staff from like TAC, the gay people, they have cool stuff.

Fortunate: Any particular reasons you guys do not specifically talk to your friends and family about HIV and AIDS?

Robyn: I really don't know, I have had basic conversations with my mum because we used to foster an abandoned babies and we were always very careful when we first got them so I grew just aware that it was a risk so I don't think she ever really like ok don't touch the baby or whatever, but she was very aware if the baby got cut or sore something like that or certain body hurts she was just careful with them and made us aware that we also had to be careful as well.

Fortunate: How about with your friends?

Robyn: I honestly don't know why.

Fortunate: Maybe it just never comes up?

Robyn: Not really, but I don't know why

Claire: Well I know for me it's very difficult for me to talk to my school friends in Johannesburg at home, they think I'm quite strange to do the kind of things I do. I think it's also got to do with the belief that 'I'm privileged, it's not going to happen to me so why should we talk about it' but when I do bring it up, they do converse

Erin: I have people quite close to me that are infected or have passed away,

Fortunate: Within the family or is this your friends

Erin: In the family and friends, and so that did bring up a lot of discussion when you find out or when its journey time and you know how to help them through it and how to support them through what's going on.

Robyn: I've actually never spoken to anyone who I was aware of that they had HIV or AIDS; no one has spoken to me or has been open about it. I'm sure I know people who do have it, but they don't talk about it.

Fortunate: Do you think it could have been different if you knew someone who had the virus?

Robyn: Yah sure, I think it should be different, I don't think I should wait for someone to have it before we start conversing about it, because perhaps if you start talking about it then you would make people aware of what you were aware of and you know through maybe information from SHARC and then you could share what could help them and prevent them from getting it.

Fortunate: Ok the last section I would like to hear your views on the four assumptions I have made on current HIV and Aids Information, the first one is HIV and Aids information is prescriptive? That is information tell you what to do and not so much on why you have to do it.

Jodi: It does seem more important to tell people how to change their behaviour rather than just giving them information. (Although maybe this would be more important for the less educated). But I think if people know the reasons behind why they should do things, then they might be more willing to change their behaviour, and that the changes are more lasting if people understand why they are told to behave in a certain way.

Robyn: I think it happened a lot in high school, I mean like we had a poster and you had little squares of someone doing something and you had to put them into a pile, e.g. using a toilet which is low risk, and they would say no, no you don't get HIV from the toilet. They never said why, and it was quite frustrating.

Fortunate: Erin do you have any experience with that

Erin: Yah I think school information is very limited it just focuses on don't do that, but yah, but why? And they would say just don't do that

Robyn: Or because you will get aids and die

Erin: Yah it was basically just cut and dry

Fortunate: How about you Claire, any experience with that?

Claire: Well I don't think I have learnt about HIV at school, because I missed OBE. We never spoke about HIV.

Fortunate: Ok the 2nd and 3rd assumptions I have are that there is a lot of information out there about HIV and AIDS to an extent that some people are really tired about hearing about it and in a way it affects the way we conduct campaigns. And yet at the same time, the 3rd assumption is that there is limited dissemination of information that I call relevant. So information that is really useful for me as a person or an individual and not just information that campaign look good. I don't know what you guys think about that.

Erin: Well I don't think there is too much information out there I just think the information that is being given is not being given the right way.

Fortunate: What do you mean the right way?

Erin: Well for example I think if you get information that is very basic like in life orientation, that tell you do it, it makes it very hard for someone not to get irritated with hearing over and over again.

Jodi: I do sometimes feel bombarded by HIV/Aids information. Sometimes I avoid listening to anything on the topic as I am bored of being told the same things repeatedly. Often, the information received is not even relevant to me, as I am not sexually active. It sometimes annoys me that it is assumed that everyone is sexually active – it condones, or even expects, that behaviour. I don't think that promoting condom use can solve the problem of HIV/Aids as it doesn't touch on the underlying problem – it can just help to slow the spread of it).

Robyn: Just what she is saying people get frustrated easily. Like in high school they used to say don't have sex or you will have aids and die, people got so sick of it and they used to say we have heard this so much; we are so over HIV and AIDS. Then when you actually given useful information, as soon as you hear ok we are going to talk about HIV and AIDS and you go 'aah ok sure' and then u just switch off, and you don't pay attention. But the thing is you have heard the same things before, but that doesn't mean you have heard everything, you have heard the basics, use a condom, don't have sex, hugging people with HIV is fine, but the thing is there is so much more that you are not made aware of but you stop listening because you are told the same things over and over again. So even If you do get hear the important staff you are not listening

Fortunate: Of what we have discussed what would you say is relevant to you

Claire: Just touching on the previous question, we have quite a problem, SHARC has with the o-week talks because people come and they are like gosh I have heard all this before, I'm not actually going to listen to the talk. So each year we have had to make it more and more practical and less information based, because people know the information from school, so we found the thing that most people learn is the condom usage, it's how to put a condom properly, and then the new information that they get is like they get this little dental dams, the oral sex bit and the female condoms and so condom usage and making it more relevant to their lives is great

Fortunate: Especially because you are giving them a practical side of it

Claire: Yes and they can go I know this information and now I know how to use it. So at least if they switch to all the basic information, they at least know how to protect themselves.

Robyn: And it's not embarrassing when you guys do it because at school they tell you actually use a condom, but you give all the different stages and we had never been told that, and it was practical and that was really useful because it sticks in your mind if you see a giant wooden penis you would remember it more and go so if you have sex then use a condom, it's a lot better to get practical staff. I also would really like to know the different levels of infectiousness and the window period and that entire staff because you hear the terms thrown around but you don't really understand what it means. Perhaps it would be cool to have it in a graph or something that is visual and simple to understand as well.

Fortunate: for you Erin

Erin: I agree with everyone

Fortunate: How about you Claire

Claire: Just in terms of the infection rates, it's quite difficult to make that simple because it's quite scientific, I have been learning about it for now four years and I still don't know what happens, I know basically how it happens, so it's quite difficult to find it simplified and understandable.

Fortunate: Ok and the last assumption is the use of jargon or scientific terms, a lot of the information that you want to know and understand is in scientific terms that makes it hard to understand that even if people come up with a brilliant campaign the use of these terms, that kind of people think everybody knows what they mean, like CD4 count. I found that to be a problem, have you guys experienced something like that?

Jodi: I don't think I understand all of the terms that are commonly used – so this may make it seem mysterious to some people. I think the main thing people need to know is that it is a preventable disease, and that it is not necessary to condemn people who have it – especially because not all cases are even sexually related.

Claire: Well just in terms of doing the talks we learn quickly, because If you ask guys do you know what a CD4 count is everyone will be like yah yah yah, and then you get this one person staring at you to say what? But they don't say anything, so you have to learn on how to pick up on that to make sure that you explain. So I think that's really important like not to make it stupid and silly but just to make it understandable. And explain that this is how it works and this is what it is.

Erin: I think like in a workshop that I went to, it was good how we were asked questions rather than this is how it is and then people had to contribute, and it makes it more about you

than just the general public.
Claire: One thing that a lot of people get mixed up is the difference between HIV and AIDS, they don't really understand the real difference between the two, they know there is HIV and there is AIDS but they don't really understand.

Fortunate: Do you have any comment, question, one last contribution?

Robyn: Just a comment about the information we are given about HIV and AIDS we have kind of touched it, but we need to know why, not just what, okay there is a window period, yes I know that, that a certain weeks after this and this, but why. I think that's very important.

Claire: Bad misconception is that gay man are more susceptible to HIV, and it's not just because they are gay, it's because of the behaviour they are practicing, and I think that's an important thing to talk about. To tell people that anal sex is very high risk, so even if you are heterosexual couples, you can get it as much as a guy person. I also think that it's important that you get more men involved like with this new initiative called men as partners, because like in Africa, a lot of it has got to-do with male dominance, and men having many wives or mistresses.

Jodi: I'm mostly concerned about HIV education for poorer communities. Also, what concerns me is that people are intentionally getting HIV, or defaulting on their treatment, to remain on disability grants – although I don't think that is because of a lack of understanding, but rather just in terms of supplying basic needs. Maybe the type of HIV information needed will keep changing according to situations (and contexts).

Erin: No it's all been covered.

Fortunate: Thank you ladies for you time.

Interview ends

Appendix N: Focus group discussion with white male students[26]

Discussion held on the 4th of October 2009 at Rhodes University

Fortunate: Thank you all for coming, the questions we are going to discuss are from the questions but to start please tell me your name which year you are in and what you think of HIV and AIDS in general.
Denis: I'm Denis 1st year Journo student I think AIDS is not given enough credit; it's not given enough attention as it deserves
Grant: Hi Im Grant im a 3rd year student. Yah I think it's a bit difficult, we have heard so much education about Aids, but yet, when I did the survey, I answered the questions I didn't know what the answers were, and so sometimes you think that it's been overdone but maybe its hasn't been done that often you know so much and then you realize that you actually don't know that much
Tom: Hi I'm Tim I'm a third year B, environ student, a lot is being done on HIV and AIDS but I think not much is being done for HIV for the youth I think there needs to be more done with actually getting to the he roots with actually getting to the levels to reach the youth.

Fortunate: This interview is to assist me in an intervention that I would like to inform which will be ICT based and I would like to find out what people know and what people need to know and I wanted to find out what people know and do not, and maybe focus on what people do not know. Using this research I would like to find out other aspects of the areas I raised in the questionnaire that you are interested in. Ok the 1st section I had in the questionnaire was on condom use and I had a question on the government condoms, what do you think about them
Tom: Well, personally I would never use them because I don't feel they are safe, they are not strong enough; I have heard stories of them breaking quite often, yah so I wouldn't use them
Fortunate: so is it because they break a lot that you do not use them or is there something else?
Tom: No it's just that word on the street
Fortunate: Ok Grant?
Grant: Well, I am for abstinence, so I am not sexually active yet. If I were to put myself in that situ I wouldn't use them either, I wouldn't use, I know that they should be ok, but if you get them straight away then I suppose that would be ok, but you never know how long they have been sitting there, what temperatures they have been exposed to and that the problem for me.
Fortunate: Ok thanks Grant, how about you Denis, and what do you think of the government condoms?
Denis: Well my dad works for SABS and when he has to go for conferences in Pretoria to discuss this, I think they are perfectly durable and safe but I think it's because people use the wrong lubricants with them. I think the only problem is that the condotainers are usually always empty that's one thing I have noticed.

Fortunate: I had a questionnaire on lubricants; did you guys know the answer to this question?

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[26] All names used are pseudonyms

Tom: It's not like anyone has ever told me that's the one to use, for me it was a wild guess, because I didn't know about it at all.
Grant: I think I would have said the same thing, but I would have the suspicion that the oils might affect condoms.
Fortunate: Anything on condoms or condoms use that you think you want to know that wasn't covered in the questions?
Tom: Not really, actually SHARC has done quite a good job on condom use around campus. They go around a lot and educate people on condoms.
Denis: Yes I have encountered SHARC, I like the way they show how to actually use a condom, unlike in high school they would just tell you to use it.
Grant: I think that's the thing, people don't actually realize how complicated a job it is,
Fortunate: So you reckon in the moment, even if someone knows that they ought to use the condom and they want to use one they might actually not be able to use one probably.
All: Yes

Fortunate: I had a question on male circumcision; do you guys know the relationship between male circumcision and HIV infection?
Tom: To be honest this is the 1st time I heard that.
Denis: Me too I wouldn't think that it has anything to do with it
Grant: I read somewhere that if you a circumcised man then your chances of contracting HIV are less
Denis: Can I ask why?
Fortunate: Well, research has shown that when a man is circumcised then chances of him keeping in body fluids which would transmit the virus such as vaginal fluids so that makes it easier. In any case the chances of a man catching HIV from a woman are less than that of a woman.

Fortunate: Ok, how about deep kissing
Grant: Depends if you have sores, but the chances are really Minuscule
If you both have sores then it increases your chances
Tom: I have heard pretty much the same.
Fortunate: Oral sex
Tom: I didn't know a lot about oral sex, I still don't know a lot about

Fortunate: Vaginal sex for men or women
Grant: I didn't know there was a difference
Denis: I also didn't know that there is some kind of a difference
Tom: I don't know about that at all
Fortunate: So you wouldn't the reasons why since you don't hey,
All: yeah
Fortunate: Rapid test?
Tom: I've never taken an HIV test so I really don't know
Grant: I don't know which one is better but I know with the rapid one if you get a positive it can be a false negative but you don't get a false negative.
Denis: I've never heard of a quick/rapid test.
Fortunate: Tom you said you haven't done one, but have you heard about it?
Tom: Yes I know about it from the test drives.

Fortunate: Ok, from the questionnaire it became apparent that most people did not understand that there are different levels of infection at different stages of the illness; do you

guys know about the different levels?
Tom: I would that that it would be the same
Grant: I didn't know the differences, but I do know that you can contract the disease more than once, reinjection
Denis: I just that you have it
Fortunate: So in general you all thought that once you have the disease, you have it and the infection is the same, and it doesn't matter whether you got it yesterday or ten years and you are on treatment you pass it on the same
All: Yah!

Fortunate: So where do you guys get your HIV and AIDS Information from?
Tom: You can always chat to your GP about it, and then on campus there is also SHARC so you can always find out staff from them
Denis: I pay attention when SHARC but I wouldn't go to them to find out unless if it's for a project or something.
Grant I got mine from school then SHARC, and then I did a course in CT on HIV and AIDS, it was an independent thing, but I don't keep up to tabs on it though, but if I was keeping up to tabs about it would be the internet, I wouldn't talk to an organization about it, no.
Fortunate: Do you talk to friends or parents?
Denis: Well one of my friends had a bit of a thing once and we spoke about us.
Fortunate: What had happened?
Denis: He had started drinking a lot and hooking up with random chicks and we just kind of spoke about it a bit
Grant: We only speak about cures
Tom: It doesn't come no, not at all, if it does it gets touched up quite quickly
Fortunate: Family
Denis: Not at all
Grant: It comes up quite often,
Fortunate: Aah ok so you do talk about it
Grant: Yah its fairly open but not discussed that much it has come up sometimes
Fortunate: Why would you think?
Grant: I would like to think my parents think it's not an issue, or I'm responsible or they think we had heard enough already and them think we got enough education from school
Tom: I don't know really, it does come up, but never like, listen don't you go getting AIDS it's never like listen let's talk about HIV…No our conversation is about his workers, because he is a farmer back home, went we talk about its always about those guys and its always about how they get their ARVs, actually about the queues they have to stand in, and how it takes the whole day for them to get the treatment, Yah so it's never about the virus itself but about the social aspects about AIDS
Fortunate: Aah so you are saying it's never about you but other people
Tom: Yes it's never about us, no
Denis: Pretty much the same thing, I spoke to my brother about it because we had just been told to use condoms and that's just it.

Fortunate: Have you found HIV and AIDS information that is prescriptive? Is so give examples
Denis: I think in school it was like that, we were told you have to prevent it or if you catch AIDS you die, they never explained why you have to do it or anything.
Tom: I've had an example, I don't remember where I actually heard it from but there were people who were talking about using a condom and they gave a demonstration of how to use

a condom. And these people used a broom stick, and they later found out when they went back that when guys slept with girls they would put the condom on the broomstick, and have sex...I think that's it's an extreme example I gave though. So I think it's important for especially people like SHARC, people need to understand where other people are coming from.
Grant: What is the why other than you going to die? But I suppose I haven't heard alas much of a why…the assumption is that everybody we have to tell people because they going to die and I think prevention as opposed to treatment. The what and the why t
There could be other reasons that could
Denis: People say you going to die if you catch HIV and you read to people who have been alive for 22years, so why shad this be a worry to me, I mean If someone comes to me and says that I would say that but I have just read that this dude has been alive for 22 year, so there is a contradictions
Grant: Also people need to know that risk associated with it. Because even in a marriage you have to be extremely careful and I suppose that makes sex less enjoyable because you are constantly worrying about protection and if you have used enough. So if you are HIV positive then there are ramifications for the rest of your life

Fortunate: How about information overload do you think that is a problem for HIV and AIDS information?
Denis: They keep throwing numbers at you, and say so many people are living with AIDS. I look at the stats now and just think if I could put that in my bank account, you know, instead of hearing so many million have HIV that I'm tired of hearing. The figures are quite boring now; I'm tired of hearing of stats I mean
Grant: There are some bits that I'm tired of hearing, like especially the basics, if people do give talks then they start from the beginning, it's boring, but this questionnaire did was to show me that there is more that I can learn.
Tom: On a personal level, I think they could make it more personal, like if you personally catch hive what does it do to your family. Because there are lots of families who the breadwinner is the one who catches HIV and dies, and I think information must be on that because a lot of people don't know about that dynamic
Fortunate: Do you think there is more that can be done to make HIV and AIDS information more eye catching
Denis: Can't think of anything at the top f my head, like if a see an aids sign I just peep to see but never focus
Grant: I think Tim's point is very good I had never that of it. It's only about you, when in actually fact it's not, so I think teaching from that area is goo. I think also finding a way of toning it down a bit without watering down on the severity of the matter.

Fortunate: That the last section/assumption that were are going to talk about, scientific words and jargon, do you think there is a problem
Tom: I think we have worked out that it's a problem for some sectors of the community but here at varsity, I think you can throw as much jargon as u want because students will look it up, of the don't know a word. At university you can splash to as much jargon as you want and students will be like what is that word and they will find out.
I think breaking a barrier, like we have just said it doesn't come up. It really never comes up, but I think to get people to accept that its talk about it that would be great and useful
Fortunate: Try to make it
Fortunate: Thanks lot guys, anything you want to add? Or axons
Denis: Are there stats on how prevalent hive is at university and at schools around the

country, because we always hear about the national figures.

Grant: Its one in four the national one hey?

Fortunate: There isn’t any on unit’s at the moment, there have been three done at RAU, UWC and UKZN, but they are not that reliable, like the one at UWC used the rate at neonatal clinics and just assumed that the same rate would be true for their students but heads has rolled out a project to do the test at all 23 students. They were here last term and conducted random tests with students on campus. And we are still waiting for that study results. That’s the first shot we have at getting stats on universities.

Tom: Really and that’s only happening now?

Grant: How did they do that, because I have always that it was hard because you can’t force anyone to share their status.

Fortunate: Ye you can’t and didn’t it was voluntary, so what they did they came spoke to the university, since we are all (all university in SA) under the HEAIDS project. They made announcements for people to take part, and people did.

Fortunate: Thanks guys for coming out for you time.

Interview ends...

Appendix O: Focus group discussion with black male students[27]

Discussion held on the in the 3rd of October 2009 at 1400hrs, Rhodes University

Fortunate: Thank you guys for coming will try and keep the interview short since it's only the three of you. We will be discussing some of the questions from the questionnaire as they were. I have chosen a few that we felt needed to be explored further. **To start with can you tell me your name, which year you are in and what you are studying here as well as what you think of HIV and AIDS in general?**
Themba: I'm Themba doing third year Bsc, and I think HIV AIDS, what I think about it as in the disease the response what?
Fortunate: Yah anything
Themba: Yah I think it's a bad disease obviously and I think it's fairly stoppable if only people would do certain things.
Siya: I am Siya I'm doing masters in African languages. HIV and AIDS in general? Wow! The only thing I could say is that it is a dreaded disease. Well I think that young people are still at a risk of acquiring this disease due to their current social behaviour. A lot of young people nowadays indulge in using drugs and alcohol of which I think this might be one of the challenges towards using condoms and being faithful to your partner.
Tray: My name is Tray I'm doing 1st year BA and what I think about HIV is I think it's more like a threat to the existence of mankind because it's basically eliminating people at an alarming rate, that's one, secondly I believe that there is something fishy about HIV because it seems to be a profitable industry, because most like pharmaceutical companies and NGOs are surviving on HIV so I think there must be somebody who is really behind it.
Fortunate: What do you mean somebody is behind it or something fishy.
Tray: It's more like HIV just cropped up like 20years ago and that's the time when, I mean I do history so that's probably the problem, cause you find out that was the same time that these capitalist and corporations, that was about the end of the Kansan era and the beginning of the liberal era so that capitalists were like looking for ways to make more profits, so they might have created it to make more money out of it so now they are making a lot of money from it, millions of dollars, look at how much the pharmaceuticals are making out of it and the NGOs. As much as everybody would want it eliminated some people would want it to remain in business.
Fortunate: You were about to say something Themba?
Themba: Yah I've also often thought of not the cause but the end of it. I mean there are really clever people like a lot of really clever people who have been working on trying to stop it. I'm not sure did AIDS not start in the 60s somewhere there?
Fortunate: The 1st recorded case of AIDS was in 81
Themba: Ok so they have been working on it from then, really clever people, people who can calculate how to land you on the moon safely, like really clever people and only last week, or was it last month the discovered, or completed they said decoding the gene of sequence, it was only last month...I really think that if there has been all these clever people working on it surely one of them would have found the cure by now, but like he says having found the cure it would gone to the where? The pharmaceutical companies who benefit more from a treatment than from a cure. But that's just a possibility I'm not convinced that it's like

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[27] All names used are pseudonyms

that but I am quite aware of that.
Fortunate: Aah it's a thought that you can entertain?
Themba: Definitely a thought that I can entertain without thinking it's a joke

Fortunate: Ok let's talk about the free government condoms. What do you think about these condoms?
Siya: I would like to assume that it's only few people using free condoms. People claim that these condoms stink and are not of good quality.
Tray: Personally I think that an ounce of prevention is better than a pound of cure. This whole free condom thing era is a nice way of trying to curb the spread of the disease but at the same time it now needs active persons who now choose whether they want to or they don't want to use the condoms. Like not as in not want to use them and have sex, but as in not want to use them and abstain totally. Like it's more like they are promoting people to take risks that is what I personally think.
Fortunate: So you saying you think condoms encourage people to take risks? How do you think they do that?
Tray: Yah I think that, I think they do that by saying that condom are much safer right? you know people they labour under the fact that ahh if I use a condom then I won't get HIV but you find out that it's not like its 100%, I mean it might blow off or something of that sort, I mean something might go wrong, and you might go with a condom and the other partner refuses to use it. It's really difficult...cause you came with the impression that I came with a condom so I'm safe but then you don't use it, what is in your mind is that I have a condom but then you are not using that condom so I think it's a nice way of trying to prevent it but at the same time its actually exacerbating HIV and AIDS cause initially I think condoms were made to prevent pregnancy and apparently I have got a friend who does pharmacy, he was saying that the if you look at the pores of the condoms they are much bigger than the HI virus but then somebody disputed that and said that that was like the earlier condoms and he was saying that it has since been improved. I don't know how true it is but personally I wouldn't want to take such a risk so that best thing that I would do is I would abstain from the whole idea of having sex, cause I don't want to put my life at risk that's one thing for sure.
Themba: I differ on most of what he said I'll start with the last thing the pores being bigger that the HIV, true or not true the fact is that HIV cannot survive on its own, it cannot it's a vector I think they call it so it needs a medium and that medium is the one that cannot pass through the condom it's not possible and HIV will not detach itself from the medium and go through without the medium, it's not biologically possible, it's like saying there is a wall and there is a hole in the wall that's smaller than a person but a person can only get there using an airplane but the airplane will not fit through the hole if you see what I mean so there is no way a person will jump from the airplane to jump through the wall. That's what I think. Secondly as far as the first issue about the condoms promoting sex I think it's true but it is to a much lesser extent than you imply that's what I think I think yes in certain few instances people will increase their behaviour because of the availability of condoms but at the same time I think human nature, well I think most, well maybe most is not the right way, but a lot of people are very sexually active and I think that the condoms are quite necessary cause if they weren't there those people would still be sexually active and you know and probably they would depend on visual diagnostics, aah she looks ok, he looks hot, you know, and so they diagnose by just looking at the person whereas with the condom you don't a diagnosis cause it's a 99% prevention so while it does it can or does increase sexual activity in some people I think it prevents infection for most of the people so if we look at the numbers and add up the totals I'm pretty sure that we would find that we save more that we would if we didn't have condoms.

Fortunate: How about the safety of the government condoms? Would you actually use it for yourself?

Themba: Well I don't think the government would approve of something that's not safe, not to say that governments are a good people but they wouldn't do that it would not be in their self interest later alone in the interests of the country because if people did discover this and obviously there are people who look at such things like scientists and staff if they did discover this it would be hell for the government you could be guaranteed that minister who ever it is and even the whole party, so they would make sure that its safe.

Fortunate: so you would use it

Themba: Yes I suppose so

Fortunate: And you Tray?

Tray: Yah, I mean they are 99% of them being safe. I just don't trust governments

Themba: Yah governments are not things to be trusted

Fortunate: Do you guys think they would go that far, roll out free condoms?

Tray: Not that they would roll out free condoms to people so that people use them and things go bad, cause I'm not much of a risk taker. I have three of my uncles on my mother's side died they were all sick it was terrible, it freaks me out I wouldn't risk it.

Themba: I must say, like he said governments are not to be trusted I don't trust governments either and yes while they do take precautions I'm pretty sure they take precautions it's definitely more lax than the private industry of course because repercussions for the private industry would be much more direct to them if someone found out that durex was making faulty condoms that's it no durex condom will ever be bought again whereas if for government if someone found out that its more indirect and it would take a longer time they tend to be more lax about the whole thing and when I say lax I don't mean relaxed but I mean less vigilant than the private sector, such as what happened when was it last year or the year before that batch of condoms was found defective I don't think that would happen with a private company.

Fortunate: And yet we agree that it's relatively safe

Themba: Yeah it's not completely hopeless that's what I think

Tray: And also on the parts of governments I really think that's they appreciate that there is this HIV and they are doing something about it. Cause I think in Malawi Kenneth Kaunda used to say there is no such thing as HIV and AIDS up until his son had died then he started taking actions against it.

Fortunate: Ok let's move on to the question on lubricants did you know the right lubricant to use with latex condoms?

Siya: Not at all, I rely on natural lubrication

Themba: All I know is if you are going to use a latex condoms then don't use an oil based lubricant cause oil and plastic/latex don't go together use a water based one. I don't know the names of the lubricants I don't know which one is water or oil based.

Fortunate: And for you Tray: I don't know which ones are the latex condoms and I don't even know the sort of lubricants they use. I'm not well informed with that section.

Fortunate: Ok now on male circumcision, the statement was that it reduces the risk of HIV infection in men. Do you guys know anything about that?

Themba: Yah I have heard about it and I think it's true, I haven't really gone into it and researched but I think it's true I think someone reliable told me so, and uhm it makes sense in a way and I think it's true.

Siya: Well, to a certain extent I would say yes. Without any deep knowledge I would assume that the foreskin somewhat plays a role in protecting the penis head. The penis head is such a

sensitive area that needs some care and I assume that if it is exposed to harmful things such as wounds it might contract some infections. Over and above, I think there are risks involved whether you circumcised or not – this only depends on how you protect oneself.
Fortunate: Tray Have you heard anything about this?
Tray: Yes I have heard something I think it's true and they have statistics to back it up. I think it's a good thing. I think the only problem I have is the method of circumcision if it's done in a sterilised hospital I don't have a problem with it, if somebody now says let's do circumcision in the bush, where they use one knife for everybody else and only clean it with water that becomes a problem
Fortunate: But the actual act of being circumcised we all agree that it does help
All: Yes
Themba: Although I think such information is dangerous problem in the public domain very dangerous.
Fortunate: Why would you say that?
Themba: Because Joe blogs when he hears this he is going to get circumcised and he will throw away his condoms away I'm fine now I don't need condoms, that's not what happens it doesn't eliminate the risk, it reduces it may be greatly maybe a little bit but the fact is the risk is still there, and unfortunately people being people the moment they hear circumcision reduces they won't try to find statistics they will just think I'm safe I'm circumcised so I can throw away my condoms not everyone of course but I'm sure there will be some definitely who would do that and that's dangerous.
Tray: And I think people they only take what they want to hear from the information, they will just take the part that says that it reduces and ignore the whole idea of it reduces the risk.

Fortunate: Ok, how about deep kissing, have you heard any information on this in relation to HIV infection
Themba: I think deep kissing can cause HIV and AIDS but you would both have to have open wounds or mouth sores in or near the mouth such that body fluids can go from one person to the other. I heard that I don't know if it's a scientific fact but I heard it on radio that you would need about 5litres of someone's saliva for you to get HIV, and no matter how deep that kiss is I doubt you would exchange 5litres yah so unless you have mouth sores, both of you that is in fact even if it's one of you has I don't know but I would imagine the risk would be higher than normal.
Siya: Absolutely, you can imagine when people are emotionally kissing. There is no time to check whether another person isn't bleeding or not. There's a lot involved, others have gum problems. On the other hand I would never trust the earrings on the tongue, people would claim that they heal but I believe that it stays as a wound even if it's not painful.
Fortunate: How about you Tray?
Tray: Well I also heard about the 5litres of saliva but I had never put it in mind that if one or both of them has sores in the mouth that that would be a problem, I actually tended to ignore it. It's something I never thought about.

Fortunate: Do you think unprotected oral sex has anything to do with HIV infection?
Tray: Yah I think so to a lesser extent though I think it depends on the extent to which you engage in that oral sex like the extreme is as if you are almost you know, I think it depends on the proximity.
Themba: I don't know really but I think it's possible to get HIV via oral sex.
Siya: Definitely, do people pre-verify whether there are no wounds in those areas? I do not think so, and then there is a risk that one might be risking on a wounded area.
Fortunate: Ok for you Themba and Tray have you heard any information though on it?

Themba: No not really, I have heard about dental dam that's it. When I heard about it then I assumed then that HIV can be transmitted via oral sex but that was deduction based on dental dam, I haven't had any information
Tray: No
Fortunate: there has talk of vaginal sex having different risk levels for men and women contracting HIV.
Themba: Yes I have
Tray: No I haven't
Fortunate: Themba what have heard?
Themba: I have heard that a woman if easier infected than a man, if the man is infected and the woman is not there is a higher chance than if a woman is infected and the man is not. This makes sense
Siya: No but I think, women might be at a higher risk than men.
Fortunate: Siya and Tray do you think you would like to find out more about this?
Siya: Yes
Tray: Yes I would although I would not misuse that information.

Fortunate: Do you guys know what the rapid test is?
Themba: Yes I have heard about it
Tray: Yes I have heard about it it's the one when you get tested you get the result after 30minutes or so?
Siya: I am not sure
Fortunate: Ok based on what you have heard what you think of that kind of a test
Themba: I'm not sure but I think it's most likely to be less reliable than the conventional test, whatever it's called. I think it would be better to just get that one. But I don't remember if I've heard this or if I just thought it
Tray: I would like to believe that it's just as reliable cause this is the age of technology things are getting much faster and precise so there are now methods of detecting it much faster than before. They are just good as the other ones.

Fortunate: Do you think there is a difference in the levels of infection someone has at different stages of HIV and AIDS?
Siya: Yes, same applies with other illnesses and diseases such as TB, Asthma etc.
Themba: I think I have heard that from a long time ago
Tray: Yes I have also have that, I think it's true really cause everything is like a evolutionary process things you know go from stage to stage
Fortunate: so in that case who would you think would be more infectious, somebody who now has full blown AIDS and has had it for the past ten years, and somebody who contracted it yesterday and still doesn't know and if they take a test it would obviously be negative?
Themba: Intuitively I would say the full blown case, but science has a way of amazing you it might be the other way round
Tray: I would also say the full blown case but personally I would say HIV is HIV if you expose yourself to such kind of risk you would get it.
Fortunate: Yah you are right science says that the person who got it yesterday would be more infectious.
Themba: see interesting.
Fortunate: There are four assumptions about HIV and AIDS information that I would like to ask what you think about them. Firstly sometimes HIV and Aids information can be prescriptive information. Do you find some information tell you what to do and not so much on why?

Themba: I think largely its true I haven't really observed it but now that you mention it an advert that says this is how HIV is transmitted so do this to prevent it will definitely the exception than the one that just says use condoms that's it.
Tray: Yah I think to a certain extent. Like how can I say this, they just say this is HIV this is how you get it but they don't give you information on the consequences not on the individual but on the other people the immediate family and the community like how people lose the breadwinner, they give a surface presentation of the whole idea, so I think that limits the thinking of people towards this whole issue of HIV. I think the other problem is with the people because people always say either way I was going to die so they just don't care.
Siya: For me no, I think most they would tell you what to d and why.

Fortunate: the next assumption I have is based on a study I read which was done with student, and they found that they were really tired of HIV actually they said they were really sick of HIV. I don't know what do you think of that?
Themba: Yah people are sick of HIV me included like there is too much its useful but too much. Although lately it seems to me that AIDS stuff has gone down a bit especially on campus.
Fortunate: What would you say you are tired of?
Themba: I don't know the whole thing I guess yes its important, vital but I don't know it's just so much of it, not now but there was a time that every other brochure was an AIDS brochure, every poster, every third poster, that kind of thing, saturation
Tray: I think people get fed up
Fortunate: How about for you?
Tray: Yes personally I got fed up, I couldn't even watch TV without being interrupted with an AIDS advert... it makes it look like HIV is just normal people get so used to this whole notion of HIV and people don't get scared of it
Themba: It desensitizes people to an extent
Fortunate: So how can we get round that?
Themba: I think if it was presented less and interacted more by that I mean as an example they could come up with a game show or quiz where not every question is about HIV but there are HIV related questions and people realise that I actually don't know that much because they will be thinking an HIV quiz will win this quiz but not really, that for me would increase my chances of HIV awareness of it definitely that's one or other more interactive ways of teaching that are not all HIV the headline is not HIV. Sneak it in.

Fortunate: Do you guys look for HIV and AIDS information
Themba: If I so happen to come across a newspaper article, a conversation, a radio program that mentions something that I don't know and is intriguing then maybe I will Google it. That definitely very rare, not to say I know everything, but it's very rare for me to find something that's intriguing
Siya: We start with people who have access to information whether online or hardcopies. People are reluctant to read about HIV/AIDS unless if there is tangible reason. It's only when they suspect that they might be infected or else one of their family members or friends or colleagues is infected that's when they start to find out otherwise you would hardly find someone solely reading about HIV/AIDS. Then it's not easy to assume that a lot is not distributed to people whereas they are not entirely interested. Indeed there is a lot of information about HIV but the question is when and who are using this information.
Tray: I had a brother who was doing physiotherapy and he would talk about one of his courses that had something to do with HIV so I got a lot of information from him.

Fortunate: Ok so in the few times that you looked for HIV information has it been easy to find what you were looking for?
Themba: Google is amazing. Type anything you need you find it. It's easy for people who have access to the internet, for people who don't have Google deep information is hard to find. It's next to impossible

Fortunate: Have you guys come across the use of scientific jargon in the HIV and AIDS information you have accessed.
Tray: I have always had a problem with the scientific staff. I mean up to now I don't even know what they mean with body count.
Themba: CD4 count
Tray: You see...I don't even know what it means.
Siya: I think it depends on language proficiency. A lot of information is available in English then if you do not understand English, this might be a problem. For people who do understand English, I think the booklets about HIV and AIDS are not that complicated.
Themba: I do think that information when it tries to be deep it gets too deep it uses words that are too uncommon, myself when I read something like I try to figure out what it means and then skip it if I find another and another I walk away. I stop bothering because I can't understand what is being said it's like reading a different language.

Fortunate: ok so do you guys talk to your friends about HIV?
Themba: Rarely, it's not difficult, but we just don't talk about it its sort of morbid. It doesn't come up in conversations, but when it does come up its not difficult.
Tray: We used to talk about it, but then it gets so sensitive with other people they just freak out and you feel like you are starting to offend people.
Fortunate: Ok how about family
Themba: No not at all
Tray: Yes but not as much as with friends
Fortunate: Why would you think that is so?
Themba: My mother has mentioned it in passing, it's never a discussion, and it's more a comment on AIDS not discussing it. It's this whole taboo about sex especially among African people, sex aids is the same thing.
Tray: In my family we are six boys so we talk about it amongst ourselves its easy my mother also mentions it sometimes it's like a passing comment, and more often than not, we don't comment.
Fortunate: any last comments guys?
Tray: Not really
Siya: No
Themba: There is a definite perception that I have encountered on campus amongst students that this is Rhodes no one has AIDS, AIDS is in the township, it's blatant like that but people have this feeling and that's really dangerous, because the prevalence of HIV is not different here than it is in the rest of South Africa. In reality I think people are increasing their chances of being infected. But it's a definite perception among students.
Tray: Yah I think what happens is that most university students get like a culture shock, they get to university and they get free and love to experiment all the things their parents told them not to do and one process leads to the other. Lastly Aids is a reality.
Fortunate: Thanks guys for your time

Interview ends

Appendix P: Questionnaire report

RUconnected

RHODES UNIVERSITY
Where leaders learn

Questionnaires

View All Responses. **All participants**. Responses: **689**

Questionnaire on HIV and AIDS education

Hi there,

My name is Fortunate; I am a Masters student in the Education Department. I am doing research on HIV and AIDS education. Please help me with this study by filling in the following questionnaire. The few questions are meant to test your knowledge of a sample of HIV and AIDS information.

Your responses will be anonymous and used for this study only. You are free to abandon the questionnaire at any time by simply closing your browser window without saving your responses. Filling in the questionnaire should take you about 10 minutes. I will be giving out free airtime vouchers to each 50th respondent (R29 for Vodacom and R30 for MTN and Cell C).

Thanks so much for your time.

Background questions

1. Gender

Response	Average	Total
Male	34%	235
Female	66%	454
Total	100%	689/689

2. Race

Response	Average	Total
Black	53%	368
White	39%	268
Asian	5%	32
Coloured	3%	21
Total	100%	689/689

3. Year of study

Response	Average	Total
1^{st}	39%	270
2^{nd}	28%	191
3rd & 4th (undergrad)	20%	140

Postgrad (including 4th Year honours)	13%	88
Total	100%	689/689

Prevention (focusing on condom use only)

4. Government/ free condoms are just as safe as condoms you buy

Response	Average	Total
True	74%	513
False	26%	176
Total	100%	689/689

5.

Which of the following can you use as lubricant(s) with latex condoms

Response	Average	Total
K-Y Jelly	54%	375
Massage oil	2%	12
Baby oil	5%	35
Vaseline	6%	40
I don't know	38%	263

6. Which of the following are **GOOD** tips on how to care for and use latex condoms? *(you can choose more than one)*

Response	Average	Total
Store in a cool dry place	78%	534
Always check the expiry date	92%	636
Use two condoms at the same time for maximum protection	2%	17
Hold the closed end of a male condom (reservoir tip) as you roll the condom down	77%	532

Transmission (focusing on sexual transmission in heterosexual relationships only)

7.

Please indicate what you think of the following statements.

	Average rank	
	Strongly disagree / Disagree / Neutral / Agree / Strongly agree / I don't know	
Male circumcision reduces the risk of HIV infection in men		2.8
Deep kissing is safe		3.8
Unprotected anal sex is safe		1.3

Unprotected oral sex is safe		1.8
Unprotected vaginal sex is safe for women		1.2
Unprotected vaginal sex is safe for men		1.3

Testing (focusing on the rapid test only)

8.

Please indicate what you think of the following statement.

	Average rank	
	Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | I don't know	
The rapid HIV test (which gives results in 15-20minutes) is reliable		3.9

9. The HIV test checks for the presence of:

Response	Average	Total
The virus	35%	238
Antibodies	21%	147
Red blood cells	0%	2
White blood cells (CD4)	26%	176
I don't know	18%	126
Total	100%	689/689

10. If someone's HIV test result is negative it could mean:

Response	Average	Total
The person is really negative	54%	369
The person is immune to HIV	4%	27
The person is in the window period	86%	590
I don't know	2%	13

Treatment (focusing on ARVs (HIV treatment) only)

11. When must one start taking ARV treatment?

Response	Average	Total
Immediately after one tests HIV positive	29%	197
Immediately after one's CD4 count is below 200	39%	267
Immediately when one suspects that he/she is HIV positive even before taking the HIV test	9%	63

While one's CD4 count is still above 200	6%	44
I don't know	17%	118
Total	100%	689/689

12. When does HIV become resistant to ARVs?

Response	Average	Total
If one stops and then restarts the ARV treatment	51%	351
If one's CD4 count is below 200	13%	90
If one takes the ARV treatment for a long time	4%	27
I don't know	32%	221
Total	100%	689/689

Living with HIV and AIDS (focusing on the HIV cycle only)

13. An HIV positive person can get re-infected with HIV if they have unprotected sex with an HIV positive partner

Response	Average	Total
True	74%	510
False	26%	179
Total	100%	689/689

14.

Please rank the following to show how infectious a person is with HIV at different stages of the illness.

	Average rank						
	Very low	Low	Medium	High	Very high	I don't know	
Right after being infected when one’s test is still showing HIV negative							3.8
When one tests HIV positive but does not have AIDS yet							4.3
When one has full blown AIDS but is not on ARV treatment							4.8
When one is HIV positive and has other sexually transmitted diseases							4.8
When one has full blown AIDS and is taking ARV treatment							4.5

HIV information (including media)

15.

How would you define the way you use the following sources to get HIV and AIDS information.

	Average rank					
	Never	Seldom	Sometimes	Often	Almost Always	
Websites	▮					2.5
Help lines (e.g. AIDS helpline)	▮					1.5
Printed material	▮					3.4
Television programs	▮					3.4
Radio programs	▮					2.8
Workshops and seminars	▮					2.6
My peers	▮					3.0
Counselors	▮					2.3

16.

Please indicate what you think about HIV and AIDS information.

	Average rank						
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	I don't know	
I struggle to find what I really need to know about HIV and AIDS	▮						2.1
I have come across HIV and AIDS information which was too scientific for my understanding	▮						2.4
I am tired of hearing about HIV and AIDS	▮						2.5

Appendix Q: Website practical information

(An example using the Rhodes Health Care Centre)

1. **About us**
    - History of the Health Care Centre, including change of name from Sanatorium to Health Care Centre.
    - Staff members: pictures of all staff members and their credentials (including email addresses if available).

2. **Home page**
    - Briefly the services offered by the HCC and to whom. The website is currently silent about staff members (academic or support). The Introduction on the Sanatorium under medical services for example would be appropriate for the home page.
    - To include vision, mission statement or values of the Sanatorium (if available)
    - Pictures of the Health Care Centre (both as backgrounds and as slide show)

3. **Contact us**

    Section 1
    - Location of the HCC keep the map
    - Phone numbers and contact persons for the HCC as a whole not individual as captured on ‘About us’ page.
    - Email addresses/ feedback or comments section

    Section 2
    - In case of emergency- 1. What to do in case of an emergency, if in res, and if Oppidan that is some kind of guideline or channels that must be followed, e.g. contacting the warden etc. 2. **Emergency numbers**. Include the campus security, Aids helpline, and suicide toll-free numbers, the fire department, police and the HCC after hour’s numbers.

4. **Consultation times**
    - Whether consultation with nurse is by appointment or not
    - Verify if the times are still the same
    - Include a note on seeing the doctors who comes in and the days they come in (whether by appointment or not), how long is he at the HCC etc
5. **Fees/payment**
    - Make clear distinction between free services and the exact amount for what is paid for.
    - Include note on medical aid holders.
    - Do staff members pay? How much? For what?
    - Any payment plans if any for the services rendered at HCC like debiting student account etc, do you need to bring an account statement etc

6. **Services offered**

- Include a note on what to carry to the HCC e.g. student card, med aid card etc in order to get services
- Make a list maintaining the one that there is of free services, educational campaigns/information and then other services e.g. dispensary, reproductive health (pap smear, STI's, pregnancy (including the University's rules on pregnancy) and contraception), inpatient- what are the acute illnesses.
- Have section on Referrals
- A list of health care facilities in Grahamstown (provide a link to a list).

7. **HIV and AIDS**
    - This will be the link to all the HIV and AIDS content.
    - Will include links to the media and research.

8. **Useful links**
    - Selected HIV and AIDS websites.
    - Health related websites such as Health24,

Appendix R: Excerpts from the journal

21 July 2008: Experience with the AIDS helpline
Today I decided to call an AIDS helpline. Upon calling the Khomanani helpline I was answered by a gentleman whom I assume was in his 30s. I expected to be asked if I preferred talking to a woman or a man about my issues, particularly if I was to talk to someone about my life and a sensitive subject like HIV. I was not given the opportunity to ask if I was comfortable talking to this man or if I would have preferred someone else. I could tell that the conversation was a bit awkward for both of us and he was almost my age. As a result I didn't know what to say to him or what to ask him. I think an older woman would make me comfortable to talk and ask questions, even personal ones.

After greetings, my initial question was what kind of information could get from the helpline, the guy switched to Zulu, when I mentioned that I did not understand him he immediately switched to IsiXhosa. I quickly confirmed that I was not an IsiXhosa speaker and that I would prefer using English. He agreed, but the language issue kept coming up coz he kept switching back to IsiXhosa or Zulu. I could tell that English was not easy for him as he misunderstood most of the things I said. For example I told him I wanted HIV information and yet he thought that I wanted to be a volunteer. Anyway I think the guy also got offended and or uncomfortable by the fact that I was obviously a black young lady (deduced from my accent) whom he expected and was probably convinced could speak IsiXhosa, and yet I insisted that I could not understand him that increased the awkwardness.

I noted one thing which I would consider a disadvantage of the helpline; you will not get information ordinarily. You must have a question for you to access information from this helpline. So I could not get anything form the Call centre assistant as he insisted that I asked him something. So essentially the conversation was stuck there because when I called I expected that he would tell me staff and or ask me what I wanted to hear. I was told though at some stage that the helpline offers counselling, HIV information (based on the callers' questions) and referrals. After mentioning that I did not have a question as such but wanted HIV information, I was given a referral number to call a place in Port Elizabeth.

One interesting thing was that the person I spoke to did not even know where Grahamstown was, to quote him verbatim he said 'Grahamstown, it's in Cape Town right?' I had to correct him and tell him that Grahamstown is in the Eastern Cape close to Port Elizabeth, which probably explains why I got a number for Port Elizabeth. It also confirms that referrals are not decentralised to community level. This means local information remains very crucial; as it is not being adequately addressed here. I would imagine that it would be important for the helpline to be able to give me or any other caller information on Grahamstown, and places where I can go in this town.

Besides depending on the mood of the person answering the phone the helpline can actually be a huge put off for people who actually want information about HIV. For example my conversation did not go very well and I would imagine if I really wanted to talk to someone and needed counselling I do not think the situation was conducive for us to have a decent fruitful conversation.

17/02/2009: Impressions on the process of question development

Today I met with Lorenzo to discuss my questions, it was quite interesting. We decided that we would go through each qxn and see what it meant and try to find its place in the thesis. I found that exercise very interesting, because out of it I realised that some questions were not as useful as I thought. I realised was that it was important that I have thought provoking questions, because this qxnaire could the only contact a student might have with HIV and aids information and making maximum use of it was imperative. So I decided that these qxns had to be developed in such a way that they reflect the salient goal of this research to educate students on HIV and Aids and also to try and get students thinking abt HIV.

One thing that became apparent was that unlike some qxns that I had seen in various studies on knowledge levels, my questions were quite personal or indeed thought provoking. However one flipside was that the qxns were difficult to structure. I look fwd to comments from the pilot on these qxns. Issues of instilling fear, or giving people a feeling that there was not that much risk after all were discussed. For example a question on "Can HIV be transmitted through oral sex?" I felt could give people fear of the condition since there wouldn't be an opportunity of telling people that the risk is very minimal and another "how long does HIV survive outside the body" this question was removed coz we felt it would give people room to engage in risky behaviour thinking that after a few hours HIV would be dead e.g. in the case of people sharing syringes for injecting drugs. Some questions were left out coz they were too personal, like "Do you think you could be HIV positive? I also left out questions that I had that would have been in bad taste for example the racial components of the condition which would have been in bad taste although myths are known on campus of some racial groups thinking that they are immune to HIV.

24/02/2009

I got great news that she will do it with one other Sister at the clinic. I am hoping that this will improve the quality of responses that I will get and that this might turn out to be better than just getting one person's view.

25/02/2010-Impressions after interview with San nurses

The interview at the San was the most interesting of all interviews, I think it was because the interviewees were two and they kept bouncing ideas off each other, at the end I think I actually got quality data. I had left a set of questions but since the nurses said they were both very busy they had not been able to take a look at the questions. The interview was easy and flowing partly because this was work that these two were involved in everyday and also because they were both interested in HIV and AIDS in general. I learnt that they were both studying through Stellenbosch for an Honours degree in HIV and AIDS. Both were long serving members of the san, aware of what students want and understand the sample better than me. They had a lot to say when it came to the behaviours of students and the kind of information they either lack or need,

The interview had been scheduled for 11am but when I got there my contact sister told me that they had been so busy she had not had the time to take a look at the questions and still had to attend students. I was under the impression that they were going to write down the answers since they said I could pick up the responses just before 5pm. So the mistake I made was that I went for the interview without my recorder or even my phone. I was so unprepared when I got to the san with nothing as I had left my bag with a friend in the lab thinking that I was just going to pick the responses and get back. Luckily the nurse still had a copy of the questions, they told me since they had not managed to respond to the questions they were ready to do the interview right then!!! I had to take down notes, I thought of asking them to postpone again but I realised that this was not their fault and that postponing might actually cost me my time. Anyway so I decided that I would take down notes and immediately right out the transcript while the whole interview was still fresh in my mind (which I did). I would then print a copy and take it back to the two nurses and explain that I will need them to read through the transcript (member checking) and make changes where necessary before signing my consent form which I also didn’t have BTW :-)

One thing I noticed is that the nurses were both Xhosa speaking and since they felt like they were talking to each other at some points they tended to code switch, This was not a problem for me as I understand the language. I struggled to make sure that I guided the interview while taking down notes, honestly it was a nightmare! Another thing is the interview was in the San in the reception and we had several disturbances with students coming in to ask if the san was still open etc. However one of these 'distractions' ended up being quite useful for my interview. The beautiful thing about taking notes is that as I was writing I was processing the information, so even before I started to put down the transcript I was able to group my information and make preliminary analysis while I was there and managed to immediately ask for more information clarification etc.

24/08/09

Today I downloaded the questionnaire and imported the text format in excel. I wanted to see if I could use it to find the people who are interested in interviews. The data looks so different from the one from the pilot. I have to find a way to label each column I’m sure that will make it easier.

25/08/09

Ok so today I think I have found a winning format to label each column I believe once this is done and ready.

Focus groups: To have 8 people. Two from each year of study, did this so that I can have groups of between 4-8 if one person can’t come then it would be ok because a "representative of that year of study will be there.

26/08/09

Today I got about 15responses from yesterdays emailing. That’s a good start, only problem is that most people can’t make it during the times I have suggested. I have to send a second call to other people. It’s Wednesday and people make plans for the weekend now.

26/09/2009

It’s been a while...I’m swimming in my data at the moment and sometimes I feel like I’m lost in it. I think it’s important that I keep going back to what needs to be done. Today I took out a thesis by a master’s student in 2006 on the attitudes of Rhodes students on HIV and AIDS issues. I think it will be very helpful to see her findings and how she presented her work. I saw something in her thesis she had an appendix of a table that showed a statement from the interview and a question that it was related to in her questionnaire...I like this table idea. I think it will be very useful and will show how I used these interviews to draw up my questions.

3/10/09

Ok almost through with the questionnaire findings/data presentation. I have two general questions that I do not know how to handle:

1. Terms/phrase that you want to ask and 2. Comments on the questionnaire

14/10/09
Need to decide if I am going to have my table showing how I used my interviews to make survey questions in the chapter four or as an appendix. Either way I think it's every important to the research and will show how this worked out.