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Prospects of amalgamating Indigenous Knowledge strategies with biomedical strategies in the Guidance and Counselling curriculum for Secondary Schools in Zimbabwe: A focus on HIV/AIDS

by

Ledwina Hungwe

A thesis submitted to the Faculty of Humanities, University of Witwatersrand, Johannesburg, in fulfilment of the requirements of the degree of Doctor of Philosophy

ABSTRACT

The HIV/AIDS epidemic has devastated many individuals, families and communities. The impact of HIV/AIDS has negatively affected teaching and learning in the education sector, over-loaded health services and negatively impacted on family food security as well as on human dignity. The global, regional and national response to HIV/AIDS is based on the biomedical human rights prevention, treatment, care and support strategies. Despite all the resources and efforts placed in the biomedical response strategies in Zimbabwe, HIV prevalence remains high. The economic crises, socio-cultural and other challenges faced by Zimbabwe and other countries in implementing biomedical strategies for HIV/AIDS management have prompted people to use Indigenous Knowledge (IK) strategies for managing HIV/AIDS. Many people in Zimbabwe use both IK strategies and biomedical strategies for HIV/AIDS management. There is a worldwide recognition of the sustainability of IK.

In Zimbabwe, the Ministry of Education, Sports Arts and Culture (MOESAC), the then Ministry of Primary and Secondary Education and the National Cultural Policy, Section 2.1 (2004) emphasised that the Zimbabwean traditional knowledge and education goals should provide sources for the curriculum needs and that the knowledge should be infused in the curriculum. Yet there are no clear implementation guidelines for teachers on what IK to amalgamate in the curriculum and how to use it. My study aimed to amalgamate IK and Biomedical Knowledge strategies through the teaching and learning about HIV/AIDS in the Guidance and Counselling curriculum for secondary schools in Zimbabwe.

This interpretive research study sought to explore and document IK HIV/AIDS strategies in Mazowe Gold Mine community in Zimbabwe. The study was carried out in collaboration with cultural elders in Mazowe Gold Mine Community in Zimbabwe. The Culturally Aligning Classroom Science (CACS) framework (Mpofu, 2016) was adapted and used as the conceptual framework for this study. Data were generated using *padare*conversational meetings, observations, interviews and document analysis under the umbrella of the Indigenous Amalgamative Methodology (IAM).

The research study findings show that cultural elders are important sources of IK strategies for HIV/AIDS management. If these IK strategies are harnessed, they may contribute to the teaching and learning about HIV/AIDS in the classroom and lead to linkages between the schools or education systems, the home and the wider community in the fight against HIV/AIDS. The study findings also show that the cultural elders have valuable contributions to make to the amalgamation of IK into classroom science.

The study recommends the involvement of cultural elders and other stakeholders and for government support for IK amalgamative classroom science. The study also recommends teacher capacitation in IK amalgamative research for the teaching and learning of HIV/AIDS in the classroom.

DECLARATION

I declare that this thesis is my own unaided work. It is being submitted for the Degree of Doctor of Philosophy at the University of Witwatersrand, Johannesburg, South Africa. It has not been submitted before for any degree or examination in any other University.



_____

Signature

_____25th_____day of __March_____2021_____

DEDICATION

I dedicate this thesis to the people in Mazowe Gold mine community who collaboratively contributed their Indigenous Knowledge for the study.

To my husband, Charles and my children for the overwhelming love and support.

To my father (Andrew Govere Masvimbo Muvazhigwa Chikwaiwa) and my mother (Mary Mavuka Chikwaiwa) for teaching me *Unhu/Ubuntu/Vumunhu*cultural values which have made me sail through many challenges.

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Many thanks go to my children and grand-children Lynette, Tafadzwa, Charlene, Charlotte, Don, Chido, Anesu, Anopa, Raymond, Jayden, Ethan, Yananiso and Kundiso. My brothers and sisters, Bellamino, Tinoenda, Cynthia, Modester, Clarieta, Ignatious, Godfrey and other family members and friends for the unwavering support and for availing me the space I needed to complete my study. May God bless you.

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Lastly, I want to acknowledge my spiritual father, Paul M of VCI for his powerful prayers. Thank you for the encouragement and unfailing spiritual support. May God bless you!

PRESENTATIONS AND PUBLICATIONS FROM THIS RESEARCH

Paper presentation at HIGHER EDUCATION AND TRAINING HIV/AIDS PROGRAMME (HEAIDS) Community of Practice during the 8th Annual HIV and AIDS Education Community of Practice; How HIV and AIDS can be an entry point into the decolonization of the curriculum; 16-17 March, 2017, Salt Rock Hotel, Durban. Title of the paper**:** The use of Indigenous Knowledge in HIV/AIDS education to reduce student fatigue in Higher Education.

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ABBREVIATIONS

ABC	Abstinence-Be faithful-Condom use
ACACS	Adapted Culturally Aligning Classroom Science
AIDS	Acquired Immunodeficiency Syndrome
ARV	Antiretroviral drugs
ASO	AIDS Service Organizations
BCK	Biomedical Classroom Knowledge
BKHIV/AIDS	Biomedical Knowledge HIV/AIDS
CACS	Culturally Aligning Classroom Science
CCP	Chewa Culture *padare* conversation meeting
CDU	Curriculum Development Unit
CIET	Commission of Inquiry into Education and Training in Zimbabwe
DPCS	Divergent, Parallel, Convergent and Substitutive Pathways for the CACS Model
DREAMS	Determined, Resilient, Empowered, AIDS-free, Mentored and Safe women
FGDs	Focus Group Discussions
G&C	Guidance and Counselling
GCST	Guidance and Counselling Science Teachers
HIV	Human Immunodeficiency Virus
HTC	HIV Testing and Counselling
IAM	Indigenous Amalgamated Methodology
IEC	Information, Education and Communication
IKHIV/AIDS	Indigenous Knowledge HIV/AIDS
IKS	Indigenous Knowledge Systems
MOESAC	Ministry of Education Sport, Arts and Culture
MOHCC	Ministry of Health and Child Care
NKHIV/AIDS	*Nhaka* Knowledge HIV/AIDS
ROOTS	Real Open Opportunities for Transformation Services
SCP	Shona Culture *padare*conversation meeting

SADC	Southern African Development Community
STIs	Sexually Transmitted Infections
TCP	Tonga Culture *padare* conversation meeting
VCT	Voluntary Counselling and Testing
VMMC	Voluntary Medical Male Circumcision
ZPD	Zone of Proximal Development
ZINATHA	Zimbabwe National Traditional Healers Association

CHAPTER ONE: INTRODUCTION

1.1 Introduction

This study explored the prospects of amalgamating Indigenous Knowledge (IK) strategies of managing HIV/AIDS with biomedical strategies in the Guidance and Counselling curriculum for Secondary Schools Education in Zimbabwe. Amalgamating the biomedical and IK strategies would enhance the teaching, learning and management of HIV/AIDS. This also resonates with the government of Zimbabwe's Cultural Policy of 2004 which states that traditional (indigenous) knowledge should provide sources for the curriculum needs of societies and that such knowledge should be infused in the school curriculum (Ministry of Education Sports Arts and Culture [MOESAC, 2004). Section 33 of the Constitution of Zimbabwe, 2013 requires the state to take all measures to promote, protect and preserve indigenous knowledge. To introduce this thesis, I provide the background for the study, which I blend with my personal and professional life and the literature. Secondly, the chapter addresses the problem, the rationale, purpose of the study and research questions, I also discuss what motivated me to undertake the study and the significance of the study. The chapter ends with the organisation of thesis chapters and chapter summary.

1.2 Background of the study

The advent and devastating effects of HIV and AIDS inspired the focus of my research. The HIV/AIDS epidemic has impacted negatively on education services, health services, housing, family food security, as well as human dignity. The UNAIDS research report (2016) shows that, in 2015 an estimated 36.7 million people were living with HIV globally, a slight decrease from 36.9 in 2014. Although there was a slight decrease in AIDS related deaths from 1.2 million in 2014 to 1.1 million in 2015, it remains the fourth leading cause of death worldwide. The most worrying statistics which reflect that the epidemic will continue to exist is the number of people newly infected with HIV globally which remained static at 2.1 million from 2013 to 2015. Regionally, in 2014, 25.8 million people were living with HIV in sub-Saharan Africa, a region with only 12% of the global population. In 2014, the sub-Saharan region continued to account for 66% of new infections globally and nearly half of all the deaths occurred in southern Africa (UNAIDS, 2016).

Southern Africa is widely regarded as the "epicentre" of the global HIV and AIDS epidemic which is among the top five killers in Africa. Swaziland has the highest HIV prevalence worldwide with 27% of its population living with HIV (UNAIDS GAP Report, 2016).

Although, in Zimbabwe, the HIV prevalence has declined from 14.3% in 2013 to 13.3% in 2017 for ages between 15 and 49 years, it is still amongst countries with a high prevalence of HIV/AIDS in southern Africa (MOHCC, Zimbabwe HIV Estimates Reports, 2018). In 2017, an estimated 1.3 million people were living with HIV/AIDS in Zimbabwe, the third largest burden in southern Africa after South Africa and Mozambique (MOHCC, Zimbabwe HIV Estimates Reports, 2018).

In Zimbabwe, the highest rate of HIV/AIDS has been traced to the mining community where various cultures stay together due to migration for labour (NAC, 2012). In 2012, mining areas in Zimbabwe had the highest HIV positive rate of 24%, which rose from 14% in 2009 (The Zimbabwe National Newsday, 30 June 2015). According to the Zimbabwe Mining Industry Pension Fund (MIPF, 2012), the number of employees who died from HIV-related illnesses rose from 10.9% in 2005 to 18.1% in 2012. Similarly, findings from a study conducted by Halli, Buzdugan, Ramesh, Gurnani, Sharma, Moses and Balanchard (2009) in India concurred that mining industries are the highest risk sectors for HIV/AIDS.

HIV/AIDS has been dominantly addressed by biomedical approach strategies since the beginning of the epidemic. The implementation of biomedical HIV/AIDS prevention and control strategies in Zimbabwe faces economic challenges. This has been attributed to the rise in HIV/AIDS prevalence across sectors, including the mining sector. Indigenous Knowledge strategies that have been used by cultures for disease prevention and management could be used to help address the HIV/AIDS pandemic. Various cultures in the mining community have undocumented and untapped Indigenous Knowledge strategies for STI/HIV/AIDS management that are practiced secretly, (NAC, 2016). If these cultural and Indigenous Knowledge strategies are documented and harnessed for the benefit of the larger community, they will contribute positively to the reduction of HIV prevalence in the mining sector. This study was conducted in a mining community in Zimbabwe to determine how Indigenous Knowledge strategies existent among cultures in the mining community could be harnessed to maximise the efforts of the biomedical strategies in mitigating and controlling the spread of HIV/AIDS in the mining communities.

A study by Corno and De Walque (2012) shows that the characteristics of the migration process cause mine workers to spend extended periods separated from their families and surrounded by an active sex industry. Corno and De Walque (2012) further argue that this situation increases the probability of transmission of HIV infections. Cronje, Reyneke and Van Wyk (2013) contend that the migrant mining community is set apart from other migrant communities in terms of its high risk for the transmission of HIV. Dependency on prostitutes, exclusion of women from employment at the mine and single sex quarters predispose the mining community to HIV infections. High unemployment rates for women and the youth have serious implications for the prevalence and spread of HIV, especially when these communities are in close proximity to more than 8 000 men with disposable income that they spend on alcohol and prostitution. Cronje, Reyneke and Van Wyk (2013) claim that there are reports that reveal that girls of school-going age from the mining community are increasingly getting involved in prostitution. The Southern African Development Community (SADC, 2012) suggests that, in some desperate situations, teenage girls have dropped out of school and have resorted to becoming pregnant in order to qualify for child support grants.

The global, regional and national response to HIV/AIDS is based on the biomedical and human rights prevention, treatment, care and support strategies (Mlaudzi& Phil, 2007). The biomedical and human rights response to HIV/AIDS is influenced by international goals and initiatives such as Millennium Development Goals (MDGs); UNGASS Declaration on HIV/AIDS; and the United Nations General Assembly Resolution 65/277 of 2011 Political Declaration on HIV and AIDS: Intensifying our efforts to eliminate HIV and AIDS. The global response to HIV/AIDS prevention, treatment, care and support is coordinated by UNAIDS. The biomedical approach is based on the Knowledge, Attitudes and Practices model. Campbell (1997, 2015) asserts that the model assumes that health related behaviour is determined by the knowledge and attitudes and those informationbased strategies seek to change people's behaviour based on knowledge about the dangers of a particular behaviour. According to Rankopo (2011), Kubukeli (1996), Kgapola and Magau (1999), the biomedical, behavioural and human rights approach is a dominant health care system.

Zimbabwe is a signatory to international statutes and goals such as the Millennium Development Goals (MDGs) that guide the response to HIV/AIDS which, in turn, is guided by the biomedical approach. In compliance with the international goals for HIV/AIDS mitigation, the government of Zimbabwe

developed the National HIV/AIDS policy in 1999 that includes various statutory instruments and frameworks that guide the biomedical approach strategies to prevention, treatment, care and support (NAC, The Standard Sunday Paper, 3 September 2012).

To further promote the prevention of HIV/AIDS, the education system in Zimbabwe introduced biomedical life skills education in the Guidance and Counselling curriculum to facilitate the development of psychosocial skills among children and adolescent learners to empower them to prevent HIV/AIDS (WHO, 1999, 2009). Breidlid et al. (2015) concur that the classroom is the most important site for combating HIV/AIDS. In addition, the Zimbabwean Ministry of Primary and Secondary Education Strategic Plan on Life Skills, Sexuality and HIV/AIDS Strategy was launched to provide support to all learners with access to correct HIV/AIDS information and life skills related to sexual and reproductive health, HIV prevention, treatment, care and support (Washaya, 2013).

During my involvement with Zimbabwe's biomedical response to HIV/AIDS project, I discovered that, despite all the efforts and resources placed in the biomedical response strategies in Zimbabwe, HIV prevalence remains high. HIV/AIDS education challenges faced by teachers and pupils are still a cause for concern. The schools have to deal with orphans, adolescent behaviours, mortality and morbidity from HIV/AIDS, as well as behavioural causes for school dropouts.

Zimbabwe has faced economic challenges in implementing biomedical strategies for managing HIV/AIDS. The success of biomedical strategies for HIV/AIDS management requires a commitment of resources. UNAIDS (2016) observed that self-sufficient countries, such as Brazil and Thailand, have domestically funded universal programmes which benefit the whole population while poorer countries, such as Zimbabwe, Zambia and Uganda, which rely heavily on external funding, have faced challenges to sustain the biomedical HIV/AIDS response strategies (UNAIDS, 2016).

According to NAC (2016), some of the challenges faced by implementing the biomedical strategies and programmes in Zimbabwe include the limited space for confidential HIV counselling, Antiretroviral Treatment (ARV) fatigue, drug expenses, a lack of stock, low adherence and drug resistance, and increased morbidity (NAC, 2016). Belief systems around fertility have also affected people's choices on using HIV strategies such as condom use. The biomedical strategies have also failed to address social,

political and economic factors that make people susceptible to HIV infection and have failed to contain the HIV/AIDS epidemic. HIV/AIDS prevention campaigns that emphasise safe sex and abstinence use biomedical strategies that are more applicable to the lives of men than women and often fail to consider the realities of female sexuality (United Nations General Assembly Special Sessions [UNGASS], 2012). Mlaudzi and Phil (2007) further contend that the current biomedical model management of HIV/AIDS focuses on the Abstinence, Behaviour change, Condom use (ABC) Model which overlooks the issue of indigenous cultural practices, sexual behaviours, knowledge and attitudes of society and the social identity in which Indigenous Knowledge strategies are rooted. Social identity, as observed by Campbell (1997; 2015), influences people's sexual behaviour as opposed to the Knowledge, Attitudes and Practices model which assumes that health-related behaviour is determined by knowledge and attitudes and that information-based strategies seek to change people's behaviour based on knowledge about the dangers of a particular behaviour.

The economic crises, socio-cultural and other challenges faced by Zimbabwe and other developing countries in implementing the biomedical and human rights HIV/AIDS management strategies have prompted people touse Indigenous Knowledge strategies for management of HIV/AIDS (Kayombo, 2013). The impact of stigma associated with HIV/AIDS, which is prevalent at social, institutional and personal levels, is a major barrier to accessing the HIV/AIDS prevention, treatment, care and support strategies by people living with HIV (NAC, 2011). Ngozi and Mbonu (2009) state that HIV/AIDS stigma, discrimination and denial should be addressed in the national and international cultural contexts in which they exist.

Macheke and Campbell (1998) further contend that more attention ought to be paid to traditional cultural beliefs and practices in order to develop sustainable HIV/AIDS strategies. Chinsembu, Shimwooshili-Shaimenyama, Kasanda and Zealand (2011) state that HIV/AIDS interventions targeting students in schools should be anchored on their Indigenous Knowledge of the disease. The authors agree that indigenous vocabulary may help teachers and students to find local meanings, which enhance their understanding of the social construct in the mitigation of HIV/AIDS.

There is worldwide recognition of the sustainability of Indigenous Knowledge; even the medical profession is now advocating for Indigenous Knowledge Systems' (IKS) integration with biomedical

strategies (Kayombo, 2013; Leininger, 1999). Some countries have advocated for the integration of IK practices with Biomedical Knowledge, for example, the Botswana Primary Health Care Policy (Rankopo& Osei-Hwedie, 2011). In Zimbabwe, the formation and recognition of the Zimbabwe National Traditional Healers Association (ZINATHA) is another example that shows the integration of the biomedical and indigenous practices. In South Africa, Life Orientation education is informed by numerous policies and guidelines. The National Certificate and Vocational Policy (NCV) and Life Orientation guidelines state that Life Orientation should integrate Indigenous Knowledge (Department of Higher Education, 2015). The content of Life Orientation education includes topics on life skills, health and biomedical HIV/AIDS.

The need to integrate indigenous health knowledge and biomedical health knowledge for sustainable management and mitigation of HIV/AIDS has been recommended by various studies (Choguya, 2015; Mavi, 1996; Simmons, 2011). A study by Manyau et al. (2018) observes that integrating Life Orientation and IK transforms Life Orientation education and promotes the sociocultural synergy between the two forms of knowledge. Dickinson (2010) also acknowledges that, while individuals may have corrected biomedical information on HIV/AIDS, they also manage information they have from the IKS.

Studies by Choguya (2015), Kayombo (2013) and Simmons (2011) indicate that many African communities continue to be influenced by an indigenous worldview that promotes social practices and social identity. The African communities have developed affordable, accessible, acceptable and culturally specific survival strategies based on their IK to manage HIV/AIDS.Unfortunately, the Indigenous Knowledge HIV/AIDS management strategies are currently marginalised and poorly documented. The HIV/AIDS epidemic continues to ravage the communities in Zimbabwe. It becomes increasingly critical that diverse Indigenous Knowledge strategies to confront the complex social, cultural, environmental and economic context in which HIV/AIDS continues to spread is researched and documented.

Meyiwa, Letsekha and Wiebsiek (2012) assert that the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 1978 recognised the role of Indigenous Knowledge systems in enhancing and contextualising education. The South African Department of Education (DoE) (2002) proposed the inclusion of the IKS in the school curriculum whose socio-political history had excluded

oral and undocumented cultural heritages. Similarly, in Zimbabwe, the Ministry of Education Sports and Culture, Cultural policy, Section 2.1 emphasises that the Zimbabwean traditional knowledge and education goals should be concerned with the cultural, social and psychological development of a person. The education goals should provide sources for the curriculum needs of Zimbabwean societies and such knowledge should be infused in the curriculum (Chigwedere, 2007). Mugo (1999) also states that for African renaissance to be effective and holistic, the education system should adopt the African culture.

The first case of HIV in Zimbabwe was recorded in 1985. HIV/AIDS programmes in Zimbabwe were introduced in a top-down approach, which ignored community involvement and support. Yet, according to Visser (2005), the impact of sexual reproductive health education on the sexual behaviour of youths depends on how the education is implemented in a community context to address community needs. Zambuko (2005) agrees that life skills education must fit the specific needs of the community and that parents must participate in the teaching of their children about sex and sexuality. The Ministry of Education's Strategic Plan on Life Skills, Sexuality and HIV/AIDS Education Strategic Plan in Zimbabwe is not supported by any implementation framework and teaching strategies.

Zambuko and Mturi (2005) concede that HIV/AIDS education in secondary schools has the potential to be one of the most important and effective mechanisms for combating the HIV/AIDS epidemic. My social and professional experiences as well as the literature I reviewed triggered "Aha" moments, which motivated me to conduct the study. Denzin (2009; 2017) describes "Aha" moments as epiphanic or memorable moments in one's life that mark turning points. It is from this background that I realised that I could contribute towards the mitigation of HIV/AIDS through finding ways to amalgamate IK and Biomedical Knowledge strategies in the Guidance and Counselling secondary schools' curriculum for HIV/AIDS, Life Skills Education. I also realised that the two knowledge bodies, IK and Biomedical Knowledge, are underpinned by different worldviews. Finding ways to integrate them in the classroom could also benefit indigenous learners.

1.3 The problem

Literature has shown that the highest prevalence rate of HIV/AIDS in Zimbabwe has been traced to the mining communities (NAC, 2016). Despite government's response, through the implementation of biomedical strategies to HIV/AIDS prevention, treatment, care and support in schools and communities,

the number of people infected with HIV in Zimbabwe continues to increase. The biomedical strategies do not tap into psychosocial factors like migrancy, masculinity, feminism, socio-cultural factors and the social identities of a multicultural community, which influence sexual behaviour, for reducing HIV transmission (Campbell, 2010). The biomedical strategies have failed to demonstrate that behaviour change has any impact on the reduction of the epidemic (Crisp, 1996).

Although communities may have potential for HIV/AIDS and disease management, their Indigenous Knowledge strategies are not accorded the same recognition as the biomedical strategies. Indigenous Knowledge (IK) is undocumented and commonly stored in the minds of elderly people who die irreplaceably (Meyer, 2003). Although the MOESAC cultural policy in Zimbabwe emphasises the need for the integration of IK into the school curriculum, I discovered that it has not put in place the implementation frameworks and strategies. Dziva et al.'s (2011) study shows a lack of teachers' support because they have inadequate IK and teaching strategies for integration with biomedical strategies.

The IK strategies also have some challenges for mitigating HIV/AIDS. According to Ngozi and Mbonu (2009), the cultural construction of HIV/AIDS is based on beliefs and religious practices about contamination and immorality and has contributed to stigma and isolation of people living with HIV/AIDS. HIV stigma isolates people from their partners, families and communities and affects the overall quality of life of HIV patients.

1.4 Personal and professional experiences and observations on the effect of HIV/AIDS and Indigenous Knowledge

Indigenous researchers concur that personal background in indigenous research is another lens to doing research (Mpofu, 2016). Sharing parts of one's life has become common in indigenous research studies (Chilisa, 2013). I agree with Khupe (2014) and Mpofu (2016) that research is influenced by our socio-cultural experiences and histories and that "who you are" matters in doing Indigenous Knowledge research. Mpofu (2016) further notes that the researchers' cultural experiences influence their adoption of research methodologies. Patton (2002) posits that reporting personal and professional information that has affected data collection, analysis and interpretation, promotes the credibility of the study.

I was born and grew up in Chirumanzu, a rural village of the Midlands Province. I am a Shona Zimbabwean woman who belongs to the Chikwaiwa clan that shares the same totem of Ngara, Wamambo and Maposa. In the village, everyone is related to everyone else. Neighbours, who were not direct relatives, had their family trees traced through totems and marriages until they were related to everyone else. This large family shared the same traditional cultural norms, values, beliefs, taboos, religion and spoke the Karanga dialect of the Shona language. Like the rest of the children in the village, I was taught cultural and moral values of respect and *unhu.* Since every child was everyone's child, the violation of any cultural values could lead to being disciplined by any elderly person. Thus, there was collective responsibility in inculcating cultural moral values. There was the practice of working together and sharing as a large family. The concept of the nuclear family was not common. The large family organised itself and worked together during *nhimbe* or *jakwara*, which were activities for collective land cultivation, growing, harvesting and for threshing crops. It was during these gatherings when the family would use various strategies to discourage antisocial behaviour and to promote expected and respected socio-cultural behaviours in the village. Unfortunately, some of the strategies they used to inculcate *unhu* are not documented. The large family also shared the same traditional religion which they observed by brewing traditional beer, *Doro rechivanhu*. It was during these traditional and religious rituals that they would dance and sing to traditional religious songs until some of the elders' *masvikiro* were possessed by the spirit of the departed ancestors, *Midzimu*. The possessed *masvikiro*were also responsible for inculcating good moral values and for enforcing moral sanctions among the members of the clan.

When I was growing up, my father was a school headmaster and my mother stayed at our rural home. We had two homes, one in the village and the other at the school premises where my father worked. We used to spend the weekends and school holidays in the rural home. The homestead in the village was shared with my uncles hence we lived as one big family and shared everything. The girls, my nieces and I, shared the same bedroom *nhanga*. My brothers and my nephews also shared their own bedroom *Gota*. It was in the *nhanga*and *gota*where older girls and boys had the responsibility to teach the young siblings about cultural moral values. I also remember my older brother and nephews would have their supper with my dad, uncles and other elderly men at a homestead place for men called *padare*. It is at *padare* that elderly men would teach boys through various strategies about manhood, cultural moral values, beliefs, disease prevention and management as well as traditional expectations. The other girls and I would have our supper inside the kitchen with my mother, grandmothers and aunts. Various strategies

were used to inculcate the values of womanhood and facts about growing up including disease prevention and management. As the biomedical clinics and hospitals were very far from my village, the large family deployed both indigenous and biomedical practices for health management. I drew insights for my research approaches from the *padare*concept to explore Indigenous Knowledge strategies for HIV/AIDS management among the cultures in the mining community (see Chapter Five). I did not experience any cultural conflict during research because my cultural experiences helped me to share my Shona cultural identity. Kovach (2010a) observes that cultural experiences of indigenous researchers are significant and influence the adoption of methodologies.

After my primary education, I was sent to a girls' Roman Catholic Mission boarding school for secondary education. This initiated my movement away from home. After four years of secondary school, I did a year of temporary teaching before I joined nursing training. My life has been overshadowed by caring for people and promoting healthy living. Ever since I was a child, and the eldest daughter in the family, my mother inculcated in me the indigenous health skills of caring for siblings but my father always wanted me to join his profession as a teacher. These experiences motivated me to train as a nurse, midwife, counsellor and health and adult educator. I accumulated my professional experience as a nurse and health educator from working in both rural and urban areas in collaboration with various stakeholders, including schools, during school health education programs. My upbringing and professional experience exposed me to both Indigenous Knowledge and Biomedical Knowledge on disease management including STI/HIV/AIDS management.

My cultural and professional experiences on STI/HIV/AIDS teaching and management contributed to my *"aha!"* moment to undertake this study. These experiences motivated me to explore how the existing IK HIV/AIDS management strategies and Biomedical Knowledge of HIV/AIDS management strategies could be amalgamated for teaching and learning in schools. My professional experience as nurse, health and adult educator have been western and biomedically oriented granting me an insider position about teaching HIV/AIDS. My current academic activity as a student researcher is mediating and enabling me to confidently deal with cross-cultural issues on teaching about HIV/AIDS. As a researcher, my background has situated me in a position proposed by Dwyer and Buckle (2009) of the insider-outsider epistemological standpoint. This approach has enabled me to be realistic in dealing with issues related to either Biomedical Knowledge of HIV/AIDS or IK of HIV/AIDS strategies or both in the Guidance

and Counselling School curriculum in pursuance of the study objectives. My personal and professional experiences also gave insight to my data collection, analysis and interpretation of the study hence the importance of reporting it. I discuss the rational of the study in the next section.

1.5 Rationale for the Study

In my professional practice as a nurse and health educator in Zimbabwe, I have observed that the biomedical strategies for mitigating HIV/AIDS face many challenges and are failing to contain HIV/AIDS. I have noted during school health programmes that teachers are not keen to teach HIV/AIDS in the Guidance and Counselling curriculum due to a lack of relevant teaching strategies. Some studies have concluded that the lack of skills on IK teaching strategies have led to the failure to implement the integration of IK into the teaching of science classes in Zimbabwe (Mpofu & Kusure, 2011). Hewson and Ogunniyi (2011) also note that there are limited studies on the integration of IK teaching strategies in the school curriculum. This has created integration problems for teachers who have been trained to implement a western, science-oriented curriculum.

I have also observed that the mining communities have various cultures that use different IK strategies for managing diseases, including HIV/AIDS, which can be harnessed for teaching and learning in schools. This study is motivated by the desire to amalgamate HIV/AIDS IK strategies into the Guidance and Counselling curriculum for secondary schools for teaching and learning HIV/AIDS life skills.

Several studies have been carried out to document the integration of traditional medicine and biomedical approaches. For example, Maroyi (2013) conducted a desk review to document plants used for traditional medicine in Zimbabwe. The findings revealed that local people in South Central Zimbabwe rely on traditional medicine to treat a wide spectrum of illnesses and that they were knowledgeable about the identities and application of medicinal plants. The study did not evaluate the herbal plants for phytochemical safety and pharmaceutical efficacy nor did it recommend the issue of amalgamating IK and Biomedical Knowledge. Similarly, both Kayombo (2013) and Choguya (2015) conducted desk research on the role of IK practitioners on HIV/AIDS prevention and management in local communities in sub-Saharan Africa and Zimbabwe, respectively but areas of collaborating of IK strategies with the Biomedical Knowledge strategies in HIV and AIDS prevention and management were not explored in these studies.

Simmons (2011) conducted a 10-year ethnographic study to explore explanatory models for STI/HIV/AIDS among urban-based traditional healers in Harare. Findings showed that there are areas of convergence in the understanding and management of STI, HIV and AIDS between the indigenous and biomedical models. Both models contend that STI, HIV and AIDS are spread through risky sexual behaviour and that effective prevention is rooted in behaviour change. The issue of how the models can be amalgamated is not explored in the study. Therefore, this case study follows an interpretivist paradigm and uses socio-cultural theory to explore the prospects of amalgamating Indigenous Knowledge and Biomedical Knowledge strategies for HIV/AIDS management in the Guidance and Counselling curriculum for Secondary Schools in Zimbabwe.

Despite increased interest in amalgamating Indigenous Knowledge strategies and biomedical strategies in the school curriculum, the few studies that have been conducted have not explored indigenous HIV/AIDS strategies and how they can be amalgamated to benefit the schools. An example is a study by Chinsembu et al. (2011) on IK of HIV/AIDS among high school students in Namibia. The study only recommended that HIV and AIDS interventions targeting students should be anchored on their IK of the disease. An indigenous vocabulary may help teachers and students to find local meanings that bind with their social construction to mitigate the pandemic (Chinsembu et al., 2011).

My study proposes an amalgamation of the Indigenous Knowledge and Biomedical Knowledge strategies in the fight against HIV/AIDS through the medium of HIV/AIDS teaching and learning in the Guidance and Counselling secondary school curriculum. To my knowledge, no such study has been undertaken in Zimbabwe.

1.6 Purpose of the study

My research aimed to explore the IK strategies of managing HIV/AIDS held by communities in Mazowe Gold Mine and how these can be amalgamated for teaching and learning of HIV/AIDS in the Guidance and Counselling curriculum for secondary schools in Zimbabwe.

1.7 Central Research question

How best can bio-medical and indigenous strategies of HIV/AIDS management be amalgamated in secondary school Guidance and Counselling curriculum?

Sub-research Questions:

1. How do indigenous groups in the Mazowe mining community of Zimbabwe manage HIV/AIDS?
2. How is HIV/AIDS managed biomedically in the Mazowe mining community of Zimbabwe?
3. How can the Indigenous Knowledge strategies and biomedical strategies for HIV/AIDS management be amalgamated for teaching and learning of HIV/AIDS in the Guidance and Counselling curriculum in Zimbabwe?

1.8 Significance/ contribution of the Study

The significance of the study is usually in terms of its contribution to enriching the knowledge base on the topic under investigation, improving practices and for policy considerations (Punch, 2010).

HIV/AIDS has devastated individuals, families and communities. A number of developments indicate that HIV/AIDS education in secondary schools has the potential to be one of the most effective mechanisms for combating the HIV/AIDS epidemic (Zambuko&Mturi, 2005). It has also been observed that effective life skills education in schools must fit the specific needs of the community and that parents must participate in the teaching of their children about sex and sexuality. It is hoped that the study findings will make an important contribution in promoting the amalgamation of IK HIV management strategies with the biomedical strategies in the Guidance and Counselling secondary school curriculum. Such an initiative would enhance the teaching of HIV/AIDS education in schools and would lead to linkages between the schools, education systems, the home, and the wider community in mitigating the effects of HIV/AIDS. The limited research conducted in Zimbabwe on the amalgamation of HIV/AIDS IK management strategies has mainly focused on the role of traditional medicine in managing HIV/AIDS (see, for example, Simmons, 2011; Maroyi, 2013; Choguya, 2015). The findings have not found their way into the HIV/AIDS Life Skills Guidance and Counselling school curriculum. However, it is hoped that the findings of this study will provide empirical evidence on the IK strategies that can be used to complement the biomedical strategies for the management of HIV/AIDS in the schools' life skills

curriculum. Not much has been done regarding the exploration of HIV/AIDS IK strategies in the mining community in Zimbabwe that can be amalgamated for managing and teaching HIV/AIDS and Life Skills Education in the Guidance and Counselling school curriculum. The study findings will assist educators and curriculum developers in considering the socio-cultural issues and the needs of students from diverse cultures in HIV/AIDS life skills education in schools. It is also hoped that the study will chart new territory on the amalgamation of biomedical and indigenous approaches thereby providing new literature on the subject.

Policy makers are beginning to see the need for integrating IK strategies and biomedical strategies in the teaching curriculum, but there has been a lot of theorisation. Zimbabwe's MOESAC cultural policyemphasises the need for integration of IK into the school curriculum but it has not put in place the implementation framework or strategies that are in line with Zimbabwean policy recommendations. Given the challenges of mitigating HIV/AIDS in Zimbabwe, this study is timely and significant. It is hoped that the findings from the study will assist policy makers in decisionmaking processes about the development, amalgamation and enhancement strategies to promote a holistic HIV/AIDS life skills education curriculum in schools for mitigating HIV/AIDS.

1.9 Research Design

The study adopted is the interpretivist paradigm, an inductive approach as well as the qualitative case study research design. The data generation techniques included, *Padare* (cultural meetings), observations, document analysis, unstructured interviews, focus group discussions and investigator diaries. The data collection method is explicitly explained in Chapter 5. The study uses socio-cultural theory to explore the prospects of amalgamating indigenous knowledge and biomedical knowledge strategies for HIV/AIDS management in the Guidance and Counselling curriculum for secondary schools in Zimbabwe

1.10 Operationalization of keyconstructs

In this study I have used some terms that could have different meanings in other contexts or could be written differently. I explain the operational meanings of these terms in this study and the way I decided to write them in the thesis.

HIV/AIDS: I write HIV and AIDS as HIV/AIDS without implying that HIV is synonymous with AIDS. It is in line with the knowledge that the local community holds and understands.

Indigenous Knowledge(IK); Is forms of knowledge that is local and specific to place.I refer to Indigenous Knowledge as thetraditional local knowledge generated from cultural ways of knowing.

Cultural knowledge in the study refers to ways used by specific cultural groups to manage HIV/AIDS.

Indigenous Knowledge HIV/AIDS (IKHIV/AIDS)management strategiesin the study refer to socio cultural beliefs and practices that have been and are still being used by local people for the prevention and management of HIV/AIDS

Nhaka Knowledge HIV/AIDS (NKHIV/AIDS) strategies refer to heritage or Indigenous Knowledge HIV/AIDS strategies in the study

Biomedical HIV/AIDS management strategies refer to western medical and clinical approaches designed to moderate biological and physical factors for HIV/AIDS prevention and management.

1.11 Chapter Organisation

This study is organised into nine chapters. Chapter One discusses the background of the study and the operationalization of key constructs. Chapter Two provides a detailed discussion of the conceptual frameworks as well as the reviewed literature. Chapter Three describes the theoretical framework. The contextual discussion, which serves to delimit the study, the Mazowe gold mining community in Zimbabwe and its location, is discussed in Chapter Four. Chapter Five addresses the methodological approaches and fieldwork that includes issues of protocol and ethics, research participants, methods of data generation, data generation procedures and interpretation. Chapter Six answers Sub-research Question 1 on how HIV/AIDS is managed indigenously and describes HIV/AIDS Indigenous Knowledge strategies in the mining community. Chapter Seven describes BKHIV/AIDS strategies in answer to Subresearch Question 2 on how HIV/AIDS is managed biomedically. Chapter Eight presents findings relating to the Sub-research Question 3 on how IK and Biomedical Knowledge strategies can be amalgamated in the Guidance and Counselling curriculum for secondary schools. Chapter Nine concludes with an amalgamative biomedical classroom science process serving as a teaching model, together with the highlights of research findings and implications. Recommendations are presented based on the findings of Chapters Six, Seven and Eight before the epilogue.

1.12 Chapter Summary

Chapter One described the context of the problem under study and "who I am" that included my social and professional background and how it motivated me to undertake the study. It influenced my identification of the problem, formulation of research questions and choice of methodology. Based on "who I am", I located my study in Mazowe Gold Mine community in Zimbabwe. In this chapter, I provided an overview of my study in which I explored the prospects of amalgamating Indigenous Knowledge HIV/AIDS strategies into the Guidance and Counselling curriculum for secondary schools in Zimbabwe. I described the research problem, rationale, my motivation and the purpose of the study. The chapter explains the research questions and the contribution of the study to new knowledge. I also highlight the organisation of the chapters in the thesis. In Chapter Two, I discuss the reviewed literature related to my study.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

A literature review functions as a means of conceptualising, justifying, implementing and interpreting a research investigation (Merriam & Simpson, 2000). The five functions of a literature review, according to Merriam and Simpson (2000), are to 1) foreground the study; 2) conceptualise it; 3) demonstrate how it advances knowledge; 4) inform its methodology; and 5) provide a basis for interpreting its data and findings.

Literature reveals that the HIV/AIDS epidemic has become a global crisis affecting all levels of society. The UNAIDS research report (2016) shows that in 2015, an estimated 36.7 million people were living with HIV globally, a slight decrease from 36.9 in 2014. Although there was a slight decrease in AIDS related deaths from 1.2 million in 2014 to 1.1 million in 2015, it remains the fourth leading cause of death worldwide.

The epidemic is addressed by a western biomedical model across sectors with limited success (Mlaudzi& Phil, 2007). Presently, HIV/AIDS is taught as a component of Life Orientation in South African secondary schools and in the Guidance and Counselling curriculum in Zimbabwe. Although studies have shown that schools have the potential to mitigate HIV/AIDS, the education about the pandemic is problematic. According to UNAIDS (2011), youths between the ages of 15 and 24 are most vulnerable to contracting HIV indicating that teachers and adults are failing to provide them with necessary skills to make informed decisions about health and sexuality. Beyers (2013) argues that, while teachers have no problem teaching about the biomedical content on the STI/HIV/AIDS, they are reluctant to address the sexuality needs of the youth even though they may get distorted information from their peers or on social media. Beyers (2013) recommends the need for a consensus between all stakeholders when teachers decide on what and how to teach STI/HIV/AIDS and sexuality for the mutual benefit of young people's sexual health.

Curbing the HIV/AIDS pandemic requires that both the Indigenous and Biomedical strategies be taken on board for teaching and learning in the classroom. Decouteau (2013) recommends the need to find a bridge between the classroom culture and home perceptions in order to find effective and culturally sensitive means of fighting HIV/AIDS. Breidlid et al. (2015) concur that HIV/AIDS and Life Skills

Education, Guidance and Counselling educators should incorporate the learners' indigenous Knowledge into teaching and learning to make learning of HIV/AIDS life skills understandable and accessible for learners.

The literature review for this study is discussed using a conceptual framework guided by the Culturally Aligning Classroom Science Model (CACS) (see Mpofu, Otulaja&Mushayikwa, 2014). In the next section, I discuss the conceptual framework.

2.2 Conceptual Framework

A conceptual framework represents how the literature is synthesised and how particular variables connect to each other in the study. It sets a stage for the presentation of a particular research question that drives the investigation based on the problem statement under investigation (Regoniel, 2015). The conceptual framework lies within a broader framework called a theoretical framework which draws support from time tested theories. The conceptual framework for this study was guided by ideas from the Culturally Aligning Classroom Science (CACS) Model (see Mpofu, Otulaja&Mushayikwa, 2014). The adapted CACS conceptual framework is embedded in the Socio-Cultural Theory. Ideas from the CACS model provide the main themes that guide and link my literature review to research questions. I discuss the CACS model in the next section.

2.2.1 The Culturally Aligning Classroom Science Model (CACS) Model

TheCulturally Aligning Classroom Science Model (CACS) Model was developed by Mpofu, Otulaja and Mushayikwa in 2014. The model constitutes six main dimensions: the context of the study, knowledge, domain of knowledge, cultural border crossing, integration and integrated classroom science (Mpofu, 2016). The model provides the domains of knowledge which include knowledge held by a particular cultural group (enterprise), a way of knowing or shared worldviews (paradigm), an inquiry (process) and an outcome which is a valuable body of knowledge (product) (Mpofu, Otulaja&Mushayikwa, 2014). The model acknowledges that knowledge exists in different places as Indigenous Knowledge and modern classroom science and that it is context specific (Mpofu, 2016). In relation to learning, the model observes that the learners are involved in the crossing of cultures from home to classroom called the "cultural border crossing" (Aikenhead, 1996). The framework draws from Aikenhead (2001) who states that, in relation to the border-crossing model, learning is a cross-cultural

event. It entails involving learners in the crossing of cultures from home to the school classroom. The cultural crossing depicts that classroom science is one culture and Indigenous Knowledge is another (Snively & Corsiglia, 2001; Ogawa, 1995).

The CACS model proposes a contextual understanding of integrating Indigenous Knowledge and western science at classroom level to help learners cross borders between indigenous culture and western culture (Mpofu, Otulaja&Mushayikwa, 2014). The integration depends on the pathways adopted. Each of the CACS dimensions is framed within theoretical perspectives to make CACS a multifocal lens. The CACS model, as a multifocal framework, characterises the integration of Indigenous Knowledge into classroom science and offers parallel, convergent, divergent and substitutive forms of integration (Mpofu, Otulaja&Mushayikwa, 2014). Mpofu, Otulaja and Mushayikwa (2014) posit that different integration pathways lead to different classroom practices in terms of pedagogy, purpose and content. School science is defined by its goals, content and pedagogy, the purpose of learning and teaching, what is taught and learnt, and how it is to be taught and learnt (Mpofu, Otulaja&Mushayikwa, 2014). In the divergent form, knowledge systems are independently placed side-by-side in the same syllabus and classroom space. In the convergent type of integration, knowledge common to both systems of knowing is placed in the syllabus and taught in the classroom. The divergent integration keeps the knowledge systems apart and leaves them to be taught in their own contexts with independent strategies. The substitutive type of integration entails that one knowledge displaces the other. Mpofu (2016) observed that the integration of these two forms of knowledge needs to be based on common understanding of the knowledges and the differences between the two. Mpofu (2016) used the model in her study on a case of traditional plant healing and classroom science. In my study, I adapt ideas from the CACS Model as a conceptual framework shown in Figure 2.1 below:

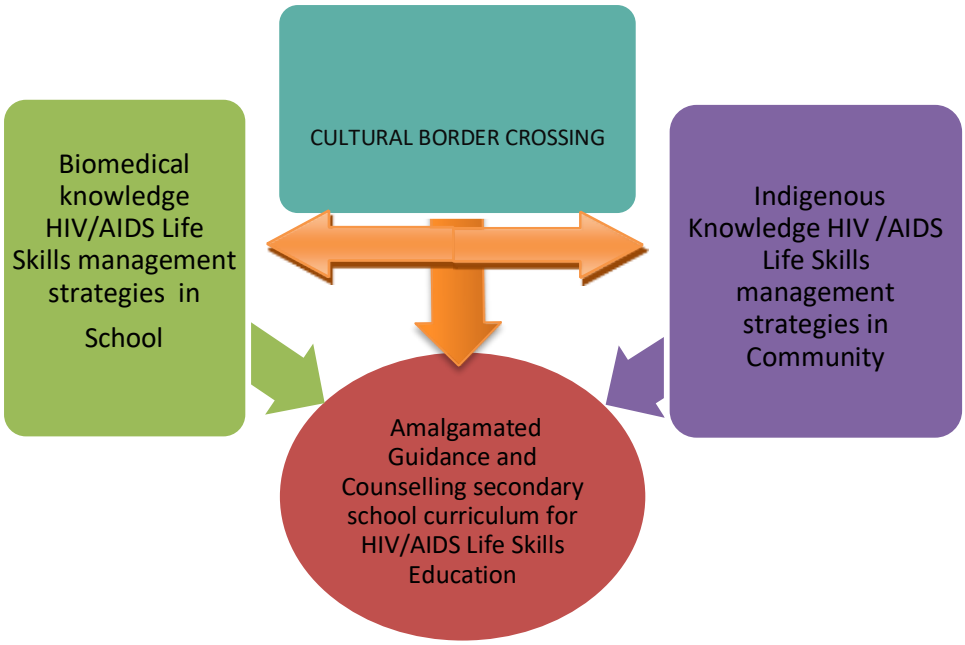


Figure 2.1: Adapted CACS Model

Figure 2.1 above shows that, as the example of the case on Indigenous Knowledge of Plant Healing by Mpofu (2016), knowledge for HIV/AIDS management exists both at home and in the classroom. Indigenous Knowledge HIV/AIDS (IKHIV/AIDS) strategies are grounded in community culture, while BKHIV/AIDS strategies are grounded in western science school culture.IKHIV/AIDS and BKHIV/AIDS are domains of knowledge whose differences are portrayed by their side-by-side separation as depicted in Figure 2.1 above. The framework guides the formulation of questions for the exploration of both IKHIV/AIDS management strategies from the home and BKHIV/AIDS management strategies from the classroom. The model portrays that knowledge strategies from both domains are context specific. The ideas from the CACS framework provides an insight to a contextual understanding of amalgamating Indigenous Knowledge of HIV/AIDS management strategies and Biomedical Knowledge of HIV/AIDS strategies in the HIV/AIDS Life Skills Guidance and Counselling school curriculum. My study adapts the idea of cultural border crossing to learning which involves the learners in the crossing of cultures from home with IKHIV/AIDS strategies to the classroom science with BKHIV/AIDS strategies. As in the CACS model, the diagram depicts the two-way border crossing between the two domains of knowledge as shown by the double arrow in the diagram in Figure 2.1. In my study, the cultural border crossing shows that biomedical HIV/AIDS science is one culture and IKHIV/AIDS is another. The CACS model has provided insight into the amalgamation of the two bodies

of knowledge to assist learners in the crossing of cultures. Learners need to be assisted in making connections between HIV/AIDS biomedical strategies and IKHIV/AIDS management strategies. Amalgamating IK and biomedical HIV/AIDS life skills management strategies within the classroom space is critical in helping learners to cross borders between IK and biomedical HIV/AIDS management strategies and for the teaching, learning and mitigation of HIV/AIDS.

The amalgamation of domains of knowledge in this study is guided by Divergent, Parallel, Convergent and Substitutive (DPCS) pathways adapted from the CACS model. The amalgamation of these two forms of knowledge was based on common understanding of the knowledge and differences between the two. I realised that failure to amalgamate IKHIV/AIDS strategies and BKHIV/AIDS strategies in the classroom will continue to marginalise Indigenous Knowledge and promote the dominant, biomedical and western scientific way of teaching and learning.

The outcome of the amalgamation should be by the distinguishability of the two knowledge strategies amalgamated in the HIV/AIDS Life Skills Education Guidance and Counselling curriculum as depicted in Figure 2.1. In this study, I also adapt the purpose, content and pedagogy as a tool for judging the distinguishability of both IKHIV/AIDS and BKHIV/AIDS in the Guidance and Counselling curriculum. Ideas from the CACS model, as depicted in Figure 2.1, guided the research questions, literature review, data analysis and presentation, amalgamation of the two knowledge bodies IKHIV/AIDS and BK/HIV/AIDS management strategies in the HIV/AIDS and Life Skills Education, Guidance and Counselling secondary school curriculum, and also provided the constructs of the study.

Literature review is discussed around conceptual areas of knowledge such as forms of knowledge, IKHIV/AIDS management strategies, BKHIV/AIDS management strategies, knowledge relationships, and amalgamation of IKHIV/AIDS management strategies and BKHIV/AIDS management strategies in the Guidance and Counselling school curriculum. In the next section, I discuss literature relevant to the conceptions of knowledge.

2.3 Knowledge Concepts

This section describes and clarifies key concepts involved in amalgamating Indigenous Knowledge and Biomedical Knowledge strategies in the HIV/AIDS Life Skills Guidance and Counselling school

curriculum.Indigenous Knowledge is specific forms of knowledge that is local and specific to place. It is local knowledge generated from cultural ways of knowing.

2.3.1 Indigenous Knowledge (Nhaka Knowledge)

Indigenous knowledge also refered to as Nhaka or heritage knowledge in the study is often reflected in culture. The Shona Dictionary defines *nhaka* as "that which comes from the circumstances of birth; a condition or quality transmitted by ancestors, inherited lot or portion.The term *Nhaka* Knowledge is used interchangeably with Indigenous Knowledge in the study.. Odora-Hoppers (2009) refers to culture as "the totality of socially transmitted behaviour patterns, arts, beliefs, institutions and other products of human work and thoughts". Indigenous Knowledge is knowledge that existed before the colonisation of Africa (Hewson &Ogunniyi, 2011). Prior to colonialism, the African local people had their own ways and systems of life. Matsika (2012) posits that colonialism relegated the African culture to the background and concentrated on western values, which had little relevance to Africans. The colonial governments did not accord the indigenous and western system the same status. They regarded indigenous education and knowledge systems as primitive and backward. Colonial education led to psycho-cultural alienation and cultural domination (Shizha, 2014).

Scholars from across the globe have contributed to the understanding of Indigenous Knowledge and how it differs from western knowledge. The scholars have highlighted the plurality and common characteristics among them. Finding knowledge that is purely indigenous to a particular group is rare. Indigenous Knowledge is not static as it is constantly influenced by other knowledge systems and technologies (Wright & Mazel, 2012). Conversely, the colonial mentality did not appreciate indigenous epistemologies which could have enriched knowledge production in diverse cultural sites (Govender & Edwards, 2009).

After colonialism, there is evidence that indigenous people continued to practice Indigenous Knowledge alongside that of western knowledge. In my experience, I have seen patients on antiretroviral treatment consulting traditional herbalists and taking traditional herbs for the treatment of opportunistic infections from HIV/AIDS and for the treatment of sexually transmitted infections. The influence of western knowledge normally reflects a change of values. For example, the use of condoms among HIV positive people works against the value of having many children which is regarded as important among African

cultures. In some cases, people within a community may experience stigmatisation resulting from the absorption of western values, which undermine the status of traditionally valued authority (Odora-Hoppers, 2010; Sutherland & Keane, 2008). Indigenous Knowledge is never lost and it is necessary to promote the interplay of different cultural knowledges for social harmony and justice (Govender & Edwards, 2009). Although there may be common knowledge amongst indigenous people in different localities in Africa, there are features of Indigenous Knowledge that are peculiar to individual cultural groups (Aikenhead& Michell, 2011). For example, the Chewa culture is well known for male circumcision that has been adapted by biomedical science as a prevention strategy for HIV infection.

2.4 Science perspectives

Science is a way of looking at the world and is informed by specific philosophies that are distinct from the epistemologies of Indigenous Knowledge systems. Science has been operationalised within the western way of knowing. This orientation has promoted western science in which biomedical science is embedded, as the only science (Brayboy, 2014). This has led to the questioning of Indigenous Knowledge as a science by some scholars. The opponents of the universalistic view of western science, including Brayboy and Castagno (2008), argue that science exists in a plural form. They argue from a multicultural perspective that there are as many sciences as there are cultures because science exists in every culture (Mpofu et al., 2014; Shizha, 2013). Hence, biomedical science is also existent in the western culture and is therefore a subculture of the western culture and so is HIV/AIDS. Both Indigenous Knowledge and Biomedical Knowledge need to be acknowledged as critical, but different ways of knowing. Scholars from a pluralist viewpoint argue for an amalgamation of Indigenous Knowledge and western Biomedical Knowledge for the purpose of decolonisation and equity.

Although some scholars of western science look down upon other knowledge grounded in indigenous cultures, they overlook the fact that western science continues to develop through adoption and adaptation of ideas from other cultures. Otulaja et al. (2011) also support the notion that the development of western science includes the modification and adapting of selected aspects of Indigenous Knowledge into western science world views and cultures. An example is that of circumcision, a part of some African indigenous cultures that western biomedical science has adapted as a strategy for HIV prevention. It can therefore be argued that some of the biomedical science is a merge of cultural knowledge elements and

western scientific ways of knowing. I discuss the perspectives of culture in relation to knowledge in the next section.

2.4.1 Culture and knowledge

Culture refers to the beliefs, behaviours and artefacts shared among members of a group that develop over time (Spencer-Oatey& Franklin, 2012). Because there are different cultures, all in a state of flux, it is complicated to culturally align science in the classroom. It raises questions of how to structure the HIV/AIDS and Life Skills Education, Guidance and Counselling curriculum. This study provides the basis for understanding the roles of stakeholders and literature discourses about the amalgamation of Indigenous Knowledge and Biomedical Knowledge strategies in the HIV/AIDS Life Skills Guidance and Counselling curriculum.

African culture is portrayed as the beliefs and/or behaviours that people in the same locality retain despite interactions with the west. While core aspects of culture are resilient to change, other aspects respond to social, political, economic, environmental and historical contextual factors. Several examples that demonstrate the retention of cultural aspects of living exist. For example, male circumcision is common among the Chewa culture but is also performed both traditionally and biomedically in hospitals and clinics. Circumcision, which has existed in some cultures as an Indigenous Knowledge strategy, is also practiced as a biomedical HIV/AIDS prevention strategy. Some of the cultural processes of the Shona, Chewa and Tonga are detailed below.

Culture consists of values, beliefs and traditional religions. Cultural values shape behaviour and are critical for HIV/AIDS prevention and management. Values that ground behaviour in line with African communities' expectations is the axiological frame of *Ubuntu/Unhu*. *Ubuntu /Unhu*means being human or personhood (Letsekha, 2012). The philosophy promotes the common good for society. The principles of *Ubuntu* include respect, communalism, supportiveness, interdependence, solidarity, cooperation, kindness, caring for others and participation for the common good (Hamming, 2005). Broodryk (2006)posits that *Ubuntu* is the basis of the African worldview that is underpinned by a concern for the welfare of others. It manifests through others because a person is a person through other persons; an individual does not exist in isolation.

According to Mbiti (1990), an individual can only say "I am because we are; and since we are, therefore I am". Shizha (2013) further emphasises that, in the African view, an individual is expected to align his or her needs to the benefit of the community. The philosophy of *Ubuntu* shapes life for the benefit of the entire system.

Culture also consists of basic beliefs, concepts and attitudes of an individual or group. It answers questions about what gives meaning to life and its problems. In the indigenous African culture, nothing happens by chance. There are cultural beliefs about illness and death, which are believed to be rooted in spiritual powers (Shizha&Charema, 2011). For example, HIV/AIDS, in the Shona culture is associated with *runyoka* which is a spiritual curse for infidelity. Birth, life and good health are believed to be gifts from God through the intercession of the ancestral spirits (Matsika, 2012). Spirituality is a sacred and respected philosophical aspect of *Ubuntu*. African people believe that spirituality is a relationship between the living and the dead. Culture is therefore a context specific and complex construct. In this study, culture includes knowledge, practices, norms, values, beliefs and myths that are specific and unique to different cultural groups like those in the Mazowe Gold mining community. Culture is the glue that holds the community together (Matsika, 2012). Knowledge therefore cannot exist outside culture. Each form of knowledge represents a specific culture.Cultural knowledge in the study refers to ways used by specific cultural groups to manage HIV/AIDS.

In this study, understanding culture and knowledge provides insights into specific cultural issues of knowledge, attitudes, beliefs, values, expectations, norms, skills, strategies and practices for HIV/AIDS management in different cultural groups in the Mazowe Gold mining community. It also helps to focus and explore Indigenous Knowledge strategies used in specific cultural groups in the mining community that could be amalgamated to mitigate HIV/AIDS through the Guidance and Counselling secondary school curriculum. Indigenous Knowledge and Biomedical Knowledge originate from different cultures and worldviews. Battiste (2002) posits that knowledge systems differ in paradigms, methodologies, cognitive structures and in their socio-economic contexts as discussed in the next section.

2.4.2 Worldviews

The analysis of the worldview construct in this study becomes the basis of understanding Indigenous Knowledge and Biomedical Knowledge and how they are related. To understand the concept of

worldview in this study, I draw mainly on the interpretations of Hill (2007), Cobern (2000), and Keane (2008). According to Hill (2007), "worldview means the basic way of interpreting things and events that pervade a culture so thoroughly that it becomes a culture's concept of reality – what is good, what is important, what is sacred, what is real. Worldview is more than culture, even though the distinction between them can be subtle. It extends to the perception of time and space, of happiness and wellbeing. The beliefs, values and behaviours of a culture stem from its worldviews" (Hill, 2007).

The philosophical assumption of knowledge, realities, language, process and values make up worldviews of different people and groups. Hewson (2012) regards a worldview as the ways of seeing and interpreting the world. Cobern (2000) posits that a worldview is a culturally dependent, subconscious organisation of the mind, which manifests itself as a set of presuppositions and predisposes one to think, feel and act in predictable patterns. Keane (2008) also notes that our values are an important pointer to our worldview because they are often influenced by how we see ourselves in the world. Hill (2007) further notes that a person's worldview is affected by many factors such as their inherited characteristics, background experiences and life situations. To Africans, worldviews are indigenous and shared by the same culture but are influenced by the values, attitudes and habits that a person has developed and these vary from one person to another. Therefore, even though some parts of the worldviews are shared by many people in a community, other parts differ for individuals, hence worldviews of different people are shared yet unique (Hill, 2007).

The United Nations (2008) asserts that worldviews are communicated in the language of a cultural group or enterprise. Language is central to cultures and worldviews and it communicates and defines culture, nature, history, humanity and ancestry. It keeps the tradition alive, inspires knowledge and respect about our past and our world and links communities across borders and beyond. Language plays a critical role in the transmission of Indigenous Knowledge. It defines culture, nature, history, humanity, ancestry and links communities (Battiste, 2002). Indigenous languages have been used to pass down knowledge through generations. Hence, the dislocation of home languages and cultures in the classroom causes learning problems, demotivation and problems in getting HIV/AIDS messages across in a meaningful way (Breidlid& Botha, 2015). Because HIV/AIDS messages are linked to Eurocentric epistemology, knowledge production and languages, indigenous students feel that the knowledge and languages they bring to the classroom are not valued.

The oral transmission of knowledge presents difficulties because it is not documented and, with time, gets lost. Where the receiver of this knowledge speaks a different language or comes from a different cultural background, knowledge can be lost because of a failure to decode the language and the behaviour symbols through which Indigenous Knowledge is stored (Aikenhead, 2001). This has called for knowledge documentation, especially for educational purposes (Otulaja, Cameron & Msimanga, 2011).

The description of worldviews as culturally dependent shows that they are shared by cultures in different contexts. Although African indigenous worldviews and biomedical worldviews are distinct, it is possible for an individual to have multiple worldviews. People may hold multiple worldviews because of interaction with various environments like school, hospital, media, workplace and community. The colonial effects of biomedical science domination in the classroom can create a problem of access to Indigenous Knowledge and worldviews that are critical for the learning and teaching of HIV/AIDS and should be amalgamated with the Biomedical Knowledge in the classroom.

Paradigm is another concept used in science education research. The word "paradigm" refers to the shared ideas and concepts that guide the members of a given scientific field (Goldstein, 2012). It is a specific theoretical orientation based on a particular epistemology and research methodology, reflective of a specific scientific community at a particular time in history. Like the worldview, a paradigm contains values that link it to culture and therefore it is collectively shared among members of the same enterprise such as western scientists (Kuhn, 1970). According to Kuhn (1970), paradigms relate to the western philosophy of science; it is a scientific framework concerning the truth, knowledge and its production. It is a mixture of all the background that affects how science operates, what questions it can ask and what answers it can provide. The ontological assumptions of science define what problems exist and how they can be solved. Similar to worldviews and culture, paradigms contain aspects that are responsive to social, political, environmental, technical and historical factors. This allows biomedical science to be influenced by the outside world, just as research on a cure for HIV/AIDS would be scrutinised by greater society based on its values. The values of a society and traditions of science shape the paradigm. The history of science and the training, which scientists undergo, form the future of biomedical science and the teaching, learning and prevention of HIV/AIDS.

A paradigm frames and directs the nature of the type of research inquiries generated from a theoretical orientation and provides a fundamental basis for evaluating the results of the generated research (Frinci Orman, 2016). Kuhn (1970) claims that the philosophy and sociology of science cannot be practiced independently of each other. Communities are viewed, not as individuals, but as the basic agents of science characterised by specific cognitive values to which they are committed (Frinci Orman, 2016). Paradigms or worldviews consist of philosophically grounded realities, knowledge, methodologies and values that are rhetorically expressed in the language of the cultural group (Le Grange, 2007). Carrying out science is therefore cultural, context specific and diverse. It resonates with the principles of multicultural sciences that allow the learning of science from various and alternative perspectives. In this study, the concepts of worldview and paradigm are used interchangeably.

2.4.3. Similarities and differences between Indigenous Knowledge (IK) and Biomedical/Western Science Knowledge

The similarities and differences between Indigenous Knowledge and Biomedical western Knowledge inform the methodological strategies and facilitate their amalgamating.

The comparison between Western Science Knowledge and Indigenous Knowledge as the baseline of universal reason exists in all traditions. Shared human economic need and cognitive processes enforce the comparison although activated and expressed in different cultural contexts. (Ezeanya-Esiobu, 2019).

One of the similarities between the two knowledge bodies is that Indigenous science is empirical knowledge founded in processes of revelation, traditional teachings and empirical observation in real life settings overtime.(Massy&Kirk, 2015).Indigenous science is defined as relative to both scientific knowledge of longtime resident usually oral culture populations as in (traditional healing) traditions and scientific knowledge of persons within a society affected by interests and worldviews of their own community (Massy &Kirk, 2015. Indigenous and traditional knowledge has its own distinct philosophical understanding of biomedical health. Aspects of knowledge from Indigenous healing and traditional medicine for example, may conflict with the rationale of western science. These may be misunderstood in codified or highly metaphoric oral information systems but that does not make this knowledge unscientific. Rather it makes it scientific knowledge of a different kind. With respect to methodological and epistemological differences, IK is also based on trial and error and scientific experiments. (Ezeanya-Esiobu, 2019).

In some academic research and scholarly circles, Indigenous Knowledge has been dismissed as archaic, old, symptomatic of backwardness, simplistic, naïve, and even primitive. The academia emphasizes Western Knowledge and denigrates local knowledge. When trying to understand Indigenous Knowledge, scholars tend to compare it with western knowledge, which presupposes an overarching comparator in form of universal reason, or science, which is ontologically privileged.Such a comparison places western science in a higher pedestal as a superior form of knowledge, which other forms of knowledge must seek to measure up toEzeanya-Esiobu, (2019).

What exists between Western form of knowledge and IK is the difference in approach, which give each a distinct identity of its kind, but does not justify the exclusive appropriation of validity to the Western Knowledge system. The differences are philosophical in nature arising from discrepancies in sociocultural processes and worldviews. Ezeanya-Esiobu, (2019) provides insight into some of the differences between Indigenous Knowledge and Western Science Knowledge thus:

i. Indigenous Knowledge (IK) is sometimes described as culture specific whereas formal Western scientific knowledge is “decultured”.
ii. The transmission of Indigenous Knowledge is merely orally based.i.e through folklores and legend or through initiation and demonstration. Western Science transmits knowledge through writing
iii. Indigenous Knowledge is gained by observing and participating in simulations, real life experiences and trial and error. Western Science is taught and imbedded in scientific constructs
iv. Indigenous Knowledge is founded on the spiritual; the notion that the world and its components have life forces and are infused with spirit and this includes both the living and nonliving objects like fire and trees. Western Knowledge servers the living and treats all as physical entities.
v. IK views the world as interrelated;it does not necessarily subordinate all other life forms to humankind, as they are all interrelated and independent parts of ecosystem. Western Science views humankind as superior to nature and authorized to exploit it extensively.
vi. IK is integrative and holistic in nature, routed in a culture of kinship between the natural and super natural. WesternScience is reductionist andfragmentory, reducing and defining boundaries to the extent that every relationship is treated as a distinct whole.
vii. IK values intuition emphasizes emotional involvement and subjective certainty inperception.Western Science thrives on logic and analysis abstracted from the observer and the replication of measurements to determine results.

viii. IK is based on long period of close interaction with the natural environment and phenomena. Western Knowledge thrives on the mathematical and quantitative.

Agrawal (1999) argued that the distinction between Indigenous and Scientific knowledge separates 'us' from 'them'. By recognizing the similarities that exist between the two knowledge bodies, we can begin a productive dialogue, whichsafeguards the interests of the disadvantaged.

The existing contrast between Indigenous Knowledge and Western Science has been argued in certain scholarly articles as a seemingly inevitable one due to apparent difference in the culture of research and intellectual inquiry that separates both systems. Currently, there have been calls for a more positive comparison that seeks to highlight the strength of both systems towards a complementary use. Different bodies of knowledge have been observed to continually influence each other to show the dynamism of all knowledge systems. For the purposes of amalgamation of knowledge bodies in education, it is critical that all forms of knowledge, world of knowing and worldviews be recognized as equally valid and adaptable in mutually beneficial ways.

The discussion above has provided a framework of constructs: science, culture and worldviews/paradigms including similarities and differences that are relevant to the knowledge forms that constitute the amalgamation of phenomena under study. Indigenous Knowledge and HIV/AIDS (IKHIV/AIDS) strategies and Biomedical Knowledge and HIV/AIDS (BKHIV/AIDS) strategies make up the amalgamation of knowledge phenomena explored. These are grounded in different knowledge forms, cultures and worldviews. IKHIV/AIDS strategies are a form of Indigenous Knowledge while BKHIV/AIDS strategies are drawn from western science. These knowledge forms and their relationships are discussed in the next section.

2.5 Forms of Knowledge

In this study, the discussion of reviewed literature on the forms of knowledge is organised around three main themes: the Indigenous Knowledge and HIV/AIDS (IKHIV/AIDS), Biomedical Knowledge and HIV/AIDS (BKHIV/AIDS) and knowledge relationships. I discuss IKHIV/AIDS in the next section.

2.5.1 Indigenous Knowledge and HIV/AIDS (IKHIV/AIDS) management strategies

There is no universal definition of Indigenous Knowledge. The Tanzania Development Gateway (2011) defines Indigenous Knowledge as a local or traditional knowledge that is unique to every culture or society that influences local decision making in different areas. Indigenous Knowledge is therefore culture specific. Tyler (2011) notes that Indigenous Knowledge is regarded as a problem-solving mechanism for rural communities, in cases of conflict, which build harmony within the family or community. For example, African indigenous communities have rules rooted in the principles of Ubuntu for building harmony and positive behaviour change for HIV/AIDS and disease prevention within the family and communities. African Indigenous communities use traditional knowledge for disease prevention and cure as well as for managing opportunistic infections from HIV/AIDS. Tyler (2011) believes that Indigenous Knowledge has relevance to the daily routine of most individuals, economic development, health, culture preservation and political transformation that lead to poverty reduction. Odora-Hoppers (2002) agrees that Indigenous Knowledge is an integral part of culture and refers to community knowledge systems that encompass technology, social, economic and philosophical learning, communication methods and associations that serve as a basis for communication, health care, agriculture, education and community support.

Various terms are used interchangeably to refer to Indigenous Knowledge. Indigenous Knowledge can be described as traditional, local, folk or intergenerational (see Battiste, 2002). Each of the descriptors connotes a different focus that might emphasise ancient roots that characterise this knowledge form as static, which overlooks its dynamism in response to political, economic, social, technological and environmental (PESTE) factors. The term "local" means that Indigenous Knowledge's place is based on nature and does not directly link to traditional and cultural roots.

This is because all knowledge forms, including Indigenous Knowledge, are locally bound, culture and context specific, giving each of them a place and space (Le Grange, 2007). In literature, the term "indigenous" relates the roots of this knowledge to natives or cultures of people other than those with a western background (see Hoppers, 2002). Literature disregards the fact that there is also Indigenous Knowledge of the western populations (Otulaja, Cameron &Msimanga, 2011).

The term "knowledge" is replaced by that of science so that reference can be made to indigenous science (Ogawa, 1995) rather than Indigenous Knowledge. In this study, I have adopted the term "Indigenous

Knowledge" to relate to knowledge originally developed in non-western communities. I refer to Indigenous Knowledge as the native, traditional and local knowledge generated from cultural ways of knowing by indigenous people. It is not biologically inherited, but learned by observation and experience in a community where one is born and brought up (Tanzania Development Gateway, 2011). It is tacit, non-formal knowledge, orally transmitted from generation to generation by experienced cultural elders. Knowledge development is also spiritually centred and grounded in indigenous worldviews.

Indigenous Knowledge covers technologies and practices that have been and are still being used by local people for existence and survival in various environments (Tyler, 2011). Indigenous Knowledge is holistic, dynamic and adaptive; it evolves and changes as it develops and is influenced by political, economic, social, technological and environmental (PESTE) factors and through interactions with other knowledge systems (Shizha, 2013). Indigenous Knowledge covers contexts such as agriculture, engineering, mathematics, social systems and activities, medicine and disease management, governance, among others.

Indigenous Knowledge is also a component of Indigenous Knowledge Systems (IKS), which hold various forms of knowledge (Hewson &Ogunniyi, 2011; Mpofu, Otulaja&Mushayikwa, 2014). Such knowledge encompasses science, technology, religion, language, philosophy, politics and other socio economic systems. Like other knowledge, Indigenous Knowledge is dynamic. New knowledge from technological developments and innovations within and outside the community is continually accumulated and internalised in daily activities in the community (Tyler, 2011). Furthermore, the community adapts and uses external knowledge to suit local situations and sociocultural practices. The quality and quantity of information on Indigenous Knowledge varies with age, education, social and economic status, daily experiences, outside influence, roles and responsibilities in the home and community, profession and available time (Gramnil, 1997). Indigenous Knowledge has a complex side which makes the amalgamation of Indigenous Knowledge in the classroom science difficult.

Indigenous Knowledge that is embedded in customs, habits, rituals and social institutions of a community was, in the past, regarded as ignorant knowledge (Shizha, 2013). Indigenous Knowledge was also misunderstood and regarded as unscientific by colonial scientists. Indigenous science was rejected because it existed outside the recognised scientific community and lacked an ideology of science

that identifies valid knowledge only with western science (Harbemas, 1974). In Zimbabwe, such knowledge has been passed on through generations and retained in communities among various cultural groups such as the Mazowe Gold mining community.

In this study, mining community elders from various cultures are the custodians of Indigenous Knowledge on disease and HIV/AIDS management strategies within their cultures. Effective HIV/AIDS management strategies require an understanding of the cultural context in which they exist. Cultural construction of HIV/AIDS knowledge is based on norms, values, beliefs, sexuality, religion and cultural practices. The disease touches the socio-cultural practices related to taboos and shame when considering how it is acquired. It is then not surprising that Indigenous Knowledge and HIV/AIDS (IKHIV/AIDS) is intertwined with cultural and religious beliefs and is holistic in nature. It is inclusive of diverse health practices, approaches, knowledge and beliefs. It incorporates a combination of practices of prevention, treatment and support. Cultural elders hold Indigenous Knowledge for HIV/AIDS, health and illness and accessing this knowledge from learners in the classroom might be limited.

Prior to the arrival of settlers in Africa, people managed diseases in accordance with their cultural beliefs and practices which is part of their Indigenous Knowledge strategies. Studies by Choguya (2015), Kayombo (2013) and Simmons (2011) concur that many African communities continue to be influenced by the indigenous worldview that promotes social practices and social identity. The African communities have developed affordable, accessible, acceptable and culturally specific survival strategies, based on their Indigenous Knowledge, to manage HIV/AIDS. Unfortunately, the Indigenous Knowledge HIV/AIDS management strategies are currently marginalized and poorly documented. As the HIV/AIDS epidemic continues to ravage the communities in Zimbabwe, it becomes increasingly critical that diverse Indigenous Knowledge strategies to confront the complex social, cultural, environmental and economic contexts in which HIV/AIDS continues to spread must be researched.

Indigenous Knowledge strategies have both positive and negative implications for managing HIV/AIDS. Some of the positive factors of IK HIV/AIDS management strategies are that they address the cultural and social behavioural factors and are accessible and acceptable by communities. A study by Chinsembu et al. (2011) on Indigenous Knowledge of HIV/AIDS among high school students in Namibia observed that an indigenous vocabulary may help teachers and students to find local meanings that make it easier

for them to understand and prevent HIV and AIDS. Liddell, Barret and Bydawel (2006) assert that indigenous beliefs have a measurable association with attitudes to HIV prevention. Different cultures interpret the concepts of HIV/AIDS differently. Indigenous beliefs that associate HIV/AIDS with social immorality have perpetuated stigma, discrimination and isolation of people living with HIV/AIDS thereby compromising their quality of life.

In relation to the implementation of the HIV/AIDS, Life Skills Education Guidance and Counselling curriculum, studies have revealed that parents have knowledge and skills that could be tapped to help learners (Owino, 2015; Ruttoh, 2015). A study conducted among VaVhenda in South Africa affirms that indigenous strategies are influential in mitigating HIV/AIDS (Mlaudzi& Phil, 2007). Similarly, a study conducted in KwaZulu-Natal on the role of culture in HIV/AIDS communication indicates that the non-inclusion of cultural norms and values negatively affects the effective communication of HIV/AIDS messages (Uwah, 2014).

Research shows that students have Biomedical Knowledge about HIV/AIDS but are less able to relate this knowledge to their own situations to effect behaviour change (Breidlid et al., 2015). There is lack of indigenous perceptions of the pandemic in the classroom as well as a lack of indigenous role models in the transmission of practical information and indigenous perceptions of the disease. The lack of receptiveness to HIV/AIDS messages is also due to the epistemological and cultural climate in which the information and knowledge about HIV/AIDS is conveyed in the classroom. Breidlid et al. (2015) argue that most curricula in sub-Saharan countries show a common, dominant pattern of the pervasiveness of western epistemology and a specific western capitalist education discourse. The global architecture of education is a consequence of globalisation and means that there is a dislocation of "othering" of local and Indigenous Knowledge and cultures (Breidlid et al., 2015). The globalisation of education alienates indigenous students from their home environments, traditions and moral values.

Indigenous students are further marginalised in HIV/AIDS education in schools where the focus of sex education is mostly on information and awareness on HIV/AIDS but rarely on lifestyle and cultural practices. The epistemic alienation of HIV/AIDS education is common in South African secondary school classrooms (Govender & Edwards, 2009). Excluding lifestyles and cultural practices from HIV/AIDS education does not expose students to life skills such as decision-making and communication

skills in the classroom. In other words, the knowledge conveyed is too theoretical, unfamiliar and packaged in biomedical discourse. Literature indicates the need to evaluate how HIV/AIDS messages are received and resisted by youth in order to design appropriate strategies. Breidlid et al. (2015) argue that most HIV/AIDS interventions seem to function according to what Paulo Freire (1968) termed the "banking education" that implies that curriculum designers and teachers with "know-it all attitudes" and who disregard students' Indigenous Knowledge, feed them with knowledge on biomedical sex education. This is problematic because peers, who sometimes carry contradictory messages, heavily influence sex and sexual practices among the youth. The messages are mostly skewed towards power relationships between male and female peers, instigating gender inequality. According Breidlid et al. (2015), gender inequality influences sex practices, which have implications for HIV prevention and must be addressed in a culturally sensitive manner.

Indigenous beliefs have a measurable association with attitudes to HIV prevention. Indigenous beliefs that associate HIV/AIDS with social immorality have perpetuated stigma, discrimination and isolation of people living with HIV/AIDS thereby compromising their quality of life (Liddell, Barret &Bydawel, 2006). Different cultures interpret the concepts of HIV/AIDS differently. Students operate within complex discursive and cultural spaces that constrain them and offer multiple options for defining themselves. They are also influenced by their own cultural roots and western culture which makes navigation of "border crossing" within social and cultural practices fluid and sometimes contradictory (Breidlid et al., 2015).

There is a need to include both Indigenous Knowledge regulatory intervention strategies and biomedical strategies in the classrooms for safe sex and HIV prevention. The introduction of Indigenous Knowledge will mean that they are taken seriously in a modern school context and will help students to link their own cultural backgrounds to messages from the school (Breidlid et al., 2015). The inclusion of both knowledges has a positive effect on identity construction and may challenge the "othering" of the indigenous students in the classroom (Breidlid et al., 2015).

Indigenous Knowledge strategies are critical for teaching and learning in school and for HIV/AIDS prevention and management. School authorities in sub-Saharan Africa now acknowledge the importance of including Indigenous Knowledge and health perceptions in school although it is still rhetorical.

Decouteau (2013) asserts that, in order to make the school syllabus more relevant and to boost students' identity formation and self-identity, there is a need to consult with clan leaders, religious leaders, cultural leaders and indigenous role models. Including Indigenous Knowledge is believed to have a strong link between African epistemology, STI/HIV/AIDS prevention and management, and the African sense of identity (Decouteau, 2013). As early as 1999, the Department of Education plans in South Africa referred to the inclusion of religious and traditional leaders in developing an implementation plan on HIV/AIDS for the schools or institutions but still the plan is rhetoric (Department of Education, 2002). The inclusion of traditional leaders in developing an implementation plan for HIV/AIDS for the schools has not been implemented due to the marginalisation of indigenous health and HIV/AIDS in the classrooms in sub-Saharan countries (Breidlid et al., 2015). The imposition of western knowledge on the school system has prevented the implementation of effective indigenous strategies in fighting HIV/AIDS. Some authors argue that, while inclusion of indigenous culture and epistemology as well as community leaders is important in addressing HIV/AIDS in schools, such inclusion is not a "miracle cure". They further argue that indigeneity may be part of the problem rather than the solution and should be critiqued.

In order to facilitate teaching, learning, prevention and management of HIV/AIDS, it is important that Indigenous Knowledge strategies be taught in the classroom. Breidlid et al. (2015) also recommend finding a bridge between the home culture and the classroom culture that enables communications across epistemological and cultural dividing lines in fighting HIV/AIDS**.** I discuss the BKHIV/AIDS strategies in the next section.

2.5.2 Biomedical Knowledge HIV/AIDS (BKHIV/AIDS) management strategies

HIV/AIDS is a condition embedded in biomedical health science and is managed according to the biomedical western culture. HIV/AIDS in schools is currently oriented towards biomedical science. Frameworks of ethics and conventions (Lederman & Crawford, 2004; Mpofu, Otulaja&Mushayikwa, 2014) guide the operations of HIV/AIDS as a science.HIV is biomedically known as the virus that causes AIDS. This virus is passed from one person to another through sexual contact, blood and blood products, mother-to-child transmission during pregnancy, delivery or breastfeeding. The virus attacks the immune system, which is the body's defence system that fights off infections. When the immune system breaks down, the patient can develop many serious health problems, referred to as opportunistic infections, due to a lack of important defence mechanisms in the body. Most of the infected people develop AIDS

because of HIV progression in the body (UNAIDS, 2010). HIV/AIDS is a worldwide, biomedical public health problem in terms of prevention and treatment especially in developing countries (UNAIDS, 2010).

HIV/AIDS has been managed with biomedical strategies from the time the first HIV case was identified in Zimbabwe in 1985.According to Mlaudzi and Phil (2007), since the beginning of the HIV/AIDS epidemic, the global, regional and national focus for HIV/AIDS response has been based on biomedical and human rights prevention, treatment, care and support strategies. The biomedical and human rights response to HIV/AIDS is influenced by international goals and initiatives such as Millennium Development Goals (MDGs); UNGASS Declaration on HIV/AIDS; United Nations General Assembly Resolution 65/277 of 2011 and Political Declaration on intensifying efforts to eliminate HIV/AIDS. The global response to HIV/AIDS prevention, treatment, care and support is coordinated by UNAIDS.

The biomedical HIV/AIDS management strategies use medical and clinical approaches designed to moderate biological and physical factors to prevent HIV infection or reduce susceptibility to HIV. Some of the Biomedical Knowledge strategies for managing HIV/AIDS include awareness creation on HIV/AIDS, HIV Voluntary Counselling and Testing services, Prevention of Motherto-Child Transmission (PMTCT) services, treatment of affected people, provision of antiretroviral drugs (ARVs), vaccines, condom supply and distribution, microbicides and Voluntary Male Medical Circumcision (VMMC) services (UNAIDS, 2010). The impact of these strategies is a high-level awareness of HIV/AIDS however, the magnitude of the African population who have a comprehensive knowledge of HIV/AIDS in terms of transmission and methods of prevention is not known (UNAIDS, 2010).

Various authors, such as Rankopo and Osei-Hwedie (2011), Kubukeli (1996), Campbell and Jovchelovitch (2000), and Mamdami (1996), contend that the biomedical approach is viewed as a dominant health care system, which marginalises the Indigenous Knowledge approach. The lack of acknowledgement of the Indigenous Knowledge strategies by the biomedical is evident in the voluntary medical male circumcision, which was adapted as a biomedical strategy and has historically been in existence in African cultures. The biomedical approach to HIV/AIDS management focuses on the Abstinence, Behaviour change and Condom use (ABC) Model. Campbell (2015) asserts that the ABC model assumes that health related behaviour is determined by a person's knowledge and attitudes and that information-based strategies seek to change people's behaviour based on knowledge about dangers

of a particular behaviour. Mlaudzi and Phil (2007) further argue that the ABC model overlooks the influential part of indigenous strategies on sexual behaviour and practices for HIV/AIDS management. Findings from a case study by Campbell and Williams (1999) of the gold mining industry in the SADC to assess the effects of the biomedical strategies showed that they failed to demonstrate behaviour change and the reduction of HIV/AIDS.

Biomedical HIV/AIDS topics, such as life skills and sex education, are now part of the school curriculum in sub-Saharan Africa countries. Life skills education is designed to facilitate the practice and reinforce psychosocial skills and to promote personal and social development. They are designed to prevent health and social problems including HIV/AIDS, substance abuse, adolescent pregnancy, improve school health and for the protection of human rights among children and adolescents in schools (WHO, 2009). The initiatives to develop and implement life skills education in schools have been undertaken in many countries around the world.

The need for life skills education is highlighted in the Convention of the Rights of the Child and in a number of international recommendations. The Convention on the Rights of the Child is an international treaty adopted by the United Nations on November 20, 1989. The treaty establishes global standards to ensure the protection, survival and development of all children without discrimination. Countries that ratify the treaty pledge to protect children from economic and sexual exploitation, violence and other forms of abuse, and to advance the rights of children to education, health care and a decent standard of living. The convention also addresses children's rights to a name and nationality, to be heard, to be fairly treated when accused of offences, when deprived of parental care and other rights. The Zimbabwe Government ratified the United Nations Convention on the Rights of the Child in 1990. Zimbabwe has integrated STI/HIV/AIDS education programmes according to the treaty. The aim of these programmes is to develop in the youths the knowledge and life skills needed for healthy human relationships, effective communication, responsible decision making and behaviour that will protect them from STI/HIV infection. Life skills education also includes the application of life skills in the context of specific risk situations where children and adolescents need to be empowered to promote and protect their rights.

In Zimbabwe and Thailand, the aim of introducing life skills education was to promote the prevention of HIV/AIDS. In South Africa and Columbia, life skills education was developed to create a curriculum

for education for life called “Life Orientation” and for “Integral Education” in Columbia (WHO, 2009). Studies from many different life skills programmes indicate five basic areas of life skills that are relevant across cultures, namely, decision making and problem solving, creative thinking and critical thinking, communication and interpersonal skills, self-awareness and empathy, and coping with emotions and with stress (CDU, 2003). Areas of primary prevention for which life skills are considered essential are: adolescent pregnancy, HIV/AIDS, violence, child abuse, suicide, alcohol and substance abuse, injuries, accidents, racism, conflict and environmental issues. Although HIV/AIDS and Life Skills Education is already happening in schools, according to WHO (1999), teachers need support to create effective approaches to life skills education for health promotion and primary prevention of STI/HIV/AIDS.

In response to the growing HIV crisis, Zimbabwe was the first country in the sub-Saharan region in 1992, to provide compulsory teaching of HIV/AIDS and Life Skills from Grade 4 to Form 6 (MOESAC, 2012). The education system in Zimbabwe introduced biomedical life skills education in the Guidance and Counselling curriculum to facilitate the development of psychosocial skills among children and adolescents to empower them to prevent HIV/AIDS. The Guidance and Counselling syllabus for secondary schools, according to CDU (2015), is presented as a single document, which covers all forms that have the same topics, which are developmental and spiral. The Guidance and Counselling learning area comprises six topics, namely, *Unhu/Ubuntu/Vumunhu* (norms and values), relationships, health including sexuality and HIV/AIDS, human growth and development, child protection and career guidance. The syllabus prepares learners for an independent productive adulthood and lifelong learning. It is designed to give learners age appropriate, culturally relevant, scientifically accurate knowledge and skills to produce responsible citizens who will positively contribute to nation building (CDU, 2015). The study explored the prospects of amalgamating IKHIV/AIDS management strategies into the Guidance and Counselling secondary school syllabus.

Schools play an important role in HIV prevention, care, treatment and support as nearly a quarter of the Zimbabwean population is currently in either primary or secondary school (MOESAC, 2011). Breidlid et al. (2015) concur that the classroom is the most important site for combating HIV/AIDS. In Zimbabwe, teachers who constitute 60% of the civil service have been affected by HIV/AIDS. Therefore, addressing the effects of HIV/AIDS epidemic for learners, teachers and the community is an essential component of upholding children’s rights to education (MOESAC, 2012).

The Zimbabwe Education Strategic Plan on Life Skills, Sexuality and HIV/AIDS was launched to coordinate the provision of HIV/AIDS information and services. It further aimed to ensure the provision of support to all learners with access to correct HIV/AIDS information and life skills related to sexual and reproductive health, HIV prevention, treatment, care and support (Washaya, 2013). The aim of the MOESAC Life Skills, HIV/AIDS Education Strategic Plan was to contribute towards achieving zero new HIV infections, zero discrimination and zero AIDS related deaths through provision of equitable access to education. Thematic areas for the strategic plan follow those described in the Zimbabwe National AIDS Strategic Plan (ZNASP II, 2012) which are: HIV prevention, treatment, care and support:

- Prevention focuses on the provision of education and life skills on Sexual Reproductive Health, HIV/AIDS in schools and the implementation of workplace HIV/AIDS programs for teachers and other education personnel. Some of the components of HIV prevention include HIV testing and counselling among young people, levels of HIV/AIDS knowledge, circumcision of young men, abstinence, delayed sexual debut, reduced number of sexual partners, reduced Sexually Transmitted Infections and an increased uptake of preventive services (NAC, 2010).
- HIV Treatment, Care and Support are other thematic areas that focus on strengthening the capacity of the education sector to support learners, teachers and other education personnel living with HIV to access and adhere to treatment. The aim is to contribute to the national outcome of increasing the percentage of people living with HIV 12 months after initiation of ARV therapy (MOESAC, 2012).

The components of HIV/AIDS and life skills that are supposed to be taught in schools are: abstinence, "be faithful to one faithful partner", correct and consistent condom use, delaying sexual debut, early treatment of Sexually Transmitted Infections (STIs), free and frank discussions on HIV/AIDS and sexuality, "get real and know your status" and medical male circumcision. On the contrary, studies have indicated that, despite considerable effort to include sexuality education into Life Orientation and the HIV/AIDS Guidance and Counselling curriculum, high risk sexual behaviours remain the norm among adolescents (Beyers, 2013).

Similarly, findings from the study by MOESAC (2012) revealed that the majority of schools in Zimbabwe reported that few areas of HIV/AIDS are covered as only abstinence, consistent condom use and "be faithful to one faithful partner" were being taught. Other components taught in schools were

general health and hygiene, appropriate diet for the infected, boy/girl relationships and looking after HIV infected people.

Guidance and Counselling activities in secondary schools are not implemented as scheduled due to inadequate resources and a lack of community involvement (Ruttoh, 2015). A study conducted in Zimbabwe agreed that the major challenges in implementing the HIV/AIDS Life Skills program were: inadequate resources, the teachers lacked adequate knowledge on HIV/AIDS and the teaching timetable was too congested to accommodate HIV/AIDS training (MOESAC, 2011).

Similarly, the study conducted by MOESAC (2011) found that the Guidance and Counselling sessions were not taken seriously by most teachers. The 35-minute sessions allocated for HIV/AIDS guidance and counselling had become free time for the youth in school. Since sexuality is contextualised from our own and learners' socio-cultural backgrounds, Beyers (2013) asserts that, in order to address high risk behaviours among the youth in school, there is a need for consensus between all stakeholders about what and how to teach the subject to benefit sexual health and to mitigate HIV/AIDS. Teachers need support to create effective approaches to life skills education for health promotion and primary prevention.

According to NAC (2016), the effective implementation of biomedical strategies has been constrained by economic challenges and inadequate resources that include a lack of adequate human and material resources, language barriers, patient migration and increased illnesses and deaths. Studies have also revealed that HIV/AIDS Life Skills Guidance and Counselling curriculum schoolteachers lack skills and administrative and financial support to implement the program (Ruttoh, 2015; Mbogo, 2016). Research shows that students have Biomedical Knowledge about HIV/AIDS but are less able to relate this knowledge to their own situations to effect behaviour change because of the western education discourse of HIV/AIDS structure and curriculum.

Despite all the efforts and resources placed in the biomedical response strategies in Zimbabwe, HIV prevalence remains high. Zimbabwe has faced economic challenges in implementing biomedical strategies for managing HIV/AIDS because they require a commitment of resources. UNAIDS (2008) observed that self-sufficient countries like Brazil and Thailand have domestically funded universal

programmes which benefit the whole population while poorer countries like Zimbabwe, Zambia and Uganda, which rely heavily on external funding, have faced challenges in sustaining the biomedical HIV/AIDS response strategies (UNAIDS, 2016).

According to NAC (2016), some of the challenges faced by the biomedical strategies and programmes in Zimbabwe include a limited space for confidential HIV counselling, Antiretroviral Treatment (ARV) fatigue, drug expenses and stock outs, low adherence and drug resistance, and increased morbidity (NAC, 2016). The biomedical strategies have also failed to address social, political and economic factors, which make people susceptible to HIV infection and have failed to contain the HIV/AIDS epidemic.

The HIV/AIDS prevention campaigns that emphasise safe sex and abstinence use biomedical strategies that are more applicable to the lives of men than women and often fail to consider the realities of female sexuality (United Nations General Assembly Special Sessions [UNGASS], 2012). Mlaudzi and Phil (2007) further contend that the current biomedical model management of HIV/AIDS focuses on the Abstinence, Behaviour change, Condom use (ABC) Model which overlooks the issue of indigenous cultural practices, sexual behaviours, knowledge and attitudes of society and their social identity in which Indigenous Knowledge strategies are rooted. Social identity influences people's sexual behaviour as opposed to the Knowledge Attitudes and Practices model which assumes that health related behaviour is determined by a person's knowledge and attitudes and that information based strategies seek to change people's behaviour based on knowledge about the dangers of a particular behaviour (Campbell, 2015).

The economic crises, socio-cultural and other challenges faced by Zimbabwe and other developing countries in implementing the biomedical and human rights HIV/AIDS management strategies have prompted people touse Indigenous Knowledge strategies for the management of HIV/AIDS (Kayombo, 2013). Because of the stigma attached to HIV/AIDS, some people do not want their peers to know that they are infected and hence resort to traditional health practitioners as the best option to conceal their health problems. Stigma associated with HIV/AIDS is prevalent at social, institutional and personal levels and is a major barrier to accessing the HIV/AIDS prevention, treatment, care and support strategies by people living with HIV (NAC, 2011). Ngozi and Mbonu (2009) state that HIV/AIDS stigma,

discrimination and denial should be addressed in the national and international cultural contexts in which they exist.

Literature agrees that the majority of the African population employ indigenous strategies for managing HIV/AIDS and other health problems. Even though the colonialists and missionaries in Zimbabwe labelled the indigenous system of health as primitive, it has survived many years of efforts to eradicate it. Because of colonialism, many indigenous Zimbabweans have become dual or tripartite health practitioners or consumers in mitigating the impact of HIV/AIDS. They draw their practice from three worldviews, the frames of Christianity, Biomedical and Indigenous Knowledge practices.

There is worldwide recognition of the sustainability of Indigenous Knowledge; even the medical profession is advocating for its amalgamation with biomedical strategies (Kayombo, 2013; Leininger, 1999). Two examples of this are: the Botswana Primary Health Care policy that encourages the integration of biomedical and indigenous practices (Rankopo& Osei-Hwedie, 2011) and the formation and recognition of the Zimbabwe National Traditional Healers Association (ZINATHA). The need to amalgamate indigenous health knowledge and biomedical health knowledge for sustainable management and mitigation of HIV/AIDS has been recommended by various studies (Choguya, 2015; Mavi, 1996; Simmons, 2011). Dickinson (2004; 2010) also acknowledges that, while individuals may have correct biomedical information on HIV/AIDS, they also manage information they have from the Indigenous Knowledge systems.

2.6 Amalgamation of IKHIV/AIDS management strategies and BKHIV/AIDS management strategies

The benefits and challenges of both the indigenous and biomedical HIV/AIDS management strategies call for an amalgamation of the strategies in an effort to mitigate the pandemic. Despite the fact that HIV/AIDS has found its way into the classroom, the curricula do not comprehensively address social and indigenous issues around HIV/AIDS. A study by Govender and Edwards (2009) shows that the biomedical Life Skills HIV/AIDS curricula being implemented focuses more on information about HIV/AIDS than on the life skills to help students develop healthy lifestyles. Because the HIV/AIDS messages are linked to Eurocentric epistemology and language, indigenous students find that the knowledge and language they bring from home are not valued in the classroom. The lack of indigenous perceptions in the classroom causes problems in getting the messages across. This results in learning

problems, demotivation and a lack of receptiveness to HIV /AIDS messages (Breidlid, Cheyeka& Farag, 2015). Learners are unable to relate the Biomedical Knowledge about HIV/AIDS to their own situations to effect behaviour change. Govender and Edwards (2009) posit that schools are key settings for educating young people about HIV/AIDS and for reducing further spread of HIV infection and the stigma that accompanies it. There is a need to incorporate local traditional methods of teaching, community norms and values in order to help students understand, get a broader perspective and to assume ownership of HIV problems and solutions. Govender and Edwards (2009) further note that taking community norms and values into consideration when developing HIV/AIDS awareness and prevention strategies allows ownership and wider distribution of HIV/AIDS messages.

Thaver and Leao (2012) acknowledge that schools need to focus on healthy life skills in youth by reaching out to parents and communities. Section 10.3 of the National Policy on HIV/AIDS in South Africa also states that the ultimate responsibility for overseeing behavioural changes and development in children rests with parents (Department of Education, 2002). Thaver and Leao (2012) further assert that the ineffectiveness of biomedical HIV/AIDS Life Skills programmes in some schools is due to the marginalisation of indigenous cultural practices, sexual behaviours, knowledge and attitudes of society. The ineffectiveness of the biomedical HIV/AIDS strategies opens a space for a more varied and comprehensive approach consisting of both the Biomedical and Indigenous Knowledge strategies.

Several authors have also submitted that, in order for schools and curricula to make science teaching and learning easier, there is a need to amalgamate Indigenous Knowledge and western science strategies (Abah, Mashebe&Denuga, 2015). Both the Indigenous Knowledge strategies and the biomedical strategies can improve teaching and learning to collectively mitigate HIV/AIDS.

There has been a lot of theorisation and rhetoric on amalgamating Indigenous Knowledge into the teaching curriculum but no practical action. The MOESAC cultural policy in Zimbabwe emphasises the need for the amalgamation of IK into the school curriculum (Chigwedere, 2007) but has not put in place the implementation framework and strategies for the policy. Dziva, Mpofu and Kusure (2011) further assert that teachers have inadequate Indigenous Knowledge and teaching strategies for amalgamation. Hewson and Ogunniyi (2011) concede that there is limited research and documentation on Indigenous Knowledge teaching strategies as well as on the amalgamation of Indigenous Knowledge into the science

curriculum in which HIV/AIDS Life Skills Guidance and Counselling for school education is embedded. The HIV/AIDS Life Skills Guidance and Counselling curriculum in Zimbabwe does not have guiding frameworks or strategies for its effective implementation. Yet, according to WHO (1999), although many teachers are engaged in Life Skills and HIV/AIDS education, they have limited knowledge of the instructional skills necessary to implement the HIV/AIDS Guidance and Counselling curriculum, the subject of this study. Studies have revealed that an amalgamation of Indigenous Knowledge and Biomedical Knowledge is problematic for teachers who have only been trained to implement a Eurocentric oriented science curriculum, which is not amalgamated with Indigenous Knowledge strategies (Mbogo, 2016).

The HIV/AIDS Life Skills Guidance and Counselling curriculum goals advocate for a student centred approach to the learning and teaching process. Studies by Dziva et al (2011) and Shizha (2013) support the notion that the education policy and science syllabus documents have little resemblance to learners' cultures. Studies by Campbell and Williams (1999), Campbell and Jovcheovitch (2000), Homsey (2004), and Enriquez and Mackinsey (2011) have theorised the need for the amalgamation of Biomedical and Indigenous Knowledge strategies for the management of HIV/AIDS without indicating which particular Indigenous Knowledge strategies could be amalgamated.

There are limited studies which focus on the teaching strategies in the science education/Guidance and Counselling curriculum where HIV/AIDS is embedded (Hewson &Ogunniyi, 2011). Although literature on traditional medicine for HIV/AIDS management exists, this is not reflected in the school curriculum, for example, Maroyi (2013) conducted a study on the use of traditional medicine in Zimbabwe but the findings are not reflected in the school curriculum. Similarly, desk review study findings on the role of Indigenous Knowledge practitioners for the prevention and management of HIV/AIDS by Choguya (2011) and Kayombo (2013) are not in the school curriculum. This includes a study where a survey was conducted among secondary school students in Namibia and whose findings indicated that an indigenous vocabulary that could help students to understand and prevent HIV/AIDS is not in the curriculum. Although there are similarities to the current study, my study is a case study, which sought to explore Indigenous Knowledge strategies for managing HIV /AIDS and how they can be amalgamated in the HIV/AIDS Life Skills Guidance and Counselling school curriculum.

The success of amalgamating Indigenous Knowledge strategies with school science has been observed in Canada and New Zealand (Sutherland & Swayze, 2012; Aikenhead, 2001). In Canada, the project on amalgamating Indigenous Knowledge in the school science focused on developing a model of teaching strategies and materials for culturally sensitive science teaching. Student science teachers collaborate with experts in local communities in order to modify a teaching unit. The project showed that cultural teaching strategies and materials developed were effective for aboriginal students in the pilot schools. Teachers in the project modelled successful border crossing between classroom science culture and the cultures of the community (Aikenhead, 2001). The integrative teaching strategies used in all the units are found in the Teacher Guide to Rekindling Traditions which serves as a professional development document for cross-cultural science teaching (Aikenhead, 2001).

The successful amalgamation of Indigenous Knowledge strategies with school science was observed in New Zealand where a Maori language immersion program was established for children from five to 18 years that is an amalgamation success (Harrison & Papa, 2005). The program expanded and provided children with knowledge and confidence in their heritage and their achievements. Instructional programs and materials for teaching and learning various curriculum subjects in the Maori language were developed (Harrison & Papa, 2005). In 2002, the Ministry of Education introduced a new structure for secondary school education wherein students gained academic credits towards the National Certificate of Education Achievement (NCEA) as they moved through secondary school (Harrison & Papa, 2005). The NCEA provided greater opportunities for Rakaumanga to amalgamate Waikato Tainui knowledge, histories and ways of life into the seven essential learning areas mandated by the ministry in its curriculum framework (Harrison & Papa, 2005). The program intertwined Maori knowledge with western educational requirements and provided a strong basis for the self-determination for students individually and tribally, as well as an educational foundation for students who would become contributing members of the tribe and the broader New Zealand and global societies (Harrison & Papa, 2005).

Indigenous Knowledge is critical for contextualising education. Meyiwa, Letsekha and Wiebsiek (2012) assert that, in 1978, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) recognised the role of Indigenous Knowledge systems in enhancing and contextualising education. The South African Department of Education (DoE, 2002), where the socio-political history had excluded

oral and undocumented cultural heritages, proposed the inclusion of the IKS into the school curriculum. Similarly, in Zimbabwe, the Ministry of Education Sports and Culture, Cultural Policy Section 2.1 emphasises that the Zimbabwean traditional knowledge and education goals should be concerned with the development of the whole person. The goals should provide sources for the curriculum needs to Zimbabwean societies and such knowledge should be infused in the curriculum (Chigwedere, 2007). Mugo (1999) said that, for African renaissance to be effective and holistic, the education system should include the African culture.

In Zimbabwe, the amalgamation of IK into HIV/AIDS programmes was introduced in a top-down approach, which ignored community involvement and support. Yet, according to Visser (2005), the impact of sexual reproductive health education on youths' sexual behaviour depends on how the education is implemented in a community context. Zambuko and Mturi (2005) also agree that life skills education must fit the specific needs of the community and that parents must participate in the teaching of their children about sex and sexuality. The Ministry of Education's Strategic Plan on Life Skills, Sexuality and HIV/AIDS strategy in Zimbabwe is not supported by any implementation framework or teaching strategies. Yet, HIV/AIDS education in secondary schools has the potential to be one of the most important and effective mechanisms for combating the HIV/AIDS epidemic (Zambuko&Mturi, 2005). Coombe and Kelly (2001) assert that education is a "social vaccine" for HIV/AIDS however, Indigenous Knowledge strategies in African societies for disease management and control are marginalised and poorly documented.

Literature contains various reasons why people use Indigenous Knowledge strategies particularly in relation to mitigating HIV/AIDS. These include affordability, accessibility, availability and cultural compatibility (Kayombo, 2013). Most people employ indigenous practices because they value the traditional system. It has also been noted that traditional practices correlate well with the emergence of biomedically challenging pandemics, such as HIV/AIDS. Zimbabwe and other African communities fight such pandemics through indigenous practices within their families and communities such as the mining community. While this knowledge is important to save people's lives in Zimbabwe, it has been excluded from the HIV/AIDS Life Skills Guidance and Counselling curriculum. The same observation has also been made in South Africa (Hewson et al., 2009). The inclusion of Indigenous Knowledge practices in the curriculum will make science relevant to the daily lives of learners and will improve the

cultural relevance of Life Skills HIV/AIDS Guidance and Counselling in the classroom for the learners and in the communities.

The challenge of amalgamating Indigenous Knowledge in the BKHIV/AIDS classroom is that IKHIV/AIDS is an under-researched area in science education. Hewson (2012) observes that educators, especially those with a biomedical science training background, have limited understanding of IKHIV/AIDS. For this reason, I have a strong conviction that this study will fill in these gaps and that the documentation of IKHIV/AIDS strategies will contribute to the Life Skills education curriculum and the mitigation of HIV/AIDS in Zimbabwe.

2.7 HIV/AIDS and Life Skills Education as a reflection of biomedical science

The literature reviewed points to the fact that HIV/AIDS and Life Skills Education in the Guidance and Counselling syllabus currently offered in the classroom depicts biomedical western science. As school knowledge, HIV/AIDS Life Skills education focuses on pedagogical teaching and learning in terms of teaching strategies, tools and techniques. Aikenhead (2006) argues that the pedagogical approaches adopted in the science classroom emphasise a biomedical scientific worldview of understanding nature at the expense of learners' indigenous worldviews. Aikenhead (2002) regards pedagogical biomedical science approaches as some form of cognitive assimilation. Assimilation of knowledge occurs when a learner encounters a new idea and must fit that idea into what he/she already knows. The approaches include argumentation, scientific inquiry and problem solving. These assimilative pedagogies are problematic for Indigenous Knowledge. Mpofu et al. (2014) contend that learning in a classroom setting is a direct experience of the teaching of knowledge drawn from science therefore teaching HIV/AIDS knowledge in the classroom is drawn from biomedical science.

HIV/AIDS Life Skills education content is a combination of subject matter of products, processes and the nature of science as well as scientific enterprise. The Culturally Aligning Classroom Science (CACS) model suggests that the content can be built from the four-knowledge dimensions: paradigmatic, process, product and enterprise knowledge. Ideas from the CACS model becomes an analytic tool for understanding the extent to which HIV/AIDS education in the Guidance and Counselling curriculum for secondary schools is representative of biomedical science.

The cultural analysis of science shows the three worlds of science that are critical to children's learning of science. These are biomedical/western science, HIV/AIDS Life Skills education in the classroom and IK in the home. Biomedical science is also perceived as a biomedical subculture and Indigenous Knowledge as a science that is alternative to biomedical or western science (see Ogawa, 1995). In turn, HIV/AIDS Life Skills education in the classroom becomes a subculture of biomedical science. The world view theory of learning informs us that learning of science involves the cognitive movement across these different worlds (Mpofu et al., 2014). When learners are not assisted to negotiate the boundaries of these worlds, they may be facing learning problems. It is critical, therefore, that the amalgamation of IKHIV/AIDS knowledge and BKHIV/AIDS knowledge at a classroom level needs to bridge these knowledge worldviews in a culturally visible and respected way. The amalgamation needs to be done from an understanding that HIV/AIDS education in class has its own culture that differentiates it from the broad biomedical western culture and the home culture (see Meyer & Crawford, 2011). In terms of amalgamation, the HIV/AIDS education in the classroom becomes the bridging space of these two cultures.

Just like Indigenous Knowledge, the nature of biomedical science is shaped by its culture and worldviews. Biomedical science has a distinct scientific culture that identifies it. The concept of scientific culture is varied and complex which adds to the conceptual challenges of amalgamating IKHIV/AIDS knowledge and BKHIV/AIDS knowledge at classroom level or in the curriculum. The cultural identity and worldviews of science, in relation to paradigm, enterprise, product, process, pedagogy and theories of knowledge, are the philosophical dimensions of biomedical science that constitute a set of presumptions and beliefs about the world. The culture and worldviews of biomedical science are completely different from those of Indigenous Knowledge. I discuss these biomedical/western scientific worldviews in comparison to those of Indigenous Knowledge in the coming section.

2.8 A comparison of biomedical science and indigenous worldviews

The drive to amalgamate Indigenous Knowledge and biomedical science at classroom level has posed a balance between two paradigms because these two forms of knowledge are grounded in two different ways of knowing and are therefore relatively incompatible. Some scholars, such as Shizha (2014), have a complementary approach that recognises the differences and similarities between Indigenous Knowledge and biomedical science. The complementary approach is a possible way of advancing their

amalgamation. I discuss the similarities and differences between Indigenous Knowledge and biomedical science taking cognisance of their worldview principles, enterprise values and methodological processes below.

There are various differences between worldview principles of Indigenous Knowledge and biomedical science. Within indigenous paradigms, nature is always viewed as possessing mysteries that are difficult to understand as opposed to biomedical science. Indigenous people live with these mysteries as their survival tools. Spirituality is one of the respected mysteries in an indigenous worldview. One example is that it is believed that every disease has a spiritual problem and solution (Gelfand, 1999). Indigenous worldviews are holistic. They view nature as a complete whole of connected components. Within the indigenous worldviews, nature includes the biological (animals and plants including human beings), the physical (mountains, water bodies, rocks) and the metaphysical (the spirit). Nature is viewed as alive and as a gift (Simpson, 2000). For example, curative energies are regarded concentrated not only in spirit but also in plants, pools and places of worship like *sowe*, a secret place where Apostolic Faith worshippers gather to worship. In contrast, spirituality falls outside biomedical science. An example is that some traditional cultures associate HIV/AIDS with spiritual attacks as a punishment from their ancestral spirits for immoral behaviour. It is limited to evidence and explanation within the physical world. Biomedical science presumes knowledge is free from human socio-cultural values. However, biomedical science and Indigenous Knowledge share the values of honesty, inquisitiveness and open mindedness (Barnhardt &Kawagley, 2005).

In studying nature, biomedical scientists use experimental methodologies that control variables when testing hypotheses. These methodological procedures are connected to mechanistic explanations and the dualism of nature. Biomedical/western science also relies on quantitative measurements, written records and communications (Barnhardt &Kawagley, 2005). On the other hand, indigenous researchers study nature over a period of time through observations and respectful co-existence with the elements of nature. They collect data from oral sources which biomedical science does not (Aikenhead& Ogawa, 2007). Researchers from indigenous and biomedical science undertake observations in natural settings, pattern recognition, repetitive verifications, predictions and inferences but have many methodological differences. There is also a difference in the nature and reality of knowledge. Within Indigenous Knowledge, realm knowledge is embedded in real life and the truth is shaped by real life experiences

(Mpofu et al., 2014; Simpson, 2000). For example, traditional knowledge on HIV/AIDS teaching and management is generated, modified and assimilated into everyday life.

The indigenous HIV/AIDS and disease management practices and teaching methods are connected to cultural background and experiences. In contrast, HIV/AIDS knowledge in the biomedical science is discipline based. It is developed and validated through a series of tests before being used. For example, antiretroviral drugs for management of HIV/AIDS opportunistic infections are tested before they are released into the market for public consumption. The medicinal activities are defined as objective reality and considered as universal. In this case, knowledge constitutes an objective reality of scientific laws that are logical, rational and impersonal (Ogunniyi, 2011). This compares to the spiritual, holistic, empirical, intuitive, place based qualitative explanations of Indigenous Knowledge (Aikenhead& Ogawa, 2007).

The differences between Indigenous Knowledge and Biomedical Knowledge bodies pose difficulties in amalgamating them in the classroom. Le Grange (2007) notes that western oriented classroom science materials, which contain western scientific representations, do not accommodate Indigenous Knowledge. They focus on differences and emphasise approaching these knowledge bodies from either superior or inferior positions. The differences have negative effects on the amalgamation of the two bodies and make it difficult to bring Indigenous Knowledge into the curriculum. Amalgamating Indigenous Knowledge in the classroom science entails a selection of aspects of Indigenous Knowledge that fit within the boundaries of biomedical science (Mpofu, 2016). This can be regarded as an educational tool, which enhances the western biomedical/science domination over Indigenous Knowledge. The paradigmatic differences can be used to inform about the scope of cultural differences and complexities that may affect the amalgamation of Indigenous Knowledge (IKHIV/AIDS) and Biomedical Knowledge (BKHIV/AIDS) strategies in the Guidance and Counselling school curriculum. They also act as a platform for planning and bridging the differences and allow for a harmonious co-existence of these knowledge bodies in the classroom (Mpofu, 2016). The harmonious co-existence implies a complementary perspective of Indigenous Knowledge and Biomedical Knowledge (see Barnhardt &Kawagley, 2005) while Nakata (2007) argues that amalgamating the two bodies based on comparing the differences might pose challenges.

2.9 The concept of amalgamation in the classroom science

Amalgamation, in this study, entails moving HIV/AIDS Indigenous Knowledge strategies from the community into the biomedically oriented HIV/AIDS Life Skills Guidance and Counselling curriculum documents and the classroom. Amalgamating multiple ways of knowing into the classroom science means that students will 1) learn the value of traditional ways of knowing and native language; 2) learn to utilise a conceptual ecological perspective; and 3) acknowledge that learning and understanding are part of a complex system that includes student experience, culture, content as well as mainstream materials that are taught in the classroom (Mack et al. 2012). Snively and Corsiglia (2001) argue that indigenous people have their own styles and knowledge of learning and teaching which are neglected by biomedical oriented classroom practices because biomedical practices have been found to clash with the worldviews of indigenous learners. Such problems alienate learners from science and discourage them from school science (Malcom, 2007).

Moving some aspects of Indigenous Knowledge from the community into the classroom science practices is therefore viewed as creating space for cultural mixing. It alleviates learning problems associated with worldview clashes. The concept of cultural border crossing in science education by Aikenhead (2001) clarifies what science learners go through. The cultural border-crossing model accepts that science knowledge is rooted in and is representative of different cultures. Within the cognitive space of the learner, it also involves crossing cultural borders between the learner's home, western and classroom science. Learning science involves the crossing of borders whose number, complexities and type is dependent on the learner's cultural background (Mpofu et al., 2014). This is why some learners find learning science difficult. Learners, therefore, need to be assisted in crossing borders in learning about HIV/AIDS Life Skills to link classroom science with their culture.

Two basic approaches to linking biomedical classroom science and Indigenous Knowledge are revealed in literature. One of the approaches is using Indigenous Knowledge as background knowledge that is necessary to enhance learners' understanding of western science, in this case, HIV/AIDS taught in the classroom. This promotes a western scientific way of knowing that leads a learner to understand phenomena from a western scientific perspective. The other approach is the "double transcultural learning experience" (Lee et al., 2012). Border crossing this frame is bidirectional, to and from home and western culture (Mpofu et al., 2014).

Literature reveals there are debates surrounding the amalgamation of Indigenous Knowledge with biomedical science in educational programs (Lowan-Trudeau, 2012). There are scholars who are either for partial or total inclusion (Ogunniyi, 2007; 2011). Some scholars believe in the exclusion of Indigenous Knowledge from the classroom despite the presence of integration policies (Dziva et al., 2011). Dziva et al (2011) further argued that these same scholars consider indigenous knowledge as primitive and prefer it out of biomedical science curriculum. The exclusion of Indigenous Knowledge perpetuates the domination of biomedical science, in this case, in HIV/AIDS education in the classroom. Nakata (2007) posits that amalgamating Indigenous Knowledge in the curriculum that is grounded in western styles of schooling perpetuates colonial abuses, further diluting and marginalising it. This results in the misrepresentation of Indigenous Knowledge in the curriculum and classrooms. Nakata (2007) regards the use of Indigenous Knowledge as unsuccessful within western science paradigm because this removes it from its human archive and separates it from its social institutions that uphold and reinforce its efficacy. Rankopo (2011) agrees that, while it is possible for African traditional practitioners to collaborate with modern health practitioners, the two bodies should function from separate facilities. He argues that moving traditional healers to modern facilities will change their image and rob them of their distinctiveness. Carter and Walker (2010) emphasise that the integration of Indigenous Knowledge and biomedical western science would promote paradigmatic justices.

Some challenges around the amalgamation of Indigenous Knowledge and biomedical science in the classroom include limited documentation of Indigenous Knowledge, teachers' limited understanding of its nature and insufficient pedagogical approaches (Hewson &Ogunniyi, 2010). Other challenges include teachers' negative disposition to Indigenous Knowledge and the notion of its amalgamation into the classroom science (Hewson et al., 2009). Aikenhead (2001) recommends that the documentation of Indigenous Knowledge helps teachers and learners to understand it from the experts. It also helps to address challenges related to integrative classroom science.

There are various suggestions in literature on how the amalgamation of IKHIV/AIDS and BKHIV/AIDS could be done. The majority of scholars advocate for the complementary approach for achieving the amalgamation (Shizha, 2010). The complementary approach recognises the differences and similarities between two knowledge bodies and takes into account that similarities exist in the two different cultural

contexts. There is also hybridisation amalgamation, which has emanated from cross-cultural movements in many societies including Zimbabwe. The hybridisation amalgamation resonates well with the convergent approaches of Mpofu et al. (2014).

These approaches are different from the synergetic approach by Barnhardt and Kawagley (2007). The synergetic approach aligns with the parallel CACS model, which keeps the cultural identities of each knowledge body. The convergent or hybridisation form gives knowledge which is neither Biomedical nor Indigenous Knowledge (Mpofu et al., 2014). Battiste (2008) is of the opinion that hybridisation or the convergent approach is likely to result in dominant western science, which marginalises the Indigenous Knowledge. Literature also has suggested an amalgamation alternative strategy in which the indigenous curriculum is developed within its contexts and perspectives. The strategy is likely to provide a full cultural identity to Indigenous Knowledge without disintegrating or distributing its fragments into different syllabi. This separatist approach resonates well with the principles of divergent integration proposed by the CACS model of Mpofu et al. (2014).

Despite the diversified views of amalgamation of Indigenous Knowledge and biomedical/western science described in literature, Zimbabwe and many nations are struggling to achieve this reform. Classroom science needs to develop in learners the capabilities to understand the phenomena or worldview from both Indigenous Knowledge and western science (Barnhardt &Kawagley, 2005). This is grounded in the two layers of amalgamation argument. Firstly, the indigenous learners experience learning problems when taught biomedical science detached from their cultural knowledge. Secondly, the learning of science problems experienced by these learners could be minimised if the classroom science is aligned to their cultural knowledge. An example is a study conducted in Namibia by Chinsembu et al. (2011) on the advantages of anchoring HIV/AIDS interventions by targeting students on their Indigenous Knowledge of the disease. The findings revealed that an indigenous vocabulary might help students and teachers to find local meanings that bind with their easy to understand social constructions to mitigate HIV/AIDS. The findings also highlighted that the use of Indigenous Knowledge can help students to form schemas related to HIV/AIDS risk perception and prevention. Shizha (2010) supports the notion that amalgamation of indigenous and western science in educational programs brings learners to their cultural identities and experiences leading to a science that is learner friendly.

2.10 Indigenous Knowledge content and pedagogical approaches

Reviewed literature showed that most of the Indigenous Knowledge is not documented. Shizha (2010; 2013) posits that a lack of documentation of Indigenous Knowledge content and their pedagogical strategies is one of the major factors that has contributed to the reasons teachers ignore teaching Indigenous Knowledge in favour of western science. This justifies the need for the documentation of Indigenous Knowledge content and pedagogical approaches. On the other hand, not all Indigenous Knowledge can be documented as this may result in a loss of meanings (Hewson et al., 2011; Mpofu, 2016). Experiences on the documentation of Indigenous Knowledge can be drawn from Australia, New Zealand and Canada (Aikenhead, 2002). When drawing from these experiences, it must be noted that the documentation is context specific with specific strategies. Indigenous Knowledge is a complex system that requires the selection of aspects that provide full cultural identity of this knowledge body for inclusion in the classroom science. Indigenous knowledge is a people's cultural heritage resource whose ultimate custodians are the elders of a particular community. Such awareness requires the amalgamators of Indigenous Knowledge into classroom science to consider the voices of knowledge holders beyond the boundaries of the first world in considering what knowledge to include in the classroom science (Mpofu, 2016). The content needs to be accurate, appropriate, relevant and representative of the body of knowledge from which it has been drawn.

Not only content is critical for classroom practices aimed at amalgamation but the adoption of pedagogical approaches/strategies are equally important. In support of amalgamating IKHIV/AIDS and BKHIV/AIDS strategies, teachers are urged to adopt pedagogies that are appropriate with the integrated classroom science. Indigenous scholars hold the same view that pedagogical approaches need to support the incorporation of indigenous content that is in harmony with the indigenous learners' styles of learning (Dei, 2010; Hewson, 2012). Dei (2010) posits that indigenous pedagogies can be extracted from examining specific instructional pedagogic and communicative values and challenges offered in Indigenous Knowledge teachings. Indigenous pedagogies are an emerging field in science education and therefore are not adequately documented. My study contributes to filling the gap by documenting some indigenous strategies to enhance the teaching and learning of HIV/AIDS. Indigenous approaches can be informed by various indigenous ways of knowing that are inclusive, intergenerational, observational of nature and are transmitted orally. Dei (2010) further urges educators to explore and understand the

particular teachings central to the African cultural resource knowledge base through local proverbs, parables, fables, myths and folktales. Indigenous pedagogies need to incorporate techniques that support socialised relationships such as meanings of respect, listening and speaking (Mpofu, 2016).

Indigenous HIV/AIDS strategies enhance the learning of biomedical HIV/AIDS science from the indigenous framework. The goal of amalgamating IK and BKHIV/AIDS in classroom science is to develop abilities to understand the studied phenomena from both the indigenous framework as well as the biomedical scientific framework. The amalgamation, according to Mpofu (2016), can be achieved by cultural border crossing from the biomedical scientific pedagogical frame to the indigenous one. The amalgamation is followed by a comparison between BKHIV/AIDS and Indigenous Knowledge to establish similarities and differences without considering either of them as more superior than the other.

The literature reviewed shows that, like content, pedagogical issues are more important to achieving the goal of amalgamating Indigenous Knowledge in the classroom science into reality. Teachers who are the agents of critical reform in Zimbabwe seem to ignore the call to amalgamate Indigenous Knowledge in the curriculum and classroom science (Dziva et al., 2011). One of the reasons drawn from literature is that the teachers struggle to articulate HIV/AIDS content and pedagogy due to a lack of support (Dziva et al., 2011). This justifies the observations that Zimbabwe and other nations are still struggling with the amalgamation of Indigenous Knowledge into the HIV/AIDS and Life Skills Education, Guidance and Counselling curriculum. Australia, South Africa and New Zealand contain examples of notable achievements that we can learn from as we construct local amalgamation strategies.

My study draws insight mostly from the example of “Rekindling Traditions Project” for aboriginal students from Canada (Aikenhead, 2002). The project focused on developing integrative teaching strategies and materials for culturally sensitive science teaching. Student science teachers collaborated with experts in local communities in order to modify a teaching unit. The project showed that cultural teaching strategies and materials developed were effective for aboriginal

students in the pilot schools. Teachers in the project modelled successful border crossing between classroom science culture and the cultures of the community. The project recommends that the amalgamation of Indigenous Knowledge in the classroom science calls for the renegotiation of cultures

of school science. The project also reveals that the coexistence of two major cultures within the same classroom space calls for a collaboration with the custodians of Indigenous Knowledge in the community. The "Rekindling Traditions Curriculum" also illustrates that teaching for the aboriginal indigenous learners begins from the aboriginal framework and proceeds to science (Aikenhead, 2002). The approach values both indigenous and western knowledge values and frameworks of operation. The Rekindling Traditions project acknowledges that, although the amalgamation is achievable, there are problems in expanding its prototypes to a larger community. Amalgamating Indigenous Knowledge into the science curriculum is context specific as every culture has its own knowledge. Promoting teaching materials and strategies designed for different communities is to underestimate the effects of localness of Indigenous Knowledge. Hence, there is need for a study like this one, which examined the amalgamation phenomena from a Zimbabwean perspective.

2.11 Chapter Summary

The literature I reviewed revealed that the amalgamation of Indigenous Knowledge and biomedical science in educational programs leads to a science that is learner friendly and meaningful. Literature also revealed that amalgamating Indigenous Knowledge and biomedical science in the classroom is complex. Science teachers who have the responsibilities to adopt appropriate pedagogies for the amalgamation have no supporting frameworks. There is also inadequate research that provides insights of Indigenous Knowledge and biomedical science amalgamation especially on HIV/AIDS teaching and learning strategies in Zimbabwe. My research contributes towards providing an amalgamation of insights of Indigenous Knowledge in the HIV/AIDS Life Skills Education Guidance and Counselling curriculum. The next chapter presents the theoretical framework of the study.

CHAPTER THREE: THEORETICAL FRAMEWORK

3.1 Introduction

A theoretical framework provides a structure of reference in which to conduct a study (Rocco &Plakhotnik, 2009). A theoretical framework grounds the study, informs the questions, guides the methodological design and provides a reference point for the interpretation of research findings (Maxwell, 2005).

A number of learning theories have been advanced to explain how people learn and how the process influences the change of behaviour especially in the context of HIV/AIDS prevention. HIV/AIDS affects psychosocial wellbeing and resilience, which are critical for effective learning and progression in education. Huitt (2013) defines learning as "a relatively permanent change in behaviour or behaviour potential brought about as a result of experiences". Success on HIV/AIDS awareness and prevention in schools depends on how the information is packaged and disseminated for learners' easy comprehension. According to Mutisya (2016), for HIV/AIDS information to be understandable in institutions of learning, it should be contextualised and learners should be provided with opportunities to create their own understanding of HIV/AIDS knowledge. This chapter describes the *Ubuntu* Framework, Constructivism Theory and the SocioCultural Theory (Socio-Constructivist Perspective) as they relate to my study.

3.2 Ubuntu Indigenous Research Framework

I approached my study from an African Indigenous Knowledge worldview of *ubuntu* as an ethical framework. The philosophy of *ubuntu* derives from an Nguni wordmeaning "the quality of a human being". *Ubuntu* manifests itself through various human acts, visible in social, political and economic situations as well as among the family (Flippin, 2012). *Ubuntu* lies at the heart of the African way of life. The principles of *ubuntu* philosophy include values of respect, human dignity, compassion, solidarity, cooperation, kindness, participation for the common good and consensus which demand conformity and loyalty to the group (Hamming, 2005; Khupe, 2014). According to sociolinguist, BuntuMfenyana, "*ubuntu* runs in the veins of all Africans, *ubuntu ngumuntu, ngabanyeabantu*" (a person is a person through other people). This African proverb unveils a world view where we owe our selfhood to others. Mbiti (1969) supports the notion that whatever happens to the individual happens to the whole group and whatever happens to the whole group happens to the individual. According to Mbiti (1969: 106), the cardinal point for understanding the African view of humanity is that the individual can only

say “I am because we are and since, we are, therefore I am”. *Ubuntu* is also a rule of conduct and social ethic, which prescribes communally acceptable forms of human conduct and how people should relate to each other (Louw, 2004).

I drew on my own background of *ubuntu* to negotiate a smooth entry into Mazowe mining community and when meeting the Mazowe mining community cultural elders. *Ubuntu* principles enabled me to establish respectful relationships and the cooperation of my study participants. The mining community cultural elders freely shared the Indigenous Knowledge strategies for STI/HIV/AIDS teaching and management in their own languages. I also applied *ubuntu* principles in making decisions on the language of communication and in developing relationships with participants outside appointments. For example, I had to provide HIV/AIDS counselling to some participants and called on them to inquire about their wellbeing. *Ubuntu* called for my responsibility as a researcher both during fieldwork and on reporting. It demanded sensitivity towards participants regarding their context, as well as the issue of HIV/AIDS which is masked with stigmatisation. Ogunniyi (2016) posits that the notion of *ubuntu* is “more about us, not about me”. Drawing on the attributes of *ubuntu* made me realise more how sensitive HIV/AIDS is and that “I am because we are”.

Individualism is foreign to *ubuntu* and collective responsibility is key. In the context of my study, cultural behaviour modification of children is the responsibility of every adult. *Ubuntu* principles raised my ethical responsibility for HIV/AIDS confidentiality in selecting what information to share with the general audience. Drawing on *ubuntu* principles prompted me to report the findings ethically in order to maintain relationships with participants. Reporting the findings is the participants right (McIvor, 2010). Drawing on *ubuntu* principles enabled my study to remain morally and logically aligned with the research purpose. I also drew on the theory of Constructivism which I discuss in the next section.

3.3 Constructivism

There is no universal definition of Constructivism. Some scholars consider it as a theory of knowledge and other scholars consider it as a theory of pedagogy (Mvududu& Thiel-Burgess, 2012). Constructivism is a synthesis of multiple theories diffused into one form. It is the assimilation of both behaviourist and cognitive ideals and is based on the works of Piaget (Amineh& Asl, 2015). Piaget’s theory includes the components of ages and stages that predict what children can and cannot understand at different ages. It

also provides a theory of development that describes how children develop cognitive abilities. According to Piaget (1977), learning does not occur passively but by an active construction of meaning. The notion is supported by Mutisya (2016) who believes that learners should be given the opportunity to create their own understanding of HIV/AIDS knowledge through the use of audio-visual media to provide active learning. Christie (2005) supports the notion that constructivism is a learning theory in which learning is both an active process and a personal representation of the world. In this theory, knowledge is constructed from the experience and is modified through different experiences. The theory emphasises problem solving and understanding which I consider critical for HIV/AIDS learning and mitigation. Other important factors in this view of learning are experiences, collaboration, authentic tasks and assessment (Amineh& Asl, 2015). According to Piaget (1977), Constructivism is based on children's psychological development and he argues that to understand means to discover or reconstruct by means of rediscovery. Piaget further argues that children go through stages in which they accept ideas which they may later change or reject. Therefore, understanding is built up stepby-step through active participation and involvement of learners and cannot be regarded as passive in any stage of development.

Contrary to Piaget (1977), Bruner (1973) states that learning is a social process where students construct new concepts and knowledge based on their current knowledge. Based on this, the student selects information, constructs a hypothesis and makes decisions. According to Bruner (1973), learner independence is critical for effective education and that independence can be increased when students discover new principles of their own. Bruner (1973) further argues that the curriculum should be organised in a spiral manner so that students can build upon what they have already learned. In relation to practice, Constructivism, as an educational theory, entails that the teachers should first consider their students' knowledge and allow them to put that knowledge into practice. Mvududu and Thiel-Burgess (2012) posit that Constructivism is viewed as an approach to probe children's level of understanding and to show how that understanding can increase and change to higher levels of thinking.

Constructivist teaching promotes learners' motivation and critical thinking and encourages them to learn independently. The role of Constructivist teachers is to guide the students and provide them with opportunities that test the adequacy of their understanding. On the contrary, a study conducted by Samson (2013) on the use of Constructivist approaches in the teaching of religious education integrated

with HIV/AIDS education revealed that students were not able to translate their positive attitudes into action because they depended on methods chosen by the teachers.

The components of Constructivist theory guided me as the researcher in exploring HIV/AIDS teaching strategies to promote critical thinking and those used for testing the understanding of HIV/AIDS among learners in the classroom. The HIV/AIDS strategies were explored for possible amalgamation with Indigenous Knowledge strategies in the HIV/AIDS and Life Skills Education, Guidance and Counselling secondary school curriculum.

Amineh and Asl (2015) posit that there are two major strands of the Constructivist perspective which are Constructivism, coined by Piaget, and Social Cultural Theory, which is closely related to Socio Constructivism coined by Lev Vygotsky. The Socio-Cultural Theory emphasises the idea that much of what is learned is specific to the situation in which it is learned (Lave & Wenger, 1991). The Socio-Cultural Theory coined by Lev Vygotsky was employed as a major theoretical framework in this study and is discussed in the next section.

3.4 The Socio-cultural theory

This study is underpinned by the Socio-cultural theory coined by Lev Vygotsky in 1978. Vygotsky's main relevance to Constructivism comes from his theories about language and thoughts and their mediation by society. Vygotsky holds an anti-realistic position and states that the process of knowing is affected by other people and mediated by community and culture.

Culture influences learning and the reasoning behind empowering students with life skills is to enhance positive behaviour changes to reduce the effects of risky behaviours that cause HIV infection. The emphasis on culture focuses on the way learning and teaching of HIV/AIDS takes place under differing cultural circumstances and in differing historical contexts. This contributes to a contextualised rather than universal theory of development (Cherry, 2016). An important part of Vygotsky's work relies on Piaget's contribution to Constructivism. While Piaget believes that development precedes learning, Vygotsky believes in social constructivism.

Vygotsky believes that parents, care givers, peers and culture are responsible for developing higher order functions (Cherry, 2016). The theory emphasises the interaction between developing people and the culture in which they live. Leeds and Hurwits (2009) content that the most important elements of the Socio-Cultural Theory are the assumptions that a) human beings rationalise their experiences by creating a model of the social world and the way it functions; and b) the belief in language as the most essential system through which humans construct reality. The Socio-Cultural Theory views knowledge as a human product which is socially and culturally constructed. The theory acknowledges that individuals create meaning when they interact with each other (Burgess, 2012).

The Socio-Cultural Theory takes into account how learners are impacted by their peers and how social scenarios impact their ability to acquire information. The theory also focuses on how cultural beliefs and attitudes affect how instruction and learning take place (Cherry, 2016). As such, instructors who apply the theory can also become aware of how learners may directly influence one another as well as how cultural norms can influence learners' behaviour especially for HIV/AIDS prevention (Shabani, 2016). In order to enhance the effectiveness of the curriculum, the teachers can then integrate principles of the Socio-Cultural Theory in learning (Shabani, 2016; Vygotsky, 1978). Cherry (2016) also observes that effective teaching can emanate from analysing what children learn and from acknowledging the culturally conditioned knowledge they bring to the classroom. The source of individual motivation and understanding is located in socio-cultural practices in which children have the opportunity to observe and participate in essential, economic, religious, legal, political, instructional or recreational activities (Brown, 2007).

To explain how the social and participatory learning takes, place Vygotsky (1978) developed the zone of proximal development (ZPD). He defined the ZPD as the distance between the actual development level, as determined through independent problem solving, and the level of potential development, as determined through problem solving under adult guidance or in collaboration with more capable peers. Socio-Cultural Theory recognises the need for cultural, cognitive and attitudinal bridges (Cherry, 2016). The theory also assumes that learning is a social process. To emphasise learning as a social process, Pappas (2014) states that "through others we become ourselves". Socio-cultural theory not only focuses on how adults and peers influence individual learning but also on how cultural beliefs and attitudes influence how instruction and learning, for example on HIV/AIDS, takes place. Social Constructivism

is related to the idea developed by Vygotsky (1978) that all knowledge is constructed socially and forms part of society. Social Constructivism answers the question of "what is knowing?" and how an individual knows through suggesting that knowledge is constructed socially and culturally (Akyol & Fer, 2010). Social Constructivist approaches emphasise reciprocal teaching, peer collaboration, cognitive apprenticeships, problem based instructions, web guests, anchored instruction and methods that involve learning with others (Schunk, 2000). Instructional models based on Social Constructivism highlight the need for collaboration among learners and practitioners in society (Lave & Wenger, 1991). The most important aim is to assist the learner to become an effective thinker. The instructor's role is that of a coach or consultant. The teacher's role is on how to instruct the student to construct meaning and how to monitor, evaluate, align and design experiences for the learner (Lave & Wenger, 1991).

According to Vygotsky (1978), cognitive development differs between cultures. He also notes that cultures develop children differently, an observation I also made during this study as I explored Indigenous Knowledge strategies for managing HIV/AIDS in the mining community among the Shona, Chewa and Tonga cultures. Vygotsky also added that students inherit cultural meanings that constitute their intelligence from prior generations. Socio-cultural approaches place importance on cultural variations and their inter-relationships with development. I support the notion by John-Steiner (1978) who believes that socio-cultural approaches to learning, teaching and development forwarded by Vygotsky are based on the concept that human activities take place in cultural contexts, are mediated by language and other symbol systems and can be understood when investigated in their historical development. This motivated me to explore Indigenous Knowledge strategies for HIV/AIDS learning and management among cultures within the mining community. Vygotsky believes that Piaget's emphasis focuses too much on internal processes of individualism (Amineh& Asl, 2015). Lave & Wenger, (1991) observed that Socio-Cultural Theory has been harnessed in advancing the instructional practice that might redress disparities in the current educational system.

Vygotsky's Socio-Cultural Theory's three major themes advanced by Wertsh (1991) provided lenses for this study. The first theme denotes that children's learning is shaped by their historical and cultural interactions. This sheds light on the IKHIV/AIDS management strategies that are embedded in cultural history and how they are communicated to children for HIV/AIDS teaching and management. By studying human beings dynamically within their socio-cultural circumstances, I gained a more valid and

deeper understanding of them. It gave me an opportunity to analyse how children learn, acknowledge and understand the IKHIV/AIDS management strategies they bring to the classroom. The socio-cultural lens helped me to identify important issues that needed to be examined during the selection of research participants. The second theme denotes that human action on both the social and individual planes is mediated by tools and signs, which Vygotsky termed "semiotics". This includes language and pneumonic techniques as tools that facilitate the co-construction of knowledge and are internalised to aid future independent problem solving activities by the child (Wertsh, 1991). The use of appropriate language helped me to construct the research questions and to communicate effectively with the participants when gathering data. I also paid attention to language, names and words used to address issues on HIV/AIDS during teaching and learning. This helped me to get a deeper understanding of the Indigenous Knowledge strategies for HIV/AIDS management. The theme on semiotics provided an insight in identifying tools and means from the participating cultures, that are used and are relevant for HIV/AIDS teaching, learning and prevention.

In support of the third theme, Vygotsky (1978) developed the zone of proximal development (ZDP). He argued that, to understand the relationship between learning and development, two developmental levels must be distinguished, the actual and the potential levels of development. The actual are those accomplishments a child can demonstrate alone or perform independently in contrast to potential levels of development done with assistance. The notion of ZPD and mediated teaching is used to explain how cultural brooking can be mediated between IKHIV/AIDS strategies and BKHIV/AIDS strategies of learning and teaching. The theme of the Zone of proximal development (ZDP) on learning and teaching blends with the proposed adapted CACS conceptual framework discussed in Chapter Two. The adapted CACS dimension is framed within theoretical perspectives which made it a multifocal lens used to sort the study data and search for meanings. The ZPD and adapted CACS framework also helped me in the formulation of some of the research questions and in data generation, analysis and presentation. They guided the amalgamation of IKHIV/AIDS strategies and BKHIV/AIDS strategies in the HIV/AIDS and Life Skills Education, Guidance and Counselling secondary school curriculum.

3.5 Interrelatedness of Ubuntu Framework, Constructivism Theory and Socio culturalTheory in the context of the study.

The context of my study area influenced my decision on the researchtheoretical frameworks. The study took place in a mining community with various cultures brought together by labour. The assumption was that, in a mining community Indigenous Knowledge production, transmission and utilization are social activities within cultures.Therefore, it was appropriate that research into such knowledge be in ways that are consistent with frameworks relevant and sensitive to the context. The three theoretical frameworks, Ubuntu Framework, Constructivism Theory and Socio cultural Theory were interconnected as they applied to study.

In this study, I drew on Ubuntu as both an Indigenous and ethical framework and a way of knowing in exploring Indigenous Knowledge strategies for HIV/AIDS management. Ubuntu places emphasis on values and relationships.It prescribes community acceptable forms of human conduct and how people should relate to each other.I applied the principles of Ubuntu as an ethical framework to get a smooth entry and for communication during data gathering with the cultural elders.Applying the principles of Ubuntu was to ensure that the study remained morally and logically aligned with theresearch purpose. The socio cultural theory stresses the interaction between developing people and the culture in which they live.Indigenous knowledge is situated within the socio, cultural and historical tradition of practice. I drew on the Socio cultural Theory to explore HIV/AIDS Indigenous Knowledge management strategies that the teachers and students bring to the learning process including their expectation, motivations and personal disposition. Socio cultural theories emphasize that the origin of knowledge does not lie within an individual mind. What counts as real knowledge varies culturally and historically Getting access to the Indigenous Knowledge strategies from the mining community cultures required the application of ubuntu principles. Socio cultural approaches alsoreflect collaborative nature of learning often mediated through language. The oral culture of the participants called for the use of the Shona language as a way of knowing. Using appropriate language, by the researcher reflected the application of Ubuntu principles in data gathering. The theory of Constructivism also guided the study. The theory entails that individuals construct new knowledge socially in relation to previous knowledge. It promotes the idea that students learn by active exploration and inquiry, constructing knowledge and working with a subject. It was important for the study to explore how teachers and students interact with pedagogical and IK HIV/AIDS related management activities in the classroom guided by the theory of Constructivism. The theoryalso

guided the researcher to explore the pedagogical knowledge, needs,practices including challengesand expectations of teachers in relation to IKHIV/AIDS teaching in the classroom.

The three theoretical frameworks in the study complement each other.Each one covers the issues of learning which entails that transformation is at personal and social level.Not only do students need to pass through different personal trajectories of IKHIV/AIDS management strategies and expertise they also need to contribute to the culture of their communities. Constructivist and Socio cultural perspective on learning conclude that acquiring IKHIV/AIDS management strategies and expertise always entails participation in relationships and community. It entails the transformation of the person and of the social world where the person is constructed in a social context formed through practical activity (Lave and Wenger, 1991). The acquisition of IKHIV/AIDS management strategies and participation in relationships requires the application of Ubuntu principles. The Interrelation **of Ubuntu Framework, Constructivism and Socio cultural** theoretical frameworks in the study brought together the research purpose and methods of exploring IKHIV/AIDS management strategies while ensuring a shift away from dominant research frameworks.

3.6 Chapter Summary

I drew on the principles of *ubuntu* to negotiate my ethical entry into the Mazowe Gold Mine community and in meeting cultural elders for *padare* conversational meetings. Drawing on *ubuntu* principles enabled the study to remain morally and logically aligned to the research questions. I chose the Socio-Cultural Theory because I pursued a theoretical and methodological orientation appropriate to study socio-cultural phenomena in their natural setting. The mining community in which the study took place is a cultural setting where various cultures have been brought together due to migration for labour. In this study, data collection took an interpretivist perspective on the school and mining community as a cultural setting. The socio-cultural lens helped me to build an argument, establish the context of the problem and explain findings (Creswell, 2013). The theoretical lens works well with the case study and the interpretivist paradigm to improve teaching and learning of HIV/AIDS and Life Skills Education in secondary schools. The Mazowe Gold Mine community was the location of this study whose description is given in the next chapter.

CHAPTER FOUR: CONTEXT OF THE STUDY: MAZOWE GOLD MINE COMMUNITY

4.1 Introduction

Literature reveals that the nature of Indigenous Knowledge, biomedical classroom science and their amalgamation needs to be understood within the specific context in which they are studied. Context can be defined as "the circumstances that form the event, statement, or idea in terms of which it can be fully understood" (Tennant, 2017). Context is local and it anchors technical knowledge to a particular social group, living in a particular setting at a particular time. Unlike Biomedical Knowledge, which bases its claim to superiority on the basis of universal validity, local knowledge is bound by space, time and contextual moral factors (Agrawal, 1999). Battiste (2002) posits that the context of learning or research on indigenous people and their knowledge incorporates the geographical, social, cultural, spiritual and physical aspects. Indigenous Knowledge is embedded in the social, cultural and moral milieu of a particular community. This study is therefore located in the Mazowe Gold Mine community in Zimbabwe. This is because the Mazowe mining community is a place integral to various cultures brought together by labour with their indigenous ways of living including response to diseases.

The various cultures in Mazowe gold mine community respond to social, political, cultural, physical factors and diseases, including HIV/AIDS, differently. As observed by NAC (2012), the mining sector is a closed community with clear boundaries and various ethnic cultures with rich and diverse Indigenous Knowledge strategies. Indigenous Knowledge is characterised as locale (Shizha, 2010) or place based, according to Aikenhead and Ogawa (2007). Various studies concur that the mining sector has a high risk for HIV prevalence and that the epidemiology of HIV is linked to migrant labour, social structure and infrastructure (NAC, 2012; Brummer, 2002). The mining community provides the environment that shapes the indigenous people's culturally shared world views (Barnhardt &Kawagley, 2005). It is a place which provides indigenous people with lived experiences and practices. This chapter serves to contextualise this study within the Mazowe Gold Mine community. I agree with Mpofu, Mushayikwa and Otulaja (2014) that a research context delimits the study and minimises the chances of distorting intent. I, therefore, discuss the context of my study in the next section.

The context of my study is discussed under physical boundaries, socio-cultural life, language of communication, nature of health system and nature of education systems in Mazowe Gold Mine community in Zimbabwe.The health system contextualises IKHIV/AIDS and BKHIV/AIDS within the

mining community. The institutionalised education system contextualises BKHIV/AIDS and IKHIV/AIDS in the classroom.

4.2 The study location - Mazowe Gold Mine

4.2.1 Physical boundaries and socio-cultural life

The location of this study is the Mazowe Gold Mine in Zimbabwe. It is situated in the west central part of the Harare greenstone belt and is one of the oldest mines in Zimbabwe. The exploration and development of this region dates back to 1890 with over 1.4 million ounces of gold produced to date. The Mazowe Gold Mine is located in Mashonaland Central Province in Mazowe District in Zimbabwe. Zimbabwe is sub-divided into ten administrative provinces, namely, Manicaland, Midlands, Mashonaland Central, Mashonaland East, Mashonaland West, Masvingo, Bulawayo urban, Harare urban, Matabeleland North and Matabeleland South Provinces. The provinces are further divided into administrative districts. Figure 4.1 below is a map of Mashonaland Central province districts with the Mazowe district shown in which the Mazowe Gold Mine is located.



Figure 4.1: Position of Mazowe District in which Mazowe Gold Mine is located
(Source: Samwise, 2008)

There are people of various cultures and languages with a long history of staying in this mining community who have been brought together because of labour in Mazowe Gold Mine. I discuss the issue of language of communication in Mazowe Gold Mine Community the next section.

4.3 Language of communication in Mazowe Gold Mine Community

Language plays a critical role in the transmission of Indigenous Knowledge. As alluded to in Chapter Two of this study, the United Nations (2008) asserts that worldviews and IK are communicated in the language of a cultural group or enterprise. They also define the culture, nature, history, humanity, ancestry and link communities (Battiste, 2002). An analysis of languages used by people in my study illuminate the context.

Mashonaland means “the land of the Shona people” (Matsika, 2012). The Shona people, who speak the Shona language, dominate the Mazowe Gold Mine community and the regions of Zimbabwe. The Shona language has five major dialects which are: c*hiManyika, chiNdau, chiZezuru, chiKaranga*, and *chiKorekore*. There are also other languages that are spoken in Mazowe Gold Mine community and in other parts of Zimbabwe apart from the five major dialects which are *chiVhenda, chiTonga* and *chiKalanga* (Gombe, 1998).

Indigenous languages have been made official by the amended constitution of Zimbabwe. The constitution of Zimbabwe made 16 languages official which are: Chewa, Chibarwe, English, Kalanga, Koisan, Nambya, Ndau, Ndebele, Shangani, Shona, sign language, Sotho, Tonga, Tswana, Venda and Xhosa (Constitution of Zimbabwe, 2013). This created language border crossing learning difficulties in schools. The challenge for this study was: whose cultural Indigenous Knowledge and language is appropriate for amalgamation in the HIV/AIDS Life Skills Guidance and Counselling curriculum for secondary schools in Zimbabwe? While the Constitution of Zimbabwe is attempting to redress colonial language inflicted imbalances, English, as a western language, has remained dominant over indigenous languages and is used for official communication at the expense of indigenous languages in Mazowe Gold Mine community.

Colonialism has made many indigenous people in Zimbabwe multilingual. They speak indigenous languages and English as the second language. During the data gathering process I had to code switch between Shona and English when there was a need especially for official communication. This highlights the fact that the colonialists intended to eradicate all indigenous systems of life and absorb Zimbabwe in their western ways of life. In the context of HIV/AIDS for instance, local knowledge, language, cultural strategies and value systems cannot be converted into capital value in the local market and thus are excluded from the information that circulate locally to make profits. Western Biomedical Research has also compounded the problem of marginalisation by framing the language and topics of research on HIV/AIDS. The coloniser’s language has been observed as a major tool for marginalisation. Ngugi waThiongo, in his book “Decolonizing the Mind” (1986), argues that the choice of language and the use to which language is put, is central to people’s definition of themselves in relation to the natural and social environment. In fact, the universal usage of the name HIV/AIDS and management strategies at a global level indicates that many cultures were not allowed to name or manage HIV/AIDS from their own

cultural perspectives and languages. The language and topics of research on HIV/AIDS are based on biomedical western perspectives of reality to exclude and marginalise the third world's perceptions of reality and what counts as knowledge in the fight against HIV/AIDS (Chilisa, 2012).

The other tragedy pointed out by Chilisa (2012) is that 70% of the 15–19 years age group is in schools where education, which is partly informed by research on HIV/AIDS, focuses on biomedical characteristics of the virus and ignores the life experiences of the children. Hence, the research fails to communicate effectively and to preserve life. The colonialist influence has also caused young Zimbabweans to regard their indigenous context, language and strategies as backward and primitive thereby marginalising their indigenous cultural heritage (Chilisa,2012).

In this study, I used Shona as the language of communication that reflected its ethnic significance. I also used the Shona language to communicate with cultural elders on the purpose of the study. As a result, the use of traditional language helped me to generate rich data. I discuss the sociocultural life in the next section.

4.4 Socio-cultural life

The socio-cultural life of cultures in the Mazowe Gold Mine community is multifaceted, complex and embedded in history, religion, politics and economics, among other factors. I discuss this section using the conversation I held with the Mazowe Gold Mine social worker. On the day of my first visit to the Mazowe Gold Mine, I went straight to the mining clinic where I met the Sisterin-Charge who introduced me to the Human Resources Manager of the mine in line with the mine protocol. The Human Resources Manager later assigned a senior social worker to introduce me to the mining community cultural elders and to assist with appointments and any other requirements. Peculiar to the mining community is its close vicinity to the now former First Lady's Mazowe school and dairy farming business. Because of this, during data gathering, it meant driving past police guards who stopped and interrogated me to explain my objective for going to the mining community. The community is a ruling ZANU PF party political stronghold. The social worker informed me about this political affiliation among community members as this political context would have implications on my data gathering process and reporting of findings.

The social worker shared the context of the Mazowe Gold Mine community, which is divided into six residential villages: Mtetwa village, Chitepo village, Stories village, Chiweshevillage, Manyuchi village and Jumbo Country Club village. Mtetwa village has 98 households and each household has its own toilet in their home. There are water flushing system toilets and Blair toilets. Water and sanitary facilities have implications for HIV/AIDS prevention, care and support services. In Chitepo village, there are 371 households with single quarters and those for married couples and their families. However, due to a shortage of accommodation, some workers live in single quarters with their families. InStories village, there are 62 households where each household has access to its own toilet. The accommodation caters for married couples and their families. Chiweshe village has 145 households that cater for married couples and their families.Manyuchi village has 72 households. It has comfortable apartments for married couples with their families. There is also a block of single quarters where some married people stay with their families due to a shortage of accommodation. There is a police base situated in Manyuchi village, which is accessible to everyone in the mining community. Jumbo Country Club is a low-density village with 57 houseswhere senior staff stay. The houses have three bedrooms with a water system and flushing toilets. Jumbo Country Club low density village also has a few flats for senior staff.

The social worker also mentioned that there was need to separate married and unmarried people from staying in the same apartment buildings to avoid social clashes. The mining leadership makes sure that marriedpeople stay in their own apartments to maintain their privacy. I also observed that grass walls surrounded most of the residences for married people. I was informed that grass thatched boundaries were meant to reduce noise and violence and to maintain a quiet environment.

The social worker expressed that generally there is overcrowding in most of the mining community village compounds due to shortage of accommodation.

Figure 4.2 below shows the photographic view of social amenities of Mazowe Gold mine community-overcrowded residential facilities, blair toilets, beerhalls, shops



Figure 4.2Photographic view of social amenities of Mazowe Gold mine community.

In Mazowe Gold mining community, the living compounds are overcrowded and dusty.There are also many beerhalls in the mining community as reflected in Figure 4.2 above. The social worker also expressed that overcrowding is most prominent in villages like Chitepo where there are 371 households.Due to shortage of accommodation, some workers live in single quarters with their families in the village.The lack of privacy has implications on behaviours for HIV/AIDS mitigation as children learn what they live.

The villages have a mixture of cultures consisting mostly the Zezuru, Karanga, Manyika, Mandau, Tonga and the Chewa cultures. The dominant cultures in Mazowe Gold Mine community are the Shona, Tonga and Chewa among whom this study was conducted.

The history of the mining industry is that, for over a century, it has relied on a system of migrant labour as well as shift work where miners are absent from their families for extended periods of time while living in all-male crowded hostels at remote mining sites. Cronje et al. (2013) argue that the epidemiology of HIV in the mining sector is linked to migrant labour, social structure and infrastructure. Brummer (2002) posits that the characteristics of the migration process have facilitated the spread of HIV/AIDS by fuelling prostitution due to extended periods of separation of families.

I observed that the mining operations are labour intensive with families living in mine housing on site or in crowded compound accommodation. The social and recreational amenities are skewed in favour of senior mine staff. The majority share the few facilities, which become havens of prostitution by both the young and the old. This has a direct impact on the health fabric of this mining community as indicated by the prevalence of STI's and HIV-related problems. The recreational facilities at Mazowe Gold Mine are inadequate. There is only one club, Manzou Club, for the majority of the community. In Jumbo Country Club, there is one sports club and a golf course for senior employees. This closed community's recreation amenities focuses on beer halls and other related socio-cultural factors that carry risks of sexual networks. Studies have shown that the socio-economic environment in mining towns are major drivers of HIV in the mining sector (Corno&Walge, 2012). The social worker also expressed there was a burden of HIV/AIDS which manifested through the death of employees, their spouses and children. It has also caused a loss of productivity through absenteeism, due to illness and attendance at funerals. The social worker further mentioned that the burden of HIV/AIDS contributed to the rise in the number of orphans and widows seeking employment, the early entry of children into the labour force and a reduced labour force quality in terms of education, training and experience.The social worker also mentioned that the mining community has a number of workers who have taken early retirement due to AIDS related illnesses. Magure (2013) believes that the dusty working environment in the mining sector predisposes employees to HIV-related Tuberculosis and other lung diseases like Silicosis leading them to early retirement.

Various churches that also provide health services and counselling are also prominent in the villages of the Mazowe Gold Mine. In the community, there are cultural Chiefs comprising elders elected from the community who help in solving mining community matters. These cultural community elders are custodians of indigenous cultural knowledge for every village of the Mazowe Gold mining community. Cultural Chiefs are selected from different cultures based on age and maturity as they are considered mature enough to deal with problems facing the community especially among their cultures. Everyone in the community respects these elders. I found it critical that these custodians of Indigenous Knowledge from various cultures participate in the study. The elders meet during weekends at a crèche in Chiweshe village to discuss matters affecting people in the community. When a person from any community is unhappy, he or she reports to the elders. If the case is complex, the Social Welfare Department assists or refers the case to the police. The social worker mentioned that the introduction of community cultural elders as chiefs has helped to maintain peace among community members. It has also contributed towards the reduction in community disharmony and police reports. I observed that, in Mazowe Gold Mine community, there is a multifaceted socio-cultural life, which is rooted in history, economics, religion and politics, among other factors. The complexities indicate the need for an understanding of HIV/AIDS indigenous strategies in ways that are specific to the local context in which they exist. Knowledge of the socio-cultural life in the mining community enhanced my understanding of the research site.

The institutionalised HIV/AIDS and Life Skills Education services in the mining community are provided by the schools under the Ministry of Primary and Secondary Education. The community provides both the education and health services indigenously. In the next section, I provide the context of IKHIV/AIDS and BKHIV/AIDS in Mazowe Gold Mine within the health and education systems of the Mazowe Gold Mine community in Zimbabwe.

4.5 Nature of health system in Mazowe Gold Mine Community

The mining community in the Mazowe Gold Mine practices both biomedical and indigenous health practices to mitigate the impact of HIV/AIDS. In Mazowe Gold Mine community, a mine clinic provides biomedical health services including for HIV/AIDS. The Ministry of Health and Child Care and its partners, as well as Non-Governmental Organisations, support the provision of biomedical HIV/AIDS services. Indigenous health practices for HIV/AIDS management occur in the mining community among

the different cultures. Indigenous health systems existed in Zimbabwe before colonialism when biomedical western health systems were introduced. In colonial Zimbabwe, the biomedical western health system became a dominant approach to managing health and was regarded as systematic and empirical. On the other hand, the indigenous health system was regarded as primitive, unsystematic and backward (Chavunduka, 2001). The colonisers failed to value the common advantages that existed between the indigenous and biomedical approaches to health. Colonisers also failed to recognize the differences between the two in relation to health and illness even though they coexisted. An example from the study is that some Mazowe Gold Mine participants conceptualized HIV/AIDS as *runyoka* caused by spiritual and social factors. In the African culture, it is believed that one can gain spiritual powers to harm others or avoid being harmed by others. It is also believed that the same spirits that can give an individual the power to harm can also help to heal the individual who has been hurt or harmed (Rankopo, 1996; 2011). If an individual is sick due to witchcraft or if he/she has been possessed by spirits, he/she cannot be healed by biomedical practitioners but only through traditional means (Chavunduka, 2001). This indigenous view of health and illness converges with the pathogenic perspective of the biomedical health approach. Chavunduka (2001) asserts that the missionaries strengthened their colonial agenda through the provision of voluntary biomedical services and marginalised the indigenous African health services. This, however, did not stop the African cultural communities, including the Mazowe Gold Mine, from using their indigenous practices. Indigenous Knowledge, although suppressed, is still existent and individuals use it to understand diseases, including HIV/AIDS (Dickinson, 2005).

I observed that health care in Mazowe Gold Mine is pluralistic. People choose from alternatives that include biomedical health, faith healing, patent medicine shops and traditional medicine. The pluralist approach to health is also evident in the mitigation of HIV/AIDS in Zimbabwe. When the first case of HIV/AIDS was identified in Zimbabwe in 1985, the national approach to mitigation was guided by western biomedical national policies and guidelines, which led to a decline in the prevalence of the disease (NAC, 2012). At the same time, Zimbabwe subscribed to various international biomedical approach commitments through which the national action received support. However, the effect of sanctions against Zimbabwe led to the decline in funding for health delivery. Hyperinflation also affected the AIDS levy leading to a decline in national response (Mhlanga, 2011). Various challenges were experienced which included a lack of local funding, limited donor funds, an increase in poverty and

limited resources to acquire ARVs. Treatment and care for HIV/AIDS became very expensive even for Mazowe Gold Mine community members. This led to the increase in HIV vulnerability and opportunistic infections in the mining community. Challenges have also been faced particularly in terms of social impact mitigation and meeting the increased treatment services demand in the mining community. These challenges have led people living at the Mazowe Gold Mine to use both indigenous and biomedical strategies in mitigating the impact of HIV/AIDS.

Health care at the Mazowe Gold Mine is varied and complex. The Mazowe Gold Mine participants demonstrated that they hold HIV/AIDS knowledge strategies in triple world views, indigenous, Christian and biomedical. Arguably, the choice of HIV/AIDS mitigation strategies rests with the community. Government, however, encourages people to employ biomedical strategies and to seek health services from the biomedical health sector. The Mazowe Gold Mine clinic, under the authority of the Ministry of Health and Child Care, and NonGovernmental Organisations in the mining community provide biomedical HIV/AIDS services to the community. The little attention given to IKHIV/AIDS practices by Ministry of Health and Child Care compounds the historical imbalances in accessing this form of knowledge by the general population. These context insights also informed my study methodology. In the next section, I provide the context of my study within the nature of the education system in Mazowe Gold Mine Community.

4.6 Nature of the education system in Mazowe Gold Mine community

There are three schools in Mazowe Gold Mine community with only one secondary school named Shingirirayi High School. I generated some of my data from Shingirirayi Secondary School. The secondary school is a day (non-residential), co-educational (enrolls boys and girls) and single session school. Being a day school means the learners are given formal educational instruction during the day after which they go back to their homes. The school is subsidized by government and resourced by Mazowe Gold Mine. The government subsidies are provided in the form of annual grants and staffing. Teachers in the school are public servants employed by the government.

The other two are primary schools named Mazowe Mine Primary School and Stories Primary School that feed Shingirirayi Secondary School with form one learners. The colonial government in Zimbabwe introduced the institutionalised formal western education system. The main purpose was to do away with the Indigenous Knowledge system that existed within cultures (Matsika, 2012). Maravanyika (2001)

argues that the government of Zimbabwe lacks the economic muscle to replace the western-based education with the indigenous knowledge education. He further argues that the policies of socio-cultural processes and educational plans are not synchronised. In addition, it is also because policy makers themselves are products of a western-oriented educational system and are insufficiently trained to implement the desired changes (Maravanyika, 2001; Mpofu et al., 2014).

Shingirirayi Secondary School has adequate classroom facilities including science laboratories. The school has both running water and electricity supplies. The school provides formal education from Junior Certificate to Ordinary level. The Deputy School Head mentioned that the school is governed through policies generated at district, provincial and national education levels. The Deputy School Head emphasised that anyone planning to conduct research at the school should provide letters of approval and clearance from all levels – national, provincial and district education offices that, to me, reflected the rigid top-down approach in the education policy implementation by the Ministry of Primary and Secondary Education. The school-based science curriculum offered is informed by the Secretary's Circular (200) as read with Circular Policy 77 (2006). The Deputy School Head stated that the school has science teachers responsible for teaching HIV/AIDS and Life Skills Education, Guidance and Counselling. The School Head also expressed that the science teachers responsible for Guidance and Counselling are overwhelmed with work due to staff turnover, especially among science teachers. This informed my selection criteria for study participants as well as the timing for data gathering.

My choice of Shingirirayi High School was because it is the only High School in Mazowe Gold Mine community and it was easily accessible for the study. Most of the learners of the 15–19 yearage group from various cultures in the mining community are found at the school. Apart from being supplied with Form one learners from Mazowe Primary School and Stories Primary School in the mining community, Shingirayi Secondary School also enrolls other learners from outside the mining community.The learners walk more than 10 km to and from school daily. The social worker mentioned that some of the children especially girls from the Secondary School sometimes ask for free transport from motorists. Some of the motorists end up getting into intimate relationships as sugar daddies with these young school-girls, according to the social worker. The relationships between secondary school girls with sugar daddies, according to mining community health workers and elders, is quite rampant and exposes pupils to

HIV/AIDS pandemic. The long distance travelled to school by learners, according to the teachers, negatively affects their academic performance as they sometimes miss lessons or come in late to school.

Figure 4.3 below shows features of the participating Shingirirayi Secondary School.



Figure 4.3 Photographic features of Shingirirayi Secondary School.



As shown in Figure 4.3 above, Shingirirayi Secondary School premises are dusty. The school shares one of its boundary walls with Dexford Liquor Bar. This study also assumes that, as part of the mining community, adolescent learners at Shingirirayi Secondary School are influenced by the social and economic challenges facing the mining community. The success of HIV/AIDS prevention strategies for the learners at Shingirirayi Secondary School may be compromised by its proximity to the Dexford Liquor Bar. Community elders expressed this fear stating that the learners are constantly exposed to risky HIV behaviours from activities around the community bar. The activities around Dexford bar, according to the teachers and community, elders disturb learning activities and may have influence on the HIV/AIDS prevention strategies for the learners in the mining community. The teachers and community elders say that their efforts to have Dexford Liquor Bar relocated away from the school have so far been unsuccessful. Community elders expressed that the learners are constantly exposed to observing HIV risky behaviours from activities around the community bar. These beahaviours are likely to have negative influence on them. They indicated that many researchers have conducted research on HIV/AIDS in the mining community including at the school. These researchers also advocated for ther relocation of the Bar away from the school in the interest of learners but failed.

On the other hand, it is believed that, 70% of the 15-19 years age group is in schools where education is partly informed by research on HIV/AIDS. As pointed by Chilisa,(2005) the education research focuses mostly on biomedical characteristics of the virus while ignoring the life experiences of the children.The biomedical research fails to communicate effectively and to have an impact to preserve life.

Shingirirayi High school provides education on HIV/AIDS through the Guidance and Counselling curriculum as provided for by the Ministry of Primary and Secondary Education. The science curriculum contents in which the HIV/AIDS and Life Skills Education program is embedded, are western-oriented and not culturally relevant to the indigenous learners. CIET reinforces the stakeholders' concerns on the lack of relevance of the broader education system in Zimbabwe (Nziramasanga, 1999). The inclusion of Indigenous Knowledge into science teaching is implied in the CIET recommendations (Nziramasanga, 1999) to teach cultural values guided by *unhu* philosophy (Mpofu et al., 2014). There are some policy statements made from various departments to include Indigenous Knowledge in the school curriculum (see Cultural Policy, 2004; Science, Technology and Innovation, 2012). Many of the CIET recommendations are still rhetorical and are yet to be implemented in Zimbabwean classrooms (Dziva et al., 2011).

The Zimbabwe Education Act of 1996 provides that the permanent secretary of the Ministry of Primary and Secondary Education determines the curricula of all schools. The Permanent Secretary operationalises the practice of classroom science at any level through the curriculum documents (Mpofu et al., 2014). The curriculum documents include legislations, policies, reports and syllabi. The science teachers interpret the syllabus and curriculum documents for practice. The teachers are directed to teach Indigenous Knowledge in the classroom through the provisions of the Constitution of Zimbabwe, 2013, Science and Technology Innovation Policy in Zimbabwe (2012) and the Cultural Policy (2004). The HIV/AIDS and Life Skills Education programme is in the Guidance and Counselling syllabus as embedded in the National Science Curriculum in Zimbabwe. Every teacher at this level in Zimbabwe is supposed to interpret and suit the syllabus to his or her classroom context.

The components of the Guiding and Counselling National Syllabus are presented as a single document which covers secondary school level Forms 1–6 of 2015–2022 (CDU, 2015). Components of the syllabus include: Preamble, Presentation of Syllabus, Aims, Syllabus Objectives, Time Allocation, Topics, Scope and Sequence, Competency Matrix and Assessment. The Preamble consists of introductory notes to the syllabus and has five subtitles that include the introduction that gives a brief insight to the learning area, the rationale that is the justification to why the learning area is included in the curriculum, the summary of content, assumptions and cross cutting themes. The cross cutting themes regarded as relevant for

Guiding and Counselling are: sexuality, HIV/AIDS education, child protection, human rights, child rights and responsibilities, gender, disaster risk management, financial literacy, collaboration and environmental issues. The aims of the Guidance and Counselling syllabus generally cover the whole general learning area from Forms 1 to 6. They differ in levels for the same learning area. The syllabus objectives are derived from the aims to guide the teacher in developing topic and lesson plan objectives. The choice of teaching methods and approaches should be guided by the curriculum framework's thrust of promoting critical thinking, problem solving and competence based skills (CDU, 2015). Time allocation for Guidance and Counselling syllabus is four periods of 40 minutes per week for Forms 1–6. The topics for Guidance and Counselling in the syllabus for Form 1–6 are:

- Unhu/Ubuntu/Vumunhu
- Concepts and principles for guidance and counselling
- Relationships
- Child protection
- Disaster risk management
- Health
- Enterprise and career guidance
- Consumer education
- Human growth and development

A spiral thematic approach is adopted. The same themes are used for each form but with different content levels and depth as children progress to higher levels (CDU, 2015). The competency matrix consists of the topic, sub-topic, key concepts of the topic, objectives, content, suggested notes and activities and suggested resources. The assessment in Guidance and Counselling is based on 30% continuous assessment and 70% summative assessment for Form 1–6 levels (CDU, 2015).

The components of the school syllabus are similar to the national syllabus. The task of developing the school syllabus is assigned to teachers in the department. The extent to which the Zimbabwean government mandate cascades across curriculum documents is discussed in the findings of my curriculum analysis. Mathematics and science teachers at classroom level implement the Guidance and Counselling HIV/AIDS curriculum but Zimbabwe has a serious shortage of Mathematics and Science teachers due to economic hardships. Most of the qualified teachers have relocated to neighbouring countries or to private schools in the urban areas.

4.7 Chapter Summary

In this chapter, I have located my study in the contexts of the Mazowe Gold Mine community, the socio-cultural life, nature of education and health systems. The context highlights that the Mazowe Gold Mine community appears to manage health and HIV/AIDS from three world views that are: Indigenous Knowledge, Biomedical Knowledge and Christianity because of colonial influence. Similarly, within the health system, HIV/AIDS mitigation is also modelled on biomedical western science strategies and has therefore faced challenges. Despite the legal recognition that some IK health strategies are valuable to many, there seems to be no stakeholder collective initiative to complement them with existing biomedical strategies. This chapter has reflected that the context within Mazowe Gold Mine community is a complex system. I discovered that physical, social, economic, historical and political contexts in Mazowe Gold Mine are intertwined in complex ways but all served to open ways for me to holistically understand the research site. The complex societal structure of the study context, which was mostly revealed during my field-work, persuaded me to adjust some of my proposed methodological approaches to suit the emerging context. For example, I had to conduct home visits, which were not part of my proposal plans. The next chapter discusses the methodology of this study.

CHAPTER 5: RESEARCH DESIGN AND METHODOLOGY

"Research is a ceremony… let us go forward together with open minds and good hearts as we further take part in the ceremony" Wilson (2008, p. 11).

5.1 Introduction

The aim of this chapter is to present the research methodology employed in the study. This interpretive research study sought to explore and document the IKHIV/AIDS management strategies in Mazowe Gold Mine community in Zimbabwe.It also sought to establish how these can be amalgamated for teaching and learning of HIV/AIDS in the Guidance and Counselling curriculum for secondary schools in Zimbabwe.

This chapter describes the research methodology of the study and focuses on the research philosophy, case study research design, qualitative research method and the self-developed Indigenous Amalgamative Methodology (IAM). The chapter further discusses the sampling strategy, data generation techniques, data analysis strategy, issues of trustworthiness, ethics and limitations of the study. The research "onion" model coined by Saunders, Lewis and Thornhill (2008; 2012) guides the presentation of the research methodology. The chapter starts by providing an overview of the research onion model by Saunders, Louis and Thornhill (2008; 2012) before its operationalization for the study.

5.2 Research "Onion" Model

The research "onion" model by Saunders et al. (2008; 2012) was adapted for this study. The research onion model exemplifies the stages involved in the development of research work and the design of a research methodology. According to Bryman (2012), the model is adaptable and user friendly for any research methodology and in various contexts.

Saunders et al. (2012) explains that the research onion goes from the outer layer to the inner layers. When viewed from the outside, each layer of the onion describes a more detailed stage of the research process (Saunders et al., 2008). Saunders et al. (2012) view the research process as removing the layers of an onion. For the inner layers to be seen, the outer layers must be unwrapped first. The benefits of the research onion are that it creates a series of stages under which the different methods of data collection can be understood, and illustrates the steps by which a methodological study can be described (Bryman, 2012).

The outer layer is the research philosophy which sets the stage for the research process and defines the research approach in the second step. In the third step, the research strategy is adopted, and the fourth layer identifies the time horizon. The fifth step represents the stage at which the data collection methodology is identified. The Saunders et al. (2012) research onion stages include:

- Research philosophy
- Research approach
- Research strategies
- Research choice
- Research time horizon
- Data collection and analysis

First and outer layer of the research onion – Research Philosophy

The outer layer of the research onion model is the research philosophy (Saunders et al., 2012). A research philosophy refers to the set of beliefs concerning the nature of the reality being investigated (Bryman, 2012). It is the underlying definition of the nature of knowledge. The type of knowledge being investigated in the research project (Saunders et al., 2012) defines the choice of research philosophy. There are three main philosophical assumptions that are important in the research process which are: ontology, epistemology and axiology.

Ontology – Ontology is the study of reality (Saunders et al., 2012; Bryman, 2012). It describes the nature of reality; what comes to mind when conducting the research and what relational impact it has on the society and surroundings. Ontology shows the difference between the actual reality and how reality is perceived. Furthermore, it demonstrates how it influences the behaviour of people. Mainly, three philosophical positions come under the ontological worldview. Those are objectivism, constructivism and pragmatism.Objectivism is about a social event and the different meanings that people attach to it. It differentiates the impact of social phenomena on different people. Constructivism proposes that people create social phenomena; it is the opposite of objectivism. Pragmatism uses theories to identify the solution to a given issue.

Epistemology – Epistemology is mostly used in scientific research. It helps to find the common acceptable knowledge about the field of research and addresses the facts accordingly after rigorous testing. Positivism, critical realism and interpretivism are the philosophical positions under the epistemology worldview (Bryman, 2012). Positivism uses research questions that can be tested by using the generally accepted knowledge of people. Realism allows one to use new methods of research. In order to know reality, research must first be carried out. It is similar to positivism but the difference is that realism does not support scientific methods while positivism does. Interpretivism assists in interpreting how people see their own and others' actions. It helps to understand people's culture and their participation in social life.

Axiology – Axiology helps one to learn how values and opinions impact the collection and analysis of research. Silverman (2013) notes that it explains the impact that people's opinions have on collecting and analysing research data.

The philosophies of Objectivism, Constructivism and Positivism

Objectivism makes one aware of a social phenomenon and its different meanings as well as how it influences the social actors. Constructivism believes that social actors are responsible for creating phenomena. It suggests that the inherent meaning of social phenomena is created by each observer or group (Bryman, 2012). In this philosophy, one can never presume that different participants interpret what is observed in the same way and the key approach is to examine differences and nuances in the respondents' understandings.

Positivism develops research questions and hypotheses that can be evaluated and analysed. Common knowledge of the world can be measured and explained using Positivism. The philosophy simply provides the justification for the research methodology. The methodology should be informed by the nature of the phenomena being observed.

Second layer - Research Approaches

The second layer of the research onion covers the deductive and inductive research approaches. The deductive approach develops the hypothesis or hypotheses of a pre-existing theory and then formulates the research approach to test it (Silverman, 2013). The deductive approach is particularly suited to the

positivist approach, which permits the formulation of hypotheses and the statistical testing of expected results to an accepted level of probability (Bryman, 2012). It is characterised as the development from general to particular – the general theory and knowledge base is first established and the specific knowledge gained from the research process is then tested against it (Kothari, 2004). However, a deductive approach may also be used with qualitative research techniques though, in such cases, the expectations formed by pre-existing research would not be formulated through hypothesis testing (Saunders et al., 2008). A deductive approach uses questionnaires to record the understanding of observation which allows a comparison of different understandings through empirical data. The data gathered either confirm or reject the question and the process can be repeated (Bryman, 2012).

The inductive approach allows the researcher to create a theory rather than adopt a pre-existing one as in the deductive approach. The inductive approach is characterised as a move from the specific to the general (Bryman & Bell, 2011). In this approach, there is no framework that initially informs the data collection and the research focus can thus be formed after the data have been collected. Although this may be seen as the point at which new theories are generated, it is also true that, as the data are analysed, they may be found to fit into an existing theory (Bryman & Bell, 2011). This method is commonly used for qualitative research.

Third layer – Research Strategies

The third layer of Saunders' research onion covers the research strategies**.** The research strategy describes how the researcher intends to carry out the work (Saunders et al., 2008). The strategy can include a number of different approaches, such as experimental research, action research, case study research, interviews, surveys or a systematic literature review.

Fourth layer - Research Choice

Research choice is the fourth layer of the research onion. This layer clarifies whether to combine both quantitative and qualitative methodologies or to use only one methodology. According to Saunders et al. (2008), there are three choices in the research onion that includes the Mono, Mixed and Multi method of research choice or approach. **Mono method:** when using this method, only one type of information is gathered, that is, using either quantitative or qualitative methodology without combining the two. **Mixed method:** this method permits a combination of quantitative and qualitative methodologies in a

research to create a single set of data. According to Flick (2011), the mixed method combines methods to create a single dataset while the multi method is used where the research is divided into segments; with each producing a specific data set. **Multimethod:** this method is similar to the mixed method because it combines quantitative and qualitative methodology in a study. While mixed method combines methodologies to establish a set of data, multi-method does not combine them.

Fifth layer – Time Horizon

The fifth layer of the research onion is the time horizon that describes the time required for the completion of the research work. Two types of time horizons are specified within the research onion: the cross sectional and the longitudinal (Bryman, 2012). The cross sectional time horizon is the one already established, whereby the data must be collected at a certain time. This is used when the investigation is concerned with the study of a particular phenomenon at a specific time. A longitudinal time horizon for data collection refers to the collection of data repeatedly over an extended period, and is used where an important factor for the research is examining change over time (Bryman, 2012).

Sixth layer – Analysis and Data collection

This is the sixth and last layer of the research onion. It is the innermost layer of Saunders et al.'s (2008) research onion. The process used at this stage of the research contributes to the study's overall reliability and validity (Saunders et al., 2008). Data collection and analysis is dependent on the methodological approach used (Bryman, 2012). This layer explains how the data used in the research are collected and analysed. It also explains the source of data, the research design, the sample, the sample size, sample ethics, sample limitations, the research reliability and validity. The data collected could be primary or secondary data. Primary data are obtained directly from the source. Secondary data are indirect data.

My study adapted and used ideas from the Saunders' Research Onion model described above. The reason why this model has been adapted is that it is comprehensive and captures all components of research in layers, from research philosophy to data analysis strategies. The study adopted the interpretivist paradigm, an inductive approach as well as the qualitative case study research design. The time horizon was cross sectional. The case study data generation techniques, which included *padare*(cultural meetings), observations, document analysis, unstructured interviews, focus group discussions and

investigator diaries, were used to gather data. The research design and the choices are highlighted in the Research "Onion" diagram in Figure 5.1 below.

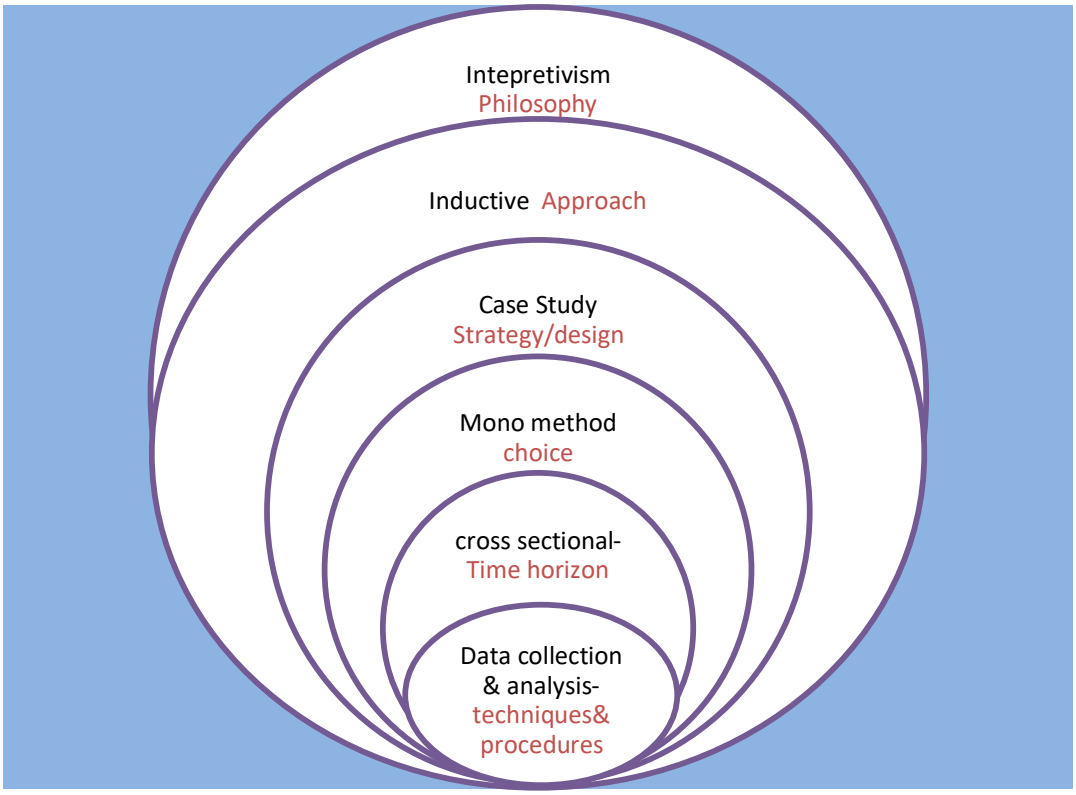


Figure 5.1: Adapted Research Onion Model
(Source: Saunders et al., 2008: 138)

The next section discusses the research paradigm of this study, which is interpretivism and its philosophical assumptions. There are five philosophical assumptions which are: the ontological, axiological, epistemological, rhetorical and methodological assumptions. The five assumptions underpin the research perspective and the nature of investigation in terms of its methods and questions, possibilities and limitations of the study as discussed by Saunders, Lewis and Thornhill (2012).

5.2.1 Interpretivism Philosophy

This research study adopted the philosophy of interpretivism as indicated in the first layer of the research onion. Lindsay (2010) notes that the role of interpretivism is to understand, explain and demystify reality

through the eyes of different participants. According to Denscombe (2014), interpretivists argue that it is only through subjective interpretation of and intentions that reality is fully understood and that it is necessary for the researcher to understand the differences between humans in their roles as social actors (Guba & Lincoln, 1994; Saunders et al., 2012). In interpretivism, the research process is inductive in naturewith a mutual, simultaneous shaping of factors as well as emerging design with categories identified during the research process and context bound patterns and theories developed for understanding (Saunders, Lewis & Thornhill, 2009; 2012; Bassit, 2010). Social reality is seen as something that is constantly being produced and reproduced, something that exists only as long as people persist in creating it through their everyday actions, words and beliefs, and that varies between cultures and groups. The paradigm rejects the premises of positivism.Interpretivists tend to focus their attention on the way people make sense of the world and how they create their social world through their actions and interpretations of the world (Denscombe, 2014). The philosophy of interpretivism enabled me to explore the IKHIV/AIDS strategies in the mining community and how they can be amalgamated with the BKHIV/AIDS strategies in the HIV/AIDS Guidance and Counselling curriculum for secondary schools. Focus was on five key philosophical assumptions of interpretivism, which include the ontological, axiological, epistemological, rhetorical and methodological assumptions. According to Saunders et al. (2012), the philosophical assumptions underpin the research perspective and the nature of investigation in terms of their methods, questions, possibilities and limitations of the study.

5.2.2 Ontological assumptions of interpretivism

In terms of the ontological assumption of interpretivism, the key philosophical question is: What is the nature of reality? (Saunders et al., 2012). The nature of reality for this study was socially constructed by the research participants; it was subjective, multiple and changed over time. This helped me to get different perspectives from the participants. The paradigm resonated with the case study design chosen for the study. This is the opposite of the research philosophy of positivism where reality is objective and singular as well as being part of the researcher (Creswell, 1994; 2012). The interpretivist paradigm was developed as a critique of positivism in social sciences.

5.2.3 Epistemological Assumption

In terms of epistemological assumption,Saunders et al. (2009; 2012) contend thatinterpretivism regards what constitutes acceptable knowledge is based on subjective meanings and social phenomena while

with positivism, only observable phenomena can provide credible data and facts. Lindsay (2010) states that interpretivism means that acceptable knowledge is gained through a strategy that respects the differences between people and objects of natural science, and requires the social scientist to grasp the subjective meaning of social action. Knowledge is also gained through personal experience. The role of the interpretivist is to understand, explain and demystify social reality through the eyes of different participants (Lindsay, 2010). Acceptable knowledge on IKHIV/AIDS management strategies in this study is interpreted from the norms, values, practices, behaviours, experiences, attitudes and beliefs of the research participants.

5.2.4 Axiological assumption

In terms of the axiological assumption of interpretivism, research is value bound. The researcher, in this study of IKHIV/AIDS management strategies, is part of what is being researched and cannot be separated so will be subjective (Saunders et al., 2009; 2012). On the contrary, the axiological assumption of positivism assumes that research is taken in a value free way, the researcher is independent of the data and maintains an objective stance (Saunders et al., 2009; 2012). Cohen and Crabtree (2006) contend that the interpretivist paradigm posits that the researcher's values are inherent in all phases of the research process. The investigator and the object of investigation are linked such that who we are and how we understand the world is a central part of how we understand others, the world and ourselves. The key philosophical question is "What is the role of values?" In interpretivism, the researcher is influenced by his/her own values and biases (Creswell, 1994; 2014). Therefore, the research is value laden and biased. Axiology, in this study, made me reflect on my values, which I noted in my reflective journal during the data gathering process. The axiological assumption of interpretivism also allowed me to understand the values of my research participants in relation to HIV/AIDS management strategies.

5.2.5 Rhetorical assumptions

Regarding the rhetorical assumptions of the interpretivist paradigm, the key philosophical question in this study is "Whatis the appropriate language of the research?**"** Creswell (1994; 2014) states that, in terms of the research philosophy or paradigm of interpretivism, the language can be informal with evolving decisions and that the use of personal voice and qualitative words is acceptable. This assumption allowed me to use personal voice, informal, acceptable and understandable language. This

is the opposite of the paradigm of positivism in which the language of research has to be formal and based on a set of definitions and the use of the impersonal voice (Saunders et al., 2009; 2012).

5.2.6 Methodological Assumption

In relation to methodological assumption, this exploratory study employed the qualitative approach and in-depth investigation of small samples (Saunders et al., 2009; 2012; Hussey & Hussey, 1997). In the methodological assumptions of interpretivist philosophy, as discussed by Creswell (1994; 2014) and Hussey and Hussey (1997), the assumption tries to answer the key question of "What is the process of research?" According to Cohen and Crabtree (2006), interpretive approaches rely heavily on interviewing, observation and analysis of existing text to generate data. These techniques ensure an adequate dialogue between the researcher and those with whom he/she interacts, in order to construct a meaningful reality collaboratively (Cohen & Crabtree, 2006).

5.3 Research approach – Qualitative

"*Rumerimweharikombichuru*" is translated as "one man cannot address the problem alone" which emphasises the need for a complementary approach. The second layer of the research onion deals with the overall approach of the study. In terms of interpretivism, the research approach is qualitative and inductive in naturewith mutual, simultaneous shaping of factors as well as emerging design with categories identified during the research process and context bound patterns and theories developed for understanding (Saunders et al., 2009; 2012; Bassit, 2010). Scott and Morrison (2006) note that qualitative research deploys interpretive methods and techniques, which focus upon seeing the world through the eyes of those being studied. It also centres upon the subjective realities of research participants.

5.3.1 Indigenous Amalgamative Methodology (IAM)

Investigating the phenomena under study called for a complementary approach. The African Shona proverb, *"rumerimweharikombichuru"*, translated as "one man cannot address the problem alone", highlights the importance of harnessing and amalgamating alternative approaches in investigating HIV/AIDS management strategies. Brosius and Hitcher (2010) also suggest that new politics of knowledge and new research methods are needed to support multiple perspectives. Lowan (2012) believes that it is insensitive to investigate some aspects of indigenous cultures using western approaches

as they can lead to misrepresentations of Indigenous Knowledge. Similarly, misrepresentations can also emanate from using Indigenous Knowledge approaches for biomedical research study. This gave me an insight to identify a research methodology that is consistent with both the biomedical and indigenous research paradigm as recommended by Khupe (2014), Mclovir (2010) and Mpofu (2016). My literature review on IKHIV/AIDS and BKHIV/AIDS research methodologies did not reveal any possible combination of the two that would be appropriate in Zimbabwe. Therefore, I developed the Indigenous Amalgamative Methodology (IAM) to provide a broader perspective to an in-depth exploration of the amalgamation of IKHIV/AIDS and BKHIV/AIDS strategies in the Guidance and Counselling curriculum. To develop this methodology, I drew from Barnhardt and Kawagley's (2005) Synergetic approach, Khupe's (2014) Integrative Research Framework and Mpofu's (2016) Indigenous African Interpretive Methodology. I also drew relevant aspects of indigenous research from the participating cultures, as there were none documented for the mining community. I derived relevant aspects of biomedical western research from literature. Figure 5.2 visualises the Indigenous Amalgamative Methodology (IAM) as a two-part approach. The approach involved drawing relevant research aspects of the study from both the indigenous and biomedical research frames to develop the Indigenous Amalgamative Methodology (IAM) as indicated in Figure 5.2 below.

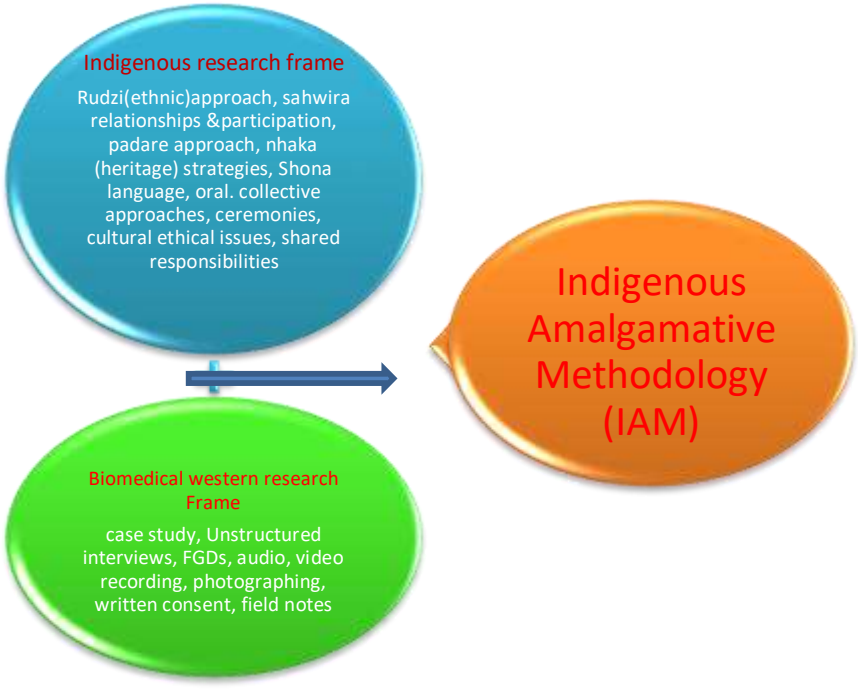


Figure 5.2: Indigenous Amalgamative Methodology (IAM)

The Indigenous Amalgamative Methodology (IAM) provided me with two frames for the investigation of the HIV/AIDS strategies made up of two different constructs situated in biomedical western and indigenous worldviews. Wilson (2008) posits that a consideration of research methodologies of indigenous cosmology, worldviews, epistemology and ethical beliefs should come from the distinct perspectives of the indigeneity. Kovach (2009; 2010) observes that indigenous methodologies shift the power of research in controlling the research knowledge, processes and outcomes by allowing expressions of indigenous voices and representational involvement in interpreting the research findings. Louis (2007) notes that indigenous research does not reject all western theory, research or knowledge, rather it centres on indigenous ideologies, ontologies, epistemologies, perspectives and purposes. The two frames of IAM provided a holistic complementary research approach from which I drew tools for data gathering.

The IAM in this study combines the biomedical western qualitative and indigenous research components to cater for both worldviews. Both the indigenous and biomedical western research components are context specific, qualitative and interpretive but differ in their worldviews (Mpofu, Mushayikwa&Otulaja, 2014). According to Barnhardt and Kawagley (2005), indigenous people study nature through interaction with its elements thereby generating qualitative data while biomedical western researchers conduct qualitative research in the communities. The IAM is located in the interpretivist paradigm because it presumes that interpretation is central to discovering meaning situated in qualitative data. Denzin and Lincoln (1994; 2012) posit that interpretation is an attempt to make sense of phenomena in terms of meanings people bring to them in their natural setting. The IAM allowed me to gather data from participants in their natural setting. The difference between biomedical western and indigenous research based interpretations is in their worldview lenses. The two components complement each other in this amalgamation research. The IAM research approach caters for the two worldviews and different inclinations indigenous people are likely to hold about HIV/AIDS strategies because of exposure to both the biomedical and indigenous worlds.

The methodology proposes that indigenous based approaches do not negate the biomedical western approaches, for example, the *sahwira* based participatory approach. Instead, the African Shona wisdom in "*rumerimweharikombichuru*", translated as "one man cannot address the problem alone", captures the essence of the need to value and harness alternative approaches to investigate issues that involve

HIV/AIDS management strategies. It is from the IAM frame that I withdrew tools for entry into the field for data gathering and analysis. I discuss the IAM framework tools in the next sections.

5.4 Research design

The third layer of the research "onion" deals with the chosen research design. For this study, a case study was used to generate data from multiple sources , from the Shona, Tonga and Chewa cultures.According to Yin (2010), a case study is an empirical inquiry that investigates a phenomenon in depth within its real life context and accommodates the use of numerous strategies that promote data credibility. According to Baxter and Jack (2008),A case study has strength of generating in depth data from a variety of sources. Multiple sources in a case study offer a means of investigating complex social units consisting of multiple variables of potential importance in understanding IKHIV/AIDS management strategies. As this study contained more than one cultural source, multiple sources allowed me to analyse data within each setting and across settings (see Figure 5.3). Yin (2010) argues that negotiating access to case study settings may be demanding but the case study design advantages outweigh the disadvantages.

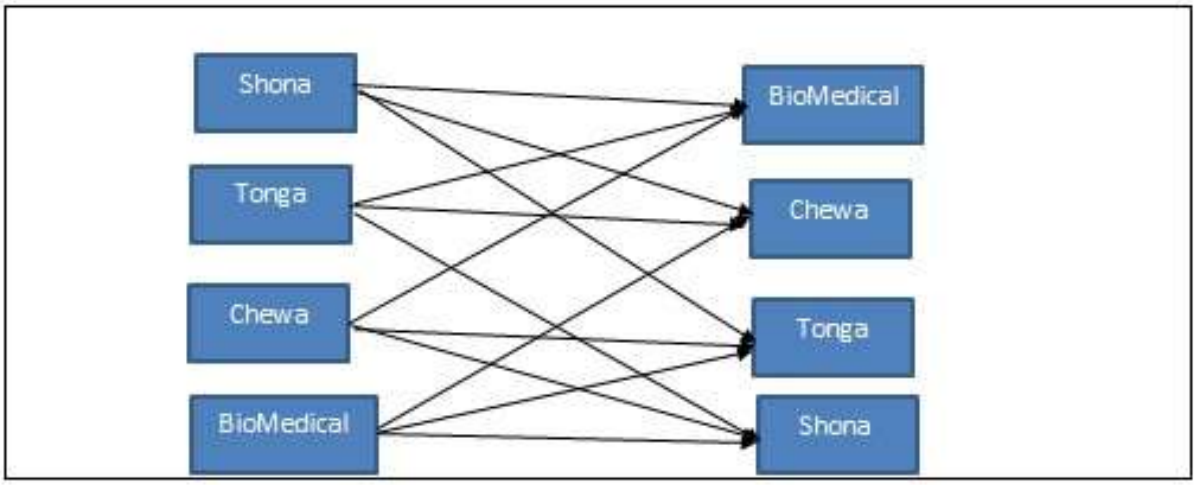


Figure 5.3: Cross Analysis Model

In this study, a case study was used to generate data from multiple sources because they provide flexible and focused in-depth, holistic data (Saunders et al., 2009; 2012). Case study research enables the researcher to answer the "how" and "why" questions while taking into consideration how a phenomenon is qualitatively influenced by the context in which it is situated. The other advantage is that case study techniques have been adopted in applied fields of study where research problems or questions required an exploratory rather than hypothesis testing in learning about different cultures (Merriam & Simpson,

1984). It was also justifiable to use case study design in this study because it helped me to interpret data within the socio-cultural framework, which this study adopted (Merriam & Simpson, 1984; 1995). The next section deals with the sampling procedures, data collection and data analysis.

5.5 Sampling procedures, data collection and analysis

The sixth layer of the research design deals with sampling procedures, data collection and data analysis.

5.5.1 Sampling procedures

A purposive selection of the study location and sample was employed. According to Patton (2002), purposive selection of units entails the choice of units of the study based on their potential to provide information relevant to the research questions.

This study research took place in Mazowe Gold Mine community in Mashonaland Central Province in Zimbabwe. Mazowe Gold Mine community was selected for the study for a number of reasons. The mining community is home to many cultures and is considered as a rich source of Indigenous Knowledge strategies for the management of HIV/AIDS. The main cultural groupings revolve around the Chewa, the Shona and the Tonga from which the research sample was purposively selected. Mazowe Gold Mine is currently one of the mines that are operating and it was easy to get study participants. It was also convenient and cost effective for me to get to the mine because it is closer to Harare where I live.

In order to observe cultural sensitivity protocols in selecting the sample, cultural leaders within the community provided information on the custodians of their culturally specific Indigenous Knowledge (IK) and also advised on the protocols to be observed. These contacts helped to identify 24 key custodians of IK (who were elderly people aged 50 years or more), eight from each of the three dominant cultures in Mazowe Gold Mining community (Chewa, Shona and Tonga cultures). Some cultural elders also proposed that their *sahwiras* with more indigenous information be visited at their homes. Two home visits were conducted to get more detailed information from other elderly Indigenous Knowledge holders who were reserved, older, conservative and not comfortable to discuss this subject freely in a group. The IK custodians were selected to participate in the study based on their knowledge about their cultural group norms, beliefs and practices on diseases and HIV/AIDS management strategies. Hence, selection of the sample was based on ethnic groups, what I termed *rudzi*(ethnic) approach. *Rudzi*,in the study, meant anethnic group or culture, which is dictated by its socialisation process, language, norms, values,

religion, practices and folklores in relation to sexuality and disease management. Hence, each culture or ethnic group had its own *padare*meeting. One had to belong and share the same values with that particular culture to participate in their *padare* meeting.

5.5.2 Sahwira participation

Sahwira in the Africa Shona tradition is a ritual friendship whose bonds are extremely close and usually brings two families together. These relations are not those of *ukama*(blood ties related- kinship by descent) (Gelfand, 1999). A ritual friendship is often established when trying to engage another person in a pleasant conversation at a *padare* where men meet to discuss and eat their food. *Sahwira* is usually shown when trying to help the other by lending a span of oxen or spending a day ploughing at a friend's field for no other reason than wanting to help (Gelfand, 1999). In this African tradition, the relationship between the families may become very intimate and friendly. Even after the death of the two men (*sahwira*), the ties continue between their kin. The understanding may be as strong as *ukama*(Gelfand, 1999). *Chisahwira*is the traditional communication style in the *sahwira* relationship. It is used to influence behaviour in a nonconfrontational, humorous but polite and respectful way as expected of the language culture etiquette (Gombe, 1998). A *sahwira* is also assigned to advise the friend's children on expected social behaviour. I established that the Mazowe Gold Mine community value *usahwira*to maintain relationships. A web of relations based on *usahwira* defines the community. I also discovered that even the *unhu* philosophy that focuses on loyalties, relationships, oneness, togetherness, shared roles and responsibilities among the community manifested through the *sahwira*relationships based on cultural linkages. One Chewa elder mentioned that the *sahwira* relationship was strengthened by the disintegration of extended families due to migration for labour in the gold mine. The elder Chewa participant mentioned that migration for labour strengthened the *sahwira* relationships between people from the same cultures who are not related through blood ties.

Some of the study participants who were custodians of Indigenous Knowledge were identified for the study by their *sahwira* (friends). Out of the eight participants from the Chewa culture, five of them were identified through the *sahwira* sampling process. Out of the eight Shona participants, three of them were selected through the *sahwira*approach. Out of the eight Tonga participants seven of them were identified through the *sahwira* sampling approach. Fifteen out of the 24 *padare* participants were referred by *sahwiras*. *Sahwiras*also referred me to six participants whom I interacted with during two home visits.

Two elderly couples and their *sahwira* from the Shona culture participated in one home visit. The other visit was conducted in one elderly Chewa culture's home who also invited her *sahwira* and husband to participate in the study conversation. Six people in total participated in the home visits. I refer to this in the study as a*sahwira based participatory approach* in my self-developed Indigenous Amalgamative Methodology (IAM). The *sahwira*selection extended my purposive sampling principles, as I had to accommodate it in the study. The home visit meetings were not in the proposal but came up during the fieldwork as part of *sahwira* strategy of reaching participants. During data gathering, participants referred me to their *sahwiras* for more information on their cultural indigenous strategies.

Representative custodians of IK from each of the participating cultural groups, aged 50 years or more, made up of three from the Shona culture, three from Chewa culture and three from the Tonga culture who had participated in the *padare* meetings, were further selected to participate in the focus group discussion. Two Guidance and Counselling science teachers of Shingirirayi Secondary School aged 40 years or more, as providers of biomedical HIV/AIDS strategies in the classroom at Shingirirayi Secondary School, were invited to voluntarily join the cultural elders in the focus group discussion. The purpose was to discuss the possibilities of amalgamating IKHIV/AIDS and BKHIV/AIDS management strategies in the HIV/AIDS and Life Skills Education Guidance and Counselling curriculum.

The Mazowe Mine Clinic Sister-in-Charge, aged 45 years, participated in an unstructured interview as head of the mining clinic. Only one health worker participated in the interview because the clinic was busy and short staffed. Mazowe clinic is the major provider of HIV/AIDS biomedical management strategies in Mazowe Gold mining community. The Shingirirayi Secondary School Headmaster, aged 50 years or more, in his capacity as school head and two Guidance and Counselling science teachers aged 40 years or more, with over five years' experience HIV/AIDS and Life Skills Education Guidance and Counselling teaching, participated in the individual interviews as providers of biomedical HIV/AIDS management strategies in the classroom. The social welfare officer for Mazowe Gold Mine was selected to participate in the study as a link between the community and the mine in terms of service provision in order to identify HIV/AIDS management strategies. The National AIDS Council representative who is the District AIDS Action Committee (DAAC) member for Mazowe District participated in the interviews. The DREAMS project ward facilitator also participated in the interview. DREAMS, which

is an acronym for Determined, Resilient, Empowered, AIDS free, Mentored and Safe, is a partnership initiative to reduce new HIV infections among adolescent girls and young women.

Documents were also selected for analysis. I selected the HIV/AIDS and Life Skills Education Secondary School Syllabus Forms 1- 6 Guidance and Counselling curriculum, the Cultural Policy of Zimbabwe, CIET (1999), Science and Technology Policy of Zimbabwe, O-Level Science syllabus and the MOESAC Life Skills Sexuality HIV/AIDS Strategic Framework. The next section discusses the data generation instruments, methods and procedures.

5.6 Data generation instruments, methods and procedures

The data generation for this study employed *padare* (cultural meetings), focus group discussions, document analysis, observations and unstructured interviews. Table 5.1 presents a summary of the methodological approaches used for data gathering in the study.

Table 5.1: Summary of the methodological approach used for data gathering in the study

RQ	Source of data	Data gathering techniques	Tool	Purpose	Record	Data Type	Analysis
1	26 community elders 50yrs+	3 *padare* (Cultural meetings) 1 Chewa culture, 1 Shona culture, 1 Tonga culture	Conversation guide	IKHIV/AIDS management strategies	Video recording	Audio visual data	Thematic analysis
RQ1	6 Community *sahwira*elders 50years +	2 home visits	Conversation guide	IKHIV/AIDS management strategies	Video recording	Audio visual data	Thematic analysis
2	1Mazowe Mine Clinic Sr In Charge 45yrs 1Social Welfare Officer 50yrs+ 1Shingirirayi Sec Headmaster 50yrs+ 1HIV/AIDS G&C Science teachers 40 yrs.+	6 unstructured interviews	Interview guide	BKHIV/AIDS management strategies	Audio recording	Audio text Data	Thematic analysis

	1DAAC member; NAC Rep 1 DREAMS project ward facilitator						
2	HIV/AIDS G&C Sec Education Curriculum Docs	Document analysis	Document analysis guide	HIV/AIDS management strategies	Field notes	Text data	thematic analysis
RQ3	9 community elders 50yrs+ 2 HIV/AIDS G&C Science teachers	1 Focus Group discussion	FGD guide	BKHIV/AIDS and IKHIV/AIDS management strategies	Video and audio recording	Visual Audio data	Thematic analysis
RQ3	Data generated from Q1 and Q2	Document analysis	Document analysis guide	Amalgamation of IK and BK strategies	Field notes	Text data	Thematic analysis

5.6.1 *Padare* (cultural meetings)

Data on Indigenous Knowledge management strategies of HIV/AIDS by Mazowe Gold mining community elders from dominant cultures were generated through video and audio recorded *padare* (cultural meetings) using a self-developed conversation guide. *Padare*is a Zimbabwean tradition of people coming together to receive and share wisdom. It is a place of counselling and formation where the older generation pass on wisdom to the young (Gelfand, 1999). These meetings are about consensus through open dialogue and mutual respect. The approach is in line with African indigenous approaches of sharing wisdom where young people are not allowed to interview elders. Indigenous methodologies value respect, reciprocity and responsibility (Macdonald, 2017). I used*padare*as one of indigenous approaches of my self-developed Indigenous Amalgamative Methodology (IAM). As expected in these meetings, I observed and listened to conversation without interrupting the elders. I used conversation spaces for probes, elaborations and clarifications from Indigenous Knowledge strategies' custodians. African cultures have a historical and oral tradition (Dei, 2011) and this makes *padare* a more culturally appropriate strategy for data generation from cultural elders in view of the cultural context of the study. Kovach (2010) posits that indigenous methodologies grounded in indigenous paradigms, are often based on story telling methods and are rational. He adds that including story telling methods and paradigms to research dissemination through dialogue resonates with the indigenous worldviews, which are experiential and where sharing a story is seen as a means to assist others.

All *padare* meetings were audio and video recorded with the participants' consent. Twenty-four elderly key custodians of IK, eight from each of the three dominant cultures in Mazowe Gold Mining community (Chewa, Shona, Tonga cultures) participated in *padare* meetings. One *padare*meeting was held with each cultural group. I conducted two home visits where meetings were held to gather data on IK strategies for HIV/AIDS management (what the participants referred to as "*Nhaka*(our heritage) strategies". Audio-visual data were gathered during *padare* and home visit meetings in order to provide answers to Sub-research Question 1 of the study on how the mining community manages HIV/AIDS indigenously. The pictures in Figure 5.4 below represent one *padare*meeting.



Figure 5.4: A *padare*meeting

5.6.2 Focus group discussions

Punch (2010) defines a focus group (interview) as a powerful method of qualitative data collection where a small group of people (six to eight participants) is interviewed as a group. It is a group of individuals with certain characteristic who focus on a discussion on a given topic. It is one of the non-traditional, biomedical methods in the self-developed IAM used for gathering data. Although Creswell (2012) argues that group dynamics may suppress the communication of important information, he recommends having between six and 12 participants but states that the number of individuals in the focus group is dependent on the topic under study.

A video and audio-recorded Focus Group Discussion (FGD) was conducted. The group consisted of representative custodians of Indigenous Knowledge from each of the participating cultural groups. There were three each from the Shona culture, the Chewa culture and the Tonga culture as well as two HIV/AIDS and Life Skills Education Guidance and Counselling science teachers from Shingirirayi Secondary School. The teachers participated in the FGD as providers of biomedical HIV/AIDS strategies in the classroom. A self-developed moderator's guide was used to gather data on IKHIV/AIDS and BKHIV/AIDS management strategies and on how they could be amalgamated in the HIV/AIDS and Life Skills Education Guidance and Counselling curriculum.

The focus group discussion allowed the researcher to elicit combined local perspectives on BKHIV/AIDS and IKHIV/AIDS management strategies. Focus group discussions are convenient, cost effective and allow the participants to relax, open up and consider alternatives. They provided the researcher with naturalistic data that led to important insights on HIV/AIDS management strategies for the Life Skills Guidance and Counselling school curriculum. During focus group discussions, audio-visual data were gathered on BKHIV/AIDS and IKHIV/AIDS strategies and how they can be amalgamated in response to Sub-research Question 3 of the study.

5.6.3 Observations

Denscombe (1998; 2014) defines observations as a direct way of collecting data, which draws on first hand, direct eye to witness events. Observations enable the researcher to see things that participants themselves may not be aware of or are unwilling to discuss. Observation, as a data generation instrument, exists on both frames of my self-developed IAM methodology. In this study, observations were used to generate data using an observation guide particularly during *padare*meetings with community elders. I captured, video recorded and diarised artefacts and eyecatching events during the study. Observations enabled me to witness and have some direct evidence of what was happening without relying on what participants said they do or what they thought (Denscombe, 1998; 2014). Denscombe (2014) argues that observations are sensitive to the possibility that the researcher's perceptions of situations might be influenced by personal factors which influence the data. Observations are also limited by situations where it is taboo to observe cultural events like circumcision or virginity checking. Observations were relevant for this study because *padare*, as an indigenous way of collecting data, required the use of observation as a study tool and as a way of respect. Observations offered me a distinct way of collecting data through observing participants in their natural contexts.

5.6.4 Unstructured interviews

A self-developed interview guide was used to focus the six unstructured interview sessions. Audiorecorded, individual unstructured interviews were conducted with the Mazowe Mine Clinic Sisterin-Charge, the Social Welfare Officer, Shingirirayi Secondary School Headmaster and the HIV/AIDS Guidance and Counselling Science teacher. Interviews were the non- traditional, biomedical methods in the self-developed IAM used for gathering data for the study. Indigenous researchers could argue against the use of interviews in investigating cultural issues. In this study, I considered interviews appropriate for the Ministry of Education where schooling and activities are time tabled and western oriented. The purpose of the interviews was to generate data on the biomedical HIV/AIDS teaching strategies. I also used interviews to obtain HIV/AIDS management strategies from the clinic whose context was western oriented. Saunders et al. (2009; 2012) contend that interviews are helpful in finding out what is happening and to seek new insights. Unstructured interviews

allowed the researcher to probe for the full meaning of responses and to get in-depth responses for obtaining rich data. Interviews have a disadvantage that transcription and translation of interview tapes is very time consuming. Audio text data were gathered during the interviews in order to answer Sub-research Question 2 of the study, on how the mining community is managing HIV/AIDS biomedically.

5.6.5 Document analysis

Magalakwe (2006) refers to document analysis as the analysis of documents that contain information about the study. Bowen (2009) posits that document analysis is a systematic procedure of reviewing or evaluating documents, both printed and electronic (internet transmitted or computer based) material. Documents serve a variety of purposes as part of research study. They provide background and context, additional questions to be asked, supplementary data, a means of tracking change, development and verification of findings from other data sources (Bowen, 2009). Documents may provide the most effective means of gathering data when events can no longer be observed or when research participants have forgotten the details (Bowen, 2009).

Document analysis is often used in combination with other research methods as a means of triangulation. The advantages of document analysis is that it is less time consuming, cost effective, lacks obstructiveness and reactivity and is not affected by the research process. Documents are normally available, stable and cover a broad span of time (Yin, 2010; Merriam, 2009; Bowen, 2009). Documents also have the advantage that they may fill the gaps left by other data collection strategies. On the contrary, Denscombe (2014) argues that documents might contain secondary data that have been produced for specific aims of investigation and may not be relevant to a particular study. Yin (2010) states that documents can contain insufficient detail, are sometimes not retrievable and there can be a biased selection of documents. However, the advantages of document analysis outweigh the limitations.

In this study, I conducted a document analysis of curriculum documents about HIV/AIDS and Life Skills Education Secondary School Guidance and Counselling curriculum. The

purpose was to establish data on biomedical and indigenous HIV/AIDS management and teaching strategies. The documents for analysis included Life Skills Secondary School Syllabus Form 1- 6, Guidance and Counselling curriculum, the Cultural policy of Zimbabwe, CIET (1999), Science and Technology Policy of Zimbabwe, O-Level Science syllabus and MOESAC Life Skills Sexuality HIV/AIDS Strategic Framework. Text data were generated from the document analysis on IK and BKHIV/AIDS management strategies in order to answer Sub-research Question 2 of the study on how HIV/AIDS is managed biomedically. The data also provided information to answer Subresearch Question 3 on how BKHIV/AIDS and IKHIV/AIDS strategies can be amalgamated in the HIV/AIDS and Life Skills Education, Guidance and Counselling Secondary schools curriculum.

5.7 Data Analysis, interpretation and presentation of findings

Data analysis is a process of reducing data, identifying categories and connections, developing themes to offer a well-reasoned and reflective conclusion (Yin, 2010; Merriam, 2009). The definition resonates with the interpretivist epistemology in the study. Audio and video transcribed and translated texts, documents, artefacts, field notes and text data from analysed documents constituted qualitative data. This study used the model forwarded by Creswell (2007; 2014) and the Adapted Culturally Aligned Classroom Science (ACACS) framework for data analysis and interpretation.

Data analysis took place simultaneously with data generation and it was coded as it was collected. The predetermined codes were based on the ACACS conceptual framework of IKHIV/AIDS and Life Skills Education management strategies, BKHIV/AIDS strategies, amalgamation of IKHIV/AIDS strategies and BKHIV/AIDS and Life Skills Education management and teaching strategies. I used three lenses of the of the ACACS Framework analytical tools to sort the data and search for meanings. These are the Enterprise, Process, Content and Product lens, the Process, Content and Pedagogy lens, and the Divergent, Convergent, Parallel and Substitutive integration lens. The Enterprise, Process, Paradigm and Product lens described the IKHIV/AIDS. The IKHIV/AIDS in Mazowe Gold Mine community emerged in the four dimensions of practitioners (Enterprise), their worldviews (Paradigm), their methods of knowledge production (Processes), and knowledge outcome

(Products). The Process, Content and Pedagogy lens described the BKHIV/AIDS classroom science. The Divergent, Convergent, Parallel and Substitutive lens described the amalgamation of IKHIV/AIDS and BKHIV/AIDS in the HIV/AIDS Guidance and Counselling curriculum. I established codes that r suggested each theoretical theme. The codes were replaced with new codes as they emerged from data being interpreted in a repetitive process. Theoretical themes and those emerging from the codes and focusing on the study research questions guided the presentation of findings. Tables, charts and figures complement text descriptions and field notes to support arguments from the study.

The research methodology for the study sought to answer the following sub-research questions:

1. How do indigenous groups manage HIV/AIDS?
2. How is HIV/AIDS managed biomedically?
3. How can the Indigenous Knowledge strategies and biomedical strategies for HIV/AIDS management be amalgamated for teaching and learning of HIV/AIDS in the Life Skills Guidance and Counselling secondary school curriculum?

5.8 Trustworthiness of findings

In this study, I used the concept of "trustworthiness" to address issues of validity and reliability. Literature has revealed many frameworks to evaluate trustworthiness of qualitative data. This study adopted the framework of Lincoln and Guba (1985) who assert that trustworthiness entails transferability, confirmability, dependability and credibility of a qualitative study. Transferability, according to Lincoln and Guba (1985), is showing that the findings have applicability in other contexts. I ensured transferability by providing thick descriptions of the phenomena without generalising to other contexts, as supported by Bowen (2009). Conformability is a degree of neutrality or the extent to which the respondents, without the researcher's bias, shape the findings of a study. I ensured conformability by an audit trail in which I described in detail how data were gathered, how categories were derived and how I made decisions throughout the inquiry (Merriam, 2009).

Dependability is showing that the findings are consistent and could be repeated (Lincoln & Guba, 1994). I ensured dependability through peer reviewing and by reporting in detail the processes within the research for easy replication by another researcher. Credibility refers to the truth of findings (Lincoln & Guba, 1994). This was ensured through building up relationships with the participants and developing familiarity, triangulation, peer scrutiny and member checking. To ensure credibility of the research findings from this study, the researcher took the data collected from the study participants and the tentative interpretations of these data back to the people from whom they were derived and asked if the interpretations were plausible and true. Colleagues were also asked to examine and comment on the plausibility of emerging findings. *Padare*, focus group discussions, interviews, observations and document reviews were used for triangulation of data. Creswell (2007; 2014) asserts that techniques, such as engagement in the field and triangulation, are critical for ensuring trustworthiness of data.

5.9 Ethical Issues

Research ethics refer to the appropriateness of the researcher's behaviour in relation to the rights of those who become the participants of the study and those affected by it (Saunders et al., 2009; 2012). In this study, I observed ethical concerns at all stages of a research project, when seeking access, during data collection, data analysis and reporting. I maintained confidentiality and anonymity of participants throughout the study. I observed the overarching principles of academic integrity and honesty and respect for the participants and their communities. Respect, responsibility, empathy, friendship, collaboration, loyalty, punctuality and approachability are indigenous ethics, which I maintained throughout the process (Peter, 2013).

Firstly, I sought and was granted ethical clearance by the University of Witwatersrand School of Education Research Ethics Committee, Protocol Number 2016ECE018D. Following the acceptance of the research proposal and the ethical clearance, I obtained all the access letters required for data collection. Obtaining some of the access letters was difficult. Some of my applications were misplaced in some government offices and I had to resubmit my requests. Other offices did not answer my requests for a long time. On follow up, there would be

positive but empty promises. The process encountered many rigid official bureaucratic hierarchies and took longer than I expected. At one time, I would be told that the Officer responsible for approving research access requests was on leave. Finally, I managed to obtain all the approval and access letters that I required from the following:

i. Permanent Secretary, Ministry of Primary and Secondary Education,
ii. Provincial Education Officer, Ministry of Primary and Secondary Education, Mashonaland Central Province
iii. District Education Officer, Ministry of Primary and Secondary Education, Mashonaland Central Province
iv. Permanent Secretary, Ministry ofHealth and Child Care
v. AIDS and TB Unit, Ministry of Health and Child Care
vi. Provincial Medical Director, Mashonaland Central
vii. National Employment Council for The Mining Industry in Zimbabwe
viii. Mazowe Gold Mine

After giving me the approval, the Mazowe Gold Mine Human Resources Manager assigned the senior Mazowe Mine social worker to assist me to get entry into the mining community for my fieldwork. The social worker helped with the familiarisation and understanding of the knowledge of the place. She also helped to shape the direction of my study and assisted with audio and video recordings during data gathering. I observed all the indigenous cultural protocols and the biomedical western official protocols to commence my fieldwork. I officially started data collection in April 2017 and officially exited the field in December 2017 in a feedback meeting with the Human Resources Manager of the mine. Exiting the field did not stop data generation or verification where needed. The meeting agreed that I was free to go back to the mine or communicate if I needed clarification. I communicated through some participants' mobile phones and went back to the field when necessary to fill in gaps emerging from the data analysis.

In the field, I invited participation through explaining the purpose and process of the study to participants in either English or Shona, depending on the language the participants preferred (Creswell, 2010). Informed consent forms were obtained from the participants

before the study. Most cultural community elders preferred to give their verbal consent. Participants were informed that participation in the study was voluntary without any cohesion or force. Maximum precaution was exercised to maintain confidentiality and safeguard the images of participants (Punch, 2010; 2014). To ensure confidentiality and privacy, all information collected in the study was kept in my office at the University of Witwatersrand. Personal information of the participants will not be disclosed to anyone. Participants were informed that data collected would be shared in academic platforms, conferences and in journal articles to which they agreed.

To ensure anonymity I used pseudonyms and removed identifiers during data collection and writeups. I also edited and removed names and places from the audio and video records to observe anonymity. In order to consider indigenous research ethics, I sought the participants' permission on whether they wanted to be acknowledged in the documentation of the study. Their inclusion would make the study culturally sensitive. Studies have shown that there has been tension between IK and western ethics in terms of acknowledgement. Most IK holders who participate in studies are not acknowledged and are left out of the documentation of studies. When I explained to participants about the anonymity, most of them preferred their photographs and real names to appear in the study document as a way of acknowledgement. Like one of the participants commented, "*Saka munoda kuti ruzivo rwatagoverana monotindiani akupai? Tinyorei namazita edu tigoverengwawo mhiri kwamakungwa*" that translates as "so who do you say shared this information with you when you report? Include our names in the document so that even people from overseas will read about us".

5.10 Limitations of the study

Simon (2011) defines limitations of the study as shortcomings, conditions, influences and constraints that are beyond the researcher's control. The absence of systematic procedure in case study design poses a limitation (Yin, 2010). This was addressed by clarifying and developing sound techniques. I used different sources of evidence to triangulate data, to ensure trustworthiness and overcome bias from the qualitative case study. Denscombe (2014) also argues that the analysis of data in qualitative research can be time consuming and expensive and more difficult to generalise. I employed the use of multiple case study

approaches, which enabled the findings to clarify patterns among cases. Atlas Ti qualitative analysis tools were also employed. In order to monitor and maintain time, I developed a timeline for the study.

5.11 Chapter summary

This chapter has discussed how I executed the study. It covered the research methodology whose presentation is guided by the Research "onion" model coined by Saunders et al. (2008; 2012). The chapter described the research methodology of the study and focused on the research philosophy, case study research design, qualitative research method and the self-developed Indigenous Amalgamative Methodology (IAM). The chapter further discussed, the sampling strategy, data generation techniques, data analysis strategy, issues of trustworthiness, ethics, limitations of the study and conclusion. In the next three chapters I present and discuss findings that emerged from this study as guided by the Adapted CACS model.

CHAPTER SIX: FINDINGS 1: INDIGENOUS KNOWLEDGE STRATEGIES FOR HIV/AIDS MANAGEMENT IN MAZOWE MINING COMMUNITY

6.1 Introduction

This chapter discusses findings onthe Indigenous Knowledge strategies for managing HIV/AIDS in the Mazowe Mining Community. These strategies emerged from the data generated from*padare* conversation meetings with the Shona, Chewa and Tonga cultural elders, to answer Sub-research Question 1: How do indigenous groups in the mining community manage HIV/AIDS? This chapter is organised in the following themes;

- Regulation of youth sexuality
- Behaviour modification
- Collective responsibility
- Indigenous Knowledge teaching methods

The results are discussed under each theme in blended English, Shona and Chewa languages but English and Shona were predominantly used. This is in order to keep meanings conveyed in *padare* conversations as close as possible to the languages used by participants. Appropriatecoding was used in referring to elders as follows: grandmother (*gogo*) grandfather (*sekuru)*, mother(*mama*), father(*baba*), as is appropriate in addressing older people in the Shona custom and to uphold the philosophy of *unhu* where respect is key. Italics are used to present responses from participants in indigenous language and have been translated. This chapter will conclude with a summary.

The study findings revealed that the Mazowe mining community has rich sources of Indigenous Knowledge strategies for disease management, which are linked to various cultures. Since the advent of HIV/AIDS, research has shown that sexual health and sexual relations cannot be understood separately from the broader social context where they evolve (Kolipeni, 2005). The historical, political, economic and socio-cultural issues must be considered in order to situate the adolescents in the broader social context. The IKHIV/AIDS strategies in this study emerged in five dimensions, enterprise (who?), paradigm (their worldviews), purpose (why?), content (what?) and pedagogy (how?). The IKHIV/AIDS strategies emanated from four themes, regulation of youth sexuality, behaviour modification,

collective responsibility and *nhaka*learning methods, which are highlighted in Figure 6.1 below:

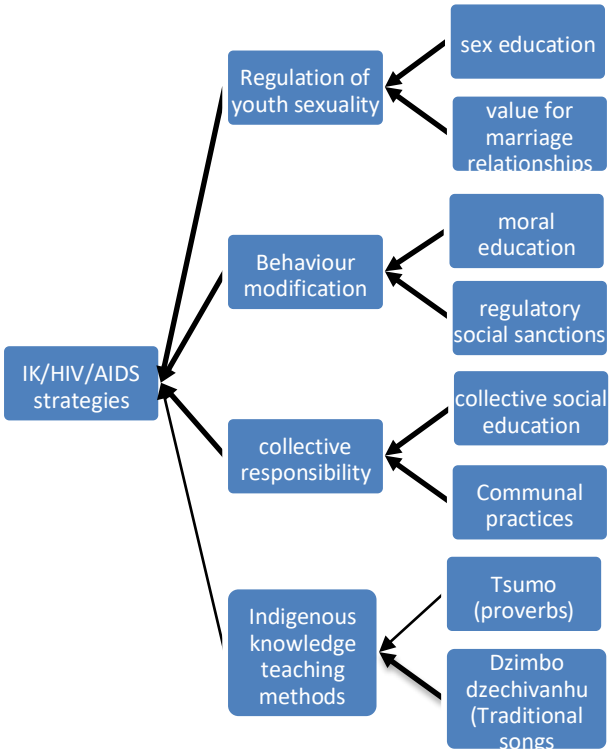


Figure 6.1: Indigenous Knowledge strategies for HIV/AIDS management

6.2 Regulation of youth sexuality

Findings from Shona Culture *Padare*(SCP), Chewa Culture *Padare* (CCP) and Tonga Culture *Padare*(TCP) revealed that strategies for regulating youth sexuality included sex education that, according to the three cultures, covered aspects on the delay of sexual debut, no sex before marriage, abstinence and value for marriage relationships.

6.2.1 Sex education

Sex education is the provision of information about bodily development, sex, sexuality and relationships along with skills building to help young people. Sexuality education involves equipping children and young people with knowledge, skills and values to make responsible choices about their sexual and social relationships (Pop &Rusu, 2015). The study findings revealed that sex education among the Shona, Tonga and Chewa cultures in the Mazowe

Gold mining community emphasise a delay of sexual debut and abstinence to discourage sex before marriage among young people. During *padare* meetings, participating elders from each culture described how sex education was conducted for young people in their cultures.

In the Chewa culture, as soon as a girl started to menstruate, she is considered mature enough for sex education and to learn about sexuality. Sex education for both boys and girls in the Chewa culture is mainly conducted during *chinamwali*ceremonies. As reiterated by *baba* of the Chewa culture:

> "*Kweduta kutoziva kuti vabereki vairevesa. Patakakura kwaiva nechinamwali chevakomana nechevasikana. Taienda musango kwemwedzi. Vasikana vaienda kwavo naanambuya vakomana kwavoo naanasekuru kunodzidziswa tsika nemagariro. Vasikana vaiongororwa umhandara kubva vane makore guminematatu kutivasaita misikanzwa. Hapana airamba nokuti vabereki vaisatijaidza uye taivaremekedza. Vaitimusikana kana akaonekwa kuti haisirimhandara vabereki vake vaiudzwa obvunzwa mukomana waakatanga kusangana naye nyaya yotoendeswa kwavashe kwaaizoripiswa. Panguva iyiye chinamwali ndipo paichecheudzwa vanakomana. Tobva ikoko taidzokera kuchikoro kwataisekwa navamwe vakomana. Asimazuvano zvakutokurudzirwa uye zvakuonekwa kuti zvinodzivirira zvirwere kusanganisa HIV/AIDS. Zvechinamwali zvaibatsira kuti vana vakare vakure vainetsika uye vaiteerera kupfuura vemazuvaano*" (CCP, 29 March, 2017).

> (I know that my parents were strict in bringing up children and in preventing diseases. As we were growing up, there was *chinamwali* for both girls and boys. We were separately taken to the bush for a month. Elderly women took girls to a secluded bush while boys went with elderly men to be taught about sex and sexuality and facts about growing up. It was during *chinamwali*that girls had their virginity tested from the age of 13 years. At the same time, their behaviours were monitored to prevent early sexual debut. No one would refuse to participate in *chinamwali* training because parents were very strict and we obeyed them. If any girl were found to have lost her virginity, she would be reported to her parents. The girl would be interrogated to mention the responsible boy and the case would be taken before the traditional chief of the area. The responsible man would pay for damages. It was also during *chinamwali* period when elderly men circumcised boys. When we returned to school, our schoolmates would make fun of our circumcision. Yet nowadays it is being encouraged as a way of preventing sexually transmitted diseases, including HIV infection. *Chinamwali*was a

very effective practice which made children in the past to be very respectful and of good morals unlike children nowadays).

Study findings revealed that, during the same period of *chinamwali,* elderly women (grandmothers and aunts) inculcated life skills and sex education to groups of girls split according to their age groups. The emphasis of the education was on abstinence before marriage. The elderly women would never discuss that having sex before marriage would cause unplanned pregnancy but emphasised that *zvaiera* (it was taboo). One of the taboos used by elderly women during *chinamwali*to teach girls the dangers of premarital sex was that if a girl has sexual relations with a man before marriage, she would cause her mother's backbone to break. The Chewa culture valued cultural marriage relationships and no girl was allowed to elope. The spouse was supposed to pay the bride prize first, before elderly women accompanied the girl to her in-laws. Part of the education during *chinamwali* ceremonies was on how to handle one's spouse after marriage. The Chewa participating elders attributed the rise in sexually transmitted diseases, HIV/AIDS cases, extra marital relationships and high rate of divorce to the lack of *chinamwali*training among boys and girls. One of the participating Chewa elders mentioned that nowadays older and married men (sugar daddies) chase after *chinamwali* trained girls thereby fueling the spread of HIV/AIDS.

Sexuality education was also provided to both boys and girls during *Chinamwali* training. The Chewa girls were taught how to hygienically handle their menstrual periods by elderly women. From roughly the age of 13, during adolescence, a girl was sent to her aunt or grandmother to be taught how to handle her menstrual periods, as well as on *magarironetsikadzechivanhu*(the African tradition for living, loving and respect). It was considered taboo for men to notice that women were on their menstrual period. On the other hand, elderly men (uncles and grandfathers) were responsible for providing sexuality education to boys during the *chinamwali*period. Big *chinamwali*celebration ceremonies for both boys and girls would be conducted on graduating from the *chinamwali*training (see Figure 6.2 below).



Figure 6.2: **Figure 6.2** Picture of a Zimbabwe Herald news paper article on Chinamwali celebration ceremony among the Chewa by Prudence Mpofu

(year not given)

Boys also received sex education from uncles and grandfathers at *padare*meetingsin the evenings. Among the Chewa, adolescent boys were taught how to masturbate to suppress and control their sexual feelings for girls.

In the Tonga culture, sex education also emphasised the importance of delayed sexual debut, virginity and abstinence before marriage among young people as well as chastity in marriage. Just like the Chewa culture, the Tonga people, originally from Zambia, conducted *chinamwali*rituals but only for girls. The Tonga adolescent girls looked forward to initiation rituals as they involved celebrations, receiving of gifts and release from daily duties. The elderly women and grandmothers conducted sex education and virginity inspections during *chinamwali*ritual ceremonies. If a girl was found to have lost her virginity, she was escorted to the responsible man who was sanctioned to compensate or, in the participants' terms, to "pay for damages" despite the accused's intentions to marry. The girl with lost virginity also embarrassed and disadvantaged her parents during her marriage. According to *Gogo*Kalima: "*Mukuwasha aisazobvisa pwanyarutsanga kana musikana akaroorwa asirimhandara*" (GogoKalima, TCP, 4 April, 2017).
(The son-in-law would not pay a cow of appreciation to his in-laws if the wife was not a virgin)

Like the Chewa people, the Tonga, regarded sex before marriage as a taboo. Elderly women (grandmothers and aunts) also trained and prepared the girls on how to handle marriage relationships (*tsikanemagariroemumba*) which include how to sexually satisfy their spouses after marriage in order to prevent extra-marital relationships and sexually transmitted diseases. Boys, on the other hand, received sex education from their uncles and grandfathers.

The findings revealed that boys and girls in the Shona culture received sex and sexuality education from elderly men and women just like the Tonga and the Chewa. One of the Zezuru elders, *sekuru*Besa, mentioned that, in the Shona culture, the parents never talked about sex related issues to small boys and girls under 10 years of age. He added that having no conversations about sex with their parents prevented them from experimenting. Elders only gave sex education to the children when they were mature and ready. Young children did not know that people fall in love. Parents would tell children that "new-born babies are bought". Children never heard or knew about Sexually Transmitted Diseases until after maturity and marriage. Siblings of both sexes under the age of 10

years would sleep under the same blankets without considering the idea of having sexual relations or getting attracted to their siblings. *Mama* Njombo also mentioned that, these days, it is different because there are cases of incest and sexual activities among siblings. *Mama*Njombo added that children used to bath or swim in the rivers whilst naked with elders without even being inquisitive about their biological make up.

Participating elders from the three cultures mentioned that nowadays television programmes have caused children to be too inquisitive at an early age and has pushed them to experiment. The elders mentioned that television programs and western media has promoted early sexual debut and early marriages from 12 or 13 years, complicated childbirth and increased transmission of sexually transmitted diseases and *mukondombera*(HIV/AIDS). The elders expressed that, during their time, children would marry when they were mature and innocent.

The Shona participating elders mentioned that, culturally, sex education by elderly men and women to boys and girls in their puberty stage focused on issues of abstinence and premarital sex. At puberty, when girls had their first menses, they would stay with their aunts to get advice on how to manage their menstrual periods. It was during puberty, when elderly women (grandmothers and aunts) taught girls about relationships and not to engage in sex before marriage. *Gogo*Dhauti shared her experience on what was taught during puberty and expressed:

> "*Vasikana, taisabvumidzwa kushanyira vakomana vedu kudzimba kwavo kana kusangana navo pakahwanda se musango pamumvuri nokuti zvaizokwezvera kusangana pabonde tisati taroorana*" (Gogo Dhauti, Shona culture home visit, 11 July, 2017).
>
> (This meant that girls were not allowed to visit their boyfriends' homesteads or meet them at private places as it would tempt them to have premarital sexual relations).

Girls were advised that a serious, loving boyfriend would be willing to visit and be introduced to the girl's aunts or grandmothers. Mature girls from the Shona Culture were also taught and prepared on how to handle their spouses during marriage to prevent divorces and diseases from extra-marital relationships. A boyfriend was not allowed to touch or fondle his girlfriend. On the other hand, boys of the same age would get advice on *tsikanemagariro* from elderly men (uncles and grandfathers).

Shona elders mentioned during *padare* conversational meetings that circumcision and *chinamwali*were not practiced in the Shona culture. The Shona culture also value virginity as do the Chewa and Tonga cultures. Virginity, in the Shona culture, was regarded as purity (*utsvene*). Any unmarried girl who had lost her virginity was regarded as impure (*Nzenza, chifeve*) and the boys would not want to marry her. Girls were taken to the river and inspected for virginity every week by their aunts and grandmothers. Elderly experienced Shona grandmothers used drops of water to check if the girl's hymen had been broken. Once the elders discovered that a girl had lost her virginity, they would demand to know the culprit who would be forced to either marry the girl or pay compensation. This scared the girls from indulging in sex before marriage. In the Shona culture, the boys, on the other hand, got their sex education and facts about growing up from uncles and grandfathers at *padare*.

6.2.2 Value for marriage relationships

In all three cultures, marriage relationships are valued. Both boys and girls are taught how to handle relationships to avoid future divorces and sexually transmitted diseases. Girls were taught about family planning and child spacing in preparation for marriage.

Virginity in the Shona culture, according to *Gogo*Kambiyawo, was further checked on the first day of sexual relations after the boy and girl were married. A white bed sheet was spread on the couple's bed and checked for bloodstains by elderly women on the next day. Absence of bloodstains on the bed sheet would be an indication that the girl was not a virgin and the elderly women would not ululate in celebration. On the other hand, uncles and grandfathers also checked on the purity of the boy and whether it was his first sexual relationship. They would assess the boy through the way he walked the following day. The issue of the girl's virginity was also followed up after her first pregnancy when a ceremony called *Kusungira* was performed. According to *Gogo* Kambiyawo

> "*Kusungira kwaikosha, ndipopaiendeswa mwanasikana akazvitakura nenhumbu yokutanga kutianozvarira kuvabereki vake. Panguva iyi ndipo paiburitswa pachena kana musikana aivamhandara musiwa asangana nomurume wake. Kana aisavamhandara ndipo paipiwa mai vake gumbeze rine buri zvino vazvainyadzisa musikana uyu nemhuri yose*" (Gogo Kambiyawo, SCP, 11 April, 2017).

(Kusungira was an important ceremony for the girl and her family life. This is when the girl was taken to give birth at her parents' home. During the ceremony, the girl's mother was presented with a blanket that had a hole on it to indicate that the girl was not pure when she got married. This brought embarrassment to both the girl and her family. As a result, no compensatory token (*chimanda*) was given to the girl's family)

Another Shona virginity test, according to *Gogo*Chingau, was followed up until the day of marriage. If the girl was a virgin, her parents would be presented with a clay pot full of water (*Gogo*Chingau, home visit, 11 July, 2017). Virginity and purity in marriage was valued by the Shona, Chewa and Tonga cultures in the mining community. The only difference was the way virginity inspection was performed among the three cultures. There is therefore a need for consensus among the three cultures on what practices could be amalgamated with biomedical strategies for teaching and learning in the HIV/AIDS Life Skills Guidance and Counselling curriculum for secondary schools.

The study findings also revealed that the Shona culture did not allow early marriages neither did it allow children to marry from families with immoral values. *Sekuru* Chingau mentioned:

"*Vabereki vedu vaiti kana vaona nguva yokuroora kwemwana komana yakwana vaititsvakira musikana wekuroora kubva mumhuri inetsika*" (*Sekuru* Chingau, home visit, 17 July, 2017).

(Our parents would find a girl for their son to marry from a respected family with moral values only when they were satisfied that their time to marry was ripe).

Boys and girls were advised to marry after maturity as opposed to the present when young people marry at a young age. The elders expressed that the early marriages happening nowadays has resulted in high divorce rates, complicated pregnancies and labour.

The study findings revealed that sex education was part of initiation rituals and ceremonies within cultures. The rituals were the necessary social preliminaries to the entry into adulthood and to the inception of sexual relations. The rituals like *Chinamwali* were a social control of female sexuality and fertility within lineages and between males, which was confirmed by bride wealth exchanges. Education on sexuality and sexual initiation emphasised moral values, norms, sex and marital duties and was controlled by the adult generation. The instructions were given at puberty for enhanced social order especially in preventing diseases like HIV/AIDS. The indigenous sex education strategies discussed across the cultures have more similarities than differences which make their amalgamation with the biomedical strategies in the Guidance and Counselling curriculum possible.

Contrary to my findings, among many people in East Africa, premarital sex was permitted among the Kikuyu of Kenya with uninitiated girls as young as 11 years as long as it did not lead to pregnancy (Mair, 1969). An analysis of these practices illustrates that, although traditional moral values enhanced social order, many of the practices inculcated during initiation rites would be unsafe in the context of HIV/AIDS management as well as for teaching and learning. It is important to note the variations in norms of different ethnic groups regarding initiation rituals and the regulation of youth sexual onset before they are amalgamated for teaching and learning HIV/AIDS in the classroom.

In the next section, I discuss findings on IK behaviour modification strategies employed by the Shona, Chewa and Tonga cultures in Mazowe Gold mining community which they use for disease management and to maintain their social fabric. A possible amalgamation of the behaviour modification strategies in the Life Skills HIV/AIDS Guidance and Counselling curriculum is discussed.

6.3 Behaviour modification

The study findings revealed Indigenous Knowledge strategies for sexually transmitted disease management that were drawn from the way that the Shona, Tonga and Chewa cultures in Mazowe Gold mining community regulated and reinforced desired human behaviours. The Indigenous Knowledge strategies for behaviour modification by the three cultures included moral education for young people that covered various topics which included the inculcation of moral values on *unhu/Ubuntu*, respect, respectful language, gender roles and responsibilities, value for marriage relationships, use of traditional herbs, taboos as regulatory social sanctions, curfew, conversation register, homeostatic relationships, masturbation, runyoka, separated bathing places for adolescents, food monitors as well as the moral values of physical punishment.

6.3.1 Moral education

Moral education was used as an Indigenous Knowledge strategy for youth behaviour modification in the Shona, Chewa and Tonga cultures in Mazowe Gold mining community. It involved the inculcation of commendable character traits in the individuals. It is regarded as a lifelong process,

which makes a positive and sociable impression in a person's formative years. Moral education, according to the participants, emphasised on *unhu/Ubuntu* which taught that human beings need other human beings to survive and promoted high moral ethnic values (*tsikanemagariro)* in society. The findings concur with Gelfand's (1979) findings in the Shona culture that, when an unmarried girl fell pregnant, an explanation was sought, not out of concern for the individual, but so that the harmony of the community could be restored.

Unhu encourages human beings to treat each other with love, respect, trustworthiness, honesty, reliability, loyalty, taking personal responsibility and generosity. The study findings revealed that moral education on *unhu* cut across all the cultures under study and was mostly the responsibility of agnates.

The findings support Tefflo (1999) who posits that, in Africa, there are different traditional beliefs but at the core of each belief system are the moral values of *Ubuntu*. An example of moral education on Ubuntu was expressed by *sekuru*Chewa, who said:

> "*Taidzidziswa tsika nemagariro akanaka uye kuremekedza vabereki navo sevanhu vakuru nokuremekedza miviriyedu. Chero pataipfimba vasikana vedu taitaurirana chokwadi. Kana pauviri hwedu pane airwara taibudirana pachena. Mazuvaano vasikana vazhinji havatauri chokwadi chero vachirwara nomukondombera nokuti vanotya kusiiwa nomukomana. Vasikana vavewonezvivindi zvokupfimba vakomana mazuvano*" (Sekuru Chewa home visit, 20 July, 2017).
>
> (We were taught to live in harmony with others in society, to respect parents and the elderly as well as self-control and to respect our bodies. Even when proposing love to girls, we would discuss issues truthfully. Nowadays, most girls do not tell the truth even when HIV infected for fear of rejection. Girls nowadays also have the guts to propose love to boys).

Sekuru Chewa further mentioned that nowadays children do not heed advice from their elders as they consider it obsolete. In the Chewa culture, moral education on expected social behaviour for boys from the age of 10 years is conducted at *padare*by uncles and grandfathers. The Shona, Chewa and Tonga cultures mentioned that they sent their young girls to their aunts or grandmothers during adolescence to be taught on *tsikanemagariro* and on how to handle relationships socially and sexually with respect in preparation for marriage. The value of marriage was emphasised across the cultures as girls were taught how to handle future husbands. Girls were advised to have bride prize

paid by their spouses and not to elope. They were advised to respect their husbands after marriage. Elderly women advised young girls to respect their husbands and not to address them by name as well as to resolve their misunderstandings amicably. The elders mentioned that the advice helped to maintain relationships and controlled extra-marital relationships that fuelled the spread of sexually transmitted diseases, including HIV/AIDS. *Gogo* Dhauti echoed the same sentiments on moral education:

> "*Dzidziso yeunhu uyetsika nemagariro akanaka yaipiwa vechidiki yaibatsira kuderedza zvirwere zvapabonde*" (Gogo Dhauti, home visit conversation, 11 July, 2017).
>
> (Moral education on *unhu, tsikanemagariro* among young people helped to contain sexually transmitted diseases).

My study findings revealed that moral education among young people on*tsikanamagariro* cut across all the three cultures. This suggests that classroom science on HIV/AIDS needed to accommodate some of the teachings on moral values on *tsikanamagariro* for HIV/AIDS prevention. It is possible that students could benefit from the HIV/AIDS teaching that recognises and amalgamates cultural moral backgrounds. In the next section, I discuss social sanctions that attribute to children's behaviour modification.

6.3.2 Social sanctions for behaviour modification

The Shona, Tonga and Chewa cultures used various social sanctions to monitor and reinforce moral values for behaviour modification. Some of the social sanctions employed by the cultures for behaviour modification were: taboos, spiritual curses, myths, traditional herbs, respectful relationships, physical punishment and *Midzimu* (ancestral spirits).

6.3.2.1 Taboos as social sanctions for behaviour modification

All participants concurred that their cultural taboos helped to shape their conduct for the prevention and control of diseases for generations before colonisation. According to elders, taboos have a teleological nature in that they are sanctions that are meant to instil the most appropriate traits in the person that would make him/her a worthy member of the community. Gelfand (1979) explains taboos are avoidance rules that ensure that people adhere to the moral code. These avoidance rules are restrictive and not directive in that they tell an individual what not to do and not what to do (see

Chigidi, 2009; Tatira, 2000b). The belief in taboos leads to picking up behavioural traits that are desirable and of good character while acting against their dictates invites misfortune and punishment. Masaka and Chemhuru (2011) also concur that good character displays commendable dispositions and is a weapon against antisocial behaviours.

The Shona culture refers to taboos to as *zviera*. They provide moral sanctions that help in shaping a person's *unhu/Ubuntu* (virtue) and in maintaining the social order in the Shona society. Taboos (*zviera*) in the Shona worldview are considered rich because of their paternalistic and epistemic moral dimensions in preventing people from engaging in antisocial, immoral and undesirable behaviour. They instil fear in people so that they do not perform certain actions that are against the social norms. The language of intimidation used in the taboos is meant to guarantee conformity by threatening people with unpleasant consequences should they disobey the rules (Chigidi, 2009). The children are taught the difference between good and bad behaviour and the warnings of violating the moral code are visible in the taboos. The study findings revealed that some of the consequences of breaking taboos are believed by everyone but others are just threats employed to discipline children. Fear inducing taboos may achieve the desired result of influencing moral decisions. One such example of the Shona taboo mentioned by *Sekuru* Mavhunga is:

> "*Ukadongorera munhu achigeza unoita showera*" (Sekuru Mavhunga, SCP, 11 April, 2017).
> (If you peep on a person of opposite sex bathing you will develop a pimple on your eyelids.)

In the traditional Shona society, people bathe in rivers and there are specific places for males and females and neither of them should violate the rule by peeping. This taboo, according to *Sekuru*Mavhunga, promotes respect of the opposite sex and privacy which are the morale value of *unhu*. The participating elders concurred that the taboo also controlled incidences of rape and adulterous relationships, which are threats to social order and may lead to the spread of sexually transmitted diseases and HIV transmission. *Mama*Chatsika gave another example of a fear inducing Shona taboo used for teaching girls the need to abstain from sex before marriage:

"*ukarara nomukomana usatiwaroorwa unotyora amaivako musana*" (*Mama* Chatsika, SCP, 11 April, 2017). (If you have sexual relations with a boy before marriage you break your mother's backbone.) The Shona elders participating expressed that, in a paternity dispute, the local court accepted the pregnant girl's word against that of a man. It was held that if the girl told a lie, her conscience would be disturbed

and she would either go through a difficult labour or if a child were born alive, it would refuse to suckle. The fear inducing taboos enforced the maintenance of the cultural moral code among children.

6.3.2.2 Spiritual curses as behaviour modification social sanctions

Study findings revealed that children were conscientised on various spiritual practices that worked as sanctions used to monitor moral values and to control people's behaviours across cultures. Among the Shona/Kore, *rukawo/runyoka*(spiritual curse) was used to cast a spell of illness or death on the extra-marital sexual partner of a promiscuous woman. Use of *rukawo* was mostly practiced by men to prevent their wives from having extra-marital affairs. *Sekuru*Chingau explained:

> "*Zvaiti kana murume akasanagana pabonde nomudzimai akashandisirwa rukawo vose vairamba vakabatana kana kurwaravose. Pane dzimwe nguva nhengo yesikarudzi yomurume anemhosva yairamba ichikurazva kanyanyisa kana kuita dikidiki. Mudzimai anemhosva uyu nhengo yesikarudzi yainyangarikawo*" (Sekuru Chingau, home visit, 17 July 2017).
>
> (If a man had sexual relations with a married woman under *rukawo/runyoka*, they would not separate during the act or they would fall ill. In some cases, the male culprit would experience continuous growth or shrinking of manhood while females experienced vaginal disappearances).

According to the elders, *Rukawo*could only be reversed after the adulterous woman's partner was compensated with a herd of cattle. If the culprit failed to confess and compensate the infringed man, *sekuru*Chingau mentioned that the culprit would die a painful death. Dewa and Mutuka (2011) concur with the findings that *runyoka* is an indigenous way of "fencing" or "locking up" a spouse, usually a wife, to prevent her from committing adultery.

6.3.2.3 Myths as behaviour modification social sanctions

Various myths that were shared with children as social sanctions to monitor moral values and to control people's behaviours across cultures. In the Chewa culture, it was considered dangerous to have sexual relations with a girl during her menstrual cycle, as they believe that the boy would fall ill. The boy was supposed to confess to elders after indulging in sexual relations with a girl during her menstrual cycle to have herbal treatment. It was also believed that a pregnant woman's private parts would rot or she would die if she had sexual relations during pregnancy. It is only safe to have sexual relations three months post-delivery. This helped the woman to recover from the delivery

process. Similarly, in the Shona culture, pregnant women were not allowed to engage in sexual relations as this was believed to cause premature delivery or transmit diseases to the unborn baby.

Shonas also believed that, if the father of a new-born baby had sexual relations outside marriage, the baby would cry when the father tried to hold it. The baby would also refuse to breastfeed until the father confessed and sprinkled water on the baby. Another myth was that, if a child had measles, the parents were traditionally not allowed to have sexual relations as it was believed that the child would die.

Findings across the studied cultures also revealed that certain foods were used as sanctions for behaviour control. Children were not allowed to eat certain foods as a way of controlling their sexual behaviours. In the Shona culture, for example, children were not allowed to eat eggs. Mythically, eggs were believed to cause epilepsy and dizziness in children. One of the elders explained that the eggs were believed to increase libido in girls and would lead them to engage in early sexual debut before marriage. Similarly, in all the cultures, girls were not allowed to eat uncooked or unroasted groundnuts as this was considered as a sign of laziness. Only men were allowed to eat raw nuts.

6.3.2.4 Use of traditional herbs for behaviour modification

The Chewa adolescent girls were secretly given traditional herbs in porridge that control their libido without them knowing. The herbs were effective for up to 30 years when these girls were regarded as ready for marriage. The girls' libido would later be activated with herbs in porridge after they got married. *Gogo*Mukunga added that controlling children's libido in the Shona culture involved mothers expressing breast milk on their new-born babies' private parts. The breast milk was meant to control the child's libido and prevent future prostitution.

The Shona elders also mentioned that they used traditional herbs for both the stimulation and suppression of sexual hormones. They indicated that they used *mugondorosi*or *mutara* herbs for married men to stimulate their libido. The Tonga, Chewa and Shona men attributed their libido stimulation to the consumption of traditional herbs mixed with *mazondo*(boiled knuckle bones*)* to stimulate their libido.

Traditional herbs were also used for the management of sexually transmitted diseases in all three cultures, but their side effects were neither known nor communicated. A stern warning was also given to any one infected with a sexually transmitted disease against getting further infections. Findings revealed that masturbation was also practiced by both men and women in the Shona, Chewa and Tonga cultures for the control of sexual behaviour. The elderly people in the study expressed that children were only allowed certain dances that matched their age groups but these days children at schools engage in *Jerusarema* dance which the elders said was meant for adults. The elders mentioned that *Jerusarema* dance lures children to engage in early sexual relations.

6.3.2.5 Respectful relationships for behaviour modification

Sanctions were alluded to by all three participating representatives of the cultures sampled as a means to monitor respectful relationships, which are a priority across cultures. Emphasis was placed on respectful language usage, ethics and respect among the young and the old. Respect was controlled by the use of language register in communication. The register is a way the speaker uses language, tone of voice and body language in different circumstances. The language register in the Shona culture was determined by the type of relationship. It was also controlled by social occasion, purpose, context and audience. It was expected that the young respect old people. Young people were not allowed to answer back, argue or display any signs of disrespect to older people. Older people were addressed as *mama, baba, mukoma, tete, sekuru, Gogo*or by their totem. The language register of communication, according to the participating elders, enforced respectful behaviour. Respect for elders was associated with long life and blessings from ancestors. The elders concurred that disrespect for older persons would invite physical punishment from any one of the elders. My findings concur with Gelfand (1999) who observed that, among the Shona culture, a display of respect towards other people, especially parents, elders, brothers and sisters and other family members, was a fundamental of good manners.

The elders attributed a lack of respect towards elders by children to the abandonment of the register of communication. Lack of respect for the elders was echoed by *Gogo*Mukunga's comment that "*vana havachisina tsika mazuva ano vanopindura kana vakuru vachivatsiura, vave vana mazivazvose, vasikana vadiki havachina matyira vakudanana nemadhara akaroora vachiparadzira zvirwere zvapabonde*" (Gogo Mukunga, SCP, 11April, 2017).

(Now children have lost respect for the elders and have the audacity to answer back when elders advise them. They pose to know it all, even young girls have relationships with married men and are spreading sexually transmitted diseases).

One elderly participant mentioned that the use of the cultural register of communication, if maintained, would enforce respect and help reduce inappropriate relationships like "the sugar mummies" and "sugar daddies" in mitigating the spread of HIV.

Study findings across the three cultures revealed that children were socialised into specific gender roles and responsibilities which instilled respect and modified their behaviour. Elders mentioned that it was a woman's responsibility to bathe and care for babies and ensure children's bodies were respected. *Gogo*Mukunga further added:

> "*vanhu vechirume vaisabvumidzwa kuona nhengodzesikarudzi dzomwanasikana kubvira arimucheche chero achangobva kuzvarwa. Varume vaisabvumidzwa kugezesa uye kuchinja vana vacheche manapukeni zvino vazvavakuitika mazuvaano. Vanasikana vaidzidziswawo kuremekedza miviri yavo nokupfeka hembe dzakadzikama. Miviri yavana yairemekedzwa uye vaisagezwa miviri yavo panze pachena. Izvi zvaibatsira kuchengetedza vana kuti vasabhinywa*" (Gogo Mukunga, SCP, 11April, 2017).
>
> (Men were not allowed to see the biological makeup of baby girls even after delivery. Men were not allowed to bath or change baby girls' napkins. Girls were also taught to respect their bodies by wearing clothes that were not exposing their bodies. Children's bodies were respected and child sexual abuse was under control. The western culture has mixed up the roles and responsibilities of men and women. Men partake in the duties of women and girls of bathing babies and changing baby nappies increasing the risk of child sexual abuse).

The elders mentioned that some of the social practices of respect in the Shona culture, which modified behaviour, were that young lovers would share *nduma* also called *nhumbi*or *rubato*. *Nduma* was a love pledge given to the girl by the boy she loved as a promise token for marriage.
The *nduma* was given in the presence of the girl's aunt or elderly person as a vow for marriage. If either of them broke the vow, it was considered as a breach of promise and the culprit would pay what the Shona called "*damage"* which wasa culturally stipulated fine in the presence of a chief and relatives. Paying *damage* was an embarrassing sanction. The practice helped to promote faithfulness

inrelationships and disease control. Shona boys were not allowed to have two girlfriends at the same time.

The *Kusungira ceremony* is still a practice which also monitors girls' moral values in the Shona culture. *Kusungira* is a ceremony that is practiced when a married girl, during her first pregnancy, is taken back to her family so that she gives birth to her first child among her parents. During this ceremony, according to *Mama*Chatsika, a blanket with a hole was presented to the girl's family to communicate that she was not a virgin when married. This would cause embarrassment to her and the whole family which would not get *mombeyechimanda* which was a cow of appreciation for good moral values from the in-laws.

6.3.2.6 Physical punishment for behaviour modification

Study findings revealed that any elderly person across the studied cultures had the authority to discipline the children for misbehaviour and to instil good moral values and respect among children. Elders had the authority to institute physical punishment to children for misbehaviour.

Participants stated that *curfew* was one of the practices elders used to control children's behaviour. Curfew was a time restriction set for a child to be at home. If a child came home late, he or she would be punished for breaking the curfew. Respect shared an uncomfortable space with fear of physical punishment. As *sekuru*Juma expressed:

> "*Tairovera imbwa pachinyiro, tairovera mwana paatadzira ipapo*" (*Sekuru* Juma, CCP, 29 March, 2017).
>
> (A proverb which means children were disciplined at the point of their mistakes).

The participating elders concurred that because of child rights, discipline or physical punishment is currently reported as child abuse to the police. The elders across the cultures expressed concern that the censure of physical punishment has disempowered them to an extent that they are left with no other alternative method of child discipline. Children, on the other hand, have taken undue advantage of it by not being accountable for misbehaviour.

6.3.2.7 Midzimu (ancestral spirits) forces for behaviour modification

The enforcement of moral code among the Shona culture also has a spiritual dimension such as *midzimu* (ancestral spirits). This has been attested by the elders in my study findings that a person owes his *unhu*, his behaviour, consideration for others and honesty to his *Midzimu*who can either punish or reward a person's behaviour. *Sekuru* Muchenga expressed:

> "*Misikanzwa inorovesa neshamhu yemidzimu munhu anogona kurwara zvirwere zvisingarapike semukondombera, Midzimu inokomborera nokuchengetedzamunhu anorarama ainehunhu hwakanaka*" (SekuruMuchenga, SCP, 11 April, 2017).
>
> (Meaning that irresponsible behaviour invites punishment from ancestral spirits who may inflict that person with chronic diseases like HIV/AIDS. Ancestral spirits also reward positive behaviour of living virtuously through protection and blessings).

My findings concur with Gelfand (1979) who observed that, among the Shona, a person owes his safety and protection to his *vadzimu*. If their protection is withdrawn for any reason or loss of *unhu*,he may suffer any kind of illness, accident or death. Gelfand (1979) agrees with the notion that the reward a man receives from the ancestral spirits for living virtuously protects both him and his cognates. Ancestral spirits ensure that a person has desirable character traits. The findings further concur with Masaka and Chemhuru (2011) that the Shona believe that spiritual forces are custodians of their moral code.

The study findings reveal that the indigenous people had ways that they attributed to effective monitoring and control of children's behaviour. Their strategies could be amalgamated in the Guidance and Counselling curriculum for the teaching, learning and mitigation of HIV/AIDS, because of the link between HIV/AIDS and immoral behaviour. The task of amalgamators is to understand cultural moral values, practices and sanctions and document them in order to strengthen classroom teaching and learning on HIV/AIDS.

The next section discusses IK strategies for collective responsibility over children and their possibilities for amalgamation in the teaching and learning of HIV/AIDS in the Guidance and Counselling curriculum.

6.4 Collective responsibility over children

The findings revealed that there was collective responsibility in the raising and teaching of children across the cultures under study. Any child under 20 years in all the cultures was everyone's child. There was community involvement wherein the extended family and the rest of the community participated actively in the education of a child. Adults had the responsibility of acting in the best interests of both the community and children. The findings concur with Mawere (2010) who observed that, in the traditional Shona society of Zimbabwe, children do not exclusively belong to their parents. They have an obligation to the wider society which, at the same time, has the responsibility for their socialisation. The philosophy behind this collective education emanated from the belief that the child belongs to a particular family until birth and then belongs to the entire community. The entire community participate in inculcating humble, courageous, honest, sociable and persevering attitudes in children so that their individual behaviour could reflect family and community values embodied in *unhu*. The literature shows that the concept of *unhu/Ubuntu* is a social philosophy which embodies virtues that celebrate the mutual social responsibility of caring and respect for others, among other ethical issues. *Unhu*centres on human behaviour and relations (Chinombe&Mandova, 2013). Children's misbehaviour resulted in physical punishment from any adult. The elders, during *padare* conversational meetings, expressed that cultural disciplinary action of physical punishment for children has been displaced by the colonial legal values. The physical punishment of children is now legally regarded as child abuse and is considered a criminal offence. The elders expressed concern that their disempowerment in child discipline has caused children to lack responsible behaviours leading to early sexual debut, unplanned pregnancies, dropping out of school and contracting HIV/AIDS.

Findings from the interviews with teachers also expressed the same sentiments that child discipline at school has become a challenge. Mr Besa, one of the teachers from the interviews, expressed that "sometimes our hands are tied when it comes to child discipline at school". The teachers confirmed that girls as young as 13 years from their school were falling pregnant and dropping out of school (Mr Besa, Interview, October, 2017). The findings concur with Khupe (2014) that 50% of the girls in Grade 11 or 12 in Mgatsheni either had children or were pregnant. *Sekuru* Bhero further complained that children do not heed advice from the elders; they say *"haiwa mudhara zvamurikutaura ndezvakare izvo, isu tikangorwara tinoenda kuchipatara"* meaning the old man is

giving outdated advice. If the children fall sick, they consult the hospital. *Sekuru*Chingau also expressed the same sentiments with *sekuru*Bhero that children's behaviour is uncontrollable and that some go to the extent of taking *mugondorosi,* which is an aphrodisiac culturally meant for older men. *Sekuru*Bhero further said, "By the time these children reach the age of 25 years, *vanenge vasakara* (they will be finished)" (*Sekuru*Bhero, CCP, 18 July, 2017).

Culturally, children were also trained to be responsible for each other. In the Shona culture, boys had their own bedroom called *gota* while girls had their own called *nhanga.* Sibling and peer advice took place in both *gota* and *nhanga* bedrooms. The elder sisters and brothers were responsible for the discipline and teaching of moral values to the younger siblings in the *nhanga*and *gota*. The study participants expressed that nowadays there is no *gota* or *nhanga* for siblings to share ideas or peer advice on cultural moral values. Each child has his or her own bedroom where he/she can watch pornographic movies or engage in immoral behaviour. *Gogo*Dhauti also added that nowadays the uncles and aunts are no longer active in teaching *tsikanemagariro* to their nephews and nieces. They are either unavailable because of the disintegration of extended families or are jealous of the success of their nephews and nieces.

Data from the elders suggest that collective responsibility over children was more important in the past than at the time of my study. Social relationships appeared to be stronger then. The elders blamed social, political changes, democracy and western values for the significant change in their African cultural values. This has posed a dilemma in child discipline by elders. The elders concurred that they now have an extra responsibility of looking after their children who have dropped out of school with unplanned pregnancies and who may be infected with HIV/AIDS. These findings are not new but affirm the general observation from literature that indigenous Africans believe in collective responsibilities in inculcating moral values in society. The findings also show that children could learn moral values from elders, peers and the community. This also informs appropriate pedagogical approaches, processes and skills that can be amalgamated into the Guidance and Counselling HIV/AIDS classroom science. The indigenous education systems enhanced family ties and cooperative communal practices on behaviour modification and disease prevention. These are less evident in the western education models that are characterised by individualism and

competitive achievements (Nsamenang&Tchombe, 2011). This creates space for the amalgamation of the Biomedical Knowledge (western education) and Indigenous Knowledge models.

In the next section I discuss how the elders passed on Indigenous Knowledge strategies to the young people.

6.5 IK/HIV/AIDS management strategies teaching methods

Findings show that children learnt IKHIV/AIDS and disease management strategiesthrough various methods used by agnates, grandfathers, grandmothers, uncles, aunts, parents, peers and community elders. The teaching methods inform us about the appropriate pedagogical approaches that could be integrated in the HIV/AIDS Life Skills Guidance and Counselling curriculum. The elders mentioned that children were informally taught Indigenous Knowledge strategies for disease management during cultural symbolic activities such as traditional rituals and ceremonies like *chinamwali* through *tsumo* (proverbs), *madimikira*(idioms), *dzimbo* (traditional songs), *ngano*(stories), poems, games, traditional dance, parables, fables and riddles. In the ensuing sections, I discuss some of the Indigenous Knowledge teaching methods that were used to inculcate moral values and Indigenous Knowledge strategies among young children.

6.5.1 *Tsumo* (proverbs)

Indigenous Knowledge strategies on the regulation of youth sexuality and behaviour modification for disease management were passed on to children through *tsumo*(proverbs). Fortune (1975) refers to proverbs as philosophical ideas which contain a wealth of information about people's worldviews. Participating elders mentioned that *tsumo* were and are still used to inculcate cultural moral values, respect and trustworthiness, and to promote moral behaviour among children. Participants also mentioned that *tsumo* were and still are used to promote cultural and communal unity. Mapereke and Mapara (2009) contend that proverbs sum up the accumulated ethical and philosophical experiences of a generation for the benefit of posterityand can be understood in context. The sender of the proverb reminds the receiver that tradition continues to be relevant in the present as something that has stood the test of time (see Mapereke&Mapara, 2009). My study findings revealed the *tsumo* used for the regulation of youth sexuality, to inculcate cultural moral values and to promote moral

behaviour among young people. The findings showed that the collective experiences of the past continue to inspire and give guidance to the present giving room for amalgamating them.

In the following sections, I discuss study findings on some *tsumo*(proverbs) the elders used to inculcate Indigenous Knowledge strategies on sex and sexuality, cultural moral values, respect, trustworthiness and to promote moral behaviour among children.

6.5.1.1 Tsumo (proverbs) used to inculcate Indigenous Knowledge strategies on sex and sexuality, moral values and for behaviour modification

The study findings from participating elders revealed some of the *tsumo*(proverbs) used for inculcating Indigenous Knowledge strategies on sex and sexuality, moral values and to modify children's behaviour for disease prevention.

"*Rambakuudzwa akazoonekwa nembonje pahuma*" (one who rejects advice was seen with the wound on the forehead or a headstrong person was found with a head wound). The proverb is meant to advise young people to take heed of advice and warn them against the dangers of immoral behaviour. The elders mentioned that the proverb was mostly used to prevent young children from early sexual debut as it would have implications for their future marriage or block them from getting lobola paid. They also used a proverb, "*Akurumanzeve ndewako*" (those that advise you are on your side) (*Mama*Kalima, TCP, 4 April, 2017). The elders mentioned that early sexual debut would lead children to have complicated pregnancies and disease. A proverb used to educate and remind young people that if they defied their advice and indulged in early sex and got pregnant or sick was "*Mazvokuda mavanga enyora*" (self-inflicted anguish) (SCP, 11 April, 2017).

"*Simba remwana sikana ririmuhumhandara*" (A girl's pride is in her virginity/purity). *Gogo*Bhero stated "*Tsumo iyi idingindira ratinoshandisa patinodzidzisa vasikana kukosha kwehumhandara chinamwali*" meaning the proverb is used as a theme for educating girls during *chinamwali* training ceremonies on the value of virginity. The elders warn young girls against losing dignity due to promiscuity with the proverb"*Nzenzamumvuri, asvikaanovandazuva*" (a prostitute takes everyone) (*Gogo*Bhero, CCP, 18 July, 2017). "*Zingizi gonyera pamwe maruva enyika haaperi*" (insect suck nectar from one flower, the flowers of the world cannot be exhausted) (SCP, 11 April, 2017).

According to Gwavaranda (2011), the proverb explains that the behaviour of the insect which tirelessly moves from one flower to the next in search of nectar is commanded to stick to one particular flower. The proverb was used to discourage young people from having many lovers and to foster good moral behaviour.

"*Matende mashava anovazhadoro*" (pretty calabashes sour beer/All that glitters is not gold/Attractive appearances conceal inner flaws). The proverb was used to warn mature boys not to be blinded by outward appearances of pretty girls whose bad manners were concealed in their beauty (*Baba*Refani, SCP, 11April, 2017). The elders also mentioned that the proverb was used to convince young boys who were ready to get married to have their elders choose spouses for them from families with good moral values for marriage. Other proverbs mentioned by elders which were used for the same purpose were "*Zizi harina nyanga*" (things are not what they seem), "*Usapedzera tsvimbo kumakunguwo idzohanga dzichauya*" (do not use up sticks on go away birds while guinea fowls have yet to come/do not waste your time on trifles), "*Pfavira ngoma usiku hurefu*" (be calm and take time to marry) (SCP, 11April, 2017). "*Mviro-mviro yemhazha inotanga shosha*" (the onset of baldness begins at the temples/small faults may result in serious crimes seemingly unrelated/big events are predicted by early signs). *Gogo*Bhero mentioned that this proverb was used to counsel dishonest and naughty young girls that this behaviour would affect their future marriages (*Gogo*Bhero, CCP, 18 July, 2018). The elders shared proverbs which conveyed similar meaning and were used for the same purpose, like "*Chisi hachiyeri musi wacharimwa*" (the consequences of bad behaviour are not immediate but they will come) and "*Rinemanyanga hariputirwi mumushunje*" (nothing can be hidden forever) (CCP, 18 July, 2017).
The elders warned the children to take heed of advice before getting into trouble with the proverb, "*Kuyeuka bako wanaiwa nemvura*" (to remember where the shed is after the rains/too late to take heed of advice) (*Mama*Chatsika, SCP, 11 April, 2017).

"*Mapudzi anowira kusina hari*" (squashes fall where there are no pots/Fortune favours fools). *Mama* Kalima mentioned that the proverb was used to motivate and recruit young girls of the Tonga culture for *chinamwali* training. It was meant to advise the young people to take advantage of the opportunity for free training organised for them by their parents that other cultures did not provide (*Mama*Kalima, SCP, 4 April, 2017). Other proverbs used for the same purpose were "*Simbi*

inorohwa ichapisa" (hit the iron while it is hot), "*Chinono chinengwe bere rakadya richifamba*" (do what you do with speed (SCP, 11 April, 2017).

"*Totenda maruva tadya chakata*" (we believe in blossoms after eating the fruit) means that promises are not to be relied upon until they are performed. Elders who were mediators when there was the sharing of love token *nduma* between lovers normally used the proverb. It was meant to emphasise the need for them to keep to the promises (SCP, 11 April, August, 2017).

"*Hove dzinokwira dzinemuronga*" (fish go upstream having a channel/progress depends on tried paths) and "*Pakukutu hapaurayi*" (a hard bed does not kill/discomfort need not rob a man of his own dignity). *Sekuru*Juma mentioned that the proverbs were used to promote circumcision and to share wisdom on its advantages among young boys of the Chewa culture (TCP, 4 April, 2017). Proverbs with similar meanings used for sex and sexuality education were "*Zvirozviyedzwa chembere yokwachivi yakabika mabwe ikamwa muto*" (you never know what is rewarding unless you try), "*Kuziva mbuya huudzwa*" (to know one's in-laws means being told who they are/wisdom comes from others),"*Zanondoga akasiya jira mumasese*" (people who forsake warnings and advice often fall into calamity),"*Nzombe huru yakabva mukurerwa*" (a big bull resulted from being nurtured, big results have small but indispensable beginnings). The elders concurred that they would build confidence in children through the proverb, "*Takabva neko kumhunga hakuna ipwa*" (we have experience in what you are going through) (SCP, 11 April, 2017).

"*Kuvhunduka chati kwatara hunge unekaturikwa*" (when you overreact to things, you probably have something to hide). *Gogo*Bheroemphasised that she uses the proverb when she interacts with argumentative and disrespectful children during *chinamwali* training. The elders also used the proverb to counsel a child who resented or was scared to participate in discussions on sex and sexuality as it was assumed from that behaviour that the child was already sexually active and mischievous (*Gogo*Bhero, CCP, 18 July, 2017). Other proverbs used to convey the same teaching that were discussed by elders were"*Chinogovaruoko, muromohaugovi*"(what gives away is the hand, the mouth does not give away/Deeds speak louder than words) (SCP, 11April, 2017).

"*Regai dzive shiri mazai haanamuto*" (wait for the full maturation of events instead of prematurely harvesting or celebrating/Let the children grow to maturity). The proverb, according to elders, was targeted at advising sugar mummies and sugar daddies to stop having affairs or sexual relations with young children (Mudzidzisi, FGD, October, 2017). "*Wakurumidza kumedza kutsenga kuchada*" (you have gone to things ahead before completing the things behind). The elders during *padare* commented that they used the proverb to warn mischievous young people not to engage in sex before marriage. They would warn them that "*Chinobhururuka chinomhara*" (everything has an end to it) (CCP, 18 July, 2018; SCP, 11 April, 2018; TCP, 4 April, 2018).

The findings reveal that most of the proverbs used for moral and sex education challenge the individual child to take heed of advice and to reflect before taking action. My study findings concur with Jenjekwa's (2016) findings that most Indigenous Knowledge *tsumo* (proverbs) were used to promote moral uprightness, respect for authority and elders, cooperation, forgiveness, humility and self-restraint. Katola (2014) argues that the problems faced by traditional African society today are due to the current education system that is missing the values that were taught to an individual from childhood to adulthood in the past. This justifies the need to amalgamate the Indigenous Knowledge *tsumo*values that were taught in the past into the current education system.

6.5.1.2 Tsumo (proverbs) used to promote collective responsibility and cohesion

The study findings also revealed that elders used proverbs to socialise their community members, both the young and the old, on collective responsibility and on maintaining moral behaviours of *Unhu*. The findings from *padare*conversational meetings with the elders revealed the following *tsumo*(proverbs) to promote collective responsibility and cohesion:

"*Chara chimwe hachitswanyi inda*" (One person cannot do all things alone) (SCP, 11 April, 2018).

"*Rumerimwe harikombi churu*" (a single man, no matter how big, cannot encircle a hillock anthill alone/One person cannot do all things alone) (SCP, 11 April, 2018).

"*Kandiro kanopfumba kunobva kamwe*" (one good turn deserves another) (SCP, 11 April, 2018).

"*Nzou hairemerwi nenyanga dzayo*" (an elephant is not burdened by its own tusks/one should be equal to one's responsibilities). This proverb is meant to encourage elders not to give up on advising children who misbehave (CCP, 18 July, 2018).

"*Mwana asingachemi anofira mumbereko*" (a child who does not cry dies in cradle/one should give voice to one's complaints) (SCP, 11 April, 2018).

"*Mhino hainwi mvura muromo usina kumwa*" (the nose does not drink if the mouth has not drunk/Elders take precedence over juniors) (CCP, 18 July, 2018).
"*Hapana mhou inokumira mhuru isiriyayo*" (no cow lows for a calf not hers/Everyone knows his own kin) (SCP, 11 April, 2018).
"*Nzombehuru yakabva mukurerwa*" (a big bull resulted from being nurtured/big results have small but indispensable beginnings) (TCP, 4 April, 2018).
"*Imbwa inoroverwa pachinyiro*" (Give punishment at the point of mistake). This proverb was mentioned by *sekuru*Chingau during the home visit to emphasise the importance of punishing the child when he/she still remembers the mistake (*Sekuru*Chingau, home visit, 17 July, 2017). "*Muroyi royera kure ugowana anokuviga*" (witch bewitch far away that you may find someone to bury you/Live in peace with your neighbours) (TCP, 4 April, 2018).
"*Muroyi royera kure vokwako vagokureverera*" (you should not be mean to people close to you) (CCP, 18 July, 2018).
"*Vasikana kudada mungadada zvenyu tichaona namagaro pakuyambuka*" (You may reject people when all things are well but you will need them when things get hard) (SCP, 11 April, 2018).
"*Varumekutsvakwendebvuvanodzimurana*" (men help each other in times of trouble) (SCP, 11 April, 2018).
The participating elders concurred that *tsumo* (proverbs) that promote communal unity motivated people to work together in teaching and enforcing *nhaka* cultural moral values and in promoting cultural behaviours in children (SCP, 11 April, 2017). The elders agreed that proverbs, as vehicles of *unhu* promote *unhu/ubuntu* and discourage individuality.

The findings concur with Mandava and Chingombe (2013) who observed that the Shona culture celebrates connectedness and cohesion in all respects through the use of proverbs. Mapara (2009) further substantiates that proverbs are educative in that they are used by elders to teach young people about their experiences. Dumbu and Chadamoyo (2012) acknowledge that "the ways traditional African leaders have used proverbs to successfully teach children on how to behave are based on the educational psychology principles". Indigenous Knowledge proverbs were looked down upon by western biomedical education, which shut them out of the school curriculum to promote their own. Katola (2014) argues that the host of challenges Africa is facing can be addressed through the inclusion of African traditional values in the education curriculum. This supports my conviction that proverbs can be amalgamated into the teaching and learning of HIV/AIDS in the Guidance and Counselling curriculum. Gwavaranda (2011) also agrees with my findings that proverbs need to be

documented and used to mitigate the effects of HIV/AIDS by promoting morally responsible citizens. In the next section I discuss *madimikira* (idioms) used to teach Indigenous Knowledge strategies of *unhu* among children.

6.5.2 Madimikira (Idioms)

The study findings revealed that elders informally teach Indigenous Knowledge strategies for HIV/AIDS and disease management to children through *madimikira* (idioms). Idioms are words which have a particular meaning in a language that describe something without using the actual name. *Madimikira* (idioms) are African cultural expressions that contain their worldviews. Like proverbs, idioms are grounded in Shona philosophy.

The findings revealed that the elders traditionally used *madimikira* to inculcate the values of *unhu*. I picked some of the examples of idioms used by elders from the *padare*conversation meetings. One of the examples was from *Gogo*Bhero (CCP, 18 July, 2017) who mentioned that "*tinodzidzisa vana vabvezera kuti vasaita meso meso*" (we teach sexually active boys and girls to have self-control and to abstain from sex). The idiom "*kuita meso meso*" means lustful behaviour when a girl or boy has many lovers. The idiom targets sexually active boys and girls. The idiom fosters the virtue of self-control, abstinence, faithfulness thereby encouraging moral behaviour and moral values of honesty. *Gogo*Bhero further mentioned that the Shona cultural context does not allow premarital sex and multiple sexual partners. It emphasises both self-respect and Shona ethos of *unhu*. The virtue of self-control is essential in reducing the risk of HIV infection. Another example was from *Sekuru*Chatsika when he said "*vana vaiita misikanzwa vaikangirwa nyimo kumusana*" (boys and girls who displayed immoral behaviour were physically punished by elders) (*Sekuru*Chatsika, SCP, 11 April, 2017). The idiom "*kukangirwanyimokumusana*" means instituting physical punishment.

Idioms are an essential part of the African culture because, through them, *unhu*, cultural identity, communal unity, ethics and beliefs are realised. It is my conviction that *madimikira* (idioms) have instructional, pedagogical and communicative values which are critical for the teaching and learning of HIV/AIDS in the classroom. The study findings revealed that the elders also taught Indigenous Knowledge strategies for disease management and HIV/AIDS through song and dance. I discuss examples of the songs the elders used in the next section.

6.5.3 Dzimbo dzechivanhu (traditional songs)

The participating elders mentioned that they disseminated their Indigenous Knowledge strategies for disease management, inculcated moral values and modified children's sexual behaviour through *dzimbo dzechivanhu* (traditional songs) and instruments. The traditional songs were created and composed by people from their cultures. *Sekuru*Chingau appraised the value and importance of traditional songs when he said "*Dzimbodzedudzechinyakaredzinedzidzisoyeduyoseyechivanhu*" (our Indigenous Knowledge teachings are locked in traditional songs). *Sekuru*Chingau further mentioned that traditional songs are an effective medium for sharing proverbs, idioms, values, norms and cultural taboos with children. It is the process that teaches the adolescents right and wrong, obedience, social responsibility and sexual behaviour. *Gogo*Bhero mentioned that girls were taught about sex and sexuality during *chinamwali*training through songs and dance. The *chinamwali*songs, according to *Gogo*Bhero, contained messages of advice as well as taboos which the girls needed to observe. Below are some of the traditional songs from the findings used for moral education, sex education and behaviour modification with their literal English translation and moral implications.

6.5.3.1 Moral education song on sexuality and hygiene

Below is one of the songs sung during the *chinamwali*ceremony for girls as shared by *Gogo*Bhero of the Chewa culture and her colleague:

Mama manditumа*, ngoyani mukoni ngoya wee ngoya, kondendakaripandende,*

Kudavira*: kodendakaripandende*

Kushaura*: karipandendewodenhamwari wanga*

Kushaura*: karipandendewodenhamwariweee*

Kudavira:*Kondendakaripandende*

ChewaMoral education song on sexuality and hygiene	**English Literal Translation**
Kushaura; *Mama manditumа, ngoyanimukoningoya wee ngoya, kondendakaripandende,*	**Lead singer**; Its immoral and taboo to leave your blood stained pants in the open lets go and hide it,
Kudavira*: kodendakaripandende*	**Response**: you left your blood stained pants in the open

Kushaura*:* *karipandendewodenhamwari wanga*	**Lead singer**: you left your blood stained pants in the open its taboo
Kushaura*:* *karipandendewodenhamwariweee*	**Lead singer**: you left your blood stained pants in the open its taboo
Kudavira *;Kondendakaripandende*	**Response**; you left your blood stained pants
	in the open

*Gogo*Bhero and her colleague sang the song melodiously. They explained that*karipandende*means "you left your used pants soiled with menses in the open". They stated that the song warns girls of a cultural taboo, which was strictly to be observed during their menstrual period. It was during *chinamwali*ceremony that girls were taught not to leave their blood stained pants where the father could see them, especially during their menstrual periods. *Gogo*Bhero said it was taboo for the father to see his daughter's soiled pants from menses as this would curse the girl with barreness If it happened, the mother would secretly take the girl without the father noticing and advise her to hide it. The findings reveal that the song and its taboo also promoted menstrual hygiene and the father's respect of the girls.

6.5.3.2 Moral education song on respect for adults

*Sekuru*Chingau of the Shona Korekore culturestated that they usedtraditional songs to educate boys on moral and sexuality education, and on respect for adults. The songs would focus on facts about growing up and were targeted at boys who were still *Mugota*(unmarried boy's bedroom). Below is one example of the moral education song on respect for elders which *sekuru*Chingau shared during my home visit:

Kuvamba*: Dzukutumukweremwe*

Kudavira*: Waonazavakuruusaseka*

Kuvamba*: Dzukutumukweremwe*

Kudavira*: Waonazavakuruusaseka*

Kuvamba*: Dzukutumukweremwe*

Kudavira*: Waonazavakuruusasekaaaaa*

(*Sekuru*Chingau, home visit, Shona Korekore, 17 July, 2017).

Shona/Kore kore moral education song on respect	**English Literal translation**
Kuvamba*: Dzukutumukweremwe*	**Lead singer**: You boy child
Kudavira*: Waonazavakuruusaseka*	**Response**: Do not ridicule or laugh at your elders mistakes
Kuvamba*: Dzukutumukweremwe*	**Lead singer**: You boy child
Kudavira*: Waonazavakuruusaseka*	**Response**: Do not ridicule or laugh at your elders mistakes
Kuvamba*: Dzukutumukweremwe*	**Lead singer**: You boy child
Kudavira*: Waonazavakuruusasekaaaaa*	**Response**: Do not ridicule or laugh at your elders mistakes
Kuvamba*: Dzukutumukweremwe*	**Lead singer**: You boy child
Kudavira*: Waonazavakuruusaseka*	**Response**: Do not ridicule or laugh at your elders mistakes

The song portrays advice given to a boy with no moral values or respect for elders. The boy who lacked morals would laugh at an elderly person sitting indecently. The boy would invite his peers to laugh at and embarrass the elderly person. *Sekuru*Chingau described the child in the song as "*mwanaasinakurairwa, asinatsika, asinahunhu*" (a child with no respect and moral values). The song then advises the boy that, if he sees an elderly person who is not sitting decently, he should not laugh or invite friends and peers to embarrass him/her. A boy with moral values would pretend that they have been sent to call that elderly person so that he/she stands up. Boys and girls were not allowed to stand in front of seated adults. It was considered as lack of respect.

6.5.3.3 Sex and sexuality education song for marriage preparation

In addition, the Chewa culture use songs during the *chinamwali*ceremony to advise and prepare girls for marriage. Below is one of the songs the elders shared:

Kuvamba: *Guraaa*

Kudavira:*Yaayayiguraaa*

Kuvamba:*Guraaa*

Kudavira: *YaayayayiGuraaaa*

Kuvamba:*Sefaaaaa*

Kudavira:*Yaayayayisefaaaa*

CHEWA SONG	ENGLISH literal Translation
Kuvamba: Guraaa	Lead singer:Thank you
Kudavira:ResponseYaayayiguraaa	Response ; Yes thank you
Kuvamba: Guraaa	Lead singer: Thank you
Kudavira: YaayayayiGuraaaa	Response: Yes thank you
Kuvamba: Sefaaaaa	Lead singer: well done
Kudavira: Yaayayayisefaaaa	Response: Yes well done
Kuvamba: Guraaa	Lead singer: Thank you
Kudavira:ResponseYaayayiguraaa	Response ;Yes thank you

(CCP,18 July,2017).

The adults explained that *Sefaaa* means a satisfactory action performed by a woman in bed, which was meant to please her spouse. *Guraaa*meant satisfactory love play by a man with his spouse (CCP, 18 July, 2017). This song was designed to prepare children for marriage and their love life. The elders mentioned that the elderly women mimicked a demonstration of the action. This was meant to train the girls on how to perform in bed after marriage. The elders mentioned that the song and performance was meant to promote future sexual satisfaction and faithfulness between partners after marriage. In my opinion, faithfulness in marriage contributes to the control of sexually transmitted diseases, including HIV/AIDS.

6.5.3.4 Moral education song on cultural values of respect and unhu

Below is an example of a song from the elders (TCP, 4 April, 2017) on cultural values of respect and *unhu* with its English literal translation and moral implications:

Tonga	**English literal translation**
Buntu – Bwesu	Our Being
Yakaswekelakulimikkuliyesu, *Bwakabbililakulibuntubwesu* *Balikulibalemekabuntubwesu* *Bakabibililakulibazibuntubwesu* *Muntumuntunkambokabantu*	Where has our culture disappeared to? Where has our spirit of *Ubuntu* gone to? Where are those who respect humankind? Where are those with high regard of a person? A person is a person amongst other persons.
Ndipeiyajilondizwatikelyasunu *Bantu babamensokukankodo,* *Bazyanababajischidumbu,* *Bejilobaliykulyanga, nkabalemeka* *Muntumuntunkambokabantu*	Bring back "the yesterday" I will bury "the today" They have eyes at the back of their heads. They dance even when carrying a corpse, In the past they were full of humility and respect A person is a person amongst other persons.
Mawee! *Bana walyambakabalabongabalyamba,* *Zyanguzyalizyakojilo,* *Sunuzyabazyakomumudima!* *Ndilemekandikulemeke* *Muntumuntunkambokabantu*	Beware! You warn a child, he or she will answer back, Everything I had we shared in public, Today it is all yours when you are out of public eye, Respect me and I give you honour, A person is a person amongst other persons.

	Let's build the spirit of *Ubuntu* and build
Ngatuyakebuntubwesutuyakechisichesu,	the nation, Let us live in harmony, our Lord
Tukazikanealumuno, Mwamiatumywe.	will hear us.
Katulemekana,	Respecting one another, united as a nation,
katulantomwembulichisi,	Let us pull together paying respect to each
Tudonse! antomwekatuzibisyana,	other, A person is a person amongst other
Muntumuntunkambokabantu	persons.

The song is designed to lament on the loss of respect and *unhu* cultural values. The song also reveals how young children have lost respect for elders. In my opinion, the loss of respect for elders by children has negative implications for the teaching and learning and mitigation of HIV/AIDS. The song calls people to unite and build the indigenous ways of *unhu* cultural values of respect for each other.The study findings concur with literature that it was through the traditional songs that facts and moral values of society were passed from one generation to the next. Songs are the most compelling manifestation of human cultural heritage. Important stages of life are often marked with songs.

There are lullabies, children's game songs and music for adolescents' initiation rites, weddings, title taking ceremonies, funerals and ceremonies for ancestors which are peculiar to all the ethnic groups (Ogunridade, 2014). Traditional music is rich in historical and philosophical issues validating communally binding social values, warning erring members of society, praising people to whom honour is due, reminiscing on the achievements of the past leader as well as reinforcing the legitimacy of the present (Ogunridade, 2014).

My study findings concur with Ojukwu and Esimone (2014) who observe that, in a cultural setting, moral education is best channelled through folk songs because it is a wonderful medium for sharing proverbs, idioms, values, norms, duties and obligations of different groups of people in the community. It is the process that teaches adolescents right and wrong, obedience, civil responsibility and sexual behaviour. Knowledge gained through music stays in the memory for a long time (Idamoyibo, 2010).

The findings revealed that the elders used moral songs to set moral standards for distinguishing what is right from wrong in the society. The findings concur with Ojukwu and Esimone (2014) who

observe that training of an Igbo child through folk music is a solid foundation, which remains with him at all times. Ojukwu and Esimone (2014) further content that the outside influences and rapid technological challenges cannot erode the basic elements, educational and moral values of folk music already imputed in a child at early developmental stages of life.

The elders and Guidance and Counselling teachers concurred that, in order to make music education on HIV/AIDS more meaningful, practical, relevant and applicable to the students, the Guidance and Counselling curriculum from primary school should make traditional songs the foundation of music education. Despite the fact that indigenous education comes from traditional songs that play a vital role in the process of cultural transmission, they are not documented and are easily forgotten. Hence the documentation of some of the traditional songs in this study.

6.6 The *Nhaka* (heritage) Knowledge strategies concept of Mazowe Gold Mine Community

This chapter has shown that the Shona, Chewa and Tonga cultures of Mazowe Gold Mine community are rich in Indigenous Knowledge strategies for disease management, including HIV/AIDS. The participating elders described the Indigenous Knowledge strategies as "*nhaka*knowledge strategies" which means inherited knowledge from their ancestors. The Shona Dictionary defines *nhaka* as "that which comes from the circumstances of birth; a condition or quality transmitted by ancestors, inherited lot or portion." I will use the term *nhaka* knowledge strategies to refer to Indigenous Knowledge strategies existing among the Shona, Tonga and Chewa cultures of Mazowe Gold Mine Community for context specificity in the following chapters.

The *nhaka* knowledge strategies provide insight into the mining community's rich sources of IKHIV/AIDS management strategies. *Nhaka* knowledge is culture specific and is at the disposal of every member of that culture. The study findings have shown that there are many IKHIV/AIDS management strategies among cultures and therefore a careful selection of what to include in the amalgamation was necessary. *Nhaka* knowledge strategies in this thesis are documented in a way that resembles their oral existence within the cultural milieu, making it easier for amalgamation.
For example, different *nhaka* knowledge strategy aspects for the curriculum can be drawn from the Mazowe Gold Mine community concept shown in Table 6.1 below.

Table 6.1: Examples of *nhaka*aspects for possible inclusion in the HIV/AIDS Life Skills Guidance and Counselling curriculum for secondary schools

G&C Curriculum aspect	***Nhaka* Knowledge HIV/AIDS management strategies aspect for possible inclusion in the G&C curriculum**
Purpose (why)	Behaviour modification and regulation of youth sexuality cultural strategies for HIV/AIDS management in a way that gives children wisdom for behaviour change to overcome problems in the community which expose them to HIV/AIDS
Enterprise (by whom)	Knowledge holders (cultural elders and Guidance and Counselling school teachers
Content (what) Pedagogy (how)	- Regulation of youth sexuality cultural themes as topics viz. sex and sexuality education strategies - Behaviour modification cultural strategies as topics, moral education, social sanctions, cultural myths, taboos, values of *unhu*, peer education etc. - *Tsumo*(proverbs) - *Madimikira* (idioms) - *Dzimbo*(traditional songs/music) - traditional dance - poems - Indigenous games - *Ngano*(folk stories) - Listening
Place (where)	Both at school premises and natural settings in the community

Some aspects of the *nhaka* knowledge strategies suggested in Figure 6.1 are too broad. For example, strategies for behaviour modification may need to be unpacked using more themes. Pedagogically, several strategies like *dzimbo dzechivanhu* (traditional songs) can be used in different sections, for example, the traditional song by Tonga cultural elders. Cultural songs, according to Mpofu (2016), align with principles of community-based pedagogy, which opens opportunities to use a multitude of teaching methods. Community based pedagogy enhances cultural relevance of biomedical and westernised classroom science to indigenous learners. Without comprehensive documentation, some knowledge aspects could easily be left out of the curriculum.

6.7 Chapter Summary

This chapter has addressed Indigenous Knowledge strategies for HIV/AIDS management in Mazowe Mining community. It has shown that the IKHIV/AIDS management strategies or *nhaka* Indigenous Knowledge strategies of Purpose, Enterprise, Content, Paradigm and Pedagogy are complex and interrelated into a broad multidimensional HIV/AIDS management system. The importance of building this knowledge is a critical resource process for curriculum development. This documented body of knowledge makes it easy for amalgamators to extract aspects for amalgamation into the teaching and learning of HIV/AIDS and Life Skills in the Guidance and Counselling curriculum. I agree with Mpofu (2016) who posited that it is from the complex cultural knowledge that a balanced school curriculum can be developed, in this case, the HIV/AIDS Life Skills Guidance and Counselling curriculum for secondary schools currently offered in Zimbabwe.

Chapter Seven discusses the Biomedical Knowledge strategies for managing HIV/AIDS in the Mazowe Mining community for possible amalgamation in the Guidance and Counselling curriculum for secondary schools.

CHAPTER SEVEN: FINDINGS 2: BIOMEDICAL KNOWLEDGE STRATEGIES FOR HIV/AIDS MANAGEMENT IN MAZOWE MINING COMMUNITY

7.1 Introduction

This chapter provides findings and answers to Sub-research Question 2: How is HIV/AIDS managed biomedically in the mining community of Zimbabwe? These answers constitute findings on HIV/AIDS Biomedical Knowledge management strategies in Mazowe Mining community. These strategies emerged from the data generated from interviews with the Mazowe Mine Clinic Sisterin-charge, the Social WelfareOfficer, HIV/AIDS and Life Skills Education, Guidance and Counselling teachers**,** DREAMS and ROOTS project coordinators of Mazowe mining community, theHeadmaster of Shingirirayi Secondary School and the Zimbabwe National AIDS Council (NAC) representative.

This chapter is organised in the following themes;

- Regulation of youth sexuality
- Behaviour modification
- Individual responsibility
- Biomedical Knowledge teaching methods

The results are discussed under each theme in blended languages. I will predominantly use English and Shona. This is done in order to keep meanings conveyed in interviews as close as possible to the languages used by participants who code switched between English and Shona. I also used English titles (Sr, Mr, Mrs and Miss) in referring to adult participants during interviews. I did this in order to uphold the philosophy of *unhu* where respect is key. I have used italics for Shona responses from participants and have provided English translations within the context of discussions. The Biomedical Knowledge strategies the participants hold need to be documented for easy reference during amalgamation with Indigenous Knowledge strategies in the Life Skills, HIV/AIDS Guidance and Counselling curriculum. This chapter concludes with a summary.

The study findings revealed that various stakeholders in Mazowe Gold mining community employ Biomedical Knowledge strategies for disease management. The BKHIV/AIDS strategies in this study emerged in five dimensions: enterprise (who?), paradigm (their worldviews), purpose (why?), content (what?) and pedagogy (how?). The BKHIV/AIDS strategies emanated from four themes:

regulation of youth sexuality, behaviour modification, individual responsibility and biomedicallearning methods, which are highlighted in, Figure 7.1 below;

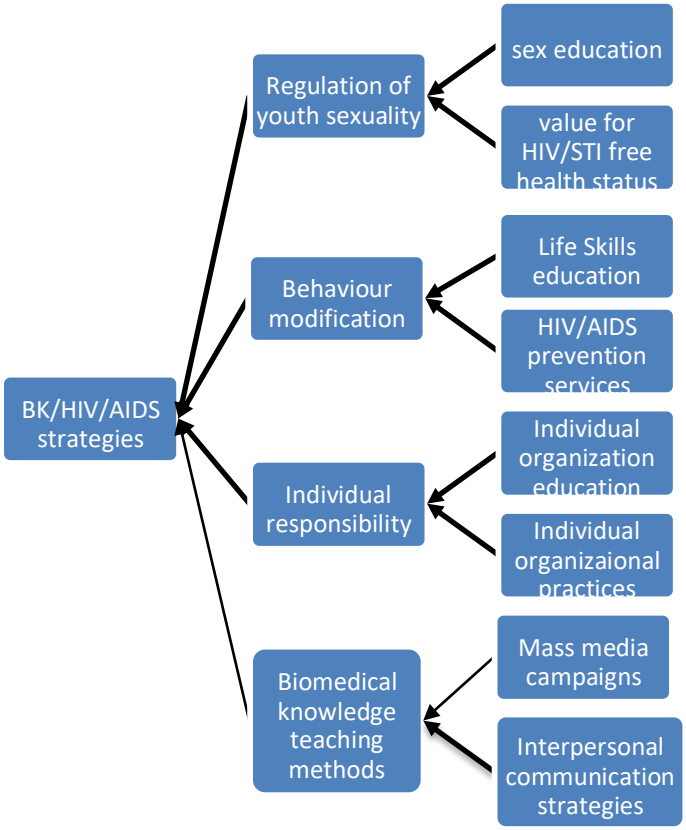


Figure 7.1: Biomedical Knowledge strategies for HIV/AIDS management

The themes, regulation of youth sexuality, behaviour modification, individual responsibility and Biomedical Knowledge learning methods are discussed in the next sections.

7.2 Regulation of youth sexuality

The study findings from the interviews revealed that strategies for regulating youth sexuality included sex education and value for an HIV/STI free health status.

7.2.1 Sex education

Sex education is the provision of information about bodily development, sex, sexuality and relationships along with skills building to help young people. Sexuality education involves teaching

about human sexuality including intimate relationships, human sexual anatomy, sexual reproduction, sexually transmitted infections, sexual activity, sexual orientation, gender identity, abstinence, contraception and reproductive rights and responsibilities (Bruner & Mattson, 2016). My study findings revealed that the outbreak of HIV/AIDS has given a sense of urgency to sex education as an essential public health strategy. They showed that, biomedically, sex education for regulation of youth sexuality in Mazowe Gold Mine community, mainly focuses on delay of sexual debut and abstinence to prevent young people from getting infected with STI/HIV and to reduce the risk of early pregnancy. The study concurs with Flowers et al. (2017) who posit that sex education has focused on programs such as delaying sex until they are older, using condoms and contraception when they do have sex, reducing the frequency of sex and the number of sexual partners to help young people to change specific behaviours related to preventing pregnancy and STIs. Observations from data collected show that the purpose of Biomedical Knowledge sex education is different from that of the Indigenous Knowledge strategy, which promotes abstinence among young people for the value of chastity in marriage. Interview responses by participants describe how their organisations conducted sex education among young people.

Sr Mutya mentioned that the impact of HIV/AIDS and STIs is worrying in the Mazowe Gold Mine community and requires intensive awareness and sex education. The mining clinic operates in line with the Ministry of Health and Child Care (MOHCC) policy and guidelines. The clinic provides sex education to young people during provision of Voluntary Counselling and Testing and Voluntary Medical Male Circumcision in collaboration with the Ministry of Health and Child Care. It distributes health Information, Education and Communication (IEC) materials on sex education from the MOHCC to the mining community, including the schools. The nurses also provide sex education and counselling through one-on-one sessions to sexually active adolescent clients at the clinic. The one-on-one sex education and counselling sessions cover the basics about STIs, HIV/AIDS, sexuality and choices when engaging in sexual activity, especially the importance of using condoms to reduce infections and unwanted pregnancies. The nurse mentioned that the clinic mainly provides sex education at Shingirirayi Secondary School, Mazowe Primary School and Stories Primary School in Mazowe Gold Mine community through school health programs. The schools in Mazowe Gold Mine often invite clinic health nurses to facilitate health topics, including sex education and HIV/AIDS, among teachers or pupils. The findings also revealed that, during

school health programmes, the nurses provide information on sex and sexuality education, adolescence and puberty, reducing unwanted pregnancies and basics about HIV/AIDS and Sexually Transmitted Diseases. Nurses expressed that talking with adolescents about sex, their sexuality and STI/HIV prevention can lead to complicated conversations, as Sr Mutya explained:

> "*During school health programs, we often face challenges when addressing a mixed group of adolescents consisting of sexually active and those that have never been involved in sexual activities. Our focus on adolescents' sexual health is mostly on dangers of early pregnancy and their HIV status and not their virginity. The challenge comes on sharing information on the roles of both delaying sexual activity and on the use of condoms for STI/HIV prevention and for the prevention of unwanted pregnancies. At the same time, talking about condoms with pupils in school is very controversial. Most parents in the community are against the teachings on sex, sexuality, contraception and condoms to young people which they say encourages early sexual activity. At the same time, we are currently overwhelmed with work and cannot sufficiently provide sex education to young people without support. We therefore encourage parents, through community awareness programmes, to share the responsibility of providing sex education and STI/HIV/AIDS education to their children. We also invite community drama groups to provide STI/HIV/AIDS awareness at the clinic for the benefit of every client including young people*" (Sr Mutya, SIC interview, 21 July, 2017).

The above excerpt indicates that there are limitations to the provision of sex education to adolescents in schools. The findings concur with Murname et al. (2013) that, in Zimbabwe, as in many other countries, there is ambivalence about promoting condoms to young people. It is not permitted in schools thereby undermining their effectiveness. The focus of sex education on adolescent HIV status and dangers of early pregnancy by the clinic in the above excerpt also indicates a lack of collaboration between the western oriented health sector and the community which values virginity, values of *ubuntu* and marriage. Collaboration of community and western oriented health sector approaches may strengthen the provision of sex education for mitigation of HIV/AIDS among young people.

The limitations of the provision of sex education to adolescents are further fuelled by prohibitive health policies. The mining clinic, with support from Ministry of Health and Child Care, provides free outreach Voluntary Counselling and Testing services at a temporary site on the school premises for teachers, pupils and school staff. The study findings revealed that the clinic nurses face

challenges regarding provision of counselling and testing to adolescent pupils under 16 years who do not want their parents or guardians to know about it. The nurses are guided by the Zimbabwe National Guidelines for HIV Testing and Counselling in Children and Adolescents (2014) which stipulates that "the consent of parent or caregiver is required before providing HIV Testing and Counselling for a child who is below 16 years of age". This age of consent for HIV testing means that people younger than 16 years have to get parental consent. This is more likely to result in a young person not getting an HIV test when discussions with parents around sexual relations and HIV are necessary. The findings concur with UNAIDS (2017) that, in most countries, parental consent is needed for young people to have an HIV test. As a result, many young people report that health care workers have negative attitudes towards young people seeking Sexual Reproductive Health services, particularly those having sex under the age of consent, engaging in same sex relationships or using drugs. Prohibitive policies discourage young people from seeking contraception, STI check-ups and HIV testing thereby fuelling HIV/AIDS (Restless Development, 2012).

Interview findings with MrsKalima revealed that the Social Welfare Office addresses issues on livelihood and welfare of people in the mining community and provides sex education to young people. Study findings also revealed that the Social Welfare Officers conduct awareness campaigns on sex education to youth in and out of school in Mazowe Gold mining community. The Social Welfare Office conducts sex education awareness programs on child sexual abuse, prevention of unwanted pregnancies, STI/HIV/AIDS and on prevention of Gender Based Violence (GBV) in Mazowe Gold Mine community and neighbouring farms. MrsKalima mentioned that Social Welfare works in collaboration and as a team with the mining Safety, Health and Environmental Quality Department (SHEQ) and the clinic staff during awareness campaigns because some health topics require expertise. On the other hand, the Social Welfare Officer mentioned that the department is short staffed and does not have adequate resources to intensify awareness programmes in and out of schools:

> "*The mine does not have adequate resources. Social Welfare Department only managed to conduct one awareness program in 2017 with Form Four pupils of Shingirirayi Secondary School. It is also demotivating because the pupils underrate the program and are not keen to attend the awareness*

programs which they say is time wasting because HIV/AIDS is not an examinable subject. We sometimes end up just sharing the information with the teachers" (MrsKalima, SW interview,2017).

The above excerpt points out the lack of resources and marginalisation of the HIV/AIDS programs as a limitation to the provision of biomedical HIV/AIDS and sex education among adolescents in the mining community. Study findings revealed that Shingirirayi Secondary also offers sex education and STI/HIV/AIDS education as explained by MrNhundu:

"*The school has science teachers responsible for Guidance and Counselling, HIV/AIDS and Life Skills education. Teachers conduct lessons on HIV/AIDS in classes from Form 1 to Form 4 and are guided by the Guidance and Counselling curriculum. The school also invites partners with expertise to give inputs on sex education and particular topics for pupils to make informed and positive choices about healthy relationships, responsible sexual activity and for their reproductive health. One of our Guidance and Counselling teachers coordinates the DREAMS initiative which operates at the school to provide education on the health of adolescent girls and young women. The school has allocated space for the DREAMS initiative to operate from*" (MrNhundu, SSH interview, 25 July, 2017).

Findings with the Guidance and Counselling science teachers of Shingirirayi Secondary School revealed that, apart from conducting lessons, they provide one-on-one counselling to pupils with specific challenges. The teachers expressed that they also train and mentor peer educators to help implement the program in the school. Mr Besa, one of the Guidance and Counselling science teachers stated that they invite and work in collaboration with other service providers and professionals to complement their efforts in providing sex and sexuality, STI/HIV/AIDS education and to provide IEC materials on STI/HIV/AIDS to pupils. Some of the challenges the teachers face are that they do not have adequate literature and skills to teach sex education and to provide counselling to pupils. Mr Besa further stated**,**

"*As teachers, we lack skills to talk to pupils about sex as well as counselling skills. We therefore sometimes invite the equally busy Mazowe Mining Clinic nurses to bail us out by providing information to pupils on some technical topics on sex education and counselling, which we find difficult to articulate*" (Mr Besa, GCST-I, 25 July, 2017).

In Mazowe Gold Mine, sex education is also provided through the DREAMS initiative. DREAMS, which is an acronym for Determined, Resilient, Empowered, AIDS free, Mentored and Safe, is a

partnership initiative to reduce new HIV infections among adolescent girls and young women by 40 percent in ten sub-Saharan countries including Zimbabwe. The United States President's Emergency Plan for AIDS Relief (PEPFAR) provides support for the DREAMS Initiative in Zimbabwe. The initiative is coordinated by the National AIDS Council (NAC) in collaboration with the Ministry of Health and Child Care and other ministries. USAID is working with seven primary partners to implement DREAMS. They are: Africaid, Family AIDS Caring Trust. Population Services International, Population Services Zimbabwe, Southern Africa HIV and AIDS Information Dissemination Service (SAFAIDS), UNICEF and World Education International. The DREAMS Initiative is operating in six districts in Zimbabwe: Bulawayo, Chipinge, Gweru, Makoni, Mazowe and Mutare that are regarded as "hot spots" for HIV in Zimbabwe.

An interview with Mazowe District AIDS Action Committee (DAAC) member who is the National AIDS Council representative, MrsMudo, stated that Mazowe Mine community is part of the DREAMS initiative. She added:

> "*The DREAMS initiative provides sex education and empowers adolescent girls and young women to protect their health and wellbeing. The DREAMS initiative seeks to promote the prevention of new HIV infections among adolescents and young women. It promotes abstinence among adolescents. It is believed that empowering adolescent girls and young women and strengthening family and community support structures is key to stopping the spread of HIV and for achieving an AIDS free generation. Adolescent girls and young women account for a higher number of new HIV infections in Zimbabwe and world over. This key population remains a window of hope for an HIV free generation. Under the DREAMS initiative, adolescent girls and young women are provided with a package of services that include HIV testing and counselling, risk reduction information, pre- and post-exposure prophylaxis prevention, and gender based violence support, family planning, social protection, life skills education, vocational training educational subsidies and economic assistance to caregivers of vulnerable girls. We are excited that, as a coordinating body, the DREAMS initiative now aims to expand access to Voluntary Medical Male Circumcision and Antiretroviral therapy for adolescent boys and young men. We work with DREAMS ward facilitators and Guidance and Counselling science teachers from schools in the Districts. In Mazowe District, the project operates in the mining community and at Shingirirayi Secondary School*" (MrsMudo, AAC interview, August, 2017).

The Mazowe District AIDS Action Committee member, MrsMudo, coordinates HIV/AIDS awareness programmes through road shows, drama and distributes IEC HIV/AIDS materials on sex education in Mazowe mining community, including in schools, on behalf of the National AIDS Council. The District AIDS Action Committee (DAAC) member also coordinates the commemoration of National AIDS Day in the mining community where young people actively participate. Findings from the interview with the DREAMS ward facilitator for the mining community revealed that the initiative biomedically provides sex education to orphans and vulnerable adolescent girls and young women in both formal and non-formal education. The initiative provides school fees only for orphans and vulnerable girls from Form one to four but they have to buy their own uniforms and stationery. DREAMS provides school fees and stationery for girls and young women in non-formal education, especially those who attend night school. The DREAMS ward facilitator also mentioned that parents and guardians of orphans and vulnerable girls are getting 25 United States dollars per girl child through the DREAMS Harmonized Cash Transfer for four years till they complete secondary education.

The DREAMS initiative is run by DREAMSward facilitators in the community and Guidance and Counselling teachers in Shingirirayi Secondary School. The DREAMS ward facilitators, who are mostly Social Welfare Officers in the mining community, also help to identify disadvantaged girls and young women from the community for enrolment in the DREAMS initiative. The DREAMS ward facilitators use drama and group discussions to provide training on facts and prevention of Gender Based Violence (GBV), child abuse, HIV/AIDS, sex education on abstinence, the dangers of early marriage and on the effects of climate change. They provide vocational training to young women and girls out of school. When I probed for clarification on what they teach in relation to the topic on climate change in relation to sex education, the ward facilitator Mrs Njoo, mentioned that,

> "*tinodzidzisa vasikanana anamai vechidiki zvikurusa avo varikubatsirwa ne DREAMS kuenda kuchikoro manheru, kuti mvura ikanyanyisa kunaya uye ikasanaya kunoita nzara. Kudya kunoita kushoma mumba zvinogona kuzokonzeresa kutengesa bonde, kubata zvirwere zvapabonde uye HIV/AIDS, kana kumhanyira kuroorwa nguva isati yaibva. Saka tinovadzidzisa zvakashatira kumhanyira bonde kana kupinda muwanano kana mumba mavenenzara. Tinozovadzidzisa zvemuba toyamaokoyo kuzvimiririra seyokusona*" (MrsNjoo, DREAMS ward facilitator interview, 12 January, 2018).

> (On the relationship between climate change and sex education, we discuss with the girls and young women in the non-formal school under DREAMS initiative that absence of rains or too much of it can cause drought and hunger in the home. Hunger in the home can push one to engage in early sexual debut, prostitution, HIV/AIDS or early marriage. We discuss with them on the dangers of early sexual debut and early marriages which may be driven by drought or compromised by food security. We teach them how to handle the consequences of climate change without exposing themselves to early sexual debut, prostitution, HIV/AIDS or early marriages through encouraging them to engage in small scale projects like mat making, sewing, gardening and selling airtime (MrsNjoo, DREAMS ward facilitator interview, 12 January, 2018).

The above excerpt indicates that climate change influences the sexual behaviour of young people and may predispose young people to early sexual debut and prostitution that fuel HIV/AIDS. Study findings revealed that social workers who are DREAMS ward facilitators also function as ROOTS (Real Open Opportunities for Transformation Services) facilitators in Shingirirayi School and the mining community. ROOTS is funded by the Culture Fund and runs programmes that are similar to those of the DREAMS initiative for girls and young women in schools and in the community. ROOTS biomedically provides and supports education programmes that address the consequences of early marriage, Gender Based Violence and child abuse. Similar to the DREAMS initiative, the ward facilitators provide the program in the community through drama and group discussion meetings. Peer educators also play a significant role in DREAMS and ROOTS initiatives' information dissemination among adolescents and young women. ROOTS services are also provided in schools by the teachers. The ward coordinators for ROOTS and the DREAMS initiatives mentioned that they support culture week and National AIDS Day programmes in schools when there is dissemination of information on GBV, sex education, child abuse and HIV/AIDS. The ward facilitators mentioned that they get allowances for facilitating the ROOTS project unlike the DREAMS project, which does not give them incentives.

Study findings revealed that the Guidance and Counselling teachers coordinate the DREAMS initiative at Shingirirayi Secondary School. They explained that, so far, the project has supported 15 orphans and vulnerable girls, 10 of them with school fees and 15 girls in non-formal education with school fees and stationery from Form one until they complete their Ordinary level education. The Guidance and Counselling teachers provide education during class lessons on GBV, sex education,

abstinence, delay of sexual debut, disadvantages of early marriage, child abuse, HIV/AIDS education and on work readiness as guided by the Guidance and Counselling curriculum. The topics are also addressed during the culture week through drama, songs and poems, to the whole school.

The Guidance and Counselling teachers also mentioned that they sometimes invite outside experts, such as the police, nurses, church members and AIDS Service Organisations to facilitate various topics like sex education, VCT, HIV/AIDS, GBV, child abuse, abstinence, drug and alcohol abuse to pupils in an effort to promote an HIV free generation. There is a DREAMS Desk, 72 hour GBV Desk and an active peer education club which promotes the implementation of the DREAMS initiative in schools. The Shingirirayi Secondary School has provided space for the DREAMS initiative (see Figure 7.2 below).

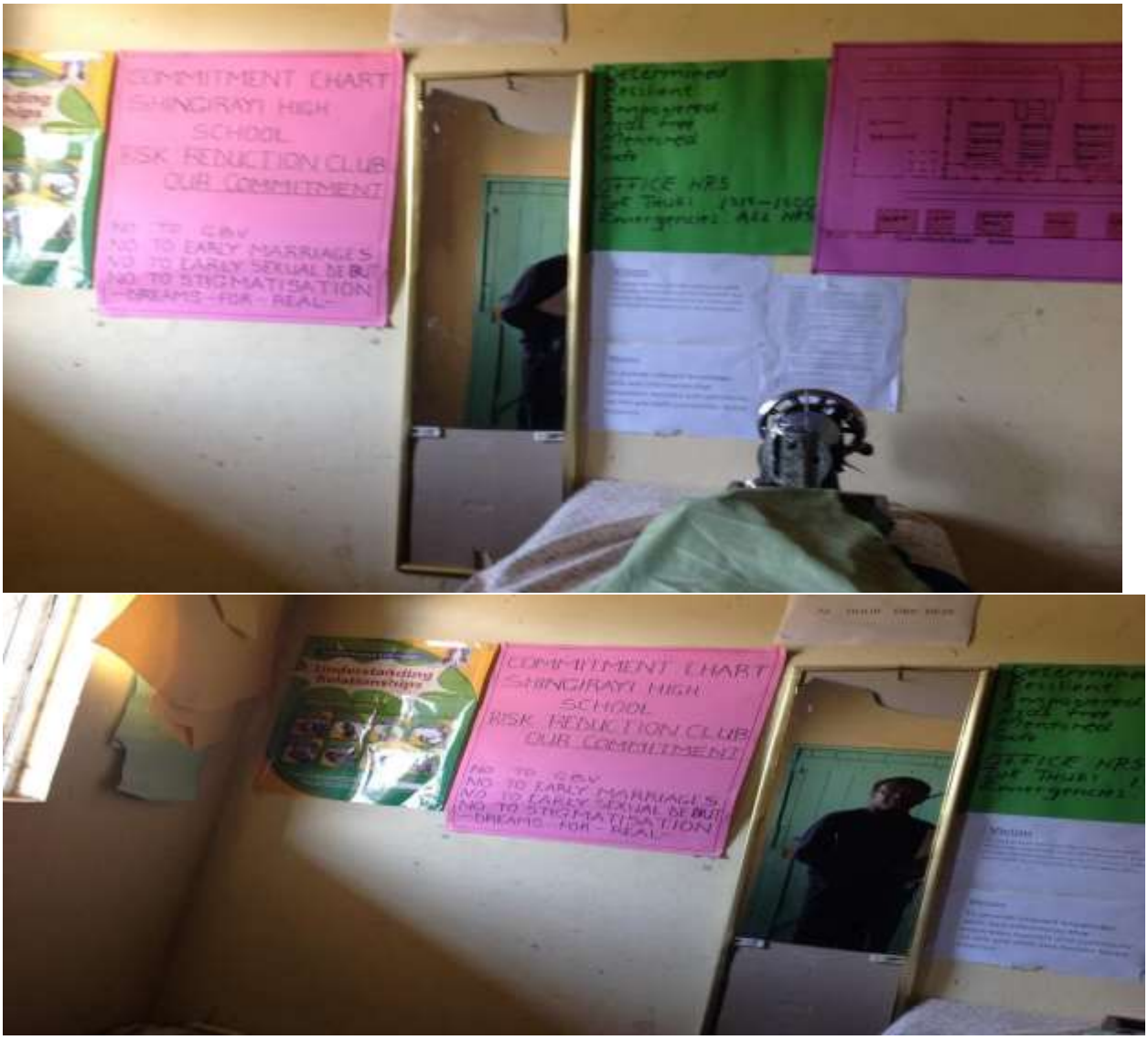


Figure 7.2: DREAMS Initiative space at Shingirirayi Secondary School

The picture on Figure 7.2 shows the Dreams space where the Risk reduction club called DREAMS FOR REAL meets and is committed to;No to sex,No to early marriages,No to early sexual debut and No to stigmatization. The club also engages in skills development and vocational training as indicated by the presents of the sewing machine. The DREAMS initiative seeks to promote the prevention of new HIV infections among disadvantaged adolescents and young women. The DREAMS initiative space displays the office hours,HIV/AIDS risk map of Mazowe Gold Mine,and its vision and mission The vision of dreams initiative is to equip learners and community with necessary information on HIV/AIDS and Gender Based Violence so as to create a safe and healthy environment to all stakeholders. The mission is to provide relevant knowledge skills and information

that empowers learners and the community on HIV/AIDS and Gender based violence. The space clearly shows the commitment of Shingirirayi Secondary School to HIV/AIDS mitigation among learners.

Mr Besa further mentioned that the school refers complicated cases like sexual abuse and physical abuse to other stakeholders, such as the police or to the mining clinic for further intervention services. Findings revealed that the teachers face challenges in articulating sex education and risk reduction to pupils. As reiterated by Mr Besa who expressed that,

> "*I feel I am not adequately trained to teach or talk on sex and sexuality especially to girls. Factually I can transmit book knowledge, but I cannot go deeper to help address the girl child sexual challenges as a male teacher. I feel overwhelmed by the extent of pupils' counselling needs. On the other hand, The Guidance and Counselling and DREAMS initiative rides on the existing work overload for us as science teachers. On the other hand there is inadequate supportive literature for the Guidance and Counselling curriculum*" (Mr Besa, GCST interview, 25 July, 2017).

The above excerpt expresses the challenges the teachers face in providing sex education to pupils in an effort to nurture an AIDS free generation. The findings concur with Campbell et al. (2016) whose study findings revealed that teachers in rural Zimbabwe schools lacked formal Sexual Reproductive Health Rights (SRHR) skills, for example, knowledge about HIV, how to talk to pupils about sex as well as the counselling skills. Many were overwhelmed by the extent of pupils' needs relative to the lack of resources (Campbell et al., 2016).

Some parents and other opponents of sex education contend that the children are not mentally and emotionally ready for the teaching on sex, sexuality, condoms and contraception as they believe that it may promote or encourage sexual activity. The study findings revealed that the mental maturity for sex education is not marked; the subject is taught to any learner as long as he/she is attending secondary education. The targeted age group for sex education in school is not well defined in years apart from the fact that it is conducted in classes/forms. I believe that, in Zimbabwe, every Form/class is a mix of pupils with different age groups and varying sexual behaviours. This mixed group of pupils is inundated with the same sex and sexuality information that may not suit their current behavioural needs and may cause confusion or may influence them to experiment. On the other hand, a wealth of data from studies around the world shows the opposite to be true: sex

education makes existing sexual activity safer and tends to lead to delay in sexual debut (Bruner & Mattson, 2016). Sex education therefore needs to be strengthened for the regulation of youth sexuality to help mitigate the impact of HIV/AIDS among learners. It is my conviction that amalgamating BK/HIV/AIDS with IK/HIV/AIDS strategies in the Guidance and Counselling curriculum may strengthen sex education among learners.

7.2.2 Value for an HIV/STI free health status

The study findings revealed that all the interviewed partners, the Social WelfareOfficers, the nurses, the teachers and AIDS Service Organisations (NAC, MOHCC, DREAMS and ROOTS projects) provide sex and sexuality education as a strategy to prevent and reduce the risks of adolescent pregnancy and HIV/STI. Findings showed that biomedical sex and sexuality education strategies aimed to promote HIV/STI free health status among young people. It is also believed that empowering adolescents and young people is key to stopping the spread of HIV and for achieving an AIDS free generation. Findings from the study participants interviewed indicated that the biomedical focus of sex education strategy is different from that of Indigenous Knowledge which places emphasis on value for marriage relationships. Study findings indicated that sex education offered for young people by the clinic nurses emphasises the dangers of early sexual debut in order to reduce the high prevalence of STI/ HIV/AIDS and teenage unplanned pregnancies in the mining community, as expressed by Sr Mutya of Mazowe mine clinic:

> "*We stress our health education talks and programmes on the benefits of delayed sexual debut, HIV/AIDS and dangers of teenage pregnancy among young people. We, in the health sector, believe that achieving delays in sexual debut among young people is an important abstinence strategy. Despite our efforts, it is worrying that young girls under 15 years of age are still being brought to the clinic in labour or after complicated abortions and with unknown HIV status which is also critical for the unborn baby*" (Sr Mutya, SIC interview, 21 July, 2017).

The nurses also mentioned that the clinic provides STI/HIV/AIDS education and awareness to all age groups in the mining community. The impact of HIV/AIDS in Mazowe Gold mining community, as mentioned by the nurses, is reflected through the following: suffering families, most of the earned money by bread winners channelled for the treatment of opportunistic HIV infections, low morale at work, unhappiness, reduced labour, increase in absenteeism at work, lost shifts, low gold production, low company profits, loss of employees with tacit knowledge, loss of skilled

labour, early retirement of employees due to illness, company resources channelled to support treatment of opportunistic infections, burnout syndrome at work among healthy employees and an increase in the number of sex workers with STIs reporting to the clinic. The high prevalence of HIV among gold panners around Mazowe Gold Mine has contributed to the growing AIDS epidemic in the mining community. Sr Mutya mentioned that the impact of HIV/AIDS in the mining community has increased the health workers' workload. The increased nurse/patient ratio has attributed to nurse burnout syndrome. The work overload and burnout of nurses has compromised the mining clinic's quality of sex education and counselling for adolescents and young people.

Apart from aiming to stem the growing AIDS epidemic through sex education, study findings from the teachers also revealed that their other focus on HIV/AIDS education is to keep the children safe and healthy in school until they achieve their academic goals. MrsDeza mentioned that it is a difficult task because the school faces many challenges that work against their HIV/AIDS education efforts. One of the challenges the teachers face include negative influences from the high prostitution activities at Dexford Liquor Bar, a few metres away from the school premises. There is a high number of sex workers who come for illegal gold panners around Masasa and Mashazhike areas that are close to the school. MrsDeza further expressed:

> "*Prostitution around the school competes against our efforts on regulation of youth sexuality by portraying bad influences on the school children and this, I feel, fuels the HIV/AIDS pandemic among learners. Our biggest worry, as the school together with the parents, is the high pupil morbidity and mortality from STI/HIV/AIDS opportunistic infections. Just recently, in 2016, the school lost a 15-year-old girl from an AIDS related illness. Similarly, one of our Form One pupils aged 13 years fell pregnant and dropped out of school and eloped. Currently, the school, with assistance from MOHCC and AIDS Service Organisations, is tirelessly intensifying sex education on abstinence and delayed sexual debut for the prevention of STI/HIV infections among pupils*" (Mrs D GCST-Interview, 25 July, 2017).

The school headmaster, MrNhundu also added that, apart from fuelling the spread of HIV and STIs, the illegal mining activities around Mazowe Gold Mine has attributed to pupils dropping out of school. He noted:

> "*Munzvimbo ino vanhu vanokutaura kunoti, 'Anemari ndiye mukuru'zvinokonzeresa kuti kana chaputika vana vechikoro vanosarudza kuenda kumakomba vachitiza chikoro. Zvinonyanyotinetsa*

ndezvokuti ikoko kumakomba vanopinda mutsika dzinokonzeresa kuti vabate zvirwere zvapabonde se STIs ne HIV. Kuti tivabate variko kumakomba nedzidziso zvinotiremera savadzidzisi vanodzidzisira muchikoro" (MrNhundu, SSH-interview, 25 July, 2017).

(There is a saying in the mining community that 'the rich are famous, bigger and have more respect'. When there is news of gold discovery near Mazowe Gold Mine, our pupils prefer to drop out of school to join illegal mining activities at the expense of their education. One of our biggest worries is that, during illegal mining activities, they get involved in behaviours that may predispose them to STIs/HIV infections. Engaging these pupils for sex education is a challenge among teachers who are supposed to formally provide HIV/AIDS and sex education in class (MrNhundu, SSH-interview, 25 July, 2017)).

The above excerpts by the teachers indicate that regulation of youth sexuality to promote an HIV free status among learners in the mining community is faced with challenges. Study findings revealed that the social welfare services also provide education to promote HIV/STI free health status among young people. The Social Welfare Officers in Mazowe Mine shared the same sentiments with the teachers and nurses and AIDS Service Organisations that sex education should aim to mitigate HIV/AIDS which has a high impact on the Mazowe mining community. The social worker, MrsKalima, stated that the impact of HIV/AIDS in the mining community is seen through the number of people who die from AIDS related illnesses. For example, in November and December 2016, five Mazowe mine workers died from AIDS related illnesses. A number of HIV/AIDS related still-births were reported in the mining community. MrsKalima also concurred with the teachers and expressed her concern over the prostitution that takes place at Dexford Liquor Bar near Shingirirayi Secondary School. Study findings revealed that the rate of prostitution worried the teachers, parents, health workers, social workers and the community at large. MrsKalima further stated that,

"*Dexford Bar is so close to the school that the pupils easily observe behaviours of intoxicated patrons during school times. The exposure to such behaviours may influence them to experiment and expose them to early sexual debut and expose them to getting STI/HIV infection. Parents have lodged several complaints to the mining authority and requested that the bar be relocated far away from the school. To make it worse, Dexford Bar also hosts all night live bands during which a lot of prostitution occurs. Some of school pupils sneak in to attend the live bands without the police or parents noticing. This works against the HIV/AIDS education the pupils get from school. The patrons even use the bar surroundings for sexual activities during the all night shows. What is most worrying is that after the*

night band shows, used condoms are visibly disposed and littered around the bar area. It is such an eyesore. The biggest challenge is that the indiscriminate disposal of used condoms puts small children in the mining community at risk of getting STI/HIV infection from innocently playing and blowing the used condoms as balloons" (MrsKalima, SWI, 26 July, 2017).

The study findings revealed that the HIV/AIDS awareness and education strategies discussed with school teachers, nurses and AIDS Service Organisations targeted the prevention of STI/HIV/AIDS and teenage pregnancies among young people in the mining community. My findings concur with Bruner and Mattson (2016) who posit that sexuality education has been shown to prevent and reduce the risks of adolescent pregnancy, HIV and STIs. On the contrary, several South African studies highlight the discrepancy between HIV awareness and sexual risk behaviour of young people. A study by Reddy et al. (2013) report high levels of early sexual debut among young people before 13 years of age despite the HIV/AIDS education in school. According to Visser (2017), there are many interacting individual relational and environmental factors that have a stronger influence on high-risk sexual behaviour among young people than the level of HIV knowledge.

My study findings revealed that the biomedical HIV/AIDS education and awareness strategies for regulation of youth sexuality were mainly implemented by nurses, teachers, social workers, professionals from AIDS Service organisations as well as trained peer educators. The findings revealed that the Biomedical Knowledge strategies for regulation of youth sexuality, especially sex education by nurses, teachers and AIDS Service Organisations, have more similarities than differences which make their amalgamation with the Indigenous Knowledge strategies in the Guidance and Counselling curriculum feasible.

My study findings reveal a difference in the focus between the BKHIV/AIDS and IKHIV/AIDS sex education strategies for the regulation of youth sexuality. While the IKHIV/AIDS sex education strategies for youth emphasise the importance of chastity in marriage, the BKHIV/AIDS sex education strategies focus mainly on the prevention of STI/HIV/AIDS and early pregnancy among adolescents and young people. Both the IKHIV/AIDS and BKHIV/AIDS strategies emphasise abstinence among young people. It is my conviction that amalgamating the different purposes of both the BKHIV/AIDS and IKHIV/AIDS sex education strategies in the Guidance and Counselling

curriculum will strengthen the teaching and learning as well as the prevention and management of HIV/AIDS among adolescents and young people.

In the next section, I discuss findings on BKHIV/AIDS strategies for behaviour modification for STI/HIV/AIDS prevention and management employed by the Mining Clinic, Shingirirayi School, Social Welfare, District AIDS Action Committee, DREAMS Initiative and ROOTS in Mazowe Gold mining community. Possible amalgamation of the behaviour modification strategies in the Life Skills HIV/AIDS Guidance and Counselling curriculum is discussed.

7.3 Behaviour modification

The study findings showed Biomedical Knowledge strategies for STI/HIV/AIDS prevention and management, which were drawn from how the clinic nurses, school teachers, social workers and AIDS Service Organizations (NAC, DREAMS, ROOTS) in Mazowe mining community modified and reinforced desired human behaviours. The Biomedical Knowledge strategies for behaviour modification by the participants included life skills education and HIV/AIDS prevention services.

7.3.1 Life Skills education for behaviour modification

If a person changes the way he/she thinks or makes a decision, this can lead to changes in that person's behaviour. Life Skills education is regarded as a lifelong process, which makes a positive and sociable impression in a person's formative years. According to UNICEF, life skills education is a behaviour change or behaviour development approach designed to address the knowledge, attitude and skills (Prajapati, Sharma & Sharma, 2017). Life skills education focuses on the development of sub-systems of an individual with the aim of enabling change in that person and it involves the inculcation of commendable character traits (Visser, 2017).

The study findings revealed that life skills education is a Biomedical Knowledge strategy for youth behaviour modification for STI/HIV/AIDS prevention in Mazowe Gold mining community. In response to HIV/AIDS and in an effort to consolidate risk reduction in schools, the Zimbabwe Ministry of Education declared life skills based HIV/AIDS education as a compulsory component of the curriculum to pupils from Grade 4 to Form 6 and also in tertiary education through education circular No 16 of 1999 (MOESAC-Zimbabwe, 2010). The findings indicated that life skills

education focused on developing young people's knowledge and skills on self-awareness, empathy, critical thinking, creative thinking, problem solving, effective communication, interpersonal relationships, coping with emotions and coping with stress and responsible decision making as abilities for positive behaviour to enable them to deal with STI/HIV/AIDS. Life Skills education, according to study participants, is meant to empower and modify the behaviours of young people in orderto protect themselves and others from HIV infection.

My study findings revealed that Life Skills education is embedded in the Guidance and Counselling secondary school curriculum. The guidance and counselling teachers at Shingirirayi Secondary School also mentioned that life skills are imparted during the peer education HIV/AIDS information and awareness programs, as mentioned by Mr Besa:

> "*The school has a peer education club, DREAMS desk and 24-hour Gender Based Violence (GBV) Desk that provide information and awareness on HIV/AIDS and Life Skills, prevent drug abuse, teenage pregnancy and school drop outs and negative peer pressure in order to promote positive health behaviour among our pupils*" (Mr Besa, GCST interview, 25 July, 2017).

The above excerpt reveals that the school is actively involved in life skills education. Guidance and Counselling teachers mentioned that the peer education club at the school consists of trained peer educators who provide Life Skills education for the prevention of HIV/AIDS, GBV, drug abuse and early pregnancy. The teachers mentioned that the peer educators employ various popular strategies to impart life skills for behaviour change and HIV prevention among peers. As stated by Mrs D:

> "*The school peer education club is very active. The life skills education programs permit open communication and teach young people assertiveness skills about sex. The peer education program uses drama, songs and role plays to promote life skills and positive behaviours among peer pupils. They promote life skills to communicate effectively and assertively including learning to say and mean 'no' when pressured to have sex, especially unprotected sex, which is a very important skill in HIV prevention. Peer educators challenge peers to take control of their sexual decision making, to resist negative peer pressure, avoid intergenerational relationships and to adopt a healthy lifestyle. I believe the peer education club is more influential than what we present in class because they are based on real young people's sexual risk behaviour and the underlying drivers for these behaviours. It's only unfortunate that the impact of the peer education program is not felt because young people*

from the mining community vakaoma misoro(they are very stubborn and hard to teach behaviour change" (Mrs D, GCST-interview, 25 July, 2017).

The excerpt above shows that peer education is regarded as an influential tool for Life Skills education among young people. My study findings concur with Mohapi and Pitsoane (2017) who posit that peers feel comfortable sharing their ideas and concerns. A study by Dunbar et al. (2010) found that life skill sessions were found to be popular among young people and gave them a sense of personal value to resist peer pressure as well as skills to communicate assertively and effectively. A study by Ndebele (2012) found that peer pressure plays a prominent role in most of the risky sexual behaviours among adolescent learners. The study recommends that adolescents should be taught refusal skills, assertiveness and negotiation skills to deal with peer pressure (Ndebele, 2012). The study findings revealed that Shingirirayi Secondary School was trying to modify pupils' behaviours for HIV prevention through life skills education despite challenges expressed by teachers. Mr Besa, one of the Guidance and Counselling teachers, expressed some of the challenges:

"*Apart from all the behaviour modification initiatives through life skills, the school still experiences school drop outs, and teenage pregnancies. What worries most is that teenage pregnancies are a result of intergenerational sex as sugar daddies, mostly from the surrounding illegal mining sector (makorokoza) community, are rampant in the mining community who entice our teenage female pupils with money. One of our school Form one girls, aged 13 years, fell pregnant and eloped with a (mukorokoza – an illegal gold miner) last year. I also feel, as teachers, we are not adequately empowering our students with life skills because we lack those teaching skills apart from pressure of work. The school invites partners with various expertise such as the police, church representatives, MOHCC and NGO representatives to provide awareness and life skills education on STI/HIV/AIDS to our pupils*"(Mr Besa, GCST-I, 25 July, 2017).

The above excerpt indicates that, while the teachers put an effort in life skills education, they do not appear to achieve their objectives of empowering children for positive behaviour change. There are factors that militate against the teachers' efforts in modifying the behaviours of their pupils through life skills education. The teachers mentioned that pupils also find it challenging to implement the life skills learnt due to socio-economic factors around them. Most of Shingirirayipupils come from poor family backgrounds and succumb to risky behaviours for survival. Some of the pupils stay beyond Mazowe Dam, travel long distances to school, sometimes with no bus fare and get lifts from

sugar daddies that expose them to risky behaviour. The teachers also mentioned that some pupils lack role models and live in homes in the mining community where sex work is the norm or are from child headed families and therefore lack the support required to reinforce the life skills they acquired. The findings concur with Coetzee (2014) who posits that young people who are exposed to communication about sex at home showed high self-efficacy, positive attitudes and intentions, responsible decision making, limited risky sexual behaviour and increased knowledge about sex.

The findings also indicated that, while some pupils do not pay attention to the life skills HIV/AIDS teaching, some teachers do not emphasise the topic because it is not examinable. Reinforcing positive health behaviour among pupils was reported to be a challenge. The teachers mentioned that the western laws of discipline in schools have negative connotations in monitoring and modifying children's behaviour. Mr Besa reiterated:

> "*Sometimes our hands as teachers are tied when it comes to school child discipline for behaviour modification. In the school, for example, to discipline a child through physical punishment is regarded as child abuse that may have legal implications*" (Mr Besa, GCST interview, 25 July, 2017).

The above excerpt shows that monitoring and control of child behaviour is a challenge because of a lack of sanctions which include minor physical punishment at school. Study findings revealed that the clinic nurses complement the teachers' efforts by conducting school health programmes at Shingirirayi Secondary School, Mazowe Primary School and Stories Primary School in Mazowe mining community. The school health programmes cover a wide range of health topics which include HIV/AIDS awareness and life skills education on safe sexual behaviour. The clinic nurses also conduct HIV/AIDS awareness programs at the company level in collaboration with Social Welfare and Safety, Health and Environmental Quality Departments (SHEQ). The team, for example, emphasises condom use and condom negotiation skills for STI/HIV prevention among adults. The nurses stated that teaching about the use of condoms by adolescents is controversial in schools.

My study findings revealed that all the interviewed partners (the Social WelfareOfficers, the nurses, the teachers and AIDS Service Organizations – NAC, MOHCC, DREAMS initiative and ROOTS)

provide life skills education to modify behaviour of young people in and out of school mostly through HIV/AIDS information and awareness programs. I observed that there is an overemphasis on HIV/AIDS awareness and prevention and not on the advancement of life-skills that would allow learners to develop healthy behavioural lifestyles. As a result, the school is still experiencing school dropouts from early pregnancy indicating that the young people are not sufficiently equipped with the life skills they require. My findings concur with Govender and Edwards (2009) who affirm that the curricula being implemented in South Africa placed a lot of emphasis on HIV/AIDS information at the expense of life skills expansion. What this entails is that the HIV/AIDS education school format addresses the biology and physiology of HIV without providing students with practical lessons and strategies on how to avoid acquiring HIV. Visser (2017) recommends that, in addition to awareness and knowledge, HIV prevention should include a behaviour change component to assist young people to adopt a healthy lifestyle. Healthy lifestyle includes delayed sexual debut, a reduced number of partners, especially intergenerational partners, protected sex and knowledge of their HIV status. Young people should have the life skills to resist contradicting influences for HIV prevention.

My findings also confirm those of Rushahu (2015) which revealed ineffectiveness of HIV/AIDS and Life Skills delivery in some primary schools in Tanzania. Some of the reasons for the ineffectiveness of life skills education in schools, according to Thaver and Leao (2012), are partly due to a lack of community involvement. Similarly, Section 10.3 of the National Policy on HIV/AIDS in South Africa, also states that the ultimate responsibility for overseeing behavioural changes and development rests with parents. Thaver and Leao (2012) further posit that the ineffectiveness of life skills education in schools could be because some teachers may feel uncomfortable when teaching safe sexual behaviour for STI/HIV prevention as the concept may conflict with their beliefs or the beliefs of the community.

Life skills education for young people in my study was provided by all the interviewed participants who acknowledged that life skills were critical for behaviour change in HIV/AIDS prevention. Participants indicated that effective life skills teaching promotes the learning abilities that contribute to positive health behaviour and positive interpersonal relationships. When life skills education is part of the school curriculum, the indications are that it helps to prevent early sexual debut, HIV

infection and school dropouts. My study findings concur with Puspakmarag (2013) whose findings showed that life skills training was effective in preventing a wide range of problems, such as teenage pregnancies, substance abuse and violence, and promotes selfconfidence and self-esteem among adolescents. Given the role of life skills education in the promotion of positive health behaviour, I believe it is worthwhile ensuring that life skills education programs are strengthened and implemented for adolescents since this age group is vulnerable to behaviour related health problems. Relevant life skills education helps to inculcate the desired behaviour among adolescents. My study findings suggest that classroom science on HIV/AIDS need to strengthen life skills education for HIV/AIDS prevention by amalgamating indigenous strategies in the Guidance and Counselling curriculum. It is possible that students could benefit from Life Skills HIV/AIDS teaching that recognises and amalgamates cultural moral backgrounds. In the next section, I discuss HIV/AIDS prevention strategies used for modifying behaviours and for behaviour change.

7.3.2 HIV/AIDS prevention strategies for behaviour modification/change

Study findings showed that participants used STI/HIV/AIDS prevention strategies to modify and instil safe and responsible sexual behaviour among young people in order to minimise HIV transmission.Some of the STI/HIV/AIDS prevention strategies used by participants to address risky behaviour practices among young people included HIV testing and counselling (HTC), Index HIV Testing, Voluntary Counselling and Testing (VCT), Voluntary Medical Male Circumcision (VMMC), Antiretroviral treatment (ARV) services, condom promotion, contraceptives, Prevention and control of Sexually Transmitted Infections, Pre-Exposure prophylaxis (PrEP). I discuss HIV/AIDS intervention strategies for behaviour modification in the next sections.

7.3.2.1 HIV testing and counselling (HTC) prevention strategy for behaviour modification

Study findings revealed that HIV Testing and Counselling (HTC) is provided by the mining clinic to promote safe sexual behaviour among young people in an effort to mitigate HIV transmission. Study findings showed that the mining clinic in collaboration with Ministry of Health and Child Care as well as an NGO, named ITECH, are the only providers of static and outreach HIV Testing and Counselling services in the mining community. During the provision of HTC services, they provide face-to-face individual counselling and testing aimed at changing risky behavioural practices among adolescents and young people. Studies revealed that it is during the provision of

HTC that the participants address behavioural risks that fuel HIV transmission, such as the dangers of early sexual debut, drug abuse, unprotected sex, sharing needles and other drug use equipment. In order to reach out to people who are less likely to visit the static clinic testing centre voluntarily, the clinic sister mentioned that they provide HTC outreach services, such as the moonlight HTC services. Sr Mutya explained:

> "*We provide what is termed 'moonlight HIV Testing and Counselling' at beerhalls during the night as an outreach service. It is during this time that we come across adolescents who are either in formal education or out of school who do not want to be seen at the clinic during day. We also take the opportunity to counsel the young people individually and discuss about behaviour change as well share information on the prevention and control of HIV infection and STIs. This is another opportunity we take to discuss with them about condom use*" (Sr Mutya, SIC interview, 21 July, 2017).

The above excerpt reveals that HIV testing and counselling needs for adolescents and young people are privately addressed during mobile moonlight testing although there is a static mining clinic. The study findings concur with literature that mobile community HIV testing initiatives are a successful way of reaching people who are less likely to visit a static centre voluntarily (UNICEF, 2017). The above excerpt implies that HTC services provided at the mining clinic during day may not be user friendly or acceptable for adolescents who take the opportunity to be tested during the night at beerhalls. The ability to promote behaviour change requires services that are accessible, acceptable and an environment that encourages such behaviour without any judgement. UNAIDS and UNESCO (2016) agree with the notion that HIV Testing and Counselling services must be open at appropriate times after school and must be at appropriate venues free from stigma, where young people feel safe and where confidentiality is maintained. The clinic sister also mentioned that very few pupils utilise the outreach Voluntary Counselling and Testing services which the clinic provides near Shingirirayi Secondary School. Studies have shown that, in most cases, adolescents and young people underestimate their HIV risk. For example, according to UNICEF (2017), results from 2011-2016 survey showed that only 10% of adolescent boys and 12% of adolescent girls in sub-Saharan Africa had tested for HIV in the previous 12 months.

7.3.2.2 Index HIV Testing and Counselling strategy for behaviour modification

The mining clinic provides Index HIV Testing and Counselling of HIV positive contacts in line with the new Voluntary Counselling and Testing (VCT) guidelines to change behaviours in an effort to control further HIV infection. Index HIV Testing and Counselling involves reaching out to contacts of HIV positive clients after consent has been obtained. Findings from the mining clinic revealed a substantial number of contacts of HIV positive adolescents who received Index HIV Testing and Counselling. The nurses mentioned that most HIV positive adolescents shy away and do not disclose their contacts especially if they are married sugar daddies. Lack of sexual contact disclosure by HIV positive adolescents was said to create missed opportunities for the Index HIV Testing and Counselling services.

7.3.2.3 Voluntary Counselling and Testing strategy for behaviour modification

The mining clinic, Ministry of Health and Child Care and ITECH provide Voluntary Counselling and Testing for adolescents in and out of school as discussed in section 7.2. This approach is also known as Client Initiated Testing and Counselling (CITC) which requires that the child/adolescent or parent/caregiver proactively seeks HTC services (MOHCC, 2014). Study findings indicated that it is during pre- and post-test counselling that the participants modify behaviours of adolescents and young people by emphasising the reduction of behavioural risks that fuel the transmission of STI/HIV infection. Voluntary Counselling and Testing, according to study participants, provides young people with an opportunity to learn about their HIV status, how to avoid risky behaviours that may lead them to get HIV infection, responsible behaviour for not spreading HIV as well as get information on available medical services and support groups. Some of the challenges faced by participants in providing Voluntary Counselling and Testing are the issues around the legal age of consent for children as discussed earlier in section 7.2.

7.3.2.4 Voluntary Medical Male Circumcision (VMMC) strategy for behaviour modification

The study findings revealed that the mining clinic, in collaboration with the Ministry of Health and Child Care District Hospital, also provide Voluntary Medical Male Circumcision Services (VMMC) for modifying behaviours of male adolescents and young men. VMMC is part of the comprehensive HIV prevention package which reduces HIV risk by up to 50% as well as chances of STI acquisition and transmission (Zimbabwe Health Sector HIV Prevention Strategic Framework 2007-2010). The

nurses stressed that, before the VMMC procedure, they provide intensive counselling to prevent high risk sexual behaviour that may result from a false sense of protection. Sr Mutya mentioned that VMMC is integrated with other HIV prevention services. It is preceded and linked to HIV Testing and Counselling services which promote healthy positive behaviours and regular HIV testing among male adolescents.

7.3.2.5 Provision of Antiretroviral Drugs for behaviour modification

The study findings indicated that the initiation and provision of ARV drugs to adolescents and young people is the responsibility of the mining clinic in collaboration with the District Hospital under the Ministry of Health and Child Care. Participants mentioned that they referred clients to the mining clinic. Findings revealed that the mining clinic is an ARV therapy initiation site for all eligible HIV positive clients in the mining community and from neighbouring farming communities. ARV initiation and provision services provide an opportunity for moulding positive behaviour among adolescents. As reiterated by Sr Mutya:

> "*As nurses, the health policy has given us the mandate to initiate eligible HIV positive clients on Antiretroviral Treatment. Before the policy, only doctors were allowed to initiate HIV positive clients on ARV, which delayed clients treatment and frustrated the nurses because the doctors are few. During HIV/AIDS pre- and post-test counselling and the initiation of ARV to HIV positive adolescents who are 16 years and older at the clinic, we take our time to provide intensive counselling on safe sexual behaviour, risk reduction behaviour change, early treatment of STIs, family planning and contraceptive methods and we promote and provide male and female condoms. We also discuss about disclosure including referral and support services. To promote positive behaviour change among HIV negative sexually active adolescents, we provide similar information as for the HIV positive but refer male HIV negative adolescents for VMMC. The challenge we face with adolescents from the mining community is that very few access our HIV/AIDS services at the clinic. Most of the HIV adolescents who test HIV positive at our outreach VCT sites who are referred to the clinic do not report for ARV initiation. Those that access ARV default treatment, some of them are brought to the clinic when they are very ill*" (Sr Mutya, SIC interview, 21 July, 2017).

The excerpt above shows that, despite the availability of intensive ARV services for behaviour modification and the prevention and treatment of HIV/AIDS among adolescence in the mining community, only a few adolescents access the services. Adherence to ARV is critical for prevention

and treatment among HIV positive adolescents. Cohen, Chen and Macaulay (2011) content that HIV positive adolescents find it challenging to adhere to long term ARV medication. The findings revealed that ARV treatment for adolescents and young people is faced with challenges of poor access and adherence. My findings concur with Maslow et al. (2016) who observe that there are some common barriers to ARV effectiveness among adolescents. One of the challenges is that some patients experience ARV drug resistance. The study discovered that factors which may pose as potential barriers to youth adherence to ARV include the distance to the clinic, the possibility that adolescent attendance at clinic visits would be noticed by friends or members of school, fear of stigma and discrimination, waiting queues at the clinic or having an elderly care giver. Findings also showed that a lack of HIV status disclosure and fear of stigma and discrimination led some of the community members to hide and take ARVs in the bushes compromising treatment compliance as confirmed by MrsKalima:

> "*Some community members, adolescents included, secretly keep their ARVs in the bushes which are normally discovered during the time when bushfires are being put out*" (MrsKalima, SW interview, January, 2018).

The above except indicates a lack of HIV status disclosure which leads to hiding of ARV treatment. Hiding treatment could also reflect lack of support and consequences of stigma and discrimination among the HIV positive people. According to WHO (2013), young people need extra support to transfer to treatment if they test positive as they may otherwise get lost in the treatment cascade. The use of adherence support devices, such as beepers, financial incentives, peer support, directly observed therapy and a number of other interventions can have a positive impact on adolescents' adherence to ARV including counselling and education (MacPherson et al., 2015).

7.3.2.6 Provision of condoms for behaviour modification

The findings revealed that most of interviewed participants, clinic nurses, social workers and AIDS Service Organisations (NAC, DREAMS and ROOTS) except for teachers in Mazowe mining community participated in condom promotion and distribution for STI/HIV prevention and behaviour change. Representatives of AIDS Service Organisations interviewed mentioned that they distributed condoms during Gender Based Violence and HIV/AIDS awareness campaigns in the mining community. The social welfare office, in collaboration with the Safety, Health and

Environmental Quality (SHEQ) department and nurses distribute condoms at strategic points in the mining company at the main gate, bars, community toilets and in the clinic. The mining clinic distributes and provides male and female condoms to people during health awareness campaigns and wellness programs at the clinic for the prevention of STIs and HIV infection. The nurses mentioned that both male and female condoms are made available to all sexually active individuals and are promoted as a method of dual protection for the prevention of STI/HIV and pregnancy. Clinic nurses also mentioned that they provide contraceptives to young sexually active girls to control early unplanned pregnancies. Study findings revealed that condoms are distributed in other programmes including the Prevention of Mother to Child Transmission of HIV (PMTCT), HTC, ARV, home-based care and family planning.

On the contrary, teachers mentioned that they were not allowed by the Ministry of Primary and Secondary Education to distribute condoms in schools. The findings concur with Cowan et al. (2010) that, in Zimbabwe, as in many other countries, there is controversy about promoting the use of condoms among young people and that it is not permitted in schools. Cowan et al. (2010) report that, where discussion of condoms are included in an intervention, the information communicated to pupils about condoms has been mostly negative in order to discourage condom use and encourage abstinence My study findings show that condoms are distributed everywhere without monitoring or controlling their uptake. This causes adolescents to use them wrongly because of a lack of information. According to UNAIDS (2015), condom use among young people remains relatively low. Demographic Health surveys in sub-Saharan Africa between 2010 and 2015 report that less than 60% of young women aged between 15 and 24 years with multiple partners used a condom during their last sexual intercourse (UNAIDS, 2015).

The findings of this study revealed that there was a high uptake of condoms even though Sr Mutya argued that there was an increase in the number of people coming to the clinic for treatment of STIs which contradicts with the reported increase in condom uptake. She explained:

> "*One wonders whether people use the condoms that they collect. If they were using the condoms that they pick up correctly, then the clinic would not record such an increase in STIs. The other dilemma is whether they use condoms correctly and consistently to prevent STIs. The increase in the condom*

distribution versus uptake and use makes behaviour change hard to assess" (Sr Mutya, SIC-Interview, 21 July, 2017).

Given the excerpt above, the question is whether condom programming is effective for promoting behaviour change. The nurses also expressed that, during their patient counselling sessions, they noted that some clients do not know how to use or negotiate for the use of both the male or female condoms and also lack knowledge on condom disposal. The study findings have shown that most behavioural interventions, such as condom use or drug adherence, are self- reported risk reduction outcomes that are private, hard to assess and therefore unreliable. I agree that it is often difficult and to observe and measure HIV risk and protective behaviours related to sexual intercourse and drug use. In this case, health workers must rely on indirect measures of self-reporting. Given the sensitivity of these behaviours, there is a possibility that people will misreport them in ways they consider to be socially desirable. My findings concur with WHO (2006) that all behavioural outcomes are self-reported hence their validity raises controversy.

A study by Plummer et al. (2004) among adolescents in the Republic of Tanzania found some discrepancies in reported behaviour using five different methods of data collection that included self-completed questionnaires and structured interviews. Most young girls who participated in the study denied having sexual activity but many had biological markers of activity such as pregnancy or STIs. This has raised interest in the inclusion of biological outcomes, such as STIs and HIV incidence, in studies of behavioural interventions as complementary measures or as primary endpoints (Plummer et al., 2004).

7.3.2.7 Prevention and Control of Sexually Transmitted infections (STIs) for behaviour modification

Study findings showed that all the participants interviewed employed prevention and control of STIs to modify the behaviours of adolescents. The District AIDS Action committee member under the National AIDS Council and the DREAMS and ROOTS projects ward coordinators mentioned that they provide awareness and education on the prevention and control of STIs, distribute condoms as well as provide Information, Education and Communication (IEC) materials on STIs and HIV/AIDS. The teachers also mentioned that they teach the subject on the facts, prevention and control of STIs in class and emphasise STI risk factors. The nurses mentioned that they provide

health education talks at the clinic, distribute male and female condoms and STI/HIV/AIDS IEC materials, and provide counselling and syndromic case management and treatment of STIs as well as follow up of contacts.

According to the clinic nurses, STI drug compliance is a challenge among both the adolescents and adult clients. The nurses expressed that they were concerned about the rise in STIs recorded at the clinic. Studies have shown that STIs account for 6% of the total morbidity burden reported at public health institutions and that some STIs, such as Genital Ulcer diseases, increase the transmissibility of HIV infections. Nurses expressed that most of the young people with STIs report to the clinic when they experience complications mostly after trying to use traditional medicine.

The other challenge faced by the clinic in providing STI treatment is the difficulty in follow up and treatment of client sexual partners due to lack of disclosure. Study findings revealed that HIV Testing and Counselling is an important HIV prevention strategy whose accessibility, acceptability and availability promotes adolescents and young people's behaviour modification for STI/HIV/AIDS prevention. Although HTC among young people is faced with barriers around the age of consent for HIV testing and the low uptake by young people, it is an important intervention for modifying the behaviours of adolescents. The study findings concur with literature that HTC is vital in the prevention of further HIV infection among young people and has proved very successful as a form of HIV prevention (UNICEF, 2013). HTC is also one of the critical components for HIV prevention strategies in Zimbabwe. It is regarded as an entry point for accessing HIV/AIDS services which promote early referral for prevention, treatment, care and support including access to ARV therapy (MOHCW, 2007). It is critical that the amalgamators examine and consider HIV/AIDS prevention services for possible amalgamation with IKHIV/AIDS strategies in the Guidance and Counselling curriculum for teaching and learning in secondary schools

I have observed in my study findings that, biomedically, there are no behaviour modification sanctions or checks to enforce positive behaviour among children and young people. The biomedical Abstinence-Behaviour change Condom use (ABC) model for STI/HIV/AIDS prevention and control lacks enforcement strategies. The nurses expressed that, while emphasis is placed on abstinence and condom use, clinic statistics still show an increase in STIs. Both the nurses and social workers

mentioned that awareness programs on faithfulness have not succeeded because promiscuity, breach of marriage contracts, intergenerational sexual relationships between young people and sugar mummies and sugar daddies are rampant in the mining community. The school teachers also expressed that child discipline is difficult in schools because of the imposed western culture. The western laws of child discipline in schools regards physical discipline as child abuse which is against the law and makes it difficult for teachers to monitor and control child behaviour. The teachers also mentioned that there was a lack of collaboration between parents, the community and the school regarding child behaviour control and discipline. The teachers, social welfare officers and nurses concurred that the negative influence from the media and television on adolescents and young people's behaviour worked against their efforts on STI/HIV/AIDS prevention and control. The lack of biomedical checks for modifying children's behaviours challenges amalgamators to explore how Indigenous Knowledge behaviour modification sanctions could be amalgamated for the teaching and learning of HIV/AIDS in the Guidance and Counselling curriculum. It is also critical for amalgamators to consider how HIV testing and Counselling Services, as behaviour modification strategies, could be amalgamated with Indigenous Knowledge strategies in the Guidance and Counselling curriculum.

The next section discusses Biomedical Knowledge strategies for individual responsibility over children and their possibilities for amalgamation with Indigenous Knowledge strategies in the teaching and learning of HIV/AIDS in the Guidance and Counselling Curriculum.

7.4 Individual responsibility over children

The findings revealed that there was individual responsibility among the interviewed partners in regulating youth sexuality, behaviour modification and teaching of young people in the mitigation of HIV/AIDS. Interviews with teachers, nurses and AIDS service organisations in the mining community showed that teaching children was controlled by government and was western grounded and individualistic. There are no concerted efforts for collective responsibility. For example, the findings clearly indicated individual approaches to teaching sex education among adolescents between the DREAMS and ROOTS initiatives at Shingirirayi Secondary School were carried out without concerted efforts to work collectively. DREAMS, which is an acronym for Determined, Resilient, Empowered, AIDS free, Mentored and Safe is a partnership initiative that seeks to

promote the prevention of new HIV infections among adolescents and young women. It promotes abstinence among adolescents. Under the DREAMS initiative, adolescent girls and young women are provided with a package of services that include HIV testing and counselling, risk reduction information, pre- and post-exposure prophylaxis, gender based violence support, family planning, social protection, life skills education, vocational training educational subsidies and economic assistance to caregivers of vulnerable girls. At Shingirirayi Secondary School, the DREAMS initiative works with ward facilitators who are social workers and Guidance and Counselling science teachers. Similarly, social workers who are DREAMS ward facilitators also function as ROOTS (Real Open Opportunities for Transformation Services) initiative facilitators. ROOTS runs programmes that are similar to those of the DREAMS initiative for girls and young women in schools including at Shingirirayi Secondary School and in the community. ROOTS provides and supports biomedical education programmes on early marriage, Gender Based Violence and child abuse. Similar to the DREAMS initiative, the ward facilitators provide a program in the community through drama and group discussion meetings. MrsKalima, one of the ward facilitators, explained:

> "*As social workers, we prefer to work with the ROOTS project because it gives us some allowances unlike the DREAMS initiative that has no incentives for facilitators*" (MrsKalima, SW-interview, Jan, 2018).

In my opinion, there is individualism, duplication and an element of competition in educating young people by the organisations. I noted that the facilitators provide separate feedback reports to the two organisations. In the next section, I discuss the BKHIV/AIDS management strategy teaching methods for children.

7.5 BK/HIV/AIDSmanagement strategies teaching methods

Findings revealed that children learnt BK/HIV/AIDS and disease management strategiesthrough various methods used by teachers, nurses, social workers, National AIDS Council and AIDS service organisations.

Teachers mentioned that they formally teach life skills education for HIV/AIDS prevention and management as part of the Guidance and Counselling curriculum using classroom discussions, small group discussions, brainstorming, role plays, drama, games and simulations, stories, debates,

Information, Education and Communication materials like posters and pamphlets to promote positive healthy behaviour. Mr Besa mentioned that the teachers use teaching methods from the "Auntie Stella Package" for life skills education, such as games, stories, debates and role plays.
Mr Besa expressed that,

> *"… some of the western oriented methods in the Auntie Stella package, like stories and issues for debate, do not appeal to the lives of learners, hazvitonzwisisike. As a result, HIV/AIDS lessons are not taken seriously and the lesson time is taken as break time by learners. We, as teachers, are equally not motivated to teach the subject because of a lack of skills and knowledge of innovative approaches. In addition to this, HIV/AIDS subject is not examinable. While some teachers use part of the HIV/AIDS lesson time to provide counselling to children, other teachers use the time to mark exercises from other examinable subjects and children are left to discuss about HIV/AIDS as they see fit. Sometimes we leave the HIV/AIDS teaching to our school trained peer educators. As teachers, we need to be equipped with innovative methods to raise awareness and knowledge of children on STI/HIV/AIDS*" (Mr Besa, GCST Interview, 25 July, 2017).

The above excerpt implies that, while the subject of HIV/AIDS is contained and taught in the Guidance and Counselling curriculum, it is not taken seriously. Teachers are not motivated to teach it due to inadequate HIV/AIDS teaching methods and that it is not an examinable subject. The teachers expressed that the Auntie Stella package contains western oriented approaches, which do not appeal to the lifestyles of children from the mining community. The findings concur with Visser (2017) who observed that, for school-based HIV prevention strategies and teaching methods to be effective among young people, they should be based on the understanding of young people's sexual risk behaviour and the underlying drivers of these behaviours. Gausset (2001) also recommends that HIV/AIDS knowledge needs to be conveyed in a way that learners can make it part of their lifestyle such as by using drama. According to Visser (2017), healthy lifestyles include delayed sexual debut, reduced number of partners, especially intergenerational partners, protected sex and knowledge of HIV status. School based HIV prevention falls into the category of behaviour change interventions at individual level which include educational skills building, counselling, prevention and case management, and other strategies delivered one-on-one or in group sessions.

Teaching methods should therefore challenge learners to develop critical awareness of influences from peer pressure and should instil confidence in young people's ability to take control of their own sexual decision making.

Nurses mentioned that they use one-on-one or group counselling sessions at the clinic and VCT mobile sites to disseminate STI/HIV/AIDS information to young people and the community. They also provide lectures and IEC health materials on STI/HIV/AIDS to school learners during school health programmes. Findings also revealed that the mining clinic works in collaboration with Social Welfare Services, AIDS service organisations and local drama groups during STI/HIV/AIDS awareness campaigns using mass media to disseminate information on STI/HIV/AIDS prevention and control to the mining community and young people. The nurses also mentioned that they provide and demonstrate how the male and female condoms are used especially to young people who are at risk. Sr Mutya also mentioned that the nurses encourage the use of mobile phones to improve adherence to antiretroviral treatment (ARV).

Research findings revealed that AIDS Service Organisations in the mining community, including National AIDS Council, ROOTS and DREAMS, use social media, especially mobile phones, as platforms to deliver preventive interventions and to monitor their projects in the school and community. MrsNjoo mentioned that the ROOTS programme gave the coordinators and their clients mobile phones with some data to communicate messages on Gender Based Violence and HIV/AIDS and on the progress of the project among young people. Study findings also indicated that the National AIDS Council also uses television programmes, internet, mobile devices and text messaging to reach a large youth population. The findings concur with Bull (2010) that using social media is cost effective and reaches a large youth population and that early computer-based interventions had the potential to improve sexual health outcomes for youth. UNICEF (2013) also agrees with the notion that technology and social media are consistently being proved as effective ways to engage young people in sharing HIV/AIDS knowledge. Bull et al. (2011) further stated that current HIV/AIDS interventions are harnessing the interactive power of social media like Facebook and Twitter. On the contrary, during *padare* conversational meetings, community elders felt that social media, especially some of the television programmes and Facebook, are too western oriented and negatively influence young people against the ethics of African *ubuntu/unhu* thereby fuelling

HIV transmission. I agree with Bull (2010) that there is a need for evaluated interventions that effectively link technology to clinic based efforts to foster safer sexual health behaviour among young people. The teachers also mentioned that DREAMS and ROOTS hire local drama groups to provide HIV/AIDS education through drama, song, poems and music at the school for children, The organisations also distribute IEC materials on GBV, STI/ HIV/AIDS prevention education to school children and teachers.

The discussed biomedical teaching methods inform us on pedagogical approaches that could be amalgamated with the IKHIV/AIDS strategies in the HIV/AIDS Life Skills Guidance and Counselling curriculum.

7.6 The Biomedical Knowledge HIV/AIDS strategies of Mazowe Gold Mine community

This chapter as discussed various BKHIV/AIDS management strategies implemented in Mazowe Gold Mine community by the clinic nurses, the Mining Social WelfareOffice, Shingirirayi Secondary School HIV/AIDS and Life Skills Education Guidance and Counselling teachers**,** the District AIDS Action Committee (DAAC), the National AIDS Council of Zimbabwe representative and the DREAMS and ROOTS project coordinators. The BKHIV/AIDS management strategies provide insight into the mining community's rich sources of BKHIV/AIDS management strategies. The study revealed that the Biomedical Knowledge strategies for the regulation of youth sexuality, especially sex education by nurses, teachers and AIDS Service Organisations, have more similarities than differences which makes their amalgamation with the Indigenous Knowledge strategies in the Guidance and Counselling curriculum easier. The BKHIV/AIDS strategies for the curriculum can be drawn from the Mazowe Gold Mine Community concept shown in Table 7.1 below.

Table 7.1: Examples of BKHIV/AIDS aspects for possible inclusion in the HIV/AIDS, Life Skills Guidance and Counselling for Secondary Schools curriculum

G&C Curriculum aspect	**Biomedical Knowledge strategies aspect for possible inclusion in the G&C curriculum**
Purpose (why)	Behaviour modification and regulation of youth sexuality strategies for HIV/AIDS management in a way that gives children wisdom for behaviour change to overcome problems in the school and community which expose them to HIV/AIDS
Enterprise (by whom)	Knowledge holders (nurses, social welfare officers and Guidance and Counselling school teachers, AIDS Service Organisations representatives)
Content (What) Pedagogy (how)	- Regulation of youth sexuality biomedical themes as topics viz. sex and sexuality education strategies, abstinence, climate change, GBV, child abuse, etc. - Behaviour modification strategies as topics: life skills education, peer education, HIV/AIDS prevention services, VMMC, VCT, antiretroviral therapy, etc. - Debates, group discussions - Role plays - Social media - Mass media - songs/music - drama - poems - games - IEC materials
Place (where)	Both at school premises and natural settings in the community
Language	English

Some aspects of the Biomedical Knowledge strategies suggested in Figure 7.2 may be too broad. For example, strategies for behaviour modification topics may need to be unpacked. Pedagogically, several strategies, such as the use of social media, can be used in different sections, for example, computer based interventions, given that schools are currently equipped with computers. Using

social media is cost effective and reaches a large youth population, and early computer-based interventions showed potential to improve sexual health outcomes for youth (Bull, 2010).

7.7 Chapter Summary

This chapter has addressed Biomedical Knowledge strategies implemented by teachers, nurses, social welfare officers and AIDS Service Organisations for teaching, learning, prevention and management of HIV/AIDS among young people in Mazowe Gold Mining community. The chapter has documented a number of challenges faced in implementing BKHIV/AIDS management strategies in the Mazowe mining community. The chapter has also shown that the BKHIV/AIDS management strategy dimensions of Purpose, Enterprise, Content, Paradigm and Pedagogy are complex and interrelated into the broad multidimensional HIV/AIDS management system. This knowledge building is a critical resource for curriculum development. This documented body of knowledge makes it easy for amalgamators to extract aspects for amalgamation into HIV/AIDS Life Skills Guidance and Counselling curriculum. Chapter Eight discusses the amalgamation of BKHIV/AIDS and IKHIV/AIDS management strategies in the Guidance and Counselling curriculum for learning and teaching.

CHAPTER 8: FINDINGS 3: PROSPECTS OF AMALGAMATING INDIGENOUS KNOWLEDGE (*NHAKA* KNOWLEDGE) HIV/AIDS AND BIOMEDICAL KNOWLEDGE HIV/AIDS MANAGEMENT STRATEGIES IN THE GUIDANCE AND COUNSELLING CURRICULUM

8.1 Introduction

This chapter provides findings and answers to the Sub-research Question 3: How can the Indigenous Knowledge strategies and Biomedical Knowledge strategies for HIV/AIDS management be amalgamated for teaching and learning of HIV/AIDS in the Life Skills Guidance and Counselling secondary school curriculum in Zimbabwe? The chapter analyses curriculum documents for similarities and differences between Biomedical Knowledge and *Nhaka*Knowledge strategies[1] to identify prospects of amalgamating them in the Guidance and Counselling curriculum. Participants' concerns and suggestions on the amalgamation of Nhaka Knowledge and BKHIV/AIDS strategies in the classroom which were identified and documented in Chapters Six and Seven are also synthesised. The chapter further addresses how *Nhaka* Knowledge HIV/AIDS strategies can be taught in the Biomedical Science Guidance and Counselling classroom guided by aspects of place, content, pedagogy and pathway. The presentation is guided by the themes that emerged from data analysis.

8.2 Amalgamative opportunities

The analysis of curriculum documents and *Nhaka* knowledge strategies revealed prospects of amalgamating *Nhaka* knowledge strategies in the Guidance and Counselling Secondary School curriculum. Analysis of curriculum documents was informed by the Enterprise, Process, Product, Paradigm, Pedagogy and Place research framework model coined by Mpofu, Mushayikwa and Keane (2016). These knowledge domains are discussed in the literature review Chapter Two of this thesis. The major focus was to find elements contained in the curriculum documents that may guide the amalgamation of IKHIV/AIDS management strategies and BK/HIV/AIDS management strategies in the Guidance and Counselling Secondary School curriculum. For the purpose of this study, a curriculum place is described in terms of a unit topic and concepts, learning environment, language of instruction and pedagogical approaches. As an example, Unit 6: Science in the

[1] I will refer to Indigenous Knowledge strategies as *Nhaka*Knowledge strategies.

community: Health (p. 30) of the Guidance and Counselling Secondary School level syllabus is the curriculum place in terms of the topic on HIV/AIDS from which amalgamative opportunities could be identified. Such unit topics break into sub-topics and concepts that provide further places for amalgamating *Nhaka* Knowledge.

An opportunity of amalgamation arose by comparing each enterprise, content, language, purpose, pedagogy and place of Biomedical Knowledge strategies in the curriculum documents and those documented in Chapter Seven with the equivalent of *Nhaka* Knowledge strategies documented in Chapter Six. The amalgamative opportunities were arrived at through an analysis of the curriculum statements identified for each classroom dimension as reflecting the purpose. The goal, aims and objectives statements of the syllabus were identified as reflecting the purpose of teaching and learning HIV/AIDS at secondary school level. The Biomedical Knowledge strategy aspects were compared to the *Nhaka* Knowledge strategies equivalents to establish their differences and similarities.

A similarity implied a common aspect to *Nhaka* Knowledge HIV/AIDS (NKHIV/AIDS) strategies and BKHIV/AIDS strategies in the classroom that lies where these two knowledge systems intersect. For example, both knowledges address sex and sexuality education, abstinence and behaviour change for HIV/AIDS management. Many scholars in amalgamative classroom science call the intersection the "third space" that allows the teaching of a phenomenon from both the indigenous and biomedical western perspectives (Mpofu, 2016). Similarities between BKHIV/AIDS management strategies and NKHIV/AIDS strategies therefore provide amalgamative opportunities. The differences between these two systems of knowledge also provide amalgamative prospects in the Guidance and Counselling classroom as well as the need to accommodate different ways of managing HIV/AIDS. Differences between NKHIV/AIDS and BKHIV/AIDS management strategies were realised as amalgamative prospects in as far as their alternative conception in the curriculum and in Chapter Six and Chapter Seven could be established.

The identification of amalgamative prospects is illustrated using Unit 6: Science in the Community on the Health topic, which is one of the Guidance and Counselling curriculum places. The unit defines the learning content on Sexual and Reproductive Health and rights, STI/HIV/AIDS,

sexuality, abstinence, consequences of early sexual debut, healthy living, gender issues, Voluntary Counselling and Testing, substance abuse, defence systems, human reproduction, family planning methods, condom use and early treatment of STIs which are modelled in biomedical science knowledge and principles. The Guidance and Counselling curriculum orients the teaching of the content of HIV/AIDS sub-topics under the major topic Health from a biomedical, western scientific perspective. In Chapter Seven, the Guidance and Counselling Science teachers mentioned that they were guided by the Guidance and Counselling curriculum for the teaching of HIV/AIDS subtopics in the classroom. A similarity between a BK western science view of phenomena in the syllabus and that of the NK implied common ground. This ground has been defined as the amalgamative model in this thesis.

Similarities were identified from the syllabus statements in the Guidance and Counselling curriculum and findings from Chapter Seven presumed to be taught from a western science perspective but would intersect with that of NK strategies documented in Chapter Six. For example, both NK and BK strategies for HIV/AIDS prevention and management include sexuality education which focuses on abstinence and delay of sexual debut for the regulation of youth sexuality. The reasoning here is that sexuality education on abstinence and delay of sexual debut is a common phenomenon between NKHIV/AIDS management strategies and BKHIV/AIDS management strategies' western way of knowing.

The difference lies in how the children are taught. For example, within the biomedical science education, the Guidance and Counselling learning area strives to inform[2] and equip learners in the classroom with knowledge to make responsible choices about sexuality, relationships, health related issues and other life empowerment skills (Guidance and Counselling Secondary School Syllabus 2015-2022, p. 14). On the other hand, within the *Nhaka* Knowledge, learners are taught about sexuality during traditional ceremonies and during virginity checking and circumcision rituals (that is, practically through observation, listening and participation) in Mazowe Gold Mine community. The syllabus content statements on sexuality education, delay of sexual debut and abstinence are considered as common ground from which HIV/AIDS could be taught from these

[2] "To inform" implies that the learners are didactically advised by the teacher who is regarded as being more knowledgeable according to western and colonial perspectives.

alternative ways of knowing, the BK and NK. The identity of phenomena at the intersection of BKHIV/AIDS and NKHIV/AIDS management strategies therefore is an amalgamative opportunity. Neutral curriculum statements also create opportunities for teaching HIV/AIDS concepts in the indigenous way. This amalgamative opportunity is also parallel in nature as it allows side-by-side teaching when the alternative NK conception is incorporated into the biomedical science curriculum. Table 8.1 summarises the findings that emerged from this comparative analysis between NKHIV/AIDS strategies and the BKHIV/AIDS strategies documented in Chapters Six and Seven respectively as well as in the Guidance and Counselling curriculum.

Table 8.1: Comparison of *Nhaka* Knowledge HIV/AIDS and Biomedical Knowledge HIV/AIDS strategies

Theme	***Nhaka* Knowledge HIV/AIDS management strategies**	**Biomedical Knowledge HIV/AIDS management strategies**
Purpose of learning	Behaviour modification and regulation of youth sexuality cultural strategies for HIV/AIDS management in a way that gives children wisdom for behaviour change to overcome problems in the community which expose them to HIV/AIDS. Prepares learners for survival. Prepares learners for chastity and faithfulness in marriage – value for marriage relationships.	Behaviour modification and regulation of youth sexuality strategies for HIV/AIDS management in a way that gives children wisdom for behaviour change to overcome problems in the school and community which expose them to HIV/AIDS. Empower learners with life skills that enable them to survive in a life changing socio economic environment. Value for an HIV free status. Prepare learners to cope with developmental changes and risky factors, such as HIV/AIDS, early marriages, teenage pregnancies, child abuse, substance abuse and other

	Empowers learners to maintain moral values of *Unhu/ ubuntu/Vumunhu.*	contemporary challenges (G&C Guide, 2017).
Nature of Enterprise	Indigenous Knowledge holders (community cultural elders, parents.	Knowledge holders (nurses, social welfare officers and Guidance and Counselling school teachers, AIDS Service Organisations' representatives) and learners.
Content	Regulation of youth sexuality cultural themes topics such as: sex and sexuality education strategies, abstinence, virginity testing.	Regulation of youth sexuality biomedical themes as topics viz. sex and sexuality education strategies, abstinence, climate change, GBV, child abuse, etc.
	Behaviour modification cultural strategy topics such as: moral education, cultural social sanctions, cultural myths, taboos, values of*unhu*, peer education etc. Sources of content; Human, oral.	Behaviour modification strategies as topics: life skills education, peer education, HIV/AIDS prevention services, VMMC, VCT, antiretroviral therapy, etc. Sources of content; written documents
Pedagogy	- *Tsumo*(proverbs) - *Madimikira* (idioms) - *Dzimbo*(traditional songs/music) - traditional dance - poems - Indigenous games - *Ngano*(folk stories) - Listening	- Debates, group discussions - Role plays - Social media, ICT - Mass media - songs/music - drama - poems - games - IEC materials

Learning Environment	Community natural settings	Controlled settings/classroom
Language	Shona and other cultural languages	Biological western science English
Knowledge transfer	Life centred	Learner centred

Table 8.1 shows a comparison of two knowledge systems pointing out differences and similarities between aspects identified in the theme column. The columns above show that, in the *Nhaka*Knowledge strategies, the teaching of knowledge and skills is provided by the community cultural elders and parents in a natural environment. The purpose of learning is for maintaining values of *Ubuntu*, child survival, chastity in marriage and to prepare the child for survival. Whereas, in the Biomedical Knowledge classroom, teaching and learning activities are interactive activities between teachers, experts and learners within a controlled setting guided by written documents. The purpose of learning BKHIV/AIDS strategies is to empower learners with life skills that enable them to survive in a life changing socio-economic environment and to value an HIV free status. They prepare learners for the world of work and to cope with developmental changes and risk factors such as HIV/AIDS, early marriages, teenage pregnancies, child abuse, substance abuse and other contemporary challenges (G&C Guide, 2017). The teachers and learners communicate in English which is foreign to indigenous learners from Mazowe Gold Mine community.

I take an aspect of each theme in Table 8.1 to analyse the curriculum aspects of the Guidance and Counselling syllabus. The biomedical and western oriented Guidance and Counselling curriculum framework at secondary school level is discussed in Chapter Four of this thesis. I analyse the curriculum aspects to identify whether there are opportunities to fit equivalent aspects of *Nhaka* Knowledge strategies into the syllabus. I also draw the aspects of *Nhaka* Knowledge strategies and Biomedical Knowledge strategies from the findings documented in Chapters Six and Seven respectively. If there are opportunities for amalgamation in the Guidance and Counselling syllabus, I explain how it could be done, if not, I highlight the shortfalls in the syllabus.

8.3 Nature of Enterprise

An enterprise is a group of people that construct knowledge through the process using a shared paradigm of the ACACS model (see section 2.2.1). The classroom science enterprise focuses on the teaching and learning of HIV/AIDS, for example, as drawn to our attention on the Guidance and Counselling syllabus excerpt below;(**emphasis is mine**)

"This syllabus is designed to cover the whole learning area from Form 1–6. Aims of the syllabus may be different from level to level for the same learning area … ***They cover all the domains of Blooms Taxonomy[3] and should cater for all learners***. The syllabus takes into account learner-centred methods and approaches and is guided by curriculum frameworks thrust, i.e., skills and competence based, promoting critical thinking and problem solving. The ***teacher as facilitator should seek to empower learners*** with essential life skills that enable them to survive in a changing socio economic environment. Guidance and Counselling learning ***area prepares learners to cope with the developmental changes and a variety of risky factors such as HIV/AIDS,*** early marriages, teenage pregnancies, drug and substance abuse and other contemporary challenges" (CDU, 2017). ;(**emphasis is mine**)

The above excerpt makes it clear that HIV/AIDS in the classroom is a domain of teachers and learners. The phrases in bold and italics, such as "***teachers as facilitators should seek to empower learners***" and ***"the learning area covers all the domains of Blooms Taxonomy and should cater for all learners ... and prepares learners to cope ...***", provide two main characteristics of the classroom enterprise, the teachers and learners. In Mazowe mining community, children (learners or pupils), cultural elders, teachers and parents are all holders of *Nhaka*Knowledge strategies and therefore constitute *Nhaka* enterprise (see section 6.4). This analysis clearly shows that parents and cultural elders are excluded from the current biomedical classroom enterprise. This observation characterises the classroom enterprise as exclusive and limiting. On the other hand, the *Nhaka*enterprise is comprehensive and accommodative. The difference brings an enterprise prospect for amalgamation which can be harnessed by extending classroom activities beyond teachers and learners to include cultural elders, community members, parents and guardians.

[3] Blooms Taxonomy is a hierarchical ordering of cognitive skills for teaching and learning (Heick, 2018).

The excerpt also illustrates the syllabus emphasis on the role of teachers and learners within the classroom enterprise. The teaching role of teachers is enforced in the methodology statement which states that "*the syllabus takes into account learner centred methods and approaches as guided by the curriculum frameworks*".This enforces the role of the teacher and confirms the guidance by the syllabus. In biomedical western education, the assumption behind this is that the teachers, as observed by Matsika (2012), are more knowledgeable than learners because they have been trained in the western education, which was introduced in Zimbabwe during colonialism. In Mazowe Gold Mine community, knowledge exchanges take place among cultural community members (see section 6.1). *Nhaka* knowledge is not a monopoly of biomedical western science educated personnel but a collective responsibility of cultural elders and every community member. Unlike the classroom enterprise where learning is for children, in Mazowe Mine community, it extends to every community member who may be lacking in *Nhaka* knowledge strategies. The teacher and learner of the *Nhaka* Knowledge strategies have no fixed roles but alternate responsibilities depending on who is more knowledgeable at a given time. This responsibility difference between members of the biomedical classroom science and *Nhaka* enterprise provides amalgamative prospects.

In the western paradigm, the teacher is the authority of biomedical content and methodology and can therefore provide meaningful learning experiences. While in the *Nhaka* Knowledge, the teachers are not the sole knowledge holders but learners may also have more authority than the teachers leaving the teacher to adopt two contradictory roles of knowledge holder and facilitator. As facilitators, the teachers acknowledge their limited understanding of the *Nhaka* Knowledge strategies and recognise learners as their potential teachers. Mr Besa expressed an example in Chapter Seven that the teachers use peer educators to articulate cultural issues on sexuality around HIV/AIDS which they find difficult to teach in the classroom.

It is critical for teachers to record *Nhaka* Knowledge from various cultural elders in the mining community who are more knowledgeable. Research conducted elsewhere has documented success in amalgamating Indigenous Knowledge with classroom science through teacher collaboration with Indigenous Knowledge experts like cultural elders. Examples of such developments include the Rekindling Traditions in Canada documented by Aikenhead (2002). The collaborative project depicts a shift from the traditional teacher and learner in the classroom science to the involvement

of community experts. The approaches have helped to address many teacher and learner related challenges to amalgamation.

8.4 Learning Environment

Teaching and learning of Biomedical Knowledge strategies takes place in the classroom environment. In Mazowe Gold Mine community, children acquire the *Nhaka* Knowledge strategies in their homes and among their cultures during their upbringing and socialisation. Some of the children acquire their *Nhaka* Knowledge through traditional ceremonies like *chinamwali* and initiation rites like virginity testing for girls and circumcision for boys held in natural settings (see section 6.3). Learning *Nhaka* Knowledge strategies in Mazowe Gold Mine community takes place in the local natural environment which includes forests, rivers and homes. The learning takes place through participation, observation and listening. For example, in the Shona culture, boys are taught about sex and sexuality education, values of *ubuntu* at *padare*in their homes where they are required to listen and learn from elders.

Similarities and differences between the teaching and learning environments of Biomedical Knowledge and the *Nhaka* Knowledge strategies open up amalgamative prospects. The natural teaching and learning environment is also found in both the Biomedical Knowledge and *Nhaka* Knowledge. This common environment implies that HIV/AIDS can be taught from both the western and indigenous perspectives within the natural environment. The Guidance and Counselling also guides the learning and teaching of HIV/AIDS in a natural classroom environment. The teaching and learning is done from biomedical pedagogical frames. For example, under the Guidance and Counselling Syllabus Unit 6, sub-topic HIV/AIDS, the teacher is expected to use learner centred approaches like group work, group discussions, role plays, case studies, debate, songs and poems. In their natural setting, the children in Mazowe Gold Mine community learn through doing or participating during day-to-day chores or traditional rituals and ceremonies.

The children learn through stories, songs, poems, observing and demonstrations. The natural classroom environment opens up more commonalities and amalgamative prospects with the *Nhaka*Knowledge learning approaches. The natural environment, as a common learning environment to both *Nhaka* Knowledge and Biomedical Knowledge, creates amalgamative

prospects of *Nhaka* Knowledge pedagogical approaches with the Guidance and Counselling western oriented curriculum.

The indigenous learners record their knowledge in their minds rather than in documents and they transmit the knowledge orally. The oral non-documented mode of *Nhaka* Knowledge transmission distinguishes it from the biomedical documented knowledge. The documented Biomedical Knowledge serves as both learning and teaching references as well as a guide for teachers. Biomedical Knowledge is transferred through both oral communication and documents. These similarities create amalgamative prospects from which HIV/AIDS can be taught from *Nhaka*Knowledge and Biomedical Knowledge. The *nhaka* and biomedical modes of knowledge transmission complement each other in various ways. The complementarity, if harnessed, will enhance the teaching and learning of both *Nhaka* and BKHIV/AIDS strategies.

8.5 Purposes of Learning

Learning is an integral part of each knowledge system. In this section, I compare the purpose of learning Biomedical Knowledge with that of *Nhaka*Knowledge. Biomedical Knowledge science purposes are captured in the Guidance and Counselling syllabus. The excerpt below illustrates the purpose of learning in the Guidance and Counselling syllabus:

> *"…. the learning area endeavours to empower learners with relevant collaborative and competitive life skills that enable them to live in a dynamic social environment without losing their identity and integrity. The syllabus fosters self-reliance and prepares learners to cope with developmental changes and a variety of risk factors such as HIV/AIDS, early marriages, teenage pregnancies, drug and substance abuse, and other contemporary challenges. The Guidance and Counselling syllabus enables learners to develop skills in collaboration, selfmanagement, tolerance, critical thinking, decision making, problem solving, communication, innovation, leadership, enterprise, assertiveness, technology. The syllabus is premised on the principles of Unhu/Ubuntu/Vumunhu to produce learners who are truly Zimbabweans"* (G&C Syllabus, 2017)

The purpose of learning can be drawn from the above excerpt. Learners are expected to develop western oriented life skills, values of self-reliance to deal with challenges in a western oriented environment. The learning purpose for developing appropriate value is drawn from objective statement "to demonstrate comprehensive knowledge of life skills, sexuality, HIV/AIDS" (G&C

Syllabus, 2017). The development of western scientific skills is rooted in the learning processes. Acquisition of HIV/AIDS knowledge comes from learning about the product knowledge, that is, the concepts, topics and facts. The syllabus guides the subject matter to be taught in content column (see G&C Syllabus, 2017). The development of scientific values comes from an understanding of the western scientific paradigm (see section 2.3). Unit 6 of the G&C pursues the western scientific basic skills knowledge and values. All this is done to lay a foundation for directing the learners to participate in western scientific and technological enterprises. This focus is further emphasised in the STI Policy (2012) that views education as the foundation for the development of skilled personnel able to participate in science and technology. The general purpose of learning reflected in the Guidance and Counselling curriculum documents is to prepare learners for western scientific skills, values and thoughts appropriate for future participation in various western scientific communities. Classroom science is therefore viewed as a preparatory phase for potential workers that introduces learners to think like western scientists.

Indigenous learners, such as Mazowe Gold Mine community children, take to school the *Nhaka* Knowledge they gained through cultural teachings which are different from those of a biomedical western science classroom. But the curriculum currently being biomedical western oriented does not allow these children to retain their indigenous systems of knowing into their learning of HIV/AIDS in the classroom. Rather, they are forced to abandon their indigenous ways of knowing as they start learning new knowledge of biomedical science through new learning approaches. This disconnects biomedical classroom science from community cultural knowledge. This disconnection is another prospect for amalgamating the goal of IKHIV/AIDS strategies in the curriculum. Amalgamating *Nhaka* Knowledge HIV/AIDS strategies in the Guidance and Counselling curriculum can be achieved through formulating purposes of learning in ways that enable learners to understand the HIV/AIDS from both knowledge views. Though the purposes for learning BKHIV/AIDS strategies are different from those of *Nhaka* strategies, there are some ways in which they converge.

As already discussed in Chapter Six of this thesis, learning in the *Nhaka* Knowledge system prepares learners for marriage and survival as compared to the goal of Biomedical Knowledge. The goal of Biomedical Knowledge is to empower learners with life skills to cope with developmental changes

and risk factors, such as HIV/AIDS and other contemporary challenges, as well as to prepare learners for the world of work. This explains why, in the *nhaka* enterprise, learning is embedded in the community and cultural real life activities. In contrast, the biomedical classroom science focuses on learning the knowledge that is already developed for later use after it has been learnt. Yet in the *Nhaka*Knowledge, learning is incorporated in the progression of life.

Another point of departure between the purposes of biomedical classroom science and that of *Nhaka* Knowledge emanates from their knowledge source of practice. The biomedical science draws for its content and pedagogy, from an already developed body of knowledge (Otulaja et al., 2011). Therefore, the main purpose of biomedical classroom learning is for children to learn (see Table 8.1). Yet, in the *Nhaka* Knowledge enterprise, knowledge is drawn from generational constructions and modifications evolving from the past and present experiences and is tested in the continuous process of living. Therefore, learning in the *nhaka* enterprise is embedded in lived experiences. Maintaining moral values of *Ubuntu/Unhu/Vumunhu* and chastity in marriage are goals inherent in the survival function of *nhaka* enterprise. This is in contrast to the learning of biomedical science in school which focuses on empowering learners with life skills that enable them to survive in a life changing and challenging socio-economic environment, and to cope with risky factors such as HIV/AIDS. Biomedical science in the classroom also prepares learners for the world of work.

Nhaka Knowledge gives learners immediate, satisfying and relevant life results. Yet the preparation for the life changing socio-economic environment and world of work through biomedical science learning does not offer immediate results. Its relevance is for those who are able to endure through the educational process. Learning of *Nhaka* Knowledge, as life in the African cultural community, calls a person to adhere to the values and philosophy of *Unhu/Ubuntu/Vumunhu* (Letseka, 2012) (see section 2.3.3 and Chapter Six). This is all done for the survival of the entire community rather than for the self. Thus, successful learning of *Nhaka* Knowledge is anchored on cultural values of collectivism, reciprocity and respect (Khupe, 2014) (see section 3.2). The purpose of *Nhaka* Knowledge learning highlighted above is to produce a cultural community member with moral values of *Ubuntu* with knowledge and skills for family and community survival. The survival function of *Nhaka* knowledge is missing in the Guidance and Counselling curriculum. The

curriculum was designed from the biomedical science western perspective to prepare learners for the world of work, to cope with developmental challenges and risk factors like HIV/AIDS.

The formulating of purposes of learning of *Nhaka* HIV/AIDS strategies and BKHIV/AIDS strategies in a way that amalgamates the community survival goal of *Nhaka* Knowledge with the preparation for the world of work purposes creates a space for amalgamating the two knowledge bodies in the G&C curriculum. The amalgamation will enable learners to cross the boundary from practical knowledge into theoretical knowledge that prepares them for the world of work. It will allow the learners to accommodate new information while continuing with the knowledge they bring to the classroom from their cultures.

Aims and objectives (purpose statements) were extracted from the Guidance and Counselling Secondary School level syllabus and analysed to identify categories for amalgamative prospects at learning level. The purpose statements are biomedical classroom oriented. The identified category below provides an alternative category of *Nhaka*Knowledge because it was not incorporated when the syllabus was designed. I coded *Nhaka* Knowledge as NK and Biomedical Classroom Knowledge as BCK. Table 8.2 below shows the Guidance and Counselling syllabus aims and objectives that were analysed and coded.

Table 8.2: Guidance and Counselling syllabus aims and objectives

Guidance and Counselling Learning aims and objectives	
Aims of the G&C Syllabus To enable learners to:	
3.1 develop acquired concepts of *Unhu/Ubuntu/Vumunhu* norms and values	NK
3.2 conserve their cultural and natural heritage for the development of the society	NK
3.3 celebrate diversity and inclusivity in various social systems	BCK
3.4 develop a national sense of identity and patriotism	NK

3.5 develop life skills that will enable them to become citizens who appreciate their rights	BCK
3.6 exercise positive behaviours and attitudes that prevent the spread of STI/HIV/AIDS and social health concerns	BCK
3.7 consider their personal abilities and character traits in relation to others and their choice of career paths	BCK
3.8 acquire career planning and enterprise skills that contribute to wealth creation and achievement of national developmental goals	BCK
G&C Syllabus objectives Learners should be able to:	
4.1 demonstrate an understanding of *Unhu/Ubuntu/Vumunhu*	NK
4.2 express an appreciation of their cultural and national heritage	NK
4.3 justify the existence of their cultural and national heritage	NK
4.4 illustrate the ability to become responsible citizens who appreciate their rights and responsibilities	BCK
4.5 demonstrate comprehensive knowledge of life skills, sexuality and HIV/AIDS	BCK
4.6 demonstrate acceptance of people with disabilities and those in difficult circumstances	NK
4.7 express a sense of loyalty and patriotism to their nation	BCK
4.8 apply peer counselling skills to various life situations	BCK
4.9 demonstrate career planning and enterprise skills that contribute to wealth creation and achievement of national development goals	BCK
4.10 identify their personal abilities and character traits in relation to career paths and enterprise	BCK

Source: Guidance and Counselling Syllabus (2017, pp. 3-4)

The analysis of the aims and objectives of the G&C Syllabus show that although most of them were formulated for the Biomedical Classroom Knowledge science (BCK), some of them are stated in

ways that accommodate the teaching of some aspects from *Nhaka* Knowledge perspective. This divides the main Biomedical Knowledge classroom science oriented purpose statements into two sub-categories. Firstly, the exclusively Biomedical Knowledge classroom oriented science contains aims and objectives that connote BCK. The aims and objectives are coded BCK in Table 8.2. The aims and objectives of *Nhaka* Knowledge fall under the second category referred to as NK in the same, Table 8.2 in recognition of their nature to offer amalgamative prospects. These codes are shown in bold to indicate the categories the aims and objectives were allocated to. For example, objective 4.5, "to demonstrate comprehensive knowledge of life skills, sexuality and HIV/AIDS", can be understood from both Biomedical Knowledge and *Nhaka* Knowledge perspectives.

The *Nhaka* Knowledge content documented in Chapter Six includes behaviour modification, regulatory social sanctions, such as moral values of *Ubuntu*, taboos, myths, traditional herbs and respectful relationships. This Indigenous Knowledge content can be taught in the syllabus in Topic 6: Health under the content theme on Sexual and Reproductive Health, Ways of preventing STI/HIV/AIDS (G&C Syllabus, 2017. p. 18). When this Indigenous Knowledge content is taught at Shingirirayi Secondary School in Mazowe Gold Mine, the learners are bound to experience relevance of their participation in the curriculum as it has a direct bearing on their everyday lives and for HIV/AIDS mitigation. Teaching both NKHIV/AIDS strategies and BKHIV/AIDS strategies in the classroom promotes their amalgamation and reinforcement. Mpofu (2016) posits that it is the teacher who decides on what content to include from the perspectives of the two knowledge systems.

8.6 Content Knowledge

Content describes the subject matter selected from the broader knowledge system. The Adapted Culturally Aligning Classroom Science (ACACS) theoretical framework guiding this study refers to content knowledge as the knowledge elements in the curriculum that ought to be taught in the classroom. Biomedical classroom science is drawn from western oriented documents. For this study, amalgamative classroom science is content drawn from both biomedical science and Indigenous Knowledge such as the *Nhaka* Knowledge.

The syllabus should depict these two components, that is, biomedical science content knowledge already in the curriculum and that ascribed to *Nhaka* Knowledge as advocated in the Enterprise,

Process, Product and Pedagogy of the ACACS theoretical framework (see section 2.2). The knowledge aspects of the biomedical classroom science content exist in the syllabus which this section analyses.

The content for analysis was drawn from the units and topics shown in Table 8.3. The units were drawn from the Guidance and Counselling curriculum for secondary schools in Zimbabwe. The topics are the main posts of the content. They form the core pillars of a given learning area.

Table 8.3: Syllabus topics for Forms 1-6 Analysed

Unit	**Syllabus topics**
1	*Unhu/ Ubuntu/ Vumunhu*
2	Concepts and Principles of Guidance and Counselling
3	Relationships
4	Child Protection
5	Disaster Risk Management
6	Health
7	Enterprise and Career Guidance
8	Consumer Education
9	Human Growth and Development

The excerpt below provides an example of the content analysis findings which indicate that the content for the Guidance and Counselling syllabus emphasises the teaching of practical or process content. Process content is drawn from the process dimension of a particular knowledge system like Biomedical Knowledge science. It relates to the content taught to learners to develop specific process skills required for the development of a knowledge body. For amalgamative biomedical classroom science, the process skills are then drawn from both biomedical science and Indigenous Knowledge ways of developing knowledge. The focus is on how knowledge is developed and the skills the developers applied.

Using the example of the syllabus Topic 6: Health to illustrate the syllabus focus on process content "This unit is concerned with ***researching, analysing, discussing*** data … Learners should be able to ***define, analyse and discuss*** sexuality and reproductive health HIV/AIDS ... Sexuality HIV/AIDS education should cut across some of the emerging and contemporary issues of learning areas in the Guidance and Counselling syllabus topics. Sufficient information should be given to enable learners to develop skills in communication, research, written work, discussions, group work, problem solving, critical thinking, decision making, learning and innovation, conflict management, leadership, self-management, enterprise, technology and assertiveness" (Guidance and Counselling Syllabus, 2015. p. 5**).(emphasis is mine)**

The sub-topics in this syllabus Topic 6 on Health should be amalgamated throughout the whole syllabus. The biomedical science knowledge skills to be developed in learners are emphasised in the syllabus listed in the purpose statement. Some of the skills, such as problem solving, critical thinking, communication and group discussions, assertiveness and decision making, are also applicable to the *Nhaka* Knowledge. The difference lies within the environment where the skills are conducted. The *Nhaka* Knowledge skills are conducted in the natural environment while that of biomedical classroom science largely happen in the classroom. This presents an amalgamative opportunity.

In both *Nhaka*Knowledge and biomedical science knowledge, researching and documenting data are pre-requisite skills developed. Difference appears in how the skills are applied. In the *Nhaka*Knowledge, researched data are qualitatively measured and generated. They are recorded in various oral forms inclusive of rituals, songs, poems, myths, metaphors, proverbs and ceremonies like *chinamwali* where circumcision and virginity testing are done. These skills are undocumented and some of them have been documented in Chapter Six of this thesis. On the contrary, the biomedical science records the results in writing and archives in school books. Being in oral form, *Nhaka* content could not be found in the syllabus. Therefore, for conformity to the classroom content, *Nhaka* Knowledge needs to be documented.

The opportunity for amalgamating *Nhaka* Knowledge in the biomedical classroom science lies in the oral and written form difference. Amalgamation entails writing down the content aspects of *Nhaka* Knowledge for biomedical classroom science. Such content needs to contain various versions

of the orally archived knowledge that emerged in the *Nhaka*Knowledge strategies in Chapter Six. Doing this fulfils the inclusion of an Indigenous Knowledge multicultural approach to science arguments in a classroom context (see Aikenhead, 2001).

The Guidance and Counselling secondary school syllabus is explicit on biomedical western science oriented process and implicit in the paradigmatic and enterprise content. For example, the content theme on "ways of preventing STI/HIV/AIDS" brings out the focus and the teaching and learning process content, but the paradigm and enterprise content are implied in the focus of a biomedical scientist and in the agnates (cultural elders) in the *Nhaka* Knowledge.

This Guidance and Counselling syllabus process and product orientation is reflected in the purpose statement 4.5 and 3.6. Purpose statement 4.5 requires pupils to demonstrate comprehensive knowledge of life skills, sexuality and HIV/AIDS. The comprehensive knowledge of life skills, sexuality and HIV/AIDS strategies relates to content drawn from the product domain of biomedical science. It is the product (factual) content, such as statistical analysis and basic facts of STI/HIV/AIDS, types of STIs, signs and symptoms, HIV testing and how the immune system works.

Purpose statement 3.6 Exercise positive behaviours and attitudes that prevent the spread of STI/HIV and other health and social concerns

These perspectives of knowledge are important in understanding how syllabus content statements were codified as process and product knowledge. Content statements of the syllabus were selected and analysed. On one hand, content statementslike "*applying ethics in counselling*"(p. 14, Topic 2)on concepts and principles for Guidance and Counselling were allocated to process category because they involved counselling. Those, such as a discussion of STI/HIV or components of sexuality, point to a focus on theory and are therefore allocated to the product content.

Analysis of the content statements of the syllabus revealed that most of them represent biomedical western science content. This is not surprising because the syllabus was designed with biomedical western science in mind and content was drawn from the biomedical western science discipline of biology and organised into the syllabus topics. The analysis concurs with that of Mpofu (2016) that the science curricula in Zimbabwe is western science oriented. Though biomedical western science

has an enterprise and paradigmatic knowledge, there is no explicit enterprise and paradigm content. The analysis confirms the reductionist nature of western science which allows for knowledge compartmentalisation (Barnhardt &Kawagley, 2005).

The compartmentalisation feature showing in the Guidance and Counselling syllabus contrasts with the holistic nature of Indigenous Knowledge exhibited in the *Nhaka* Knowledge. The holistic nature of *Nhaka* Knowledge calls for the inclusion of the process, product, paradigm and enterprise knowledge to avoid fragmentation reflected in the biomedical science. The amalgamative opportunity emanates from the holism of the *nhaka* content knowledge, which is in contrast to that of biomedical science in the curriculum. So the inclusion of paradigm and enterprise knowledge of *Nhaka* Knowledge in the syllabus brings in the teaching of comparative biomedical science aspects. The analysis proposes the incorporation in the syllabus of the paradigm and enterprise content of the two knowledge bodies.

The syllabus topics bear biomedical western science content. For example, Unit 6 on Health contains unit content topics on sexuality, components of Sexual Reproductive Health, abstinence, consequences of early sexual debut and ways of preventing STI/HIV/AIDS. These topics concur with BKHIV/AIDS strategies mentioned and taught by teachers as documented in Chapter Seven of this thesis. To reinforce the biomedical science syllabus, there are learning activities like analysing components of sexuality and researching components of Sexual and Reproductive Health in classrooms (p. 18). As alluded to in Chapter Seven, on the regulation of youth sexuality, biomedical themes also address sex and sexuality education.

In Mazowe Mining community, issues of sex and sexuality education for boys and girls is conducted by cultural elders during initiation ceremonies like *chinamwali*. This is when the boys and girls are taught and equipped with knowledge, skills and values to make responsible choices about their sexual and social relationships. Emphasis of education is on no sex before marriage and abstinence to prevent STI/HIV infection. The behaviours of young people are modified to comply with abstinence and no sex before marriage through virginity testing, use of herbs, moral education, *unhu/ubuntu*, respectful language, use of traditional herbs, taboos, myths as regulatory sanctions, food monitors, physical punishment and spiritual curses (see Chapter Six).

This alternative approach to sex and sexuality education, especially regulatory sanctions for behaviour modification, presents an amalgamative opportunity in terms of content for inclusion in the Guidance and Counselling syllabus. Such an opportunity can be used by the inclusion in the syllabus of the *Nhaka* Knowledge regulatory sanctions for youth behaviour modification strategies for HIV/AIDS management.

Both the BKHIV/AIDS management strategies and NKHIV/AIDS management strategies address issues of abstinence and behaviour change for HIV prevention. While BKHIV/AIDS management strategies promote abstinence, faithfulness and condom use for HIV prevention, *Nhaka* Knowledge HIV/AIDS strategies promote abstinence, faithfulness and use of traditional herbs for chastity in marriage. The overall theme in this is abstinence, which is applicable to both knowledge bodies and makes the methods complementary in the Guidance and Counselling curriculum.

The syllabus statement of Topic 6: Unit Health suggests that content that could be taught and learnt in the *Nhaka* Knowledge framework. The Guidance and Counselling national syllabus outlines emerging and contemporary issues that cut across all learning areas of which sexuality and HIV/AIDS education is one of the areas.

The syllabus highlights that the teachers should find ways of incorporating the emerging issues in the learning and teaching of Guidance and Counselling whenever possible (CDU, 2015). Such a provision encapsulates the possibility of teaching and learning about sexuality and HIV/AIDS from both the biomedical and *nhaka* perspective. *Nhaka* Knowledge explicitly shows the embodiment of Indigenous Knowledge strategies of HIV/AIDS prevention and management across the Mazowe mining community.

This indicates that the *Nhaka* knowledge can be addressed across topics/themes in the contents of healthy living, sexual and reproductive health, communicable and non-communicable diseases and mental health. Sexuality and HIV/AIDS education content can be incorporated in every topic in the syllabus, that is, in *Unhu/Ubuntu/Vumunhu* (norms and values, Topic 2 Concepts and Principles of Counselling; Topic 3 Relationships; Topic 4 Child Protection; Topic 5 Disaster and Risk

Management; Topic 6 Health; Topic 7 Enterprise and Career Guidance; Topic 8 Consumer Education; Topic 9 Human Growth and Development. This creates room for teaching and learning about sexuality and HIV/AIDS across the life span from both Biomedical Knowledge and *Nhaka* Knowledge perspectives.

The above discussion implies that there are several places in the Guidance and Counselling syllabus where *Nhaka*Knowledge about HIV/AIDS strategies could be taught and learnt. The analysis has shown that, for almost every biomedical science knowledge content, there is an alternative for *Nhaka* Knowledge content.

8.7 Language of knowledge transfer

The Guidance and Counselling curriculum recognises cultural languages as per the amended Constitution of Zimbabwe (2013). Indigenous languages have been made official languages in Zimbabwe as found in the following excerpt extracted from Constitution of Zimbabwe, "The following languages namely Chewa, Chibarwe, English, Kalanga, Koisan, Nambya, Ndau, Shangani, Shona, Sign language, Sotho, Tonga, Tswana, Venda and Xhosa are officially recognized languages in Zimbabwe. The state and all the institutions and agencies of the government of Zimbabwe at every level must ensure that all officially recognized languages are treated equitably; and take into account the language preferences of people affected by government measures or communications. The state must promote and advance the use of all languages used in Zimbabwe … must create conditions for the development of these languages" (Constitution of Zimbabwe, 2013. p. 17).

The Constitution instructs institutions to consider local people's preference of language for communication and to create spaces for each indigenous language development. Curriculum knowledge in this legislation on language attempts to harmonise languages in curriculum spaces in order to accommodate the languages of indigenous communities. The colonial domination of the English language use is visible in the curriculum documents which are written in English as opposed to other languages. It is up to the teacher to translate the curriculum document lesson plans into indigenous languages. English is viewed as a medium of instruction in teaching the syllabus on Guidance and Counselling topics, including HIV/AIDS, in the curriculum that makes it dominant.

The syllabus has technical terminology of HIV/AIDS which is non-indigenous. The dominance of English in the classroom presents learning HIV/AIDS in a biomedical science classroom as more favourable to learners with an English cultural background than those with an Indigenous Knowledge background. Yet studies by Mpofu (2016), and Msimanga and Lelliot (2014) have pointed out that indigenous languages have the capacity to transfer and facilitate biomedical western scientific knowledge concepts.

Study findings documented in Chapter Seven revealed that the teachers code switched between English and Shona during STI/HIV/AIDS lessons. The indigenous interaction on BKHIV/AIDS in the classroom is limited to the use of their languages to facilitate their understanding but not for learning of Indigenous Knowledge. Notably, in Chapter Six, the *Nhaka*Knowledge strategies are embedded in various Indigenous Knowledge languages. This explains that the use of Indigenous Knowledge languages to mediate the learning of biomedical HIV/AIDS knowledge strategies is out of context. Amalgamating just the IK languages to teach BKHIV/AIDS strategies perpetuates the western culture domination over IKHIV/AIDS strategies in biomedical classroom science. As posited by Mpofu (2016) and Mushayikwa et al. (2014a), teaching western classroom science in indigenous languages is not the same as its integration into the western classroom science as it remains an indigenous approach to indigenous languages that separate them from their bodies of knowledge.

Minimal use of learner's language in the school curriculum hinders the formation of their indigenous cultural knowledge. The notion is supported in Nziramasanga (1999) that the dominance of the English language over IK in Zimbabwe was one of the main contributing factors to poor learning outcomes in school subjects.

The Shona language dialects are central to all the cultural knowledge and activities in Mazowe Gold Mine community (see Chapter Five). The *Nhaka* Knowledge HIV/AIDS strategies were generated in Shona and included songs, proverbs, poems, idioms, *padare* conversational talks. The participants' code switched to Shona when the conversations were related to cultural issues. I observed during data gathering that the Mazowe Gold Mine community cultural elders still

communicate issues of cultural importance using their indigenous language which, in my opinion, is critical for the preservation of their *Nhaka* Knowledge.

The insights discussed above imply that, for NKHIV/AIDS strategies to be meaningfully amalgamated in the teaching and learning of HIV/AIDS in the Guidance and Counselling curriculum, its indigenous technical language and vocabulary need to be developed.

Both the colonial English for BKHIV/AIDS management strategies and Shona for NKHIV/AIDS management strategies have the capacity to contribute to their effective amalgamation in the G&C curriculum through the third space approach theory coined by Bhaba (1995). The third space theory frames communication in multiple languages without dismissing the importance of their speakers' ways of knowing. The approach enables teachers, learners, cultural elders and curriculum builders to collaborate in the construction and amalgamation of HIV/AIDS meanings and interpretations. The amalgamation will assist learners to understand BKHIV/AIDS from multiple ways of knowing and to appreciate their own and other people's cultural heritage and identity.

Although the Shona language has the capacity to contribute towards effective amalgamation in the Guidance and Counselling curriculum, its variations in dialects and indigenous languages may hinder the amalgamation process of the two knowledge bodies. Teachers who do not share the same language and dialect with the learners may find it challenging to tap into the learners' *Nhaka* Knowledge HIV/AIDS management strategies for teaching in their lessons. In order for the teachers to be able to culturally broker the languages in an indigenised classroom, they need to develop linguistic skills. The comparative analysis has revealed language amalgamative gaps where Shona is excluded from the Guidance and Counselling curriculum for teaching HIV/AIDS. The language gap portrays the extended opportunity that suggests the teaching of *Nhaka* Knowledge HIV/AIDS management strategies in Shona, in the Guidance and Counselling curriculum.

8.8 Pedagogical approaches

Pedagogy is integral to knowledge sharing and learning. The type of pedagogy adopted within the NKHIV/AIDS management strategies and BKHIV/AIDS management strategies classroom enterprise influences the nature of learning that would take place among members of an enterprise.

The G&C Syllabus takes into account *learner-centred approaches and methods*. The choice of teaching methods and approaches should be guided by the principles of inclusivity, relevance, specificity, gender sensitivity and respect. They are guided by curriculum frameworks that are *skills or competence based,* promoting *critical thinking and problem solving* (Guidance and Counselling Teacher's guide, 2017, p. 16). The learner-centred approach calls for the active participation of learners in the learning. The critical thinking, problem-solving approach presupposes that learners can take some responsibility for their own learning and can take personal action to solve real life problems. It is seen as a strategy that creates learner centred opportunities to use classroom acquired BKHIV/AIDS management strategies in meaningful real life activities like the prevention of HIV/AIDS if BKHIV/AIDS management strategies are relevant to learners' everyday lives. The relevance should not only be connected to the future job markets but in their everyday contemporary lives.

This relevancy interpretation of the problem is highlighted in Aims 3.6, p. 3 of the Guidance and Counselling curriculum: "*to exercise positive behaviour and attitudes that prevent the spread of STI/HIV and other health and social concerns*" read in conjunction with syllabus objective 4.5, p. 3, "*to demonstrate comprehensive knowledge of life skills, sexuality HIV/AIDS*". Teaching and learning in this discussion is for the purpose of problem solving for the prevention of STI/HIV transmission. The findings concur with the available findings of Chireshe (2011) that Guidance and Counselling services assist students to overcome challenges (personal, emotional, career and academic) experienced both at home and at school.

The learning allows learners to explore and engage in BKHIV/AIDS management strategies involving real life problems and contexts. At this level, the Biomedical Knowledge inquiry shares the same viewswith *Nhaka* Knowledge ways of knowing. Within the *Nhaka* Knowledge HIV/AIDS management strategies enterprise, pedagogical activities are anchored on the desire to solve problems experienced in the community for survival. The desire to solve the problems like HIV/AIDS pandemic that threatens survival compels both the learners and teachers to seek knowledge to mitigate theimpact.

The indigenous inquiries of *Nhaka* Knowledge HIV/AIDS management strategies are oral, practical and experiential and are rooted in indigenous paradigms. They take place within human life activities, such as traditional ceremonies relating to the initiation of boys and girls into adulthood like *chinamwali, nhimbe/jakwara* and *padare* activities. Indigenous ways of knowing, such as the use of poetry, proverbs (*tsumo*), folk stories (*ngano*), idioms (*madimikira*), songs (*dzimbo*) and dance engage learners and emphasise cultural issues of their community (see Chapter Six). The importance of indigenous ways of knowing like stories, idioms, poetry, song and proverbs could be used to assist learners to communicate effectively in learning about HIV/AIDS only if their home language is given space in the science classroom.

Pedagogical approaches advocated for in the Guidance and Counselling curriculum include research, case study, educational tours,group discussions, debate, work related learning, seminars, drama, song, poetry, discovery, imitation or simulation, video and film shows, games and quizzes. The above methods are enhanced through the application of multisensory approaches to teaching and principles of individualisation, unification, concreteness, stimulation and self-activity. For adequate coverage, the syllabus time allocation of four periods of 40 minutes per week should be allocated. It is recommended that learners should go on educational tours at least twice a year (Guidance and Counselling syllabus, 2015).

The learning that involves inquiry in the Guidance and Counselling curriculum is aligned to indigenous pedagogies in their use of a portfolio system to assess what the students have learned for themselves through inquiry or research. Similarities in the mentioned approaches create possible pedagogical approaches for amalgamative Guidance and Counselling curriculum classroom science for teachers to adapt. The syllabus advocates for group and individual strategies as reflected in the excerpt below:

"Group discussions are one of the methods and the above methods are enhanced through application of multisensory approaches to teaching and principles of individualization, unification, concreteness, stimulation and self-activity" (Guidance and Counselling, 2015, p. 4).

One of the suggested learning activities in the Guidance and Counselling curriculum, under concepts and principles of Guidance and Counselling, advocates for engaging in peer counselling case study

activities (Guidance and Counselling, p. 15). The peer-to-peer education activities concur with the findings in Chapter Seven of this thesis. Peer educators play a scientific role in the teaching and learning about HIV/AIDS. Peer education is accompanied by teacher/pupil communication within the classroom enterprise. The teacher plays a facilitation role within the classroom. Similarly, within the Nhaka Knowledge HIV/AIDS strategies, there is the *GotaNhanga* concept, where the older boys and girls advise their siblings on facts about growing up and on cultural moral values of *Unhu/ubuntu/Vumunhu.*

In the *Nhaka* Knowledge enterprise, group work is a cherished practice of collectivism in accordance with collectivism of cultural worldviews (see Chapter Six). The Mazowe Gold Mine community cultural elders interact with cultural members within small group settings, family, peers, *sahwiras* in relationships that extend to the community. Knowledge sharing is based on close cultural relationships. These are similar to small groups (peer groups) in the classroom which spread across the classroom and to the whole school. The difference lies with the setting where the *Nhaka* Knowledge HIV/AIDS management strategies communication takes place in a natural setting and is dependent on which culture the student belongs to. The values of collectivism and communication practices dictate collegial relationships among members of *Nhaka* Knowledge enterprise.

Teaching and learning that involves group tasks and shared responsibility resonates well with the learners' way of relating rather than tasks based on individual competition. Yet, many class tasks are individual therefore teachers have to find way of encouraging individual work. In the classroom content, the enterprise is controlled and the communications are created. Both differences and similarities between *Nhaka* Knowledge and those of Biomedical Knowledge group work problem based approaches, create pedagogical prospects for amalgamation.

The teachers need to recognise the *Nhaka* Knowledge HIV/AIDS management strategy values that the learners bring to the classroom. Teachers and learners, as a classroom enterprise, might need to enrich their knowledge and practices by learning from cultural elders in the community. For amalgamation purposes, the *Nhaka* Knowledge HIV/AIDS management strategies can be communicated through ICT tools, internet, social and mass media to reach a wider audience.

Pedagogical approaches for amalgamation in the Guidance and Counselling curriculum, which teachers could follow, may include teaching of HIV/AIDS from Biomedical Knowledge pedagogy followed by that of *Nhaka* Knowledge pedagogy, for example, the teaching of sex and sexuality and HIV/AIDS topics alluded to before. The Guidance and Counselling lessons emphasise sexuality, components of sexual and reproductive health, abstinence, consequences of early sexual debut and ways of preventing STI/HIV. Learners can engage in research by reviewing literature and also undertake visits to the Mazowe Gold Mine Company clinic.

The NKHIV/AIDS management strategies are the opposite of the BKHIV/AIDS management strategies frame. This NKHIV/AIDS management strategy frame engages learners on how they have gained or are gaining their *Nhaka* Knowledge of HIV/AIDS management from their cultures in the Mazowe mining community. This brings out their conception of sexuality and HIV/AIDS through their pedagogical approaches. Extending this to cultural elders in the mining community raises the learners' awareness on the existence of their IK and the need for them to value their pedagogical inquiries. Recording information from such communication may be borrowed from the western biomedical science practices of recording observations (Mpofu, 2016).

The other approach could be that of teaching STI/HIV/AIDS from the *nhaka* pedagogical approach to the biomedical scientific inquiry pedagogical frame. This entails moving learning from the learners' cultural understanding to the biomedical scientific understanding. Such familiar to unfamiliar progression could be viewed as supporting cultural transition within the classroom context. The two amalgamation approaches promote a two-way exchange of knowledge and cultural understanding with learners retaining their indigenous identity.

The other approach is the one similar to Aikenhead's (2002) approach of the cross cultural Rekindle Traditions Project alluded to in Chapter Two. This approach entails the adoption of the Biomedical Knowledge pedagogy frame to inquire about the understanding of phenomena from both the Biomedical Knowledge and *Nhaka* Knowledge perspectives. The approach uses a western science frame to learn about Indigenous Knowledge. According to Aikenhead (2001), the approach is successful in promoting the co-existence of both western science and Indigenous Knowledge. It is

therefore critical that caution should be taken to ensure that the Biomedical Knowledge HIV/AIDS management strategies do not dominate in the curriculum.

The first part of this chapter has analysed the Guidance and Counselling curriculum document for possible amalgamation of BKHIV/AIDS strategies and NKHIV/AIDS strategies. The first part of this chapter argues thatthe understanding of the nature of *Nhaka* Knowledge and biomedical classroom science is critical to amalgamative Guidance and Counselling in the classroom. The analysis has unpacked how these two knowledge bodies speak to one another to provide opportunities for their amalgamation into the Guidance and Counselling curriculum. The analysis revealed many prospects for amalgamating the bodies in the Guidance and Counselling curriculum from the similarities and differences between them. The first part of the chapter shows that the Guidance and Counselling secondary school curriculum is permeable to amalgamation with *Nhaka* Knowledge. The opportunities also suggest the content to fill the opportunities and how to do so. The next section of this chapter addresses concerns and suggestions of participants on the amalgamation of the two bodies in relation to the study findings from the FGDs conducted among the community elders and teachers of Mazowe mining community.

8.8.1 Participants' concerns and suggestions on amalgamation of IKHIV/AIDS and BKHIV/AIDS management strategies

It was necessary to establish elements of *Nhaka* Knowledge strategies that participants were comfortable with for teaching in the classrooms. It was also important to understand the participants' curriculum needs and hopes through greater consultation. It was respectful to seek the participants' consent to collaborate with teachers, AIDS service organisation representatives and nurses in finding solutions for the amalgamation.

The participants shared many views on how NKHIV/AIDS strategies could be amalgamated with BKHIV/AIDS management strategies in the Guidance and Counselling curriculum for school learning. On the whole, most participants were supportive of the amalgamation of classroom science. According to some elders and teacher participants, amalgamative classroom science would instil positive behaviours and practices among learners for the control of HIV/AIDS as given in the excerpt below:

> "*We have gone through so many years teaching (following) the western ways of behaviours and practices, that's why there are so many uncontrollable diseases like HIV/AIDS. We need to teach children (tsikanemagariroechivanhuekuzvichengetedza) Indigenous ways of disease prevention in school which were despised by colonisers"* (Mr B, GCST Interview, July, 2017).

The excerpt above expresses the sentiments that the *Nhaka* Knowledge was not taught in schools during colonisation which suggests the decolonisation of amalgamative classroom science. The excerpt reveals issues relevant for amalgamative classroom science. Another purpose for amalgamative classroom science, as reflected in the excerpt above, is to make the biomedical science knowledge strategies relevant to the indigenous children of Mazowe Gold Mine community and for disease prevention. The cultural elders and participants suggested the teaching of *Unhu/Ubuntu/Vumunhu* in the classroom as necessary for disease prevention. *Unhu/ ubuntu/ Vumunhu* is an African philosophy which shapes people's language, thinking, behaviour, relationships and communities (see Chapter Two for details).

The view that western science technology was eroding *Unhu/Ubuntu/Vumunhu* among young people in the Mazowe Gold Mine community was expressed by cultural elders. *Gogo*Kambiyawo explained:

> "*Materevhizheni nemafoni akutikuvadzira tsika neunhu hwevana vedu. Vana vakutevedzera tsika dzavanoona pama movie, ipapo dzimwe dzechipfambi uye kurarama kusina kururama sedzechingochani. Aah! Zvinofumura rudzi. Vaberekiwo vakusiya vana vachiona mafirimu asiri ezeraravo. Ndosaka zvirwere zvepabonde uye mukondombera zvapararira, uye zvakuonekwa nemuvana vadiki. Zvakutoda kuti maTV iwayo pamwe nevadzidzisi vasimbe kudzidzisa vana tsika dzakanaka dzechivanhu. Tsika nechivanhu chedu ngachikurudzirwe mumaTV imomo uye mumaradio kwete tsika dzechirungu dzinobvisa hunhu.*"
>
> (Televisions and mobile phones are destroying our children's *unhu/ubuntu* moral values. Our children are imitating the behaviours that they watch on televisions including prostitution, homosexuality and pornographic movies. Parents are also not controlling what their children watch on TVs. Pornographic movies have corrupted our children. This is the reason why STIs and HIV/AIDS is rampant even among young people. This strongly calls for teachers to work hard in inculcating*Unhu* moral values among children. *Unhu*should be taught in TVs and radios not western ways that destroy our moral values) (*Gogo*Kambiyawo, FGD, 26 July, 2017).

While the elders express the challenges of western technology in contributing to the erosion of *Unhu/Ubuntu/Vumunhu*, they see teaching of *unhu/ubuntu/Vumunhu* through western technology necessary for giving guidance to their children for choosing right from wrong in the modern world. However, the inclusion of *tsikanemagariroechivanhu (unhu/ubuntu/Vumunhu*) teaching purports the pedagogy of working together in the classrooms as well as classroom management aspects of discipline**.**

Challenges on the erosion of *ubuntu* concur with Letseka's findings that the loss of *ubuntu* in South African society has led to politically motivated and crime related violence in South Africa. This has led to calls for education that draw on *ubuntu* (Letseka, 2013). The above excerpt also suggests the collaborative need of the school, western technology and cultural elders for the amalgamation of *Nhaka* Knowledge HIV/AIDS management strategies to be successful.

The cultural elders appreciate some of the benefits of biomedical western science. As a result, they suggested the teaching of *Nhaka* Knowledge HIV/AIDS management strategies together with biomedical HIV/AIDS management strategies already taught in the classroom. Amalgamating *Nhaka* Knowledge HIV/AIDS strategies in the biomedical science classroom saves cultures from further isolation. According to the quadruple model of amalgamation, this can be achieved through the parallel model of amalgamation, the convergent model or both. Parallel model amalgamation is the side-by-side existence of BKHIV/AIDS management strategies and NKHIV/AIDS management strategies in the Guidance and Counselling syllabus and convergent integration relates to the synthesised knowledge of the two (Mpofu et al., 2014).

The cultural elders' concerns about the loss of *unhu/ubuntu* among children and the need to have it taught in schools concur with some components of curriculum frameworks for Primary and Secondary Education 2015–2022. For example, the principles underpinning the Guidance and Counselling curriculum (p. 7) state: "*The Ministry of Primary and Secondary Education, cherishes the following principles: inclusive lifelong learning, equity, fairness, gender sensitivity, respect (ubuntu/unhu/Vumunhu), responsiveness, balance, diversity, transparency and accountability*" (Guidance and Counselling teachers' guide, 2017).

The Guidance and Counselling learning area is very significant in the development of *unhu/ubuntu/Vumunhu* attributes as it gives a sense of positive self-image and high self-esteem. The government of Zimbabwe further frames its education system within the philosophy of *unhu*as stated in the CIET 1999 that states that "*establishment of the new philosophy of education in unhu/ubuntu and restoration of children's African behaviour of unhu*" (p. 19–23). The philosophy of *unhu* is also stated in The Cultural Policy (2004):

2.1.1(i) Family and community socialisation process should strengthen our traditional values through utilisation of discipline, positive values, strong ethics, moral and collectivism constituting *unhu/ubuntu* (p. 15).

2.1.1(ii) Our traditional performing and visual arts should be handed down from generation to generation through socialisation in the home, community and traditional education syllabi in schools colleges and universities.

In support of amalgamative classroom science, participants revealed some of the *Nhaka* Knowledge strategies that could be included in the Guidance and Counselling classroom science. These include the purposes (goals and objectives) of amalgamative classroom science, the amalgamative pathway for moving *nhaka* content from the community into classroom science and the pedagogy for teaching these aspects. For example, some *Nhaka* Knowledge strategies content suggested for classroom science include:*unhu/ubuntu/Vumunhu* cultural moral values, traditional practices, *zviera* (taboos), sex and sexuality, *chinamwali*, introduce *tete/sekuru* counselling programs at school by making use of traditional elders, introduce virginity inspections to be done by selected and trusted elderly women from the community at least once a week, child discipline action, respect, male circumcision, traditional medicine for treatment of sexually transmitted diseases, traditional herbs for reduction of libido and treatment of STIs, use of local languages, how parents should control what children watch on TV, social media, *tsikanemagariroechivanhu*, African cultural social sanctions (myths, taboos, traditional herbs, respect, virginity testing, moral values) and introduce physical punishment in class for behaviour control. Most of the suggested topics tally with the ones discussed in Chapter Six. and Seven**.** All these suggested topics indicate

the broad topics of *Nhaka* Knowledge HIV/AIDS management strategies to be taught in the Guidance and Counselling curriculum. The findings also indicate that amalgamating *Nhaka* Knowledge of HIV/AIDS strategies into the Guidance and Counselling curriculum is a complex task that requires consideration of knowledge (information) from the community cultural elders, AIDS Service Organisations (ASO), nurses, teachersand biomedical strategies from the curriculum documents.

Some participants expressed that amalgamating IKHIV/AIDS management strategies with BKHIV/AIDS management strategies in the curriculum was possible but had some challenges. For example, reconciliation of diverse cultural backgrounds and practices of the Chewa, Tonga and Shona culture on Indigenous Knowledge strategies for sex, sexuality and HIV/AIDS management would hinder successful amalgamation. Sometimes getting that information would be difficult, as expressed by Mr Besa, the Guidance and Counselling teacher:

> *"The Chewa culture has powerful information on the cultural practice of chinamwali in Mazowe mining community but it is very secretive and may refuse to share the information. Without accessing the knowledge, then we have little to teach on sex and sexuality about chinamwali. Some cultures preserve their practices because of copyright issues, they don't trust anyone with their information"* (Mr Besa, GCST, FGD, 26 July, 2018).

The above finding is supported by Mbiti (1969) that indigenous Shona people promoted their knowledge through secrecy, sacredness, community protocols and laws. The amalgamative classroom science therefore will provide learners with opportunities to access some of this secret knowledge.

The variations across cultural practices on sex and sexuality in Mazowe God Mine community were also expressed by *Gogo*Dhauti:

> "Virginity testing/checking is different across cultures especially among the Shona, Chewa and Tonga; the ages of children who undergo practices are different. *Pane kupokanazvepamaitiromuma*cultures (there are differences and disagreement on cultural practices among cultures in the community).For example, I as a Shona personally feel the age considered for *chinamwali* by the Chewa is too low as it exposes children to experiment and indulge in sexual

activities before marriage. So the question is: whose cultural practice on sex and sexuality do we take to the teachers to teach in the classroom?" (*Gogo*Dhauti, FGD, 26 July, 2018).

Mr Besa further added to the challenges on amalgamation:

> *"You said we can include teaching on herbs for developing and suppressing sexual hormones but who knows of the future side effects on the children, zvinotyisa wee? Given the teaching of HIV/AIDS zvimwezvachomagender activists haadizvevirginity testing nokutivanotikudzvanyiravanasikana. Tinopaita sei ipapa? This will lead to school dropouts defeating the whole purpose of government of Zimbabwe education for all. Using local language in teaching Biomedical Knowledge in classroom is our challenge. The Shona language has many dialects which are used in the Mazowe mining community. The other challenge is some biological terms on HIV/AIDS have no Shona words. Anyway, which Shona dialect should we use in the classroom for this amalgamative teaching which you are advocating for? We need to agree"* (Mr Besa, GCST, FGD, 26 July 2018).

The above excerpt conveys the message that indicates that the amalgamation endeavour is complex because of variations in cultural practices and beliefs. The reconciliation of diversities for amalgamative classroom science goals have been observed by indigenous scholars, such as Otulaja et al. (2011), who add that teachers' belief patterns should be examined before they are tasked to amalgamate IK into their classrooms. This calls for the analysis of people's beliefs, practices, knowledge using culturally appropriate strategies including some which I documented in Chapter Five, before amalgamation. Because of the stated variations in cultural beliefs and practices for IK amalgamation, I agree with Mpofu (2016) who argues that African culture stands to lose more from the representation of IKS in formal schooling than if the IK was not amalgamated at all.

One of the challenges to amalgamation expressed by the teachers is the lack of documentation of the Indigenous Knowledge strategies in the curriculum, as explained by MsDeza:

> *"While the syllabus states that we should teach on unhu/ubuntu/Vumunhu, for example, there is no documented information around what to exactly teach to the learners. To be honest, I have no clue as to where to start because I was educated in a school where there was no such information. To make it worse, I graduated in my tertiary education outside the country but here I am faced with this IK challenge without supportive materials. In my view, workshops on IK should be conducted to cascade IK information to schools from district to cluster schools. Researchers should document and share information with schools. I am glad you are here Mai Hungwe, thank you for bringing these*

generous elders with rich Indigenous Knowledge information to empower us as teachers, we hope the partnership will last" (MsDeza, GSCT FGD, 26 July, 2018).

The above excerpt on the lack of IK documentation is supported by Otulaja et al. (2011) that teaching Indigenous Knowledge in their science lessons could be difficult for teachers without documentation because they are immersed in textbook driven traditions. One of the participating teachers, MrsDeza, further suggested that community elders should provide IK information for display of traditional IEC materials that can be used to teach on African moral values like *kukoshakwehumhandara*. The challenges reveal that amalgamating IKHIV/AIDS management strategies with BKHIV/AIDS management strategies in the Guidance and Counselling curriculum is complex.

In response to how *Nhaka* Knowledge strategies could be amalgamated in the teaching and learning of HIV/AIDS and life skills in the Guidance and Counselling curriculum, most participants suggested the need for consensus and collaboration among teachers, parents, cultural elders and ASOs in the community. For example, during FGDs, the participants chose the collaborative approach. MrsKalima, one of the participants, expressed that, in support of teachers' efforts, the parents, community and teachers should speak with one voice. The participants in the FGDs agreed to the proposal to revive the *tete/sekuru* (aunt/uncle) concept that faded with the introduction of colonisation. The *tete/sekuru* in Africa had a role to mentor/ counsel young boys and girls to follow the moral values of African *ubuntu/unhu/Vumunhu tsika nemagariro echivanhu* and to initiate them into adulthood. In relation to the revival of the *tete/sekuru* concept for the school, MrsKalima, in consensus with the other participants, restated:

"We will distribute a notice that the school authority and parents have decided that the elderly men and women representatives will be visiting the school to teach on our African tsikanemagariroechivanhu. We will check on virginity of girls monthly without using evasive measures. We will also provide confidential counselling to both boys and girls. We have decided on this to control STI/HIV transmission among pupils so that they complete their education. The process will also help expose the rampant child sexual abuse and preserve our African culture. There is going to be two offices, one for girls' virginity testing and counselling by an elderly respected woman in the community, and the other office space for boys counselling manned by an elderly man. Parents of the children are advised to provide a dollar per month for the child as token of appreciation to the elderly people on duty that month. The lady teachers will supervise the program. We will hold

seminars with teachers to talk about tsikanemagariro when they are free and ready" (MrsKalima and FGD participants' notice, 26 July, 2018).

The above notice excerpt expresses the collaborative willingness of cultural elders to share IKHIV/AIDS management strategies with teachers and pupils making amalgamation of IKHIV/AIDS and BKHIV/AIDS management strategies in the Guidance and Counselling possible**.** The above excerpt also expresses that the teachers may be limited in both the depth and breadth of *Nhaka* Knowledge, hence the proposal by the participants to engage community elders in the teaching of *Nhaka* Knowledge at school. Such limitation of teachers is cited in literature as a teacher related threat to successful implementation of amalgamative classroom science reforms (Ogunniyi, 2007a). It was also suggested that the cultural elders hold seminars to teach teachers on *Nhaka* Knowledge for easier implementation in classrooms. Such realisation leads to the recognition that elders could be more knowledgeable than teachers in the aspects of *Nhaka*Knowledge. The collaboration also supports the documentation of authentic *Nhaka* Knowledge HIV/AIDS management strategies. The willingness of the cultural elders and the school to share knowledge is a significant finding for successful amalgamation.

Another area of teacher and community collaboration was on child discipline. *Sekuru* Jima expressed that,

"*Vadzidzisi navabereki ngatikomberanai kudzidzisa vana tsika dzakanaka. Vabereki musati mwana akarohwa kuchikoro aitamusikanzwa momureverera, murovei zvakare momudzosera kuchikoro. Vaya vabereki vasingadi kuti vana varangwe nokurohwa kuchikoro, priz musaendesa vana kuchikoro, chengetai pamba. Vana ngavarangwe nomunhu mukuru wese anenge amuona achiita musikanzwa, hazvinei kuti mubereki wake. Vanhu wee, charachimwe hachitswanyi inda*" (Sekuru Jima, FGD, 26 July, 2017).

(Teachers and parents should work together in disciplining the children. Parents should not take the naughty, disobedient child's side after they get punishment from the teachers at school. Beat the child up and send him/her back to school. Those parents, who do not want their children to receive physical punishment for misbehaviour at school, please keep your children at home. Children should be disciplined by any elderly person despite the fact that they are not the child's parent or relative).

The above excerpt emphasises the sentiments of the community elders on the need for child discipline through physical punishment at school. On the contrary, the teachers in the FGD meeting expressed that disciplining a child through physical punishment was regarded as child abuse. The same sentiments were recorded during interviews with teachers as documented in Chapter Seven of this thesis. The elders concurred that the law which acts against physical discipline of children should be removed.

Although most participants suggested the coexistence and amalgamation of IKHIV/AIDS management strategies with the BKHIV/AIDS management strategies in the G&C curriculum, some felt it would still be marginalised. One participant *sekuru* Chewa mentioned that some young people still look down upon the African tradition as obsolete:

> "*vana vemazuva ano vanoti 'tikarwara tinorapwa kuchipatara, zvenyu hazvichashandi ndezvakare*" (*Sekuru* Chewa FGD, 26 July, 2017).
>
> (Nowadays, young people despise advice by saying it is obsolete because when they fall sick they will get treatment from the clinic)

Contrary to the exception above, the fact that *Nhaka*Knowledge could still be found in Mazowe Gold Mine community indicates that this body of knowledge dominates biomedical science at cultural levels.

The idea of moving IK into classroom science teaching and learning in ways that promotes its harmonious coexistence with biomedical science has been the aim of many research projects. For example, research conducted by Mpofu (2016), Khupe (2014) and Aikenhead (2002) confirms the view that community and school collaborations are important strategies for successful amalgamation of Indigenous Knowledge into classroom science. Both cultural elders and teachers can participate in becoming what Aikenhead (2001a) referred to as "cultural guides" in assisting students to understand the nature of Indigenous Knowledge. In this case, the prevention and management of HIV/AIDS, research has further shown that such thinking motivates learners to appreciate their heritage and also to understand biomedical western scientific world views (Lee et al., 2012).

All the participants that were for amalgamation suggested it takes place within the Guidance and Counselling syllabus. Others expressed that selected NKHIV/AIDS management strategies only be drawn in to complement BKHIV/AIDS management strategies in the amalgamation. The data did not express any convergent integration, perhaps because the participants were afraid that their *Nhaka*Knowledge will be stolen and marginalised by biomedical western science as it was during colonialism. An example of this that the participants gave was of circumcision which they said was existent in African culture long before colonisation and now has been adopted as a new strategy by biomedical western science. In convergent amalgamation, there is no coexistence of the knowledge bodies but a new hybrid knowledge from the synthesis of the two knowledge bodies. But participants feared that such integration would lead to western knowledge becoming dominant.

Deciding on an amalgamation pathway is a necessary step towards solving amalgamation challenges suggested by participants. Pathways which agree with prospects for amalgamating analysis discussed in the first part of this chapter therefore become appropriate. Based on this discussion, this study considered the coexistent parallel amalgamation as a suitable frame for illustrating how *Nhaka* Knowledge could be amalgamated in the Guidance and Counselling curriculum for the teaching and learning of HIV/AIDS. The approach gives both knowledge bodies their cultural identities. Having identified the frame for amalgamation, I now proceed to exemplify how NKHIV/AIDS strategies can be fitted into a biomedical classroom science based on the data provided by participants.

8.8.2 Consolidating Nhaka Knowledge HIV/AIDS management strategy elements for classroom science

Participants' suggestions were consolidated to exemplify how *Nhaka* Knowledge could be fitted into biomedical classroom science. Specific elements for amalgamation suggested by participants were identified in accordance with the enterprise, content, language, purpose, pedagogy and place model in the Guidance and Counselling syllabus areas as alluded to earlier in this chapter. The identification of the *Nhaka* content was based on the assumption that the subject content was a product of knowledge selected from the dimensions of the *Nhaka* Knowledge alluded to in Chapter Six. The specific knowledge elements are then fitted into the Guidance and Counselling curriculum

syllabus areas identified earlier in this chapter. These stages are discussed in detail in the following sections.

8.8.3 Participants suggestions on Nhaka Knowledge elements for amalgamation

Some elements of *Nhaka* knowledge for amalgamation in the biomedical classroom science were identified by study participants. Table 8.4 provides a list of these *Nhaka* Knowledge elements for illustration purposes.

Table 8.4: Elements of *Nhaka* Knowledge HIV/AIDS (NKHIV/AIDS) strategies suggested for biomedical classroom science

Biomedical classroom science dimension	**Participants suggestions on NKHIV/AIDS strategies for classroom dimension**
Enterprise	Cultural elders', teachers' major responsibility
Content	• *Unhu/ubuntu/Vumunhu/tsikanemagariroechivanhu* • Traditional medicine for STI treatment • Culture • Indigenous (cultural) perspectives of HIV/AIDS • Sex and sexuality education • Circumcision, virginity inspection • IKHIV/AIDS prevention methods • Circumcision, virginity inspection • Traditional herbs for behaviour modification e.g. suppression of libido • Relationships • social sanctions for behaviour modification • Moral education • Respect, myths, taboos, moral values, respectful language for HIV/AIDS prevention • Role of *midzimu* (ancestral spirits) • Spiritual curses • Collective responsibility • Disease prevention • Proverbs (*tsumo*), folk songs, idioms, *Tsikanemagariro.*
Language	Shona as a medium of instruction and language of subject.

Purpose	□ Understand cultural perspectives of managing STI/HIV/AIDS □ Enhance IK/HIV/AIDS strategies for disease management in everyday life and in curbing the pandemic. □ For survival free from STI/HIV infection. □ Maintaining moral values of *ubuntu* □ Understand the function of IK/HIV/AIDS. □ For future complementary HIV/AIDS prevention practices
Pedagogy	□ Working together/ collaborative participation □ Circumcision and virginity testing □ *Tsumo* (proverbs), traditional songs, idioms (*madimikira*), traditional dance, folk stories
Place	□ classroom/delegated space □ community natural settings

Table 8.4 shows that the suggested elements for classroom learning and teaching are broad. In this case, specific topics from the NKHIV/AIDS management strategies need to be identified.

8.8.4 Identifying specific topics of *Nhaka* Knowledge elements

Identifying specific topics for *Nhaka* Knowledge elements involve examining knowledge elements in NKHIV/AIDS management strategies. For example, the specific content on Regulation of Youth sexuality for HIV/AIDS prevention can be drawn from Chapter Six. The specific topics to be taught under the Regulation of youth sexuality from the Mazowe Gold Mine community perspective were examined from the moral values, myths, ceremonies, songs, proverbs, idioms and behaviour modification sanctions that were generated by participants and documented as *Nhaka*Knowledge HIV/AIDS teaching strategies. For example, sex education, virginity checking ceremonies of Mazowe Gold Mine community cultures of the Shona, Chewa and Tonga reveal several concepts that lead to the identification of *Nhaka* content.

Content can also be drawn from the cultural songs documented in Chapter Six on *unhu/Ubuntu*, for example,the Tonga moral education song on cultural values of respect and *unhu.*
Below is an example of a song from the elders (TCP, 4 April, 2017) on the cultural values of respect and *unhu* with its English literal translation and moral implications.

Tonga	**English literal translation**
Buntu –Bwesu	Our Being
Yakaswekelakulimikkuliyesu	Where have our culture disappeared to?
Bwakabbililakulibuntubwesu	Where has our spirit of *Ubuntu* gone to?
Balikulibalemekabuntubwesu	Where are those who respect humankind?
Bakabibililakulibazibuntubwesu	Where are those with high regard for a person?
Muntumuntunkambokabantu	A person is a person amongst other persons
Ndipeiyajilondizwatikelyasunu	Bring back "the yesterday" I will bury "the today"
Bantu babamensokukankodo	They have eyes at the back of their heads
Bazyanababajischidumbu	They dance even when carrying a corpse
Bejilobaliykulyanga, nkabalemeka	In the past they were full of humility and respect
Muntumuntunkambokabantu	A person is a person amongst other persons
Mawee!	Beware!
Bana walyambakabalabongabalyamba	You warn a child he or she will answer back
Zyanguzyalizyakojilo	Everything I had we shared in public
Sunuzyabazyakomumudima!	Today it is all yours when you are out of public eye
Ndilemekandikulemeke	Respect me and I give you honour
Muntumuntunkambokabantu	A person is a person amongst other persons
Ngatuyakebuntubwesutuyakechisichesu	Let's build the spirit of *Ubuntu* and build the nation
Tukazikanealumuno, Mwamiatumywe	Let us live in harmony, our Lord will hear us
Katulemekana, katulantomwembulichisi	Respecting one another, united as a nation
Tudonse! antomwekatuzibisyana	Let us pull together paying respect to each other
Muntumuntunkambokabantu	A person is a person amongst other persons

Doing this is one way of identifying content for teaching. Through similar analysis, I established who should teach this knowledge. The participants had consensus that the teaching of *nhaka*content

should be done by community cultural elders in collaboration with teachers in a given space at school. In collaboration with the teachers, they agreed that the teachers would also provide teaching in the classroom but needed to be empowered by the same community cultural elders who will leave the total responsibility to the teachers at a later stage. This reinforces the need for collaboration.

8.8.5 Pedagogical options for teaching *Nhaka*Knowledge HIV/AIDS strategies in the classroom

Participants revealed various ways in which *Nhaka* Knowledge could be taught in biomedical Guidance and Counselling classroom science (see Chapter Six). The chapter addresses cultural pedagogies developed for oral sources of knowledge. Those that emerged from the study include idioms, proverbs, *dzimbo* and traditional games from which learners can learn. Mpofu (2016) said that some cultural pedagogies are developed from oral sources of knowledge. Pupils can learn orally in *padare* from community cultural elders. Oral sources of knowledge, such as songs, can provide both content and pedagogy, for example, traditional songs that require responses teaches group work in songs where one sings chorus and the other respond like the Chewa song below**.** Children can also learn moral values from songs like the Chewa song given below as documented in Chapter Six. The song is used during *chinamwali* for sex and sexuality education to prepare girls for marriage.Below is one of the songs the elders shared:

Kuvamba:*Guraaa*
Kudavira: *Yaayayiguraaa*
Kuvamba:*Guraaa*
Kudavira: *YaayayayiGuraaaa*
Kuvamba: *Sefaaaaa*
Kudavira:*Yaayayayisefaaaa*

CHEWA SONG on teaching moral values	ENGLISH literal Translation
Kuvamba: Guraaa	Lead singer:Thank you
Kudavira:ResponseYaayayiguraaa	Response ; Yes thank you
Kuvamba: Guraaa	Lead singer: Thank you
Kudavira: YaayayayiGuraaaa	Response: Yes thank you
Kuvamba: Sefaaaaa	Lead singer: well done
Kudavira: Yaayayayisefaaaa	Response: Yes well done
Kuvamba: Guraaa	Lead singer: Thank you
Kudavira:ResponseYaayayiguraaa	Response ;Yes thank you

(CCP,18 July,2017).

The adults explained that *Sefaaa* means a satisfactory action performed by a woman in bed, which was meant to please the spouse. *Guraaa*meant satisfactory love play by a man with his spouse (CCP, 18 July, 2017). This song was designed to prepare children for marriage and love life. The elders mentioned that the elderly women mimicked a demonstration of the action. The demonstrations in this case provided experiential learning to the girls. This was meant to train the girls on how to perform in bed after marriage. The elders mentioned that the song and performance was meant to promote future sexual satisfaction and faithfulness between partners after marriage. The song is sung by elders and children and it also teaches collaboration in knowledge making.

Proverbs can be used to teach moral values, for example, "*simba remwanasikana ririmuhumhandara*" (a girl's pride is in her virginity/purity) teaches on the value of virginity. As alluded to in Chapter Six (section 6.5), it is through traditional songs that facts and moral values of society were passed from one generation to the next. Important stages of life are often marked with songs. Songs are peculiar to all ethnic groups (Ogunridade, 2014). Moral education is best channelled through folk songs, proverbs, idioms, values, norms, duties and obligations of different people in the community (Ejukwu&Esimore, 2014) **(**see Chapter Six).Some pedagogies are grounded in indigenous oral knowledge transmission in the classroom, for example, songs that can be followed by discussions.

In the next section, I illustrate how *Nhaka* Knowledge HIV/AIDS elements can be amalgamated into the biomedically oriented Guidance and Counselling secondary school syllabus.

8.9 Amalgamative classroom science: A case of health

There are many examples that can be drawn from the findings of this study to show what amalgamative classroom science would look like in actual lessons. I focus on Topic 3: Health for illustrations. Topic 3: Health in Zimbabwe Guidance and Counselling curriculum secondary school focuses on health. The lesson case is drawn from the Table 8.5 below. Table 8.5 shows three key concept topics of health selected from the *Nhaka* Knowledge in Chapter Six. My structuring of the NKHIV/AIDS management strategies into the Guidance and Counselling secondary school syllabus has been based on two assumptions. The first is that amalgamation is driven from parallel modes. Secondly, the teacher has autonomy to restructure the syllabus in accordance with local contexts and new curriculum demands. Guided by these assumptions, *Nhaka* Knowledge has been placed in the Guidance and Counselling syllabus for secondary Schools in Zimbabwe. Table 8.5 shows this amalgamative structure. The objective and notes columns have been left out for lesson planning. The content column is subdivided into two to show possible parallel existence of BKHIV/AIDS strategies class science content and NKHIV/AIDS management strategies content.

Table 8.5: Health topic syllabus structure

Subtopic	**Unit content**	
Key concept	**Guidance and Counselling syllabus**	***Nhaka* Knowledge**
1.Sexual Reproductive Health and Rights (SRHR)	- SRHR responsibilities - components of sexuality - different forms of sexual expression - consequences of early sexual activity - STI/HIV/AIDS prevention strategies - prevention of teenage pregnancy	- sex and sexuality education - Indigenous Knowledge strategies - *sekuru/tete* concept - traditional social sanctions for behaviour modification - traditional herbs for suppression of libido - relationships - virginity checking

	- myths and misconceptions of SRHR	
2.HIV/AIDS	- Overview of HIV/AIDS regionally, nationally, and globally. - key drivers of HIV transmission - abstain - be faithful - correct and consistent condom use - delay sexual debut - early treatment of STIs - free and frank discussions - HIV testing and counselling - VMMC - treatment adherence care - support and positive living for children and adults living with HIV - stigma and discrimination - gender and HIV	- cultural perspectives of disease management - IKHIV/AIDS management strategies - delay of sexual debut - abstinence -be faithful - virginity checking for girls - boys' circumcision - traditional herbs for STI treatment - *unhu/ubuntu/Vumunhu* - *tsikanemagariroechivanhu* - moral education - home-based care - collective responsibility
3.Drug and substance abuse	- drugs and substances prone to abuse - effects of drug and substance abuse - ways of preventing drug and substance abuse - managing drug and substance abuse for example rehabilitation	- traditional herbs prone to abuse - effects of traditional herb abuse - managing abuse of herbs

Figure 8.5 suggests that the teaching of *Nhaka*knowledge proceeds from a defined pathway model. In relation to syllabus placements of *Nhaka* Knowledge, this study suggests co-parallel existence. My inclusion of these topics is based on their emphasis by participants. Some topics can be taught from Biomedical Knowledge western perspective. The teaching of the *Nhaka* model proceeds from

a defined pathway model. The model suggests that both common and different aspects need to be taught from both perspectives in ways that promote their visibility and coexistence and collaboration, and entail respect of community values.

The study revealed that the responsibility of implementing Indigenous Knowledge amalgamation into the curriculum policy lies with teachers. Hence, the teachers need to take the lead. The teacher needs to alternate roles as both leader and learner in both classroom and from cultural elders depending on the situation as discussed earlier in this chapter. The teacher is supposed to take consideration of the pedagogical context. The language of instruction is central across all themes which the teachers need to consider in the teaching of *Nhaka* Knowledge (see section 8.9.5).

8.9.1 Sex and sexuality education

Sex and sexuality education is used as an example for planning amalgamative lessons. It draws from the findings documented in Chapters Six and Seven. The section is divided into two parts, those of theoretical background and teaching aspects that inform the actual lesson development. It is built from teaching the content, addressing learning purposes and possible challenges. The classroom practice aspects are pedagogical in focus and are aimed at illustrating the development of the lesson. The classroom practice component also covers the aspects of sequencing teaching approaches, activities and interactions, language of instruction and teaching context.

8.9.1.1 Theoretical knowledge base

This summarises the theoretical knowledge essentialfor teaching of *Nhaka* Knowledge HIV/AIDS strategies from an amalgamated G&C Syllabus. These theoretical bases are drawn from the findings of Chapters Six, Seven and Eight.

Suppositions

Findings alluded to in the first part of this chapter suggest a comparative approach to the teaching of an amalgamative syllabus. This entails that the *Nhaka* Knowledge content is placed in a topic that presents the opportunity for teaching it. Such phenomena, like sex and sexuality education, can be taught from both *Nhaka*Knowledge HIV/AIDS strategies and Biomedical Knowledge HIV/AIDS strategies. Teaching a topic from both knowledge perspectives broadens the pupil's cultural

knowledge acquired socially through life in the community about a phenomenon with the biomedical western science alternative understanding of this phenomenon, for example, understanding sex education sequences of early sexual debut from the indigenous frame to biomedical science frame. For the same reason, but with a converse approach, is reclaiming culture and cultural knowledge identities. This acknowledges the previous dominance of biomedical western science in the syllabus. Another assumption is that pupils hold some knowledge of the lesson topic which means that some of them can teach their peers and the teachers as previously suggested in this chapter.

Content and time allocations

The specific Indigenous Knowledge content of sex and sexuality education exists in the community among cultural elders but its Biomedical Knowledge content is well documented in the literature and mass media platforms and publications. In this case, the Indigenous Knowledge content is documented in Chapter Six. The lessons are planned with the Guidance and Counselling lesson curriculum time allocated in mind. As discussed earlier, four periods of 40 minutes per week for Forms 1–6 should be adequate for the coverage of the syllabus (Guidance and Counselling curriculum CDU, 2015). We can assume that each of the following topics can be taught in one double period:

Lesson 1: Consequences of early sexual debut, lack of self-discipline – abstinence, premarital sex, for disease prevention and survival

These are revealed in Chapter Six. The cultural elders regarded sex before marriage as taboo and an embarrassment to the family and future in laws. No cow of appreciation (*mombeyechimanda*) was paid to the parents if the girl was not a virgin on marriage. The girl would be regarded as *nzenza/chifeve* (prostitute) (see Chapter Six). Ensuring that the girl would maintain her virginity was done through *chinamwali* virginity checking ceremonies (see Chapter Six). It is clear from these connections that one way of constructing knowledge from cultures in the Mazowe Gold Mine community is through attending and observing real life events like virginity checking for girls and boys' circumcision. This lesson can be followed up by behaviour modification strategies for HIV/AIDS prevention and management.

Lesson 2: Indigenous Knowledge behaviour modification strategies for disease prevention and survival

In Chapter Six, some of the behaviour modification strategies used to regulate and reinforce required human behaviour like abstinence and no sex before marriage, included taboos, myths, moral education, respect, use of traditional herbs, masturbation, *unhu/ubuntu* and moral values as regulatory social sanctions (see Chapter Six). These content areas as demanded by holistic and complex nature of *Nhaka* Knowledge have to be taught from the indigenous conception of cultural behaviour modification for required human behaviour and disease prevention, management and for the value of marriage relationships.

Purposes

The purposes section discussed earlier in this chapter has revealed that amalgamative teaching should build towards the attainment of an immediate participation objective and connect to long term curriculum goals. The classroom participation goal, in this case, is to promote and instil both IKHIV/AIDS management strategies and BKHIV/AIDS management strategies in the classroom in preparation for participation in future academic work and for the mitigation of HIV/AIDS. The long term curriculum goals are that the products of the school system need to be competent in both Indigenous Knowledge and Biomedical Knowledge so that they can contribute to their nations and the world. In this study, the expected contribution is that the pupils should be able to contribute towards the prevention and mitigation of HIV/AIDS locally, nationally, regionally and globally. The teacher is then expected to formulate objectives in line with the immediate and long term curriculum goals for Lesson 2, for example.

The following examples are formulated for lesson 2. By the end of the lesson, pupils should be able to:

- Describe cultural behaviour modification strategies for HIV prevention and survival.
- Discuss in groups the behaviour modification strategies from the various cultures.
- Describe the similarities and differences of behaviour modification strategies for disease prevention between the indigenous and biomedical western approaches among young people.

Pedagogy

Indigenous Knowledge and Biomedical Knowledge science education researchers have contributed towards several ideas on teaching amalgamated science that are in line with the pedagogy of cultural border crossing. The continuity and accommodation type of border crossing that emerged in this chapter suggests the movement of *Nhaka* Knowledge HIV/AIDS management strategies framework to the Biomedical Knowledge western science framework. Oral pedagogical approaches like songs, real life stories, poems and fairy tales (*ngano*) can be adopted by the teacher to stimulate learning. Learners can be actively involved in discussing the contents of poems, songs, real life stories, proverbs and other oral forms.

8.10 CHAPTER SUMMARY

The first part of this chapter explored possible places in the Guidance and Counselling secondary school curriculum for amalgamating elements of *Nhaka*Knowledge HIV/AIDS strategies with Biomedical Knowledge HIV/AIDS strategies. It explored how these two knowledge bodies can be amalgamated in the Guidance and Counselling curriculum. The analysis revealed several prospects for amalgamating the knowledge forms into the syllabus from both similarities and differences of *Nhaka* Knowledge and Biomedical Knowledge in the Guidance and Counselling curriculum. The first part of the chapter has shown that the Guidance and Counselling secondary school curriculum is permeable to amalgamation with *Nhaka*Knowledge HIV/AIDS management strategies. The chapter also analyses the prospects for challenges that are likely to arise in the amalgamation process. The challenges will inform decisions on proactive measures to take to address them. The prospects also have suggestions of the content and the process of amalgamation. The chapter suggests a holistic and parallel approach to amalgamation which accommodates all facts of Biomedical Knowledge HIV/AIDS management strategies for classroom science and *Nhaka* Knowledge HIV/AIDS management strategies.

The chapter further addresses how the *Nhaka*Knowledge HIV/AIDS management strategies can be taught in the Biomedical Knowledge western oriented science classroom. The chapter reveals various views on the amalgamation, the content to teach, pathway frameworks and pedagogical approaches. The chapter also gives examples of how an amalgamative syllabus can be taught in the

classroom. The examples are meant to provide an insight for teachers on the need to extend their *Nhaka* Knowledge teaching through cultural elders and classroom collaborations that are rooted in indigenous cultural frameworks. Such amalgamation has the potential to enable learners in Shingirirayi Secondary School in Mazowe Gold Mine community to develop their cultural knowledge on IKHIV/AIDS management strategies and to become more receptive of BKHIV/AIDS strategies for the prevention and mitigation of HIV/AIDS. The next chapter provides the study in retrospect.

CHAPTER NINE: IN RETROSPECT

9.1 Introduction

This chapter concludes the exploration on the prospects of amalgamating Indigenous Knowledge strategies with the Biomedical Knowledge strategies into the Guidance and Counselling curriculum using the case of HIV/AIDS at secondary school level in Zimbabwe. The study commenced in Chapter One by expressing the devastating impact of HIV/AIDS and how the Biomedical HIV/AIDS strategies are struggling to combat the pandemic. The chapter further highlights that the education system of Zimbabwe has introduced HIV/AIDS education in the Guidance and Counselling curriculum to facilitate the development of psychosocial skills among children and adolescent learners in order to empower them to prevent HIV/AIDS. The classroom is believed to be the most important site for comparting HIV/AIDS (Breidlid et al., 2015). Zambuko and Mturi (2005) also support the notion that HIV/AIDS education in secondary school has the potential to be one of the most important and effective mechanisms for mitigating the HIV/AIDS pandemic.

I was motivated by the virtue that Indigenous Knowledge for teaching in biomedical science classes in which HIV/AIDS is embedded, could bring positive behaviour changes for HIV prevention among learners. Yet, on the other hand, literature revealed that teachers were failing to amalgamate Indigenous Knowledge into the biomedical science teaching in Zimbabwe. One of the reasons for this is that the teachers lacked documented guiding frameworks in terms of what and how to amalgamate Indigenous Knowledge strategies and Biomedical western science in the classroom. The untapped potential that exists in harnessing Indigenous Knowledge strategies for the teaching and learning of HIV/AIDS motivated me to undertake the initiative. I therefore set out to document

the IKHIV/AIDS strategies in Mazowe Gold Mine community and to illustrate how this could be amalgamated with BKHIV/AIDS strategies and taught in the Guidance and Counselling curriculum for secondary school level in Zimbabwe.

Through the guidance of the ACACS model, I developed and adopted the Indigenous Amalgamative Methodology (IAM) to pursue the study research questions. Chapter Nine highlights the IAM findings related to the study research questions. Notable contributions to new knowledge and recommendations as well as limitations are highlighted in the discussions where they exist. Recommendations for further study are drawn. Finally, the chapter provides some reflections on my PhD journey and lessons learnt in the process of exploring new knowledge on IKHIV/AIDS management strategies before the study conclusion.

9.2 The Indigenous Amalgamative Methodological (IAM) Findings

My research study has sought to answer the following three sub-research questions restated as follows:

1. How do Indigenous groups in the mining community manage HIV/AIDS?
2. How is HIV/AIDS managed biomedically in the mining community?
3. How can the Indigenous Knowledge strategies and biomedical strategies be amalgamated for the teaching and learning of HIV/AIDS in the Guidance and Counselling for Secondary schools in Zimbabwe?

I was guided by my self-developed IAM methodology to answer the stated research questions. The research questions focused the study on the amalgamation of two knowledge bodies, Indigenous Knowledge and biomedical western science knowledge. Indigenous Knowledge was represented by IKHIV/AIDS management strategies and biomedical western science was represented by BKHIV/AIDS management strategies.

The cultural differences between IKHIV/AIDS management strategies and BKHIV/AIDS management strategies informed my pursuance of moving IKHIV/AIDS strategies into the biomedical and western oriented Guidance and Counselling curriculum for Secondary Schools in Zimbabwe. Investigating the phenomena under study called for a complementary approach. As the

proverb stated that "*rumerimweharikombichuru*"translated as "one man cannot address the problem alone" which highlights the importance of amalgamative approaches to avoid misrepresentation of either of the knowledge bodies. The self-developed IAM methodology therefore guided my field work as alluded to in Chapter Five. I believe that this IAM methodology is a new way of conducting amalgamative research for HIV/AIDS teaching and learning in the classroom and is therefore a notable contribution to the field of research methodology in Indigenous Knowledge and science education.

The IAM methodology highlights the importance of combining biomedical western and indigenous methodologies in researching problems that involve Indigenous Knowledge and Biomedical Knowledge. I see the potential in it to influence the way future research that involves Indigenous Knowledge, particularly on HIV/AIDS management and biomedical western oriented classroom science.

The *sahwira*based participatory approach which became part of my IAM methodology strongly facilitated my access to *Nhaka*Knowledge HIV/AIDS management strategies rooted in cultural and secretive zones of participants. I based my selection of the study sample on the *rudzi* approach as part of my IAM methodology. *Rudzi* in the study meant ethnic group or culture which is dictated by the socialisation process, language, norms, values, religion and practices in relation to sexuality and management. The *rudzi* based approach extended to the unplanned *sahwira*based participatory approach implemented in the study. The *sahwira* approach extended purposive sampling principles as they emerged from the participants. *Sahwira*, as alluded to in Chapter Five, is a ritual friendship in the African Shona tradition whose bonds are extremely close and usually brings two families together. These relations are not of *ukama.*[4]*Unhu/Ubuntu/Vumunhu*moral principles manifested through the *sahwira* relationships based on cultural linkages. I conducted home visit meetings which were not part of the study proposal but came up in the field work as part of the *sahwira*(close friend) strategy of reaching participants as discussed earlier in Chapter Five. The cultural elders further referred me to their *sahwiras* during our *padare* cultural meetings for more information on their

[4]*Ukama*(blood ties related kinship by descent (Gelfand, 1999).

Indigenous strategies which contributed to the documentation of massive and useful data for the study.

I approached my study from an indigenous African world view of *ubuntu*. I drew on *ubuntu* principles [5] as an ethical framework. Hence my IAM methodology challenged the issue of conforming to the university's ethical standards of doing research based on western ethical research frameworks for researching with indigenous people whose traditions of relating is basically oral. For example, the issue of written consent needed to be complemented with cultural protocols and verbal consent valued by cultural elders of Mazowe Gold Mine community. IAM methodology has evoked areas of research which include indigenous ethics research, indigenous sampling techniques and methodologies.

9.2.1 Mazowe Gold Mine community

The amalgamative study was conducted in Mazowe Gold Mine community. The ACACS model defined amalgamation as context specific in relation to the place based nature of Indigenous Knowledge (Shizha, 2007). Aikenhead and Michell (2011) also content that the features of Indigenous Knowledge plurality vary between communities and among cultures. This modifies the dimension of ACACS to imply that knowledge pluralism not only relates to the existence of biomedical western science and Indigenous Knowledge science but within knowledge systems. This Indigenous Knowledge plurality restricts the documented findings from this study on IKHIV/AIDS management strategies and the amalgamated biomedical classroom science to Mazowe Gold Mine community.

While the findings from this study are not generalisable beyond Mazowe Gold Mine community, they are insightful on how to handle the problematic classroom science reform in Zimbabwe and for the mitigation of HIV/AIDS. The findings can be transferred to other contexts as far as the subjective interpretation of the readers are informed by the characteristics of Mazowe Gold Mine community which can be drawn from the context Chapter Three, methodology Chapter Five and findings documented in Chapters Six and Seven. In summary, the Mazowe Gold Mine cultural community

[5] Principles of *ubuntu* philosophy include respect, dignity, compassion, cooperation, participation for the common good and consensus which demand conformity and loyalty to the common good (Khupe, 2016; Hamming, 2005).

emerged as a home for various African cultures rich in *Nhaka* Knowledge strategies for HIV/AIDS management. Findings from cultural elders revealed that the cultures have kept their ways of managing health alongside the biomedical western approaches.

In Zimbabwe, all secondary schools teach from the same Guidance and Counselling syllabus designed at national level making the implementation of the amalgamation findings of this study, summarised in the next sections, practically challenging. This is because Zimbabwe is culturally diverse making the implementation of amalgamative classroom science problematic. This therefore calls for adequate preparation for amalgamative biomedical Guidance and Counselling classroom science prior to its practice. I recommend that more studies of this nature be conducted in other parts of Zimbabwe with a variety of cultural groups, such as the Ndebele of Matabeleland, among others teachers and learners. The community at large would benefit if such studies are merged and documented and this may contribute to the mitigation of HIV/AIDS. The Ministry of Primary and Secondary Education of Zimbabwe should tap from studies such as this one and extract the documented IKHIV/AIDS management strategies into the data base of Indigenous Knowledge for classroom practice.

9.2.2 Indigenous Knowledge (*Nhaka*) strategies for HIV/AIDS management in the mining community

The documented findings in Chapter Six answer Sub-research Question 1: How do indigenous groups in the mining community manage HIV/AIDS? The documented *Nhaka* Knowledge HIV/AIDS strategies in Chapter Six resemble as much as possible its holistic existence among the dominant cultures in Mazowe Gold Mine community. As guided by the ACACS model, IKHIV/AIDS in the community emerged in the dimensions of cultural elders (enterprise), worldviews (paradigm), methods of knowledge production (processes), knowledge outcome (product), language for transferring knowledge (pedagogy) and place of operation. The findings have revealed that Indigenous (*Nhaka*) knowledge HIV/AIDS management strategies are complex and interconnected into broad aspects of cultural management systems. The importance of building this knowledge is a critical resource process for curriculum development. The documented body of knowledge makes it easy for amalgamators to extract aspects for amalgamation into the teaching and learning of HIV/AIDS in the Guidance and Counselling curriculum for secondary schools. It is from the cultural knowledge that a balanced curriculum can be developed. As shown in the literature

review in Chapter Two, very little documentation has been done in the field of HIV/AIDS biomedical science education which focus on building a *Nhaka* Knowledge resource for the teaching and learning of HIV/AIDS through the Guidance and Counselling curriculum biomedical classroom science. By holistically documenting IKHIV/AIDS strategies into the *nhaka* resource for classroom practice, this study has contributed to both the field of Indigenous Knowledge and biomedical classroom science. The documentation has revealed that *Nhaka*Knowledge is a complex body of knowledge which requires further exploration.

Given the arguments that arose during the study on the indigenous language to use for amalgamating the two knowledge bodies in the classroom, I suggest that further research on indigenous language for HIV/AIDS in the classroom be researched and documented. There is also a need for research and documentation on Intellectual Property Rights on *Nhaka* Knowledge. Cultural elders in the study expressed that many researchers come to gather information from them for their own use and never acknowledge the source.It is therefore important to note that *Nhaka*Knowledge HIV/AIDS strategies for classroom science are subject to possible exploitation for economic gains by the western world as expressed by the study participants. The advent of HIV/AIDS has raised interest in Indigenous Knowledge especially for the prevention, cure and management of opportunistic infections. There is therefore a need to protect *Nhaka* Knowledge HIV/AIDS strategies through upholding property rights.

9.2.3 Biomedical Knowledge strategies for HIV/AIDS management

Chapter Seven documented strategies on BKHIV/AIDS management strategies implemented in the mining community by nurses, teachers, social welfare services and AIDS Service Organisations for the teaching and learning of HIV/AIDS in Mazowe Gold Mine community. The chapter documented a number of challenges faced in implementing BKHIV/AIDS strategies in the mining community for the teaching and management of HIV/AIDS. As guided by the ACACS model, BKHIV/AIDS in the community emerged in the dimensions of implementers (enterprise), worldviews (paradigm), methods of knowledge production (processes), knowledge outcome (product), language for transferring knowledge (pedagogy) and place of operation. The findings have shown that the management strategy elements of purpose, enterprise, content, paradigm and pedagogy are complex and interrelated into multidimensional HIV/AIDS management systems. Knowledge building is a

critical resource for an amalgamative curriculum development. The documented body of knowledge makes it easier for amalgamators to select extracts for amalgamation with IKHIV/AIDS in the Guidance and Counselling curriculum for secondary schools. The body of knowledge will guide amalgamators in making decisions on how to address challenges related to the teaching and learning of BKHIV/AIDS in the classroom. HIV/AIDS teaching and learning should draw on the strengths and recommendations from the implementers documented in Chapter Seven.

9.3 How IKHIV/AIDS (*Nhaka*) strategies and BKHIV/AIDS strategies can be amalgamated for the teaching and learning of HIV/AIDS in the Guidance and Counselling curriculum for secondary schools

Documented findings in Chapter Eight answer Sub-research Question 3, restated as follows: How can IK strategies and BK strategies for HIV/AIDS management be amalgamated for the teaching and learning of HIV/AIDS in the Guidance and Counselling curriculum for secondary schools in Zimbabwe? Amalgamation emerged from the analysis of the enterprise, language, content, product, process and place elements of both the IKHIV/AIDS strategies and BKHIV/AIDS strategies in the biomedical classroom as guided by the ACACS model. The amalgamation promoted the side-byside co-existence of the two knowledge bodies. The document analysis in Chapter Eight revealed the amalgamative prospects of *Nhaka* Knowledge HIV/AIDS strategies in the biomedically biased Guidance and Counselling curriculum for secondary schools in Zimbabwe. The amalgamative opportunities that emerged showed that the Guidance and Counselling curriculum was permeable to amalgamation with *Nhaka* Knowledge HIV/AIDS strategies.

The amalgamative prospects have implications for the teacher as an expert. The inclusion of Indigenous Knowledge in the curriculum places heavy responsibilities on the teachers as observed by Ogunniyi (2007). I agree with Mpofu, Otulaja and Mushayikwa (2014) who content that amalgamative classroom science requires teachers to understand the nature of both IKHIV/AIDS and BKHIV/AIDS western science in the classroom and how they relate in the syllabus. The teachers who opt for the amalgamation of Indigenous Knowledge strategies in the classroom science need to be capacitated with knowledge and skills. The teachers need to be oriented on how to conduct a document analysis for them to understand the nature of both Indigenous Knowledge and Biomedical Knowledge in the classroom. Such analysis becomes a foundation of comparative analysis of the two knowledge bodies to indicate to the teacher where and how to teach the elements

of Indigenous (*Nhaka*) Knowledge strategies. Where Indigenous Knowledge has not been documented, teachers need to be capacitated in research to enable them to work collaboratively with Indigenous Knowledge holders, to access documents and develop Indigenous Knowledge for classroom amalgamation. The findings concur with Aikenhead (2001) that the documentation of Indigenous Knowledge helps teachers and learners to understand it from experts and helps to address challenges related to amalgamative classroom science

The Divergent, Convergent, Parallel and Synergetic quadruple integration pathways of the ACACS model were applied to analyse the participants' suggestions on amalgamation. A parallel and harmonious integration emerged to answer the amalgamative pathway question on how *Nhaka*Knowledge strategies for HIV/AIDS could be amalgamated with the BKHIV/AIDS strategies in the classroom. The enterprise, language, content, process, product and place analysis resulted in the *Nhaka* Knowledge HIV/AIDS strategies' content and oral pedagogy amalgamated with the Guidance and Counselling elements.

The amalgamative classroom science practices were illustrated in the case of Topic 6 on Health in the Guidance and Counselling curriculum documented in section 8.10**.** This answered the content and pedagogical element questions on what *nhaka* content could be taught and how it could be taught. The amalgamation was made possible through the involvement and partnership of cultural community elders, AIDS Service Organisations, teachers and nurses.

This study recommends the involvement of stakeholders in the amalgamation of Indigenous Knowledge in the classroom science with government support. The recommendation concurs with suggestions in studies conducted by Mpofu (2016), Khupe (2014) and Barnhardt (2007).The Zimbabwe Curriculum Development Unit (CDU), schoolteachers and communities should form partnerships and work together in documenting Indigenous Knowledge strategies for HIV/AIDS management, including the development of relevant teaching material. Information Education and Communication materials on HIV/AIDS should be in a local understandable language. Stakeholders also recommended that the curriculum guiding frameworks for teachers should contain examples of Indigenous Knowledge pedagogical approaches like real life stories, indigenous songs, poems, myths, idioms and taboos, among others, as reference for the teaching and learning of HIV/AIDS

Teacher education training institutions should consider putting in place programs that develop the knowledge of subjects, pedagogy for amalgamation and on how to amalgamate. Teachers should also be trained in Indigenous Knowledge research and on how to work collaboratively with indigenous local communities. If implemented properly, such reforms will benefit the schools, communities and the nation and may positively contribute to the mitigation of HIV/AIDS through the classroom.

9.4 Reflections on my PhD journey and lessons learnt

My PhD journey had its own life filled with moments of joy and frustrations**.** Studying for PhD as a full-time student and family woman getting sponsorship from family resources was not easy. I needed to balance between the family and PhD study responsibilities.

I brought into this PhD study my own social and professional experiences, which shaped the research process. I drew from these experiences to guide my relationships with study participants. I knew the importance of language, respect and confidentiality in HIV/AIDS issues in developing relationships. I knew the importance of humility and protocol when interacting with cultural community elders. I applied the principles of *Ubuntu/Unhu/Vumunhu* throughout the research process. I also understood the challenges that political situations could bring to my research process.

I also learnt through the study. Firstly, I learnt the importance of planning for unexpected and changing circumstances at the beginning of a research study. Planning for delays and the postponement of appointments with authorities and study participants, adjustments to activities in the mining community, activities at schools and Ministry of Primary and Secondary Education as well as to political interference, is not always easy. I have also learnt to plan for multiple activities and to multitask.

Secondly, I learnt that ethical consideration is an ongoing component of research among cultures in the mining community. I learnt that ethics was a negotiated process that did not require written documents and the cultural elders' signatures for approval but their cultural protocol which constitutes ethical relationships. Inviting cultural elders to sign consent forms was inappropriate

because, to them, verbal consent was valuable as expressed by one cultural elder that"*bepairoro, harinabasairo, daindangendisingadikuuyandisipopano*"(meaning the consent paper has no value to me. If I did not want to participate I would not have come). In my study, the majority of participants insisted that I acknowledged them for participating in the study which contrasted with the conventional ethical procedures. I was only able to refer to them by their names and titles during the study but was unable to do so in the final report.

Thirdly, I learnt that cultural community members have their own way of involving each other in research and that they are related in one way or the other. In my study proposal, I had planned to conduct a purposive sampling and *padare* cultural meetings with cultural elders. To my surprise, the planned purposive sampling further extended to the *sahwira* (close friend) involvement of participants. The cultural elders referred me to their *sahwiras* for more information on Indigenous Knowledge strategiesduring *padare* conversational meetings. The *sahwira*approach required me to conduct home visits to interact with them as rich sources of cultural Indigenous Knowledge in addition to the *padare* conversational meetings with elders. Home visits were also not in my proposal plan. This helped me to gather much more and very useful data for the study.

Fourthly, I have learnt the importance of understanding issues and phenomena from the perspectives of the community. I got a deeper understanding of what the community was going through in relation to HIV/AIDS, challenges faced by children in school, stigma and discrimination, poverty, reasons related to lack of compliance to ARV drugs, Indigenous Knowledge amalgamation challenges in the learning and teaching at school. As a researcher with a health background and, in maintaining the principles of *Ubuntu*, I committed my time to providing confidential counselling to some of the HIV infected and affected participants. The counselling helped in maintaining trust and commitment of the participants in the study.

9.5 Epilogue

In conclusion, I feel convinced that the findings of the study have contributed towards bridging the knowledge gap on the level of amalgamation of IKHIV/AIDS strategies and BKHIV/AIDS strategies for the teaching and learning of HIV/AIDS in the Guidance and Counselling curriculum for secondary schools in Zimbabwe. The contribution of this study is in line with the Zimbabwe

Ministry of Education Science and Culture cultural policy recommendations which emphasise the need for the amalgamation of Indigenous Knowledge and Biomedical Knowledge in the school curriculum.

The contribution of the study findings is timely and significant for the mitigation of HIV/AIDS in Zimbabwe. It is my hope that the amalgamation of the two knowledge bodies will be adapted to enhance the teaching and learning of HIV/AIDS in the classroom and would lead to linkages between the schools, education systems, the home and wider community of the schools in mitigating the devastating impact of HIV/AIDS.

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APPENDIX A: Ethics clearance certificate

Wits School of Education



27 St Andrews Road, Parktown, Johannesburg, 2193 Private Bag 3, Wits 2050, South Africa. Tel: +27 11 717-3064 Fax: +27 11 717-3100 E-mail: enquiries@educ.wits.ac.za Website: www.wits.ac.za

1 September 2016

Student Number: 1433665

Protocol Number: 2016ECE018D

Dear Ledwina Hungwe

Application for ethics clearance: Doctor of Philosophy

Thank you very much for your ethics application. The Ethics Committee in Education of the Faculty of Humanities, acting on behalf of the Senate, has considered your application for ethics clearance for your proposal entitled:

Exploring HIV and AIDS management strategies in the mining community in Zimbabwe: An indigenous knowledge perspective

The committee recently met and I am pleased to inform you that **clearance was granted.**

Please use the above protocol number in all correspondence to the relevant research parties (schools, parents, learners etc.) and include it in your research report or project on the title page.

The Protocol Number above should be submitted to the Graduate Studies in Education Committee upon submission of your final research report.

All the best with your research project.

Yours sincerely,

M Mabeta

Wits School of Education

011 717-3416

cc Supervisor - Dr Emmanuel Mushayikwa and Dr Misheck Ndebele

APPENDIX B: Permission to conduct study from authorities

APPENDIX B1: Ministry of Primary and Secondary Education: Mashonaland Central Province

REF: C/440/1MC

All communications should be addressed to "The Provincial Education Director Mashonaland Central Province"
Telephone:0271- 6948/6996/7134/6994
Fax:0271-6997

ZIMBABWE

Ministry of Primary and Secondary Education
Mashonaland Central Province
P.O Box 340
Bindura
Zimbabwe

10 April 2017

Hungwe Ledwina
Wits School of Education
Parktown 2193
South Africa

RE: PERMISSION TO CARRY OUT RESEARCH IN MASHONALAND CENTRAL PROVINCE: MAZOWE DISTRICT: MAZOWE SECONDARY SCHOOLS;.

Reference is hereby made to the Secretary for Primary and Secondary Education's minute dated 28 February 2017 granting you permission to carry out a research in Mashonaland Central Province on the research title:

"PROSPECTS OF AMALGATING INDIGENOUS KNOWLEDGE STARTEGIES WITH BIOMEDICAL STRATEGIES IN THE LIFE SKILLS SECONDARY CURRICULUM IN ZIMBABWE: A FOCUS ON HIV AND AIDS."

I am pleased to inform you that the Provincial Education Director has granted you permission to carry out your research in Mazowe District. You should, however, liaise with the D.I.S. Mazowe District before you start.

Finally, you are advised to submit a copy of your findings to the Ministry of Primary and Secondary Education.

.....

N.Madzvimbo (Mrs)
FOR PROVINCIAL EDUCATION DIRECTOR:
MASHONALAND CENTRAL PROVINCE

LEGAL & DISCIPLINARY SERVICES
MIN. OF PRY. & SECONDARY EDUCATION
10 APR 2017
P.O. BOX 340, BINDURA
ZIMBABWE

APPENDIX B2 Ministry of Primary and Secondary Education- Mazowe District

All communications should be addressed to
"The District Schools Inspector
Mazowe District Office
Mashonaland Central Province"
Telephone: 0774 735 085

ZIMBABWE

Ministry of Primary and Secondary Education
Mashonaland Central Province
Mazowe District Office
Box 130
Glendale
Zimbabwe

Date 10-04-17

To All Heads in Mazowe District

RE: PERMISSION TO CARRY OUT A RESEARCH IN MAZOWE DISTRICT: NAME Hungwe Ledwina

ID NUMBER 29-070222 R 77 EC NUMBER N/A

Permission has been granted to Hungwe Ledwina ID Number 29-070222 R77

to visit schools in Mazowe District to carry out a research in Mazowe District on the research title

Prospects of amalgating indigenous knowledge strategies with biomedical strategies in the life skills secondary curriculum in Zimbabwe. A focus on HIV and AIDS

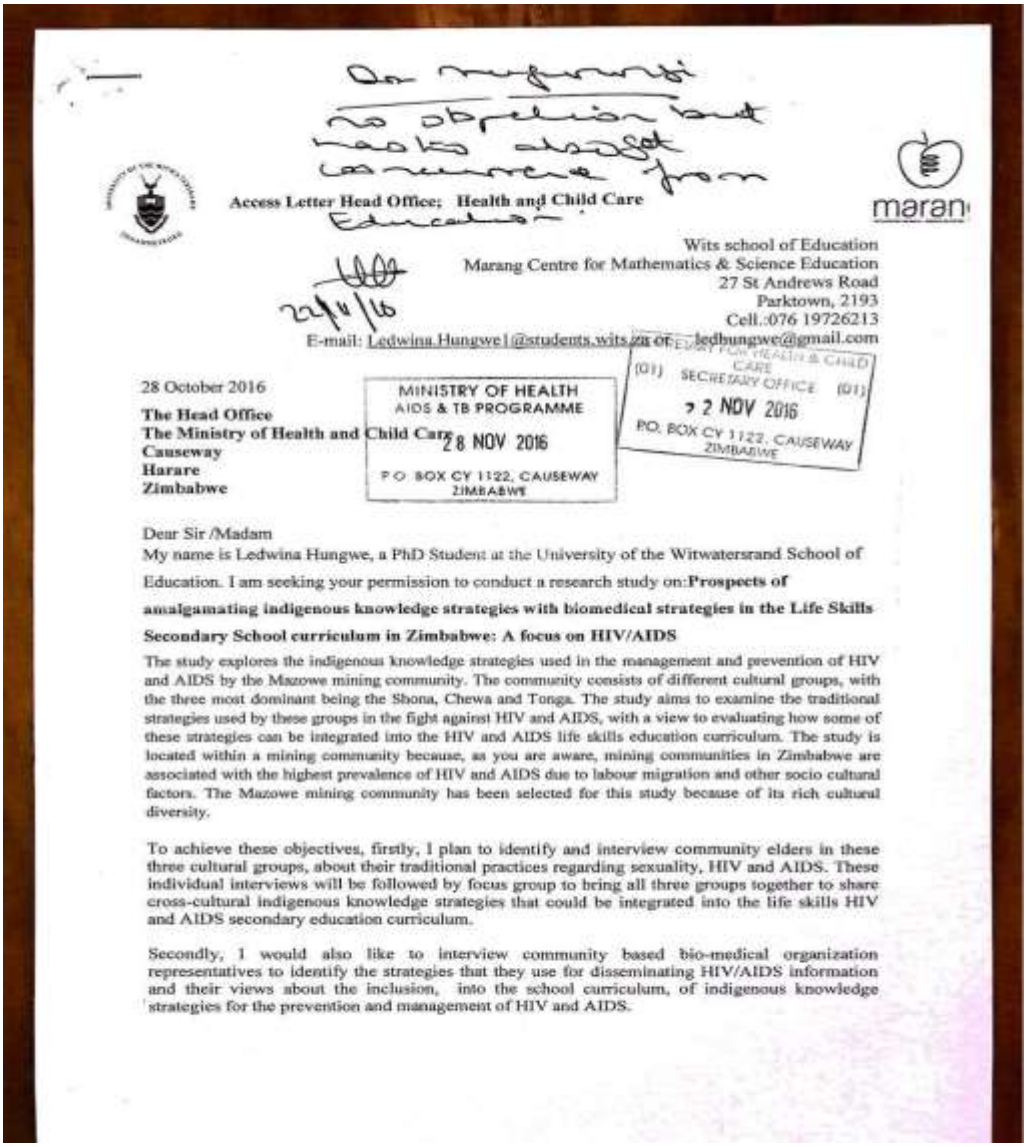
Please assist

Yours faithfully

CHARI G. (MR)
DISTRICT SCHOOLS INSPECTOR
MAZOWE

MINISTRY OF PRIMARY & SECONDARY EDUCATION
MAZOWE DISTRICT OFFICE
10 APR 2017
P.O. BOX 130
GLENDALE
CELL: 0774 735 085

APPENDIX B3 The Head Office: Ministry of Health and Child Care



Access Letter Head Office: Health and Child Care

maran

Wits school of Education
Marang Centre for Mathematics & Science Education
27 St Andrews Road
Parktown, 2193
Cell.:076 19726213
E-mail: Ledwina.Hungwe1@students.wits.ac.za or ledhungwe@gmail.com

MINISTRY OF HEALTH
AIDS & TB PROGRAMME
28 NOV 2016
P O BOX CY 1122, CAUSEWAY
ZIMBABWE

MINISTRY OF HEALTH & CHILD CARE
(01) SECRETARY OFFICE (01)
22 NOV 2016
P.O. BOX CY 1122, CAUSEWAY
ZIMBABWE

28 October 2016

The Head Office
The Ministry of Health and Child Care
Causeway
Harare
Zimbabwe

Dear Sir /Madam

My name is Ledwina Hungwe, a PhD Student at the University of the Witwatersrand School of Education. I am seeking your permission to conduct a research study on:**Prospects of amalgamating indigenous knowledge strategies with biomedical strategies in the Life Skills Secondary School curriculum in Zimbabwe: A focus on HIV/AIDS**

The study explores the indigenous knowledge strategies used in the management and prevention of HIV and AIDS by the Mazowe mining community. The community consists of different cultural groups, with the three most dominant being the Shona, Chewa and Tonga. The study aims to examine the traditional strategies used by these groups in the fight against HIV and AIDS, with a view to evaluating how some of these strategies can be integrated into the HIV and AIDS life skills education curriculum. The study is located within a mining community because, as you are aware, mining communities in Zimbabwe are associated with the highest prevalence of HIV and AIDS due to labour migration and other socio cultural factors. The Mazowe mining community has been selected for this study because of its rich cultural diversity.

To achieve these objectives, firstly, I plan to identify and interview community elders in these three cultural groups, about their traditional practices regarding sexuality, HIV and AIDS. These individual interviews will be followed by focus group to bring all three groups together to share cross-cultural indigenous knowledge strategies that could be integrated into the life skills HIV and AIDS secondary education curriculum.

Secondly, I would also like to interview community based bio-medical organization representatives to identify the strategies that they use for disseminating HIV/AIDS information and their views about the inclusion, into the school curriculum, of indigenous knowledge strategies for the prevention and management of HIV and AIDS.

APPENDIX B4 Ministry Of Health and Child Care: AIDS &TB PROGRAMME

Tel. ☎: 263-04-730192/4
263-04-792981
263-4-2933495

E-mail atp.director@ymail.com

ZIMBABWE

Reference:
MINISTRY OF HEALTH
AND CHILD CARE
P.O. Box CY1122
Causeway
Zimbabwe

AIDS & TB PROGRAMME

24 February 2017

Mrs Ledwina Hungwe
Witwatersrand University
P. Bag 3, Wits 2050
Johannesburg

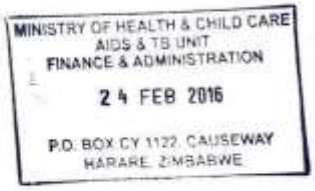


Re: Permission to carry out research in Mazowe District: Mazowe Mine Community

Reference is made to your application to carry out research in Mazowe District - Mazowe Mine Community:
"Prospects of amalgamating indigenous knowledge strategies with the biomedical strategies in the Life Skills Secondary School Curriculum in Zimbabwe: A focus on HIV and AIDS".

Permission is hereby granted. However you also need to get concurrence from the Ministry of Primary and Secondary Education. You are also required to report to and share the findings of the study with the District Health Executive of Mazowe District. On completion of the study provide a copy of your report to the Ministry of Health and Child Care - AIDS and TB Unit before publication.

Yours sincerely



DR OWEN MUGURUNGI
DIRECTOR AIDS AND TB PROGRAMMES

"Getting to Zero - Zero New HIV Infections. Zero Discrimination and Zero AIDS Related Deaths"

APPENDIX B5: National Employment Council for the Mining Industry

NATIONAL EMPLOYMENT COUNCIL FOR THE MINING INDUSTRY

Originate ☐

Head Office
4th Floor, Michael House
62 Nelson Mandela Avenue
Harare, Zimbabwe
Telephone: 708366 / 797042
Fax: 708366 / 797042
Email: necmine@mweb.co.zw
P. O. Box 900, Harare

Originate ☐

Bulawayo Branch
Room 26
1st Floor, Exchange Building
Main St / Leopold Takawira
Bulawayo
Telephone: (09) 78887
P. O. Box 2986, Bulawayo

Our Ref: EJM/rm

24 June 2016

Mrs Ledwina Hungwe
Witwatersrand School of Education
Marang Centre for Mathematics & Science Education
27 St Andrews Road
Park town, 2193
Johannesburg
South Africa

Dear Sir

RE: PERMISSION TO CONDUCT A RESEARCH STUDY IN MAZOWE GOLD MINE IN ZIMBABWE

The above subject refers.

This serves to confirm that you have been granted permission to carry out your Doctoral Research at Mazowe Gold Mine in Zimbabwe.

Best wishes

E.J. MUBVUMBA
GENERAL SECRETARY

c.c. Mazowe Mine

N.E.C. MINING
2016 -06- 24
P.O. BOX 900, HARARE
TELEPHONE 708366 / 797042

APPENDIX C: Invitation for participation and Consents

APPENDIX C1: Invitation to participate in my research study My name is LedwinaHungwe, a PhD Student at the University of the Witwatersrand School of Education. I am inviting you to participate in my research study on: **Prospects of amalgamating Indigenous Knowledge strategies with biomedical strategies in the Life Skills Guidance and Counselling secondary school curriculum in Zimbabwe: A focus on HIV and AIDS**

The study explores the Indigenous Knowledge strategies used in the management and prevention of HIV and AIDS by the Mazowe mining community. The study will involve mining community elders from the three most dominant cultural groups the Shona, Chewa and Tonga, AIDS service organization representatives in the mining area, the Mining Medical officer and the Principal of Mazowe secondary school.

Purpose

The study aims to examine the traditional strategies used by these groups in the fight against HIV and AIDS, with a view to evaluating how some of these strategies can be integrated into the HIV and AIDS life skills secondary school education curriculum. The study is located within a mining community because; as you are aware, mining communities in Zimbabwe are associated with the highest prevalence of HIV and AIDS due to labour migration and other socio-cultural factors. The Mazowe mining community has been selected for this study because of its rich cultural diversity.

Procedures

To achieve these objectives, firstly, I plan to identify and hold *padare* conversational meetings with community elders in these three cultural groups, about their traditional practices regarding sexuality, HIV and AIDS. These *padare* meetings will be audio and visually recorded followed by focus group discussion to bring all three groups together to share cross-cultural Indigenous Knowledge strategies that could be amalgamated into the life skills HIV and AIDS secondary school education curriculum.

Secondly, I would also like audio record interviews with community-based bio-medical organization representatives to identify the strategies that they use for disseminating HIV and AIDS information. I would also like to establish their views on the inclusion of Indigenous Knowledge strategies into the HIV and AIDS secondary school curriculum.

Thirdly, I intend to conduct and audio record interviews with individual teachers to discuss any strategies that they teachers use in approaching the topic on HIV/AIDS and life skills in the Guidance and Counselling curriculum.

Benefits:

Although the study participants will not be advantaged or disadvantaged in any way. The study will provide indirect benefits to the mining community as well as to the Ministry of Education in the following manner: a) The study will provide valuable insights into the amalgamation of

Indigenous Knowledge and biomedical strategies in mitigating HIV and AIDS; b) The study will also enhance the life skills teaching with regard to the mitigation of HIV and AIDS by providing a linkage between the school, the home and the community; and c) The integration of Indigenous Knowledge and bio-medical strategies of HIV and AIDS prevention, mitigation and management in the classroom will assist pupils to have a deeper sense of cultural identity and belonging.

Disclaimer/Withdrawal

I wish to emphasize that the participants will be completely free to participate. They will not be forced or coerced into participating. They can withdraw their permission at any time during this project without any prejudice or penalty against them. No references to him/her will be made in the reporting of the study.

Risks

There are no foreseeable risks in participating in this study.

Anonymity

The names of the research participants and identity of the mine, community members and the school will be kept anonymous at all times and in all academic writing about the study. Care will also be taken to ensure that the video and audio records do not contain identifiable materials, for example, specific names of people and places in audio records will be deleted and pseudonyms will be used in the transcripts. Likewise, video recordings of people's faces will be pixelated (blurred) and the camera will be focused on activities rather than people. Their individual privacy will be maintained in all published and written data resulting from the study.

Confidentiality

All research data will be kept confidential and stored for three to five years on a passwordprotected sector of a hard drive on the password-protected desktop in my supervisor's office at WITS and will be destroyed thereafter to maintain confidentiality.

Compensation

Participants will receive no financial or any other compensation for participating in the study.

Participants Rights

If a participant wishes for further information regarding his or her rights, as a research participant he/she may contact Human Research Ethics Committee (HREC) at 0117173055 or MsMatsieMabeta via email at Matsie.Mabeta@wits.ac.za

Conclusion

I have been cleared by the Human Research Ethics Committee of the University of Witwatersrand. My **Ethics Protocol Number is 2016ECE018D.**Permission to conduct this research has been granted at various relevant levels of the Ministry of Primary and Secondary Education, Ministry of Health and Child Care, National Employment Council of the Mining Industry as per attached communications. You will be given a copy of the consent form after you have signed it for your record.

N.B This invitation is also available in Shona

APPENDIX C2: Teacher's Consent Form

Please fill in and return the reply slip below indicating your willingness to be a participant in my voluntary research project called:

"Prospects of amalgamating Indigenous Knowledge strategies with the biomedical strategies in the Guidance and Counselling Secondary School Curriculum in Zimbabwe; A focus on HIV and AIDS"

I, _____ give my consent for the following:

Permission to review/collect documents/artifacts	**Circle one**
I agree that my lessons plans can be used for this study only.	YES/NO

Permission to observe you in class

I agree to be observed in class.	YES/NO

Permission to be audiotaped

I agree to be audiotaped during the interview or observation lesson	YES/NO
I know that the audiotapes will be used for this project only	YES/NO

Permission to be interviewed

I would like to be interviewed for this study.	YES/NO
I know that I can stop the interview at any time and don't have to answer all the questions asked.	YES/NO

Permission to be videotaped

I agree to be videotaped in class.	YES/NO
I know that the videotapes will be used for this project only.	YES/NO

Informed Consent I understand that:

- my name and information will be kept confidential and safe and that my name and the name of my school will not be revealed.
- I do not have to answer every question and can withdraw from the study at any time.
- I can ask not to be audiotaped, photographed and/or videotape
- all the data collected during this study will be destroyed within 3-5 years after completion of my project.

Sign_____ Date_____

APPENDIX C3: Community elders Consent Form

Please fill in and return the reply slip below indicating your willingness to be a participant in my voluntary research project called:

"Prospects of amalgamating Indigenous Knowledge strategies with the biomedical strategies in the Guidance and Counselling Secondary School Curriculum in Zimbabwe; A focus on HIV and AIDS"

I, _____ give my consent for the following:

Permission to be audiotaped

I agree to be audiotaped during the interview YES/NO

I know that the audiotapes will be used for this project only YES/NO

Permission to be interviewed

I would like to be interviewed for this study. YES/NO

I know that I can stop the interview at any time and don't have to answer all the questions asked. YES/NO

Informed Consent I understand that:

- my name and information will be kept confidential and safe and that my name will not be revealed.
- I do not have to answer every question and can withdraw from the study at any time.
- I can ask not to be audiotaped, photographed and/or videotape
- all the data collected during this study will be destroyed within 3-5 years after completion of the study.

Sign_____ Date_____

N.B; The consent form for community elders was translated to local language before administration.

APPENDIX D: *Padare* Conversation guide

1. In what ways do you find your experience of growing up similar to or different from that of children today? Please explain.
2. What special home management strategies on sexuality, life skills and the prevention and management of sexually transmitted disease including (HIV/AIDS) did you acquire as you were growing up which you think is particularly valuable to you, your family, community and school children?
3. How did you acquire the strategies on sexuality and life skills management?
4. Do other community members know that you have the life skills management strategies on sexuality and HIV /AIDS? Do they come to consult?
5. Would you like to share your prevention and management strategies on sexuality and life skills HIV/AIDS with teachers and students? In what ways do you think this can be done?
6. Nowadays children learn both at home and school. In your opinion how relevant are the sexuality and sexually transmitted disease and HIV/AIDS management strategies to life in Mazowe Gold Mine.
7. In what ways do you think the youth can be prepared for adult life in the advent of HIV/AIDS?
8. What Indigenous Knowledge strategies, norms, values, practices and beliefs for HIV/AIDS management are found in your culture?
9. What Indigenous Knowledge strategies could be amalgamated with the life skills HIV/AIDS education in secondary schools?
10. How would you like children to be taught about sexuality and HIV/AIDS prevention and management in secondary school?

APPENDIX E: Focus group discussion moderator's guide

(for community stakeholders' representatives (Community Based Organization, NonGovernmental Organizations, Social Welfare Officers, Ministry of Health and Child Care, District AIDS Action Committee Officer)

1. What is the impact of HIV/AIDS in Mazowe Mine?
2. What HIV/AIDS strategies are being implemented to mitigate the impact of HIV/AIDS in Mazowe Mine community?
3. What challenges do you face in implementing the biomedical strategies?
4. What Indigenous Knowledge strategies are available, valued in the community and used for the prevention and management of sexually transmitted diseases including HIV/AIDS?
5. How can the Indigenous Knowledge HIV/AIDS strategies be used in teaching life skills HIV/AIDS education in secondary schools?
6. What Indigenous Knowledge strategies can be amalgamated with biomedical strategies in the Guidance and Counselling secondary school curriculum for HIV/AIDS &life skills teaching and learning in the classroom?
7. How can Indigenous Knowledge strategies be amalgamated with Biomedical Knowledge strategies in the Guidance and Counselling secondary school curriculum for HIV/AIDS &life skills teaching and learning in the classroom?

APPENDIX F: Interview Schedule for Mazowe Mining Medical Officer/nurse and the headmaster/teachers of Mazowe High School

1. What is the impact of HIV/AIDS in Mazowe Mine?
2. What HIV/AIDS strategies are you implementing to mitigate the impact of HIV/AIDS in Mazowe Mine?
3. What challenges do you face in implementing the HIV/AIDS biomedical strategies?
4. What Indigenous Knowledge strategies are available and valued in the community for the management of sexually transmitted diseases including HIV/AIDS?
5. How can the HIV/AIDS Indigenous Knowledge strategies be used in teaching and learning of HIV/AIDS and life skills education in schools?
6. What Indigenous Knowledge strategies can be amalgamated with biomedical strategies in the Guidance and Counselling school curriculum for the teaching and learning of HIV/AIDS and Life Skills education?
7. How can indigenous knowledge strategies be amalgamated with biomedical strategies in the learning of HIV/AIDS and life skills in the Guidance and Counselling secondary school education curriculum?

APPENDIX G: Document Analysis guide

1. What is the content of Life skills & HIV/AIDS education in the Guidance and Counselling curriculum for secondary schools?
2. How is the content of life skills, HIV/AIDS education in the Guidance and Counselling curriculum taught to pupils?
3. What Biomedical Knowledge strategies for HIV/AIDS management are existent in the Guidance and Counselling school curriculum?
4. What Indigenous Knowledge strategies for HIV/AIDS management are in the Guidance and Counselling secondary school curriculum?
5. How can Indigenous Knowledge on sexuality and HIV/AIDS management be taught in schools?
6. How can Indigenous Knowledge strategies be amalgamated with biomedical strategies in the Guidance and Counselling secondary school curriculum?

APPENDIX H: Guidance and Counselling Secondary School Syllabus: Format Example

Topic 3: Health

The Health topic 3 covers Sexual Reproductive Health and Rights (SRHR), HIV/AIDS and Drug and substance abuse

Key concept Topic	**Objectives Learners should be able to:**	**Unit Content**	**Suggested learning activities**	**Resources**
1.Sexual Reproductive Health and Rights(SRHR)	- Articulate sexual reproductive health rights and responsibilities -Outline components of sexuality -explain the consequences of early sexual activities (debut). - Explain ways of preventing sexual reproductive health challenges	-SRHR responsibilities - components of sexuality - different forms of sexual expression - consequences of early sexual activity -STI/HIV/AIDS prevention strategies -prevention of teenage pregnancy -myths and misconceptions of SRHR	- explaining the link between sexual and reproductive health rights and responsibilities - describing components of sexuality -identifying different forms of sexual expression -discussing ways of preventing sexual and reproductive health challenges - Discussing consequences of early sexual debut -dramatizing situations that depict consequences of early sexual debut -correcting sexual reproductive health and rights, myths and misconceptions - viewing films on SRH, HIV/AIDS	-Age appropriate audio-visual materials, e.g. -videos, -picture codes -pamphlets -posters -brailed material Resource persons ICT tools -video screening equipment

1.	HIV and AIDS	-Discuss the magnitude of HIV among learners and young people-nationally, regionally and globally -explain key drivers of HIV among learners and young people - discuss the HIV prevention strategies as they relate to learners and young people - deliberate on treatment adherence, care, support and positive living -address HIV and AIDS stigma and discrimination in the home school, community and beyond -Discuss gender dynamics in HIV	-Overview of HIV/AIDS regionally, nationally, and globally. - key drivers of HIV transmission - Abstain - Be faithful - Correct and consistent condom use - delay sexual debut - early treatment of STIs - free and frank discussions - HIV testing and counselling -VMMC - treatment adherence care - support and positive living for children and adults living with HIV . - stigma and discrimination - gender and HIV	Analysing trends on HIV and AIDS among young people-nationally, regionally and globally. -Discussing the key drivers of HIV/among young people -identifying roles and young people responsibilities of learners and in HIV prevention strategies Clarifying HIV and AIDS myths and misconception - outline positive living including nutrition, treatment, adherence care and support for PLHIV -Coming up with strategies for stigma and discrimination -dramatizing stigma discrimination situations - Analysing gender dynamics in HIV/AIDS	Age appropriate audio visual materials -videos -picture codes -pamphlets -posters Brailed material -sign language material Resource persons ICT tools -Educational tours - film screening equipment - Research reports such as The Zimbabwe Demographic Health Survey(ZDHS) -Policies and strategic documents such as Zimbabwe National AIDS Strategic Plan(ZNASP) 2011

2.	Drug and substance abuse	-Define prevailing types of drugs and substances -list effects of drug and substance abuse on mental and physical health -state ways of preventing drug and substance	-Drugs and substances prone to abuse -Effects of drug and substance abuse -Ways of preventing drug and substance abuse.	- Outlining prevailing types of drug and substances prone to abuse -Debating effects of prevailing drugs and substances	Resource persons such as -Criminal investigation department Victim friendly unit -Survivor
		abuse Outline ways of managing drugs and substance addiction	-Managing drug and substance abuse for example rehabilitation	prone to abuse -Identifying ways of managing the effects of drug and substance abuse - visiting institutions managing clients recovering from drug and substance abuse - watching videos -dramatizing on drug and substance abuse -debating on drug and substance abuse - researching on prevailing drugs and substances prone to abuse	- audio visual materials -picture codes -pamphlets -posters -brailed material -ICT tools

Guidance and Counselling Syllabus Forms 1-4 Revised CDU (2015)- Zimbabwe Ministry of Primary and Secondary Education