

Investigating the Influence of Teacher Characteristics on Quality Implementation of HIV and AIDS Education in Selected South African Schools

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The instructional delivery of Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) education in many South African schools has long been characterized with difficulties. Though much has been accomplished in terms of guiding policies on HIV/AIDS education in schools, the effective implementation of the stated policies has remained worrisome. The key issues revolve around who should implement these policies in schools and whether the characteristics of whoever is in charge of implementation have any bearing on execution and quality. The study adopted elements of the Contextual Interaction Theory (CIT) to underpin this study, to provide insights into how teacher characteristics such as motivation, cognition and power may influence effective implementation of HIV/AIDS education in schools. The relationship between the characteristics of teachers and the quality of policy implementation, using questionnaires as data collection instrument was established. A total of 371 questionnaires were retrieved from Life Skills and Life Orientation teachers from 28 different primary and secondary schools in rural and urban settings. The respondents for the instrument were selected through a systematic sampling technique. The questionnaires were analyzed with SPSS version 22 for basic descriptive statistics to interpret the results, establishing the binary regression modelling, to identify factors influencing the implementation of high-quality HIV and AIDS education. Findings revealed that 83% of Life-Skills and Life-Orientation teachers were implementing HIV and AIDS education in their classrooms, whereas 17% of teachers were not. Some of the teachers' qualities that influenced HIV/AIDS education implementation in the selected schools were (a) confidence, (b) comfort, (c) capability, (d) knowing the contents of HIV and AIDS policy, (e) time, and (f) support. The binary logistic regression

model revealed that support from colleagues and superiors, with the construct "strongly agree" being significant at the 5% level ($p=0.038$), and comfort in handling sexuality issues in class, with the constructs "strongly agree" and "agree significant" also at the 5% level ($p=0.038$), were teacher characteristics that significantly influenced the quality implementation of policies. The study, therefore, recommends that teachers should be given enough support to enhance the teaching of HIV/AIDS education in schools. Adequate and regular workshops/training should be designed for teachers to effectively deliver HIV/AIDS education to instil and promote the required development of these characteristics in teachers.

Keywords: *Contextual Interaction Theory (CIT), HIV/AIDS education, implementation, teacher characteristics, policy document, South Africa*

1. Introduction

About 32.7 million people have died of AIDS-related illnesses since the start of the epidemic, with South Africa accounting for 75000 deaths in 2019, youth included. (UNAIDS, 2020). The ever-increasing prevalence and incidence rates of HIV among youth (StatsSA, 2017; UNAIDS, 2017) have necessitated various intervention strategies to mitigate the epidemic. Different countries have introduced Life-Skills programs, Sexuality programs and HIV and AIDS education programs (Ketting & Ivanova, 2018; Sarma & Oliveras, 2013) in schools to target youth. Ketting & Ivanova (2018) have described how sexuality education is run in 25 countries of Europe and Central Asia. The African countries are no exception, Mkumbo (2012) relates the Tanzania situation and Sukati, Vilhati & Esampally (2010) describe the Swaziland experience.

In South Africa, consistent with the Sustainable Development Goal number which aspires to ensure health and well-being for all, including a bold commitment to end epidemics like AIDS, tuberculosis and malaria (UNDP, 2015); many other strategies have also been employed. These include the inclusion of HIV and AIDS education in schools which is designed as a national response to the HIV epidemic among youth. For the South African intervention to happen, the National HIV and AIDS policy (DoE, 1999) was used and it specified the guidelines for schools which are further clarified in the Implementation Plan for Tirisano 2000-2004 (DoE, 2000a, p.7-8). This program of action, comprised of three national projects for dealing with HIV and AIDS in schools. These were; awareness, information and advocacy (among educators, learners and students at all levels and institutions within the education and training system); HIV and AIDS within the curriculum (to ensure that life-skills and HIV and AIDS education are integrated into the curriculum at all levels of the education and training system) and lastly HIV and AIDS and the education system (to develop models for analysing and understanding the impact of HIV and AIDS on the education and training system).



Both the national policy on HIV and AIDS and the Implementation plan for Tirisano were cascaded down to schools whom in turn had to design school level policies with the help and support of the local education district officials. In this way, the HIV and AIDS education enshrined in the HIV and AIDS policy would get localised for implementation in schools. Allowing schools to design and put together their policy would help to bridge what could have become the straight jacket top-down approach to a more flexible interaction approach to aid the implementation process. Almost twenty years later, the high rates of pregnancy (Jonas, Crutzen, Van den Bome, Sewpaul & Reddy, 2016; Gcelu, Molepo & Makiwane, 2017) in schools are an indication that learners engage in sexual risk behaviours, and are therefore at risk of HIV infection. It, therefore, becomes important to monitor the implementation of HIV and AIDS education in schools to understand what is done and how in as far as the implementation of HIV and AIDS education in schools.

2. Literature Review

2.1 The issue of monitoring and evaluation

Whilst institutionalising the HIV and AIDS policy was seen as a progressive step, little is known about the monitoring of the implementation of HIV and AIDS education in individual schools. Monitoring (Misra, 1994) is defined as a specialized, dynamic, semi-autonomous, and institutionalized management resource that helps to ensure the implementation of policy or programs following their design and takes into account the interest of various stakeholders. LeMay (2010) defines monitoring as a process of continuous and periodic surveillance of the physical implementation of a program, through timely gathering systematic information on work schedule, inputs, delivery, outputs and other variables. The latter definition has informed the framework of this paper. The scope of monitoring HIV and AIDS education implementation in schools should cover at least seven dimensions (UNESCO, 2005); these are prevention as the general purpose for HIV and AIDS education; inclusion of HIV and AIDS in the curriculum; support for teachers and school staff, including teachers training; provision for monitoring process of the policy implementation; inclusion of community resources in school settings; provision to address the impact of HIV and AIDS in the education system; and fight against stigma and discrimination. Whilst these indicators have been advocated for by UNESCO commissioned by the 'Education for all global monitoring', for this paper only the first four indicators are considered (Francis, 2019).

2.2 HIV and AIDS education in schools

Schools play a major role in shaping the attitudes, opinions and behaviour of learners and so are ideal environments for teaching the social as well as the biological aspects of HIV and AIDS (Campbell, Andersen, Mutsikiwa, Madanhire, Nyamukapa & Gregson, 2016). Therefore, schools are a protective factor and as such should be used as strategic places for HIV and AIDS prevention programs for the youth. Young people especially at primary schools



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

HIV and AIDS education also plays a vital role in reducing stigma and discrimination. Around the world, in communities and schools there continues to be a great deal of fear and stigmatisation of people living with HIV, which is fueled by misunderstanding and misinformation. This does not only hurt people living with HIV but can also fuel the spread of HIV by discouraging people from seeking testing and treatment. It is known that the spread of HIV is also perpetrated by people who do not know their HIV status, and those who do but with fear of discrimination, do not access treatment (WHO, 2010; 2015). Schools are ideal for education on HIV and AIDS because of their universality, structure, and accountability. Different methods and materials can be utilised including; booklets, case scenarios, play, radio and television, drama and theatre to mention but a few. The mode of presentation will rest on the availability of resources, the attitude and expertise of the teacher, the content and the cognitive level of learners. Excellent teachers who can inspire their learners about HIV and AIDS education are also able to influence learners' parents as learners pass on what they have learnt to their parents.

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

South Africa is one of the few countries in the region that have made attempts to introduce sexual and HIV and AIDS education in schools (Thaver & Leao, 2012). Following the National Policy for HIV and AIDS (DoE, 1999), were these other documents published by the Department of Education to put in place a common strategy to fight HIV infection among youth: The Implementation Plan for Tirisano (DoE, 2000a); Norms and Standards for Educators (DoE, 2000b); The HIV and AIDS Emergency: Guidelines for Educators (DoE, 2000c); Education in South Africa: Achievements since 1994 (DoE, 2001a); HIV and AIDS Resources Guides (DoE, 2003); National Policy Framework for Teacher Education and Development in South Africa (DoE, 2007).

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

This bold and explicit direction from the national department of education (2010) had to be realised at provincial and local districts and schools levels. Vather (2012) points out that the national policy only served as a guideline for schools, without a pre-set manual or curriculum and thus has been a source of inconsistency. The government had opted for this approach to accommodate a wide variety of circumstances posed by the South African community, and to acknowledge the importance of governing bodies in the education partnership. In each province, different procedures and approaches were followed in training the teachers (Visser, 2005, p. 207), who would be catalysts for developing the Life-Skills programs with HIV and AIDS education in their schools. The laid down indicators show that there was an intention and a directive to monitor and evaluate the implementation of the program by schools themselves and by the local district offices. Some scholars (Govender & Edwards, 2009; Vather, 2012; Visser, 2005) have voiced concerns that the schools have in their curricular focused mainly on HIV and AIDS awareness and HIV information without placing much emphasis on the advancement of Life-Skills that would allow learners to develop ‘healthy lifestyles’ (Vather, 2012), mental health and wellness (Govender & Edwards, 2009), as has been indicated in the government outcomes above. It is noticeable that as the social ills escalate, so does the need to expand the topics of discussion in the Life Orientation and thus the HIV and AIDS program. As a result, HIV and AIDS education is now part of a broader Life Orientation curriculum (Smith & Harrison, 2013), which also teaches about physical activity and nutrition, emotional and mental health, drug and alcohol use and vocational preparation. One would expect that the trained master teachers are therefore regularly trained as well.

Few studies (Ahmed, Flisher, Mathews, Jansen, Mukoma & Schaalma; 2006; Griesel-Roux, Ebersohn, Smit & Eloff, 2005; Helleve, Flisher, Onya, Kaaya, Mukoma, Swai & Klepp, 2009; Kelly, 2002; Mukoma, Flisher, Ahmed, Jansen, Mathews, Klepp & Schaalma, 2009; Mathews Boon, Flischer & Schaalma, 2006; Nsubuga & Bonnet, 2009; Ongunya, Indoshi & Agak, 2009; Visser, 2005) were conducted early between (2001-2009) to evaluate the implementation of sexuality education in schools in other parts of the country and none in KwaZulu-Natal where there is high HIV prevalence among youth. These studies found different reasons for the



ineffective implementation of the program and the various problems in the practice of Life Orientation teachers (Jacobs, 2011) such as inadequate support from teachers in both school and classroom level (Ahmed, *et al*, 2006; Kinsky, Maulsby, Jain, Charles, Riordan, & Holtgrave, 2015); teachers' characteristics such as their confidence (Helleve, *et al*, 2009) as well as their self-efficacy and comfort with one's own sexuality and life experiences (Helleve, *et al*, 2009; Mkumbo, 2012) which make some teachers better able than others to teach learners about sex (Smith & Harrison, 2013).

The issue of the methodology used in HIV and AIDS education has been questioned by several scholars (Griesel-Roux, *et al*, 2005; Jonker, 2011; Kelly, 2002; Mukoma, *et al*, 2009) where teachers have failed to use more interactive and participatory teaching methods to help instil values, skills and attitudes to help learners make sound sexual decisions. Sukati, Vilakati and Esampally (2010) criticised the excessive use of lecture methods in the teaching of HIV and AIDS. The reason often cited for the failure to use more interactive teaching methods like role-plays is large classes (Griesel-Roux, *et al*, 2005; Mukoma, *et al*, 2009) that teachers are teaching. This is even worse in rural public schools. Van Deventer (2008) bluntly puts it that Life Orientation teachers are not fully qualified to teach Life Orientation. None involvement of other professionals, external community and service providers (Kelly, 2002; Griesel-Roux, *et al*, 2005; HSRC, 2002) in schools hinder the effective implementation of HIV and AIDS education. Teachers might not be in a position to tackle with confidence all new topics but local clinic staff members and local NGO staff members might be of great help with their expertise. Often teachers will cite lack of time (Jonker, 2011; UNAIDS, 2009b) as the barrier to organising such partnerships which leave the implementation very superficial. This study is better suited for this time and is conducted in both rural and urban schools; primary and secondary in the Umhlathuze district of KwaZulu-Natal and this will shed light with regards to the implementation process; inputs, activities and outputs thereof. The impact evaluation will be the subject of another paper.

Most studies have concentrated on the outcome evaluation and impact assessment of the HIV programs in schools (Alhassan, 2011; Buston & Barlet, 2009; Buthaina, Basaleen, Al-Sakkaf, Crutzen, Kok & van den Borne, 2011; Gallant & Maticka-Tyndale, 2004; Mukoma, Flisher, Ahmed, Jansen, Mathews, Klepp & Schaalma, 2009; Sarma & Oliveras, 2013; George *et al*, 2018; Ngabaza & Shefer, 2019). These studies have accordingly utilised the randomised experimental designs and quasi-experimental designs. A few other studies have concentrated on process evaluations using either qualitative or quantitative approaches but with a focus on real-time observation of the process (Muthukrishna, 2009; Orwe-Onyango, 2012; Wilmot & Wood, 2012; George *et al*, 2018; Francis, 2019). This paper focused on the monitoring of the implementation of HIV and AIDS education in schools.

3. Theoretical framework

Twenty years of research has demonstrated that policy and program implementation involve a multi-layered, multi-actor or multi-implementer network of organisations with some role in a policy or program implementation (Spratt, 2009). In this paper monitoring, the implementation of HIV and AIDS education in schools was guided by some elements of the Monitoring and evaluation framework. The purpose of monitoring and evaluation as outlined in UNAIDS (2008) is to provide data needed to guide the planning, coordination and implementation of the HIV response; assess the effectiveness of the HIV response; identify areas for program or policy improvement. The figure below best explains the sequence of questions in an HIV M&E framework as well as the main data collection methods that can be used to answer these questions (Rugg, Carael, Boerma & Novak, 2004):

Figure 3.1: Figure showing monitoring and evaluation framework for the study

Outcomes and Impacts Evaluation	
M&E Outcomes (Evaluation)	
M&E Outputs (Monitoring & Process evaluation)	The number of schools implementing HIV and AIDS education? Some teachers trained to implement it? What are the facilitators and barriers to the implementation process? What strategies are we using to teach HIV education, are we giving HIV age-appropriate messages, organising school-based HIV related interventions?
Activities (Monitoring)	What are we doing? Are we doing it right? What are the success stories? What about training teachers? What about workshops? What are the barriers? How can we improve implementation?
Inputs	What resources are needed? Budget and equipment/materials
	What support is needed by the teachers? Support from principals as advisors
	What guidelines are needed? HIV and AIDS policy, guidelines, content
Problem	What is the problem? Quality implementation of HIV and AIDS education in schools.

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

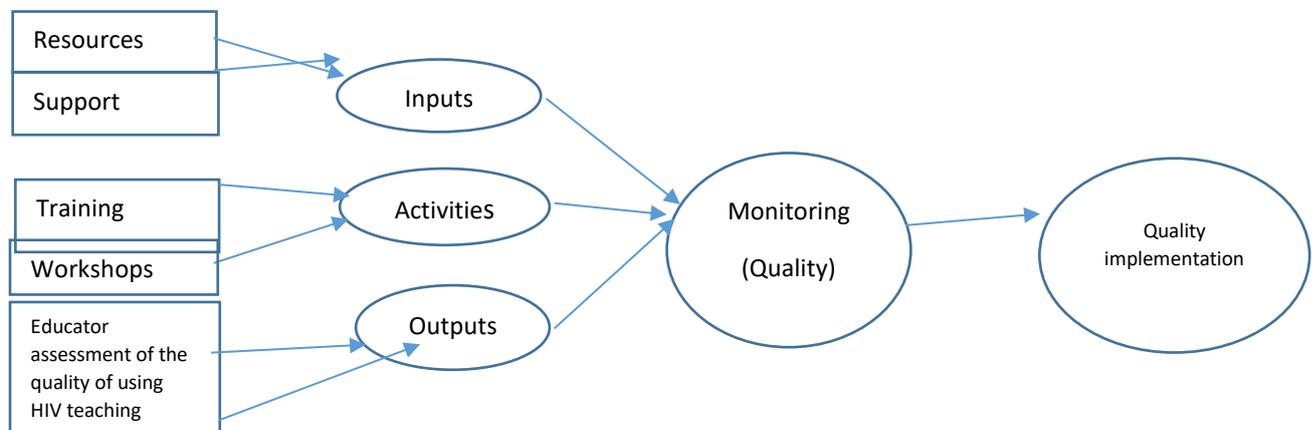
It is clear from the figure above that the M&E questions are ‘What are we doing? Are we doing it right? Are we implementing the program as planned? This study seeks to establish if these questions are being asked as schools implement HIV and AIDS education in their schools.

Therefore, the paper will help shed light with regards to whether monitoring or the absence of monitoring the implementation of HIV and AIDS education in schools has affected the quality implementation of HIV and AIDS education. It will be noted from the same figure 3.1 above that this paper is not about summative evaluation (de Vos, Strydom, Fouche Delpont, 2010)

which is about assessing the impact, outcome or worth of the program and hence the two upper grids are left blank. Instead, for delineation, this study focusses on both formative evaluation (de Vos, *et al*, 2010) which is looking at activities that are aimed at ensuring that the HIV and AIDS education program in schools is well constructed and process evaluation (de Vos, *et al*, 2010) which is aimed at describing what happens in the context of course of a program.

Process evaluation is also termed program monitoring. It can also identify unacceptable or ineffective program approaches, designs and concepts. Therefore, process evaluation (Rehle, Saidal, Mill & Magnani, 2001) addresses such questions as, ‘To what extent are planned activities actually realised?’ and ‘How are these carried out – to whom, when, how often and in what context?’ Both input (the basic resources required in terms of manpower, money, material and time) and output (the immediate service improvement expressed as distributed staff, and service units delivered) are key elements of process evaluation. Monitoring can improve or modify programs by providing the information necessary to adjust delivery strategies or program objectives. This is confirmed by Gallant and Maticka-Tyndale (2004) who argue that program monitoring helps establish if programs are implemented as their designers intended them to be implemented. The best way to find answers to the questions in figure 3.1 above is by using the indicators, which were our variables and are indicated in figure 1. Indicators must be valid, reliable, specific, sensitive, operational, affordable, and feasible. There should be a link between the problem or issues, the target or result (at output or outcome or impact level) and therefore output indicator or outcome indicator or impact indicator. For the purpose of this paper, we limited ourselves to only the output targets therefore output indicators. Output statements are derived from identified educational problem areas and should be broken down to isolate specific improvement areas. Marriot & Goyder (2009) define an indicator as to the quantitative or qualitative variable that allows the verification of a change brought about by a program or intervention and that shows that a result relative to what was planned, as is seen in the figure below.

Figure 1: Indicator and monitoring framework matrix



4. Research Methodology

The study employed probability sampling, in which 28 primary and secondary schools in Umhlatuze Local Municipality in KZN were systematically selected by selecting every fifth school from an alphabetical list of schools. A questionnaire was sent to all Life Skills and Life Orientation teachers from primary, secondary, and mixed schools. Combined schools were those that accommodated both primary and secondary education in one location. A total of 371 teachers were surveyed, with 316 teachings in primary schools, 45 in secondary schools, and 10 in combined schools.

Questionnaires were developed based on a desk review of evidence. The questionnaire was piloted through 25 teachers from the same district, which resulted from the rephrasing of some questions and restructuring the sequence of questions. The final questionnaire included 7 items in a 4-point Likert scale on the teacher characteristics (motivation, cognition, power), 7 items in a 4-point Likert scale on quality implementation of HIV and AIDS education in schools, and 10 items on a 5-point Likert scale on various strategies of engaging learners in implementing HIV and AIDS education in their schools. The dependent variable for this study was the quality of HIV and AIDS education implementation, which was a binary variable coded with a value of 1 (if the HIV and AIDS education implementation was perceived to be of quality) and/or 0 (for otherwise), here the teachers were asked to indicate if they agreed or not. The separate indicator of the perceived quality of HIV and AIDS education was chosen by indicating whether the number of class periods devoted to sexuality in one class per week was enough or not.

Questionnaires were delivered to participating schools and the purpose, relevance and importance of the study was explained to school principals (de Vos, *et al.*, 2010; Imenda & Muyanga, 2006; Kumar, 2005). The Statistical Package for the Social Sciences (SPSS) version 22 was used to run the Cronbach's Coefficient Alpha of reliability and consistency (Maree & Van der Westhuisen, 2009) for the three constructs: teacher characteristics (7 items); assessment of the quality of HIV and AIDS education implementation (7 items); and rating schools' quality in using various strategies of engaging learners (10 items). The Alpha coefficients of 0,850, 0,877 and 0,933 respectively were obtained — suggesting high internal consistency. Internal validity was ensured by controlling for all variables associated with implementing HIV and AIDS education. We ran binary logistic regression models to determine the factors that influenced the quality implementation of HIV and AIDS education in schools (Ackerman & Steinmann, 1982; Nakamura & Smallwood, 1990; Williams, 1982).

As is emphasised by Cohen, *et al.*, (2007, p. 57) that research that involves human beings should always be guided by good ethical practice and human rights principles to ensure the protection of participants; this study upheld the required ethical standards. Approvals for the study were granted by the University of Zululand research ethics committee, the KZN Provincial

Department of Education, the district education officials and the principals of the 28 participating schools. Respondents were allowed to remain anonymous; all data was given strict confidentiality; permission to participate was obtained from participants. In line with the notions of ethics, the respondents were asked to be part of the study after detailed information about the study had been explained and information sheets were given. They were asked to sign the informed consent form if they wanted to participate as proof of their voluntary participation.

5. Results

The quality of implementing HIV and AIDS education in schools was reviewed in terms of input, process evaluation and output stages of the M&E framework. Findings suggest that at the input level, the resources, support, training of teachers and teachers' skills and strategies compromised the quality of the implementation process. The paper revealed that the quality of HIV and AIDS implementation was by schools' quality of HIV and AIDS teaching strategies in a school.

Inputs: 3 variables: Four-level Likert scale: SA, A, D, SD

Input indicators; support, resources and time were assessed using the 4-level Likert scale and data shows that 58% of teachers reported that they did not have enough resources to implement HIV and AIDS education in their schools, whilst 42% reported having enough resources. This shows that HIV and AIDS education has not received serious attention from the schools and the district offices. Findings reveal that there was a more or less equal distribution of teachers reporting that they received enough support from colleagues, principals and the district office and those that reported not receiving enough support. It is worrying that over 50% of teachers reported not receiving enough support. Over 60% of teachers disagree that the time allocated in the timetable for HIV and AIDS education is enough. Again this shows that schools and the department of education do not take the issue of HIV and AIDS education seriously.

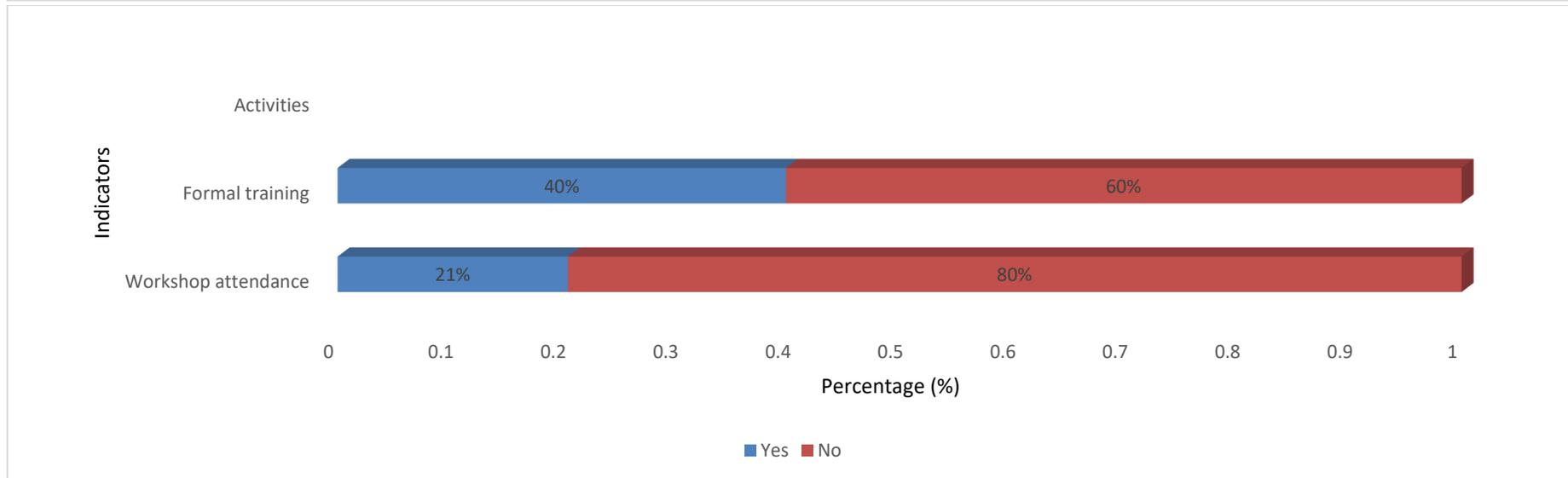
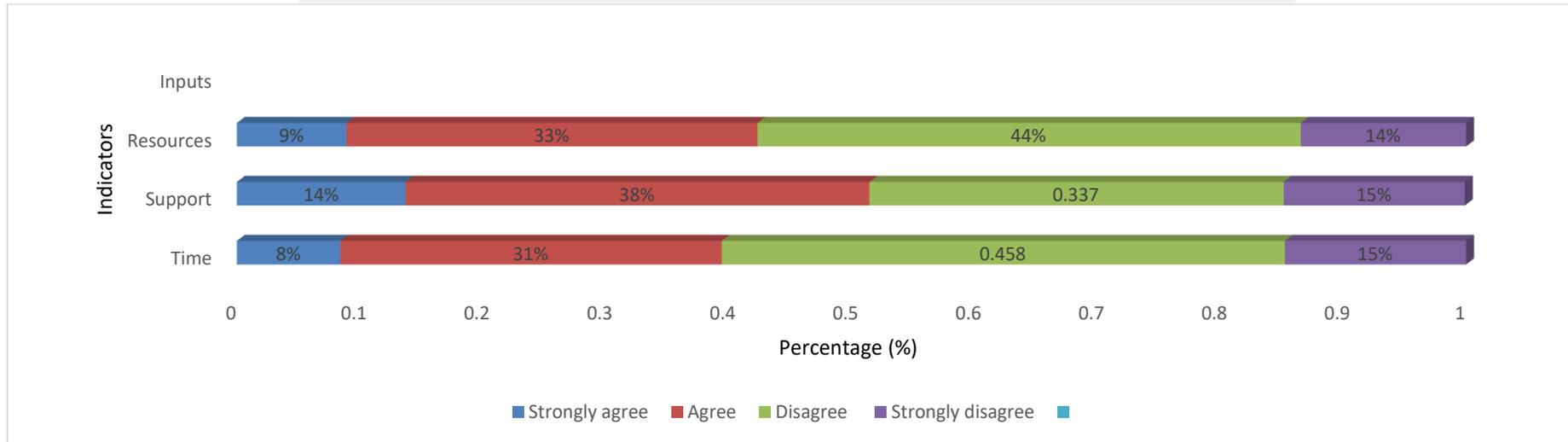
Activities: Two variables: Yes or No

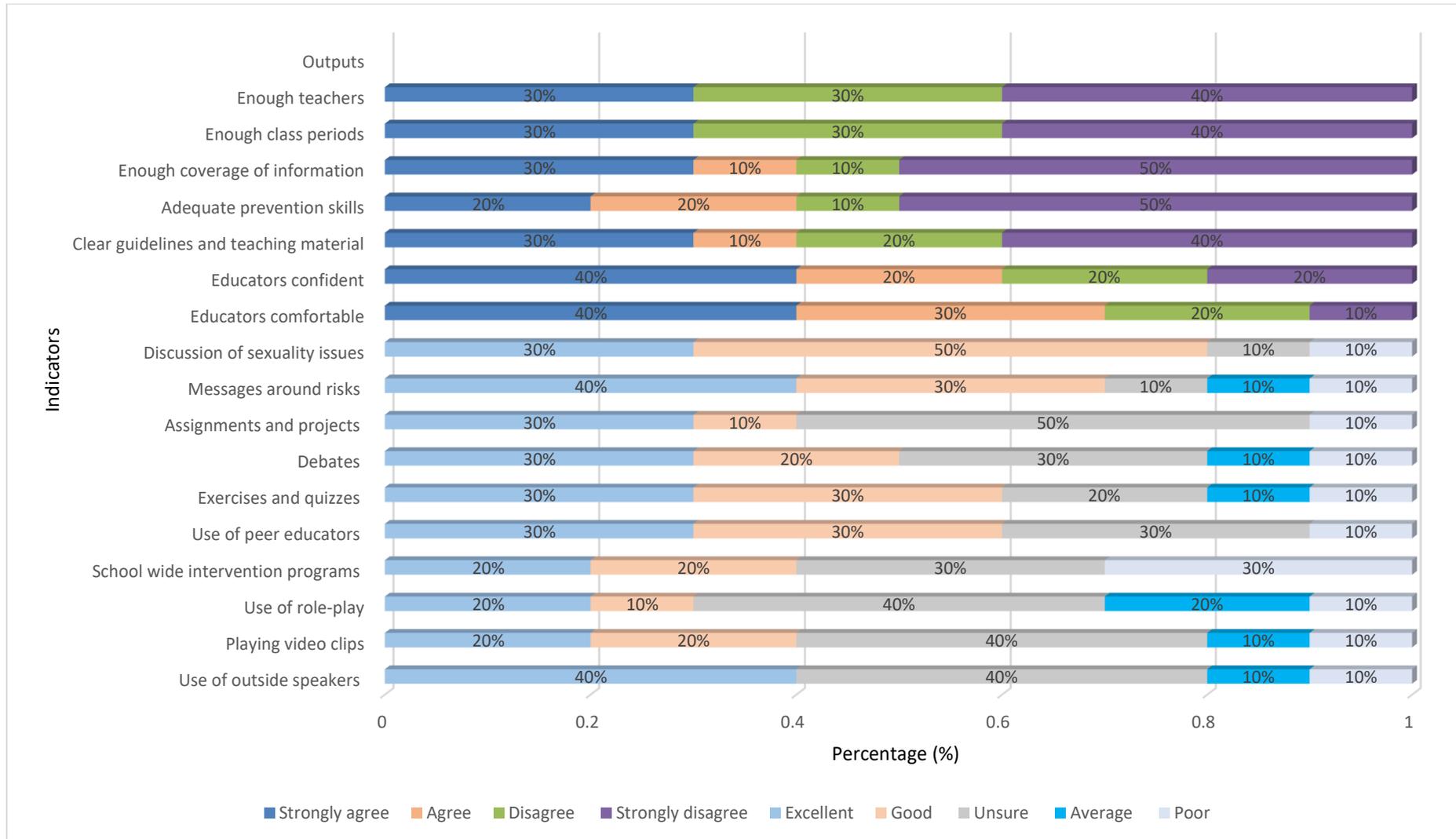
In assessing activities, two indicators; formal education and workshop attendance were assessed by a binary scale of 'yes' and 'no' where findings showed that 60% of teachers reported that they did not have any formal training in their certificates, diplomas and degrees to implement HIV and AIDS education as part of Life-Skills or Life Orientation. Only 40% of teachers reported that they had formal training in the teaching of HIV and AIDS. This showed that HIV and AIDS education in schools was handled by teachers who were trained to teach something else other than Life-Skills or Life Orientation.

With regards to workshop attendance, data revealed that 80% of teachers reported that they had not attended a workshop on the teaching of HIV and AIDS in the last twelve months. Only



20% of teachers reported that they have attended any workshop on the teaching of HIV and AIDS in the last twelve months. This is worrying because the results above had shown that most teachers teaching Life-Skills and Life Orientation and therefore HIV and AIDS had not received formal training in these subjects and getting more workshops (Ajani, 2021) would aid them to become effective in the implementation of HIV and AIDS education.





Output Indicators /variables category a) Educator assessment of quality implementation (7 items in Four-level Likert scale: SA, A, D, SD)

The output indicators that were assessed fell into two categories. The first one had 7 items on four levels Likert scale and another category with 10 items on five levels Likert scale. Data on output indicators in the first category showed that there was an equal split of teachers reporting having enough teachers who are teaching HIV and AIDS in their schools and not having enough of such teachers. Stratified by school type, a greater percentage of 55% of the teachers who disagreed that they had enough teachers in their schools teaching HIV and AIDS were secondary school teachers. With primary school teachers, there was an equal split between teachers reporting that they had enough teachers in their schools teaching HIV and AIDS and those reporting that teachers were not enough.

It was shown that a greater percentage of 42% of teachers denied that there were enough class periods devoted to sexuality in one class per week in their schools. Of these teachers who disagreed with the statement, most of them, 51%, were secondary school teachers. In a category of teachers who agreed that they had enough class periods devoted to sexuality, most of them, 36.7%, were from primary schools. With regards to coverage of information topics and prevention messages of HIV and AIDS in each class per term, out of 371, a total of 185 (49.9%) agreed that there was enough coverage and a total of 186 (50.1%) disagreed that there was enough coverage, which is more or less an equal distribution of teachers. Stratified by school type, data showed that of those who agreed to have enough coverage, 44.4% of them were secondary school teachers and 42.4% of them were primary school teachers, an equal split too.

About a variable, whether there is an adequate number of HIV prevention skills covered in each class per term, a total of 161 out of 371 (43.4%) teachers agreed and a total of 210 out of 371 (56.6%) denied that there was an adequate number of HIV prevention skills covered in each class per term in their schools. According to school type, among teachers who denied that there was an adequate number of HIV prevention skills covered, there was an equal split of teachers between primary and secondary teachers.

The fifth assessed indicator in this category was about the provision of clear guidelines to teachers to be able to implement HIV and AIDS education, and data showed that 150 out of 371 (40.4%) of teachers agreed that they were provided with clear guidelines, teaching materials and activities to help them implement HIV and AIDS education. A greater number of teachers totalling 221 out of 371 (59.6%) reported that they were not provided with clear guidelines, teaching materials and activities to help them implement HIV and AIDS education. Out of the latter group, 45.9% of teachers were from primary schools, 31.1% of teachers were from secondary schools and 20% of teachers were from combined schools. Out of the former group that reported having been provided with guidelines, teaching materials and activities, 48% of them were secondary school teachers, 32.9% of them were primary school teachers and 10% of them were from combined schools.

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

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

Output Indicators /variables category b) Teachers' assessment of their schools' quality on using strategies of engaging learners in the implementation of HIV and AIDS education also stratified by secondary, primary and combined type of school: Ten indicators/variables in 5 levels Likert scale: Excellent, good, unsure, average, poor.

The results for the assessment of 10 more output indicators focussing on teachers 'assessment of their schools' quality on using strategies of engaging learners in implementing HIV and AIDS education also stratified by school type. It was shown that the majority of 153 out of 371 (41.2%) teachers rated the use of discussion of sexuality issues as a strategy in engaging learners in the implementation of HIV and AIDS as having been 'good' in their schools. Of these teachers 50% were combined school teachers, 40% were secondary school teachers and 41.1% were primary school teachers. It is noted that fewer teachers, 172 out of 371 (38.8%) gave the ratings that suggest that this strategy is not used in their schools. Very few secondary school teachers, 2% denied that this strategy is being used. With regards to the use of using messages, data revealed that more than 50% of teachers used this strategy with most teachers, 162 out of 371 (43.7%) rating the use of messages around risks of HIV and prevention strategies as 'good'. Of these teachers, 48.9% were secondary school teachers and 43.4% were primary school teachers. A fewer number of 144 out of 371 (38.8%) teachers rated this strategy as 'unsure', 'average' and 'poor'. It is noted that none of the secondary school teachers denied the use of this strategy in their schools.

Another strategy that was evenly rated was the use of assignments and projects where most teachers fell into two categories of ratings for this variable of using assignments and projects on HIV and AIDS-related topics as a strategy to implement HIV and AIDS education in their classes. There were 123 out of 371 (33.2%) rated the use of this strategy as 'good' and 109 out of 371 (29.4%) were unsure of the use of this strategy in their schools. Of the 29.4% who rated

the use of this strategy as 'good' in their schools, 42.2% were secondary school teachers, 32.6% were primary school teachers and 10% were combined school teachers. Use of debates was rated as such that 114 out of 371 (30.7%) teachers rated the use of debates on HIV and AIDS-related topics as a strategy to engage learners in implementing HIV and AIDS education as 'good'. Of these teachers, 40% were secondary school teachers, 29.7% were primary school teachers and 20% were combined school teachers.

Data showed that 118 out of 371 teachers (31.8%) rated the use of exercises and quizzes on modes of transmission and myths about HIV as teaching strategies for HIV and AIDS as 'good' in their schools. Another 24 out of 371 (6.5%) gave a rating of 'excellent'. Of those that gave a rating 'good', 33.3% were secondary school teachers, 31.6% were primary school teachers and 30% were combined school teachers. Teachers who rated this strategy as 'unsure', 'average' and 'poor' amounted to 229 out of 381 teachers, and primary school teachers were the highest number in all such negative categories. Findings revealed that 128 out of 371 (34.5%) teachers rated the use of peer educators of some HIV related topics as a strategy to engage learners in HIV and AIDS education as 'good'. Of these teachers, 40% were secondary school teachers and 33.9% were primary school teachers and 30% were combined school teachers. Teachers who rated this strategy as 'unsure', 'average' and 'poor' amounted to 216 out of 381 teachers, with 20% of these teachers being the secondary school teachers rating this strategy as 'poor'.

It was evident from the data that the use of school-wide intervention programs including commemoration of World AIDS Day was also not a popular strategy because only 143 out of 371 (38.5%) teachers rated the use of this strategy as 'good' and 'excellent'. There is no big difference in the numbers of secondary and primary school teachers in each rating category. It is noted that a large number of teachers, 228 out of 371 (61.4%) rated the use of this strategy as 'unsure', 'average' and 'poor'. Most teachers, 20% who gave a rating of 'poor' were from combined schools. The Use of role-plays to dramatise key issues of HIV and AIDS is another strategy that was not used by most teachers. Table 5.33 reveals that only 119 out of 371 (32.1%) teachers rated the use of this strategy as 'good' in their schools, with a more or less equally split between primary and secondary school teachers. A greater number of 223 out of 371 (60.1%) teachers denied that this strategy was well used in their schools thereby giving ratings of 'unsure', 'average' and 'poor'. Of those who had chosen 'unsure', 40% were from combined schools. Interestingly, it was also found that the strategy of playing video clips on HIV topics was the least used one, with a total of 279 out of 371 (80.1%) teachers rating the use of this strategy as 'unsure', 'average' and 'poor'. A total of 142 out of 371 (38.3%) gave it a 'poor' rating and of those, 40.2% were primary school teachers, followed by 31.1% secondary school teachers and 10% combined school teachers. Some teachers reported using this strategy excellently though in small percentages and these amounted to 20% teachers in combined schools, 8.9% in secondary schools and 4.1% in primary schools.

Lastly, data showed that most teachers 109 out of 371 (29.4%) rated the use of outside speakers to motivate learners to prevent HIV infection as 'good' and 35.6% of these teachers were

secondary schools and 29.4% primary school teachers. Another bulk of teachers 93 out of 371(25.1%) gave a rating ‘poor’ to the use of this strategy in their school. Of these, 25.5% were primary school teachers, 24.4% were secondary school teachers and 10% were combined school teachers.

5. Discussion of results

The paper reports on the study undertaken to evaluate the implementation of HIV and AIDS education in schools. It involved 371 primary and secondary school teachers, Life-Skills and Life Orientation teachers of Umhlatuze district in KZN province of South Africa. The quality of implementing HIV and AIDS education in schools was reviewed in terms of input, monitoring activities and output stages of the M&E framework. Findings suggest that at the input level, the resources, support, training of teachers and teachers’ teaching strategies (pedagogy) compromised the quality of the implementation process. Indicators investigated at an input level were availability of resources, support and time to implement HIV and AIDS education in schools. More than 50% of teachers reported not having enough resources, support and even time on the timetable to implement HIV and AIDS education. In this regard, Visser (2005) states that HIV programs are not implemented as planned in schools and he cites barriers like organisational problems, lack of commitments and lack of resources.

It is worrying that 60% of teachers reported having no formal training in the teaching of HIV and AIDS or even Life Orientation. One would have expected that these teachers are regularly exposed to ongoing workshops to help them gain expertise on both the content and the pedagogy of HIV and AIDS education (Ajani, 2020). Surprisingly, 80 % of teachers reported that they have not attended any workshop on HIV and AIDS education in the last 12 months. Mathews, *et al*, (2006) had also reported that previous training was associated with effective implementation of HIV and AIDS education. Findings on teachers’ strategies that teachers utilise in implementing HIV and AIDS education suggest that more training should focus on both the content of HIV and AIDS as well as on the delivery methods thereof.

The first set of seven output indicators assessed that teachers believe that; there are not enough teachers teaching HIV and AIDS education in schools. It would be seen from the results that more than 40% of teachers did not think that there were; enough teachers teaching HIV and AIDS, enough class periods in schools for HIV and AIDS education, enough coverage of information topics, adequate number of HIV prevention skills taught in classes. Most of these views came from secondary school teachers (Ngabaza &Shefer, 2019). Furthermore, close to 60% of teachers also reported that they were not provided with guidelines and teaching materials for implementing HIV and AIDS education in schools, most of whom were also secondary school teachers. The irony is that 67% of teachers reported being confident that their teaching HIV and AIDS influenced their learners' behaviour for the better and that the similar 67% of teachers reported being comfortable in handling sexuality issues in class.



Out of ten various strategies of engaging learners when implementing HIV and AIDS education, two strategies; discussion of sexuality issues and 'using messages around risks of HIV infection as a prevention strategy' was used by at most 53.6% and 61.2% of teachers respectively. The rest of the eight other interactive and participatory strategies were seldom used by at least 40% of teachers and less. Surely, failure to use interactive, participatory and innovative strategies (Ahmed, *et al*, 2006; UNAIDS, 2009b; UNESCO, 2008b) to implementing HIV and AIDS education in the plight of high pregnancy and HIV infection rates are viewed as a gross educational problem and lack of commitment on the part of both schools and individual teachers. Teachers seem to favour the use of traditional teaching methods of telling and discussion as can be seen from the results above. These methods are easy to use but with less impact. Francis and DePalma (2015) have stressed issues of pedagogy and content knowledge as fundamentals to quality HIV and AIDS education implementation.

Significantly, monitoring (process evaluation) and or lack thereof by both the school and the district office would influence the implementation of HIV and AIDS education in schools (Toska et al, 2019). The study found that there was no monitoring of the implementation of HIV and AIDS education in schools. The general monitoring of Life Orientation and Life-Skills teaching did not do justice to the HIV and AIDS education as the component of Life Orientation and Life-Skills (De Palma, & Francis, 2014).

6. Conclusion

The study evaluated the implementation of HIV and AIDS education in schools. It involved 371 teachers from primary, secondary and combined schools of Umhlathuze district in KZN, South Africa. The study investigated the teacher characteristics that impact the implementation of HIV and AIDS education that include: (a) confidence, (b) comfort, (c) capability, (d) knowing the contents of HIV and AIDS policy, (e) time, and (f) support and how these influence the implementation of HIV and AIDS education in schools. These variables served as descriptors in the binary logistic model and the results confirmed that teacher characteristics (CIT) that significantly influence the quality of implementing HIV and AIDS education in schools were: (a) having enough support from colleagues and superiors and (b) having comfort in dealing with sexuality issues in class.

7. Recommendations

Based on the findings, the authors recommend that the implementation of HIV and AIDS education in schools may be strengthened by inculcating and supporting teachers to gain the internal teacher characteristics such as comfort in handling sexuality issues, as well as the externally-facilitated characteristics such as support from colleagues and superiors. It is also recommended that some qualitative studies be conducted to understand the barriers to implementing HIV and AIDS education in schools in more detail, and why some teachers



report that they have had no formal training in the teaching of HIV and AIDS while employed as Life Skills and Life Orientation teachers, as well as why some teachers report having not attended any workshop on HIV and AIDS education. Regular and adequate professional development of teachers on the instructional delivery of HIV/AIDS education should be structured.



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