Evaluation of a School-Based Sexuality and HIV Prevention Activity in South Africa

Midline Qualitative Report

February 2019

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MEASURE Evaluation

Evaluation of a School-Based Sexuality and HIV Prevention Activity in South Africa

Midline Qualitative Report

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February 2019

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ABSTRACT

With support from the United States Agency for International Development (USAID) and in partnership with the South African National Department of Basic Education (DBE), the MEASURE Evaluation project is conducting an impact evaluation of the implementation of scripted lesson plans (SLPs) and supporting activities that were developed to increase the rigor and uniformity of a life skills program for in-school youth. The evaluation's nested qualitative study explores the perceptions and acceptance of, and the comfort with the sexuality and HIV prevention education activity; and identifies the structural facilitators and barriers that affect the implementation of the activity at multiple levels.

The evaluation's qualitative component was implemented in six schools across three districts. Qualitative data were collected from male and female learners in Grade 10 and from the parents/guardians of learners, Life Orientation (LO) educators, members of school governing bodies, and members of school management teams.

More learners in intervention schools than in control schools showed high interest in sexuality education. Learners in intervention schools could recall specific lessons compared with those in control schools, although respondents had limited ability to specify how they applied the knowledge gained to their own lives. Parents were generally comfortable knowing that their children were learning about sexuality and about HIV and pregnancy prevention in schools, but were not familiar with the content. LO educators in control schools said that they were not comfortable teaching the sexuality education part of the LO curriculum, but also reported that they found the LO guide useful. By contrast, LO educators in intervention schools reported that they did not find the LO guide helpful.

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Cover:

High school students in Kwazulu Natal, a province in South Africa with the highest prevalence of HIV and AIDS, who participated in DramAidE forum theater performances to help prevent HIV.

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CONTENTS

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ABBREVIATIONS

ART	antiretroviral therapy
BL	Bohlabela
BL-C	Bohlabela – control school
BL-I	Bohlabela – intervention school
DBE	Department of Basic Education
DREAMS	Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe
EDC	Education Development Center
FGD	focus group discussion
HEARD	Health Economics and HIV/AIDS Research Division
HSV	herpes simplex virus
IDI	in-depth interview
KCD	King Cetshwayo
KCD-C	King Cetshwayo – control school
KCD-I	King Cetshwayo – intervention school
KZN	KwaZulu-Natal
LO	Life Orientation
MP	Mpumalanga
PI	Principal Investigator
PT	Pinetown
PT-C	Pinetown – control school
PT-I	Pinetown – intervention school
PEPFAR	United States President's Emergency Plan for AIDS Relief
SGB	school governing body
SLP	scripted lesson plan
SMT	school management team
STI	sexually transmitted infection
UNC-CH	University of North Carolina at Chapel Hill
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

Background

In 2015, the South African National Department of Basic Education (DBE), with support from the United States Agency for International Development (USAID) through the United States President's Emergency Plan for AIDS Relief (PEPFAR), invested in the development and piloting of scripted lesson plans (SLPs) and supporting activities to increase the rigor and uniformity of a life skills program for learners, called the Life Orientation (LO) curriculum. The Education Development Center (EDC) trained LO educators before the start of the second quarter of the 2016 school year and subsequently began piloting the SLPs in intervention schools. With support from USAID and in partnership with the DBE, MEASURE Evaluation is conducting an impact evaluation of the activity before its national rollout.

The impact evaluation has a quantitative study and a nested qualitative study. The aim of the qualitative study is to explore the perceptions and acceptance of, and the comfort with the sexuality and HIV prevention education activity, and to identify the structural facilitators and barriers that affect the implementation of the activity at multiple levels. The purpose of the study is to share recommendations with the DBE, USAID, and EDC for more effective implementation of the SLPs.

Methods

The qualitative component of the evaluation was implemented in a sub-sample of schools across three districts: Bohlabela (Mpumalanga), and Pinetown and King Cetshwayo (KwaZulu Natal). One intervention and one matched control school were selected in each district. Qualitative data were collected from male and female learners in Grade 10 in the first quarter of 2018, and from the parents/guardians of learners, LO educators, members of school governing bodies (SGBs), and members of school management teams (SMTs).

MEASURE Evaluation used purposeful sampling to select intervention schools, and matched control schools to the selected intervention schools. Grade 10 male and female learners were then randomly sampled from each school on the day of data collection. Parents or guardians of Grade 10 learners were selected for focus group discussions through convenience sampling, and were not necessarily the parents/guardians of the Grade 10 learners selected for the in-depth interviews. LO educators, members of the SGBs, and members of the SMTs were automatically eligible based on the sampled schools.

Results

Learners across the schools expressed high interest in the sexuality education, with more learners in Bohlabela intervention school compared with the control school showing interest. Learners in intervention schools across all schools could better recall specific lessons than those in control schools, although the learners had limited ability to specify how they applied the knowledge gained to their own lives. Parents were generally comfortable knowing that their children were learning about sexuality and about HIV and pregnancy prevention in schools, although they were not familiar with the content. LO educators in control schools said that they were not comfortable teaching the sexuality education part of the LO curriculum, although they also reported that the LO guide was useful. By contrast, LO educators in intervention schools reported that they did not find the LO guide helpful. SGB and SMT members reported being comfortable with and encouraging the teaching of the LO curriculum. SGB and SMT members provided varying degrees of support for the LO curriculum, from no support to some support, and the differences were not related to intervention versus control schools.

Conclusion

The effectiveness of the SLPs can be enhanced by focusing on two areas of activity implementation before national rollout: educator training, and parent training and involvement. Educator training should focus on interactive learning strategies, such as role playing, to help learners internalize the knowledge that they gain from the SLPs and relate the lessons to their own lives. Separating male and female learners during select lessons may increase the comfort level of some learners and the depth of classroom discussion. In addition to reviewing the content of the curriculum with parents, training for parents should include a review of myths and misperceptions around sex, HIV, and pregnancy. Given the traditional/cultural structures, program designers should also consider encouraging parents/guardians to bring other relatives (aunts, uncles, or other adults responsible for home-based sex education) to the parent training sessions and workshops.

INTRODUCTION

Young people in South Africa, especially young women, are at high risk of acquiring HIV. In a 2012 South African national survey, HIV rates rose from 3.1 percent among girls under age 14, to 5.2 percent among adolescent girls ages 15 to 19. In 2013, 5.4 percent of girls ages 14 to 19 were pregnant (Statistics South Africa, 2014). Among female learners in 14 high schools in KwaZulu-Natal (KZN) Province, the prevalence of HIV and herpes simplex virus type 2 (HSV-2) was 6.4 percent and 10.7 percent, respectively, and the prevalence of teenage pregnancy was 3.6 percent (Abdool Karim, Kharsany, Leask, Ntombela, Humphries, Frohlich, . . . Abdool Karim, 2014). The authors of the KZN study concluded, "The high prevalence of HIV, HSV-2, and pregnancy underscore the need for school-based sexual and reproductive health services." The South African National Department of Basic Education (DBE) created a national HIV and AIDS strategy with the goal of reducing the incidence of HIV, other sexually transmitted infections (STIs), and pregnancy among learners in Grades 7 to 9 in public schools in all nine provinces (DBE, 2010). The need to intervene with young women to reduce HIV incidence is underscored by the objectives of the new Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe (DREAMS) initiative of the United States President's Emergency Plan for AIDS Relief (PEPFAR).

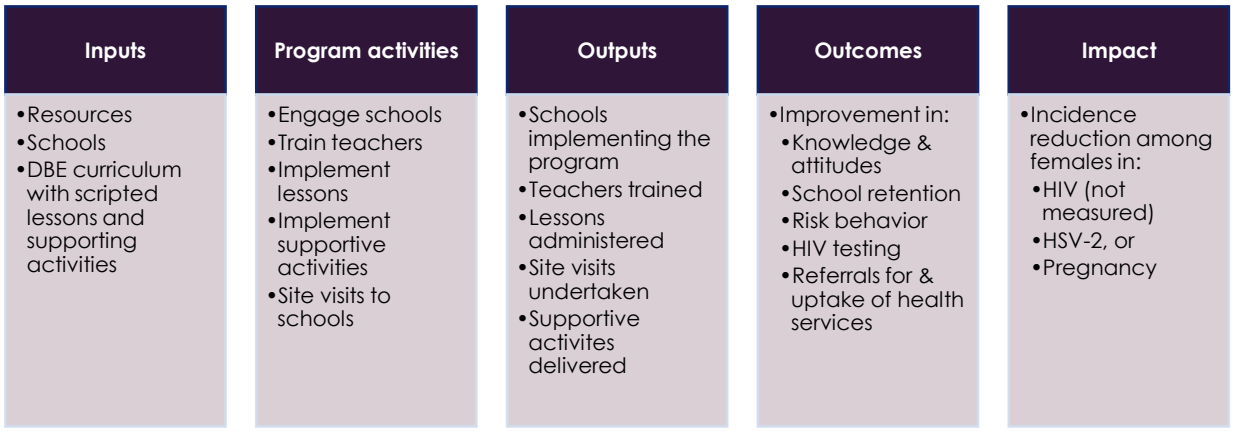
Gaining the knowledge and skills needed to make healthy choices about sexual behavior as learners transition to young adulthood are key to growing an AIDS-free generation and attenuating the potentially devastating effects of the epidemic. It is also important to identify HIV-positive young people in schools (those who acquire the virus perinatally and behaviorally) and link these youth to HIV testing and counseling, to care, treatment, wellness services, and to positive prevention activities.

Through its life skills curriculum, established in 2000, the DBE has attempted to address some of these issues. Previous studies found exposure to the curriculum to be associated with better knowledge, attitudes, and some practices, but there was uneven implementation among educators and schools, and there were challenges with the curriculum (DBE, 2010). Because of these problems, with support from the United States Agency for International Development (USAID), the DBE has invested in the development of scripted lessons plans (SLPs) and supporting activities to increase the depth of information provided and the rigor of the life skills program—called the Life Orientation (LO) curriculum—based on recommendations from the 2010 DBE report and the Southern and Eastern Africa Consortium for Monitoring Educational Quality III project in South Africa. The main component of the new program is the sexuality and HIV education program for secondary school learners, which life skills educators deliver. These educators have been trained to use the SLPs, which were developed from an extensive review of existing life skills curricula and were enhanced with interactive pedagogies. The SLPs aim to delay sexual debut, reduce unprotected sex, increase male and female condom use, reduce the number of sexual partners, and reduce violence and risk. Supportive activities are mobilization and engagement of parents, school management teams (SMTs), and school governing bodies (SGBs); focusing on sexual and reproductive health and gender-based violence; strengthening referrals to health and social services; and creating linkages and increasing access to youth-friendly sexual and reproductive health care services.

The new SLPs are expected to be mandatory. A timetable for their implementation has been developed, and they have been assessed to institutionalize comprehensive sexuality education in schools. To ensure the implementation and rollout of the new SLPs in select areas, USAID is providing technical assistance (through a five-year contract awarded in 2015 to the Education Development Center [EDC], and its partners Health Economics and HIV/AIDS Research Division [HEARD], the Society for Family Health, and Mott McDonald) to support the DBE with in-service educator training activities in targeted provinces and districts to strengthen the DBE's ability to implement and monitor the new sexuality and HIV-

prevention education program. EDC trained LO educators before the start of the second quarter of the 2016 school year, and subsequently piloted the SLPs in intervention schools. The DBE is also revising current policies to promote access to HIV-prevention services in schools, using biomedical, behavioral, social, and structural interventions to reduce transmission and vulnerability to HIV. Moreover, the DBE is planning to roll out comprehensive sexuality education. The first years of program implementation focus on Grades 7 to 9; development and implementation of the curriculum for other grades is in process.

Figure 1. Logic model of the DBE sexuality program



Evaluations of similar programs have found that numerous factors contribute to the level of success of life skills curricula. For example, a qualitative study examining the extent to which schools and LO educators succeeded in achieving the program outcomes of a life skills curriculum in South Africa found that key barriers to implementation and program success were a lack of professional training for LO educators, a traditional value system in the geographic areas of the study, and a multicultural classroom that posed challenges in providing a set of uniform, coherent messages to the learners (Pinsloo, 2007). Another formative three-stage evaluation of a sexuality education program for adolescents living with disabilities in South Africa found that although educators could implement parts of their approach, contextual factors impacted the degree of implementation. Barriers to implementation included untrained staff, cultural taboos around talking about sexuality, and perceived heightened risk of sexual violence against learners (Hanass-Hancock, Nene, Johns, Chappell, 2018). In one study of secondary schools in Cape Town, the majority of educators supported teaching abstinence only and were conflicted about teaching safe sex practices. This revealed a need for the program to be sensitive to cultural and social contexts (Ahmed, Flisher, Mathews, Mukoma, Jansen, 2009). These studies highlight that for such programs to be effective, life skills curricula and related activities must be accepted by all stakeholders, including LO educators and the communities in which the schools are located.

Aims of the Impact Evaluation and Nested Qualitative Study

The primary aim of the impact evaluation is to assess the impact of a school-based sexuality and HIV prevention education activity on learners over a period of two years. The evaluation will provide the South African DBE and PEPFAR South Africa with evidence of the effectiveness of the sexuality and HIV education program by estimating the impact of the SLPs and supporting activities on the incidence of HSV-2 or prevalence of pregnancy among a cohort of girls in secondary school in two provinces of South Africa.

The impact evaluation includes a nested qualitative study to explore the perceptions and acceptance of, and the comfort with the sexuality and HIV prevention education activity, and to identify the structural facilitators and barriers that affect implementation of the activity at multiple levels.

The qualitative component of the evaluation will answer the following questions:

1. What are the perceptions of learners about the sexuality education part of the LO lessons? Are there differences between the intervention and the control schools?
2. What are the perceptions of parents about their children being exposed to sexuality education in school, in general, and the sexuality education part of the LO lessons specifically? Are there differences between the intervention and the control schools?
3. How accepting and comfortable are educators with implementing the sexuality education part of the LO curriculum? Are there differences between the intervention and the control schools?
4. What are the perceptions of members of the SGBs (i.e., elected educators and parents) about teaching adolescents sexuality and HIV prevention in school, in general, and the sexuality education part of the LO lessons specifically? Are there differences between intervention and control schools?
5. What are the perceptions of members of the SMTs (i.e., principals, deputy principals, and heads of departments) about teaching adolescents sexuality and HIV prevention in school, in general, and the sexuality education part of the LO lessons specifically? Are there differences between intervention and control schools?
6. What are the structural facilitators and barriers at the classroom, school, district, and provincial levels that affect implementation of the school-based sexuality and HIV prevention activity?

METHODS

Evaluation Design

The evaluation employs a two-arm, cluster-randomized trial, where the secondary school is a cluster and a learner is the unit of observation/analysis. A sample of schools was randomly selected and assigned to intervention and control arms for a longitudinal observation of Grade 8 female learners and a cross-sectional observation of Grade 8 male and Grade 10 female learners. In the intervention arm, school educators were trained to provide sexuality and HIV-prevention education based on the new SLPs to learners enrolled in Grade 8 at the beginning of 2016, while in the control arm, schools follow the existing LO curriculum. Week-long educator trainings were led by Education Development Corporation (EDC) as part of the main intervention.

The evaluation also includes a qualitative component at midline. The purpose of the qualitative component is to explore the perceptions and acceptance of, and the comfort with the sexuality and HIV prevention education activity, and to identify the structural facilitators and barriers that affect the implementation of the activity at multiple levels. The qualitative study also examines contextual factors that may influence whether changes in primary and secondary outcomes are observed. Results of the qualitative study will be used by the stakeholders to refine the implementation of the sexuality and HIV prevention activity.

Target Population and Program Assignment

The program coverage for the impact evaluation is five education districts in two provinces with a high prevalence of STIs and pregnancy, as identified by the USAID mission in South Africa and the DBE. The districts are Bohlabela and Gert Sibande, in Mpumalanga (MP) Province, and King Cetshwayo (KCD), Pinetown (PT), and Umlazi, in KZN Province. Target schools are those in the three lowest socioeconomic status quintiles, those that include learners in Grades 8 to 10, and those with at least 25 learners. A random sample of target schools was selected and randomly assigned either to the intervention or the control arm. The population covered was a cohort of female learners enrolled in Grade 8 at the beginning of 2016.

The evaluation's qualitative component was implemented in a sub-sample of schools across three districts: Bohlabela (in MP Province), and PT and KCD (in KZN Province). One intervention and one matched control school were selected in each of these districts. Educators in the same schools, parents, SMTs, and SGBs were also involved in the intervention activities. The qualitative data were collected from male and female learners in Grade 10in the first quarter of 2018.

Sample Size

To explore a limited number of domains and themes in greater depth, the qualitative study took place in six schools (three intervention and three control schools) across the three districts. The intended sample size was:

- 36 Grade 10 female learners or six per school
- 36 Grade 10 male learners or six per school
- 12 focus groups of parents/guardians with eight to ten parents/guardians in each group or two focus groups per school
- Six LO educators or one per school
- Six focus groups of SGB members with about five members in each group, or one focus group per school
- Six focus groups of SMT members with about five members in each group, or one focus group per school

Sampling

The overall sampling strategy for the impact evaluation is described in the Impact Evaluation of a School-Based Sexuality and HIV Prevention Education Activity in South Africa: Baseline Survey Report (available at https://www.measureevaluation.org/resources/publications/tre-17-3).

For the qualitative study, MEASURE Evaluation sampled at the school level and at the learner level, using purposeful sampling to select the intervention schools. In each district, the school with the highest dosage of intervention activities was selected. The highest dosage was the greatest combination of the following: (a) schools that, in 2017, had Grade 9 classes where all scripted sexuality education LO lessons were taught; (b) schools where sensitization activities for SGBs had been initiated by November 2017; and (c) schools where the SMT supportive activities had been initiated by November 2017. MEASURE Evaluation used matching to select the control schools. Next, in each district, the control school was matched with the selected intervention school, matching on: (a) school size; and (b) school location.. Then, Grade 10 male and female learners were randomly sampled from each school using the 2017 Grade 9 learner list. Parents or guardians of Grade 10 learners were selected for focus group discussions (FGDs) through convenience sampling, and were not necessarily the parents/guardians of the Grade 10 learners selected for the in-depth interviews (IDIs). LO educators, members of the SGBs, and members of the SMTs were automatically eligible based on the sampled schools.

Qualitative Tools

MEASURE Evaluation collected the qualitative data following the midline quantitative data collection and before the end line quantitative data collection. The qualitative data were collected from male and female Grade 10 learners through IDIs (see Appendix A and B); parents/guardians of Grade 10 learners through FGDs (see Appendix C); LO educators through IDIs (see Appendix D); members of the SGBs through FGDs; and members of the SMTs through FGDs (see Appendices A-F for data collection tools). The qualitative data collection tools examined select baseline and midline quantitative findings in greater depth; explored the context of the learners' survey responses; examined the school environment and support for sexuality education; and identified factors in the program pathway that facilitated or acted as barriers to expected outcomes. The IDIs and FGDs were digitally recorded.

Analysis

Digital recordings of the qualitative data were translated into English and transcribed. The transcripts were imported into the qualitative data software program, Dedoose.

Five interrelated steps for the qualitative data analysis were followed: reading, coding, displaying, reducing, and interpreting (Miles & Huberman, 1994; Ulin, Robinson, & Tolley, 2005). First, investigators and staff developed an initial codebook with topical codes based on the questions in the interview/focus group guides. Second, the study team assigned topical codes to the sections of text so that the data could be more easily and meaningfully extracted.

Third, investigators and staff immersed themselves in the data, reading the transcripts multiple times to identify emergent themes. Within each pair of intervention and matched control schools, themes and subthemes were compared to assess whether differences could plausibly be related to the intervention. Gender differences in reported knowledge, attitudes, perspectives, and behaviors among learners and parents were also examined in each school, and compared between matched intervention and control schools. Themes and sub-themes, including gender differences, were examined across the three districts.

Last, the principal investigator and local research coordinator identified and explained the core meaning of the data, synthesizing and communicating the findings through writing up and presenting the data.

Ethics

The study adhered to the three Belmont principles of ethics that guide researchers in conducting safe research: respect for persons, beneficence, and justice. Ethical clearance was obtained from the University of Pretoria Faculty of Health Sciences Research Ethics Committee (Ref No 153/2016) and the University of North Carolina at Chapel Hill (UNC-CH) Institutional Review Board.

Response Rates

Of the intended qualitative sample, the following interviews and focus groups were conducted:

- 35 Grade 10 female learners or six per school
- 36 Grade 10 male learners or six per school
- 11 focus groups with parents/guardians (six with female parents, five with male parents)
- Five LO educators or one per school
- Five focus groups with SGB members
- Five focus groups with SMT members

RESULTS

Learners' Perceptions of the Sexuality Education Part of the LO Lessons

Interest

Male and female learners from both intervention and control schools in KZN said that they enjoyed the LO classes immensely. The reasons given differed by gender and location.

Female learners in the PT sites often said that they liked the lessons because the information they received about general behavior and the decisions that they will have to make in the future were useful, whereas male learners spoke about the specific topics they enjoyed. There were no differences between the control and the intervention schools.

> *I enjoyed it very much because it was telling me about something that is still going to happen to me, and the fact that as I grow up I need to have that kind of information.* Female learner, PT intervention school (PT-I)

> *[I enjoyed the lesson on] abuse. You should not abuse other people because they are also human beings and if you abuse them they will feel like they are nothing in the community and will end up killing themselves. HIV infection* [is another lesson I liked. I learnt that] *when helping a friend who is infected, you need to wear gloves so that you can protect yourself* . Male learner, PT-I

Among female learners at the control and intervention schools in KCD, there were no differences in the responses about why they liked the LO classes. The general response was that they enjoyed the lessons because they were taught how to behave appropriately, how to protect themselves, and about their bodies. Male learners in both control and intervention schools spoke about the specific topics they liked that had to do with male sexual activity. There were slight differences in how male learners spoke about the lessons they enjoyed between the control and intervention schools. In the KCD intervention school (KCD-I), male learners mentioned the specific lessons they enjoyed, for example, lessons about "prevention and symptoms," "male sexual health," and "pregnancy prevention," whereas male learners in the KCD control school (KCD-C) spoke more generally about what the LO lessons personally taught them—"it teaches me how to protect myself when having sex." This difference indicated that male learners at the intervention school could remember the specific lesson topics better than a general message.

> *I liked how they taught us how we should behave, like staying away from drugs, alcohol, and unprotected sex.* Male learner, KCD-C

In BL, there were differences in the responses between the intervention and the control schools and by gender about what the learners liked about the LO classes. Female learners in the Bohlabela intervention school (BL-I) reported that they liked the lessons on HIV and adolescence or self-development, whereas those in the Bohlabela control school (BL-C) could not name a specific LO lesson on sexuality and HIV prevention. For example, one learner said that she liked dancing. Male learners in BL-I said that they liked the lesson on pregnancy prevention and male learners in BL-C mentioned the lessons on HIV. Responses to the questions at the intervention school showed a great awareness of issues about sexuality and pregnancy prevention as a central component of the LO curriculum. The learners at the control school showed a lack of understanding of LO as a subject.

In terms of what they disliked, female learners in BL-I reported not liking the lessons on sex, sex education, and virginity, whereas those in BL-C reported disliking the educator's attitude when teaching some of the lesson. They specifically mentioned the educator shaming learners and not explaining the

lesson clearly. Male learners in BL-C reported disliking anxiety, fear around pregnancy, and HIV. Male learners in BL-I did not report their dislikes.

As to topics disliked by respondents at the PT sites, very few learners named topics. Among the few examples of topics given, especially by male learners, the reason for disliking the topics was not because they found them boring or irrelevant but, rather, found them upsetting. For example, a few male learners in the PT sites said that they did not like the topics of sexual abuse and rape. One male learner said that he did not like the lesson on teenage pregnancy because of the consequences of becoming pregnant for the girl. Only two female learners in the Pinetown control school (PT-C) mentioned the topics they disliked; one said physical activity and the other said learning about STIs because she found the topic disgusting.

> *What upset me in LO is abuse sexually. You find that woman in a relationship thinks it is just because I love him and he loves me, so let me visit him at home and we will just chill and not have sex because that is not the intention. As a man, because a man's intention when a girl visits him, he thinks it is about sex, that is abuse because he is forcing her to have sex without her liking. That is sexual abuse because she didn't agree so we can call it rape.* Male learner, PT-I

In KCD-I, the majority of learners did not answer the question about what they disliked because they said they enjoyed all the LO lessons. In KCD-C, of the two female learners who answered this question, one said that she disliked physical exercise and the other mentioned a topic that was not taught in the curriculum. Only one male learner from KCD-C answered this question. He said that he did not like discussing abuse against women, similar to the male learners at the PT sites and in BL. They were averse to this topic itself, as opposed to learning about it.

In general, all learners at the schools in the KZN sites said that they enjoyed the LO classes immensely. The general interest was high and there were no significant differences between the control and intervention schools or between male and female learners. In BL, there were no differences in interest between the female and male learners who indicated a medium to high level of interest. However, in BL, there was more interest expressed about the LO classes in the intervention school than in the control school. In BL, female learners at the control school could not recall the topics covered in the LO classes, whereas those in the intervention school could name the specific topics that they enjoyed. Among male learners in BL, there were no differences between the control and the intervention schools. In both sites, the male learners said that they liked the lesson on HIV.

Relevance

When asked about the relevance of the LO topics, there were no differences between the control and the intervention schools. The majority of learners in KCD said that the topics that were relevant to them were those on sexuality education. They specifically mentioned puberty, HIV prevention, and sexual communication. In KCD-C, a few mentioned learning about consent and control in relationships as being relevant, whereas this was not mentioned in KCD-I, where they were specifically taught about these issues in the SLPs. Most learners struggled to share specific examples of knowledge and skills gained from the LO classes.

There were no significant differences between the control and interventions schools in the PT sites about which lessons respondents found relevant. PT-C female learners said that the lessons that they found relevant were those on pregnancy prevention, puberty, HIV prevention, and consent. The female learners in PT-I added menstruation to the list. Males in PT-C found the lessons on HIV testing, smoking, and sexual behavior relevant, whereas those in PT-I said that the LO classes, in general, were relevant. Only

two learners mentioned the actual topics, one saying self-awareness and the other mentioning the lesson on pregnancy prevention and the upbringing of a person. Most learners struggled to share specific examples of knowledge and skills gained from the LO classes.

In BL-I, four girls stated, in short answers, that the LO classes were relevant. One stated that they were not relevant because she was not engaging in sexual behavior; another female learner could not remember any relevant lessons. Among male learners, five said that the LO lessons were relevant. In BL-C, one female learner responded that the LO classes were not relevant and two female learners did not seem to understand the question. The boys in BL-C were not asked this question. Most learners struggled to share specific examples of knowledge and skills gained from the LO classes.

> Interviewer: *I heard you say most leaners ignore the educator when he/she teaches?*
>
> Respondent: *Some find it difficult to accept. You find that one is dating in class. So, when the educator teaches about it* [dating]*, they find it awkward and it makes them feel embarrassed. When the educator explains to them they have already passed that stage, and some of them already have kids, some have already lost their virginity.* Female learner, BL-I

Summary findings about learner interest and relevance

In general, learners showed high amounts of interest in the LO curriculum. In BL, learners at the intervention school showed more interest compared with learners in the control school. However, in PT and KCD, there were no meaningful differences in the level of interest between learners in the control and intervention schools. Learners' reports of which topics they liked varied by school and gender. Although learners in both intervention and control schools generally reported that they felt the curriculum was relevant to their lives, they struggled to share specific examples of how they applied the lessons from the LO curriculum to their own lives.

Perceptions of the LO Curriculum Content

In KCD, the learners were very happy with the curriculum content and said that the information given was sufficient. A few learners suggested that more information on certain topics was needed, for example:

- how sex or gender affect disease acquisition (female learner in KCD-I)
- hormonal contraception (male learner in KCD-I)

Initially, KCD-C learners said that the information was adequate. When pressed further, the learners revealed the problems they had with the content. Learners mentioned specific lessons that they felt were not adequately covered by the educator, such as HIV.

> *Even though the information was not enough but what I have learned satisfied me but it was not enough ... she could have said more things … It happens that the educator is explaining something but you are not satisfied with the way she is explaining it.* Female learner, KCD-C
>
> *Did the educator give you enough information?...sometimes I would be talking and not listening while the educator is talking to all leaners. Sometimes I would be absent from school.* Male learner, KCD-C

In PT-C, the majority of male and female learners said that the information given was sufficient. However, one female PT-C learner said that the information given on HIV was not enough and another said that she would have liked more information on respecting one's elders. In PT-I, one female learner said that she wanted more information on abuse. Among the males, one in PT-C said that he would have liked to have more information on love. The rest said that the information was adequate.

In the BL-I, two-thirds of the girls who answered the question said that they were given enough information, whereas at the control school, one-half of the girls said that they were given enough information. Among the male learners, all in BL-I said that they were given enough information, whereas among respondents in BL-C, only four boys said that they were given sufficient information.

> Interviewer: *Did your educator give you enough information about HIV and how to prevent pregnancy?*
>
> Respondent: *They did not teach us everything because they hid certain information.*
>
> Interviewer: *Did they give you information on how to protect yourself?*
>
> Respondent:: *Yes, they gave us.*
>
> Interviewer: *They gave you, what are the topics that they do not usually teach in class?*
>
> Respondent: *They said we involve ourselves in sexual activities and they did not tell us in what way* [not to]. Female learner BL-I

Perception of Educator's Comfort Teaching Sexuality Education

In KCD-I, the learners reported that the educator appeared comfortable teaching the curriculum. One female learner suggested that the educator should give demonstrations when teaching. The majority of the learners reported feeling comfortable with the dynamics in the classroom and felt that they could ask questions. They described how the classroom was filled with laughter and the educator made sure that they understood.

> *No, s/he was open in all the topic…The effect was that s/he was not afraid to talk freely, and did not beat about the bush; s/he was straight to the point, it made us understand; s/he did not mince words; s/he made sure that we are clear on what s/he is talking about.* Female learner, KCD-I

Respondents also described how the educator made them do role plays so that he could see that the learners understood the topic. Only one male learner complained that the educator rushed through some topics. Another male learner complained about the noise from other learners during the LO classes and suggested that there should be extra lessons for those who felt that they had not learned anything.

In KCD-C, the learners described the educator as being comfortable, although when pressed further, they began discussing challenges in the educator's delivery of the LO curriculum. Some learners hinted that the educator was quiet and that this was taken advantage of by the learners. They spoke about how chaos in the classroom disrupted some of the learning. One male learner said that the educator was uncomfortable with the topic of 12-year-olds having sex. The atmosphere in the classroom was described as not serious, with one learner commenting that some learners were being "childish." Another respondent said that even though they were encouraged to ask questions, "those who did ask questions, they were just fooling around. No one asked serious questions."

Respondent: *Yes, the educator was comfortable, the educator guided us as her children.*

Interviewer: *Which topics was the educator most comfortable in teaching.*

Respondent: *The topic on sexuality, I could say that the educator was comfortable in everything.*

Interviewer: *So how did that affect learners?*

Respondent: *I could say that some learners were embarrassed that the educator was teaching about sexual matters.*

Interviewer: *What do you think was the reason?*

Respondent: *It was being childish.*

Interviewer: *Oh it was childish.*

Respondent: *Yes, they felt uncomfortable.*

Interviewer: *So did the educator encourage learners to ask questions?*

Respondent: *On sexuality... yes.*

Interviewer: *Were learners comfortable to ask questions?*

Respondent: *Yes.* Male learner, KCD-C

Interviewer: *Which topics did the educator seem uncomfortable when teaching?*

Respondent: *Mumbles... The section on how 12-year-olds can have sex.* Male learner, KCD-C

In PT-C, the female learners said that the educator was very comfortable teaching the LO lessons and that s/he was open and encouraged learners to ask questions. Although the male learners also said that the educator was open, one learner pointed out that the educator was uncomfortable talking about sex, and another said that the educator did not explain things well, saying "she put it mildly."

Interviewer: *Are there any questions that she felt uncomfortable to discuss?*

Respondent: *Yes, there are because when she was talking about sex, she felt uneasy to say the word sex. She was referring to sex as playing* [laugh].

Interviewer: [Laugh] *According to your opinion, why did it help that the educator was open when talking about sex? How were the learners affected in terms of getting information?*

Respondent: *Some got helped. Some did not get help because some people want to be taught something straight. Some prefer the word "play"* [when describing sex]*, they will understand what you mean. Some won't understand if you do not say it as it is. They will end up doing what you told not to do because they did not understand when you told them.* Male learner, PT-C

Both the male and female learners in PT-I felt that the educator was comfortable teaching the LO curriculum.

Three female learners in BL-I said that the educator was generally comfortable teaching the LO lessons. However, they reported that they felt s/he was uncomfortable with the topics of pregnancy, HIV, and dating; in BL-C, five of the six female learners also said that the educator was uncomfortable with the same topics. Moreover, one female learner felt that the educator was omitting some topics. Among male learners

in Mpumalanga (MP), the response was the same between the control and intervention schools. In BL-I, two male learners stated that the educator was uncomfortable discussing pregnancy; one learner reported that the educator was also uncomfortable discussing HIV and another respondent cited the topic of condoms. Two other learners did not name subjects that the educator was uncomfortable discussing. In BL-C, two male learners reported that the educator was uncomfortable discussing HIV; one mentioned pregnancy and another said the topic of sex.

> Interviewer: *What are the topics that were difficult for your LO educator?*
>
> Respondent: [Short pause] *A topic that was about HIV and how to avoid pregnancy.* [Long sigh]
>
> Interviewer: *What made it difficult for him?*
>
> Respondent: *He thought that we are still young to learn about those topics, I even do not know.* Male learner, BL-I

> Interviewer: *Ok, what was the topic that your educator was not comfortable to teach?*
>
> Respondent: *It was about sexual intercourse …He told us that to have sex is not a good thing to do, he always hides information from us.*
>
> Respondent: *It was only that topic* Female learner, BL-I

Summary findings about the content and delivery of the curriculum by the LO educators

In general, the learners said that the information given during the LO classes was sufficient. However, there were a few topics suggested for the curriculum to cover in more depth, such as how sex affects one's vulnerability to certain diseases, hormonal contraceptives, and abuse. These suggestions came from both the control and intervention schools, showing no meaningful difference in how learners perceived the content of the LO curriculum between the intervention and the control schools.

In terms of the learners' perceptions of the LO educators' comfort teaching, there were no meaningful differences between the sexes. However, there were differences between the sites and between the control and intervention schools. In both control and interventions sites in KCD, the learners alluded to the LO classes not being taken seriously by learners. In the PT sites, the LO educator in the control school was perceived to be uncomfortable with teaching the subject, whereas the learners in the intervention school described the educator as comfortable. In the MP sites, learners from the control and intervention schools said that the educator was uncomfortable discussing the sexuality part of the LO curriculum.

These findings were corroborated by the LO educators when they spoke about how they felt teaching the LO curriculum.

Reported Self-Efficacy and Sexual Consent

Responses about the meaning of sexual consent did not differ among learners in the control and intervention schools or by district or by gender. Few learners could provide a complete or entirely correct definition of sexual consent, and this result did not differ by intervention or control school. Through probing and giving the learners hints about what sexual consent is, some learners could articulate that they were aware of the concept. However, there was no indication that this was a specific result of the LO class.

Interviewer: *How would you ask for sexual consent from a woman?*

Respondent: *They didn't teach us that in LO.*

Interviewer: *Or how do you tell a woman you don't want to have sex or break up with her?*

Respondent: *They didn't teach us that either, I learned that on my own.* Male learner, KCD-I

Respondents in the intervention and the control schools who provided complete and correct definitions could better articulate the importance of consent and the implications of having sex with someone who has not consented.

Interviewer: *How important is sexual consent from both partners?*

Respondent: *It's important because a man is not allowed to have sex with a woman without the permission of the woman.* Female learner, KCD-I

No it is important to have consent because that will be a rape if there was no consent, if you do have consent it is very important that that you use a condom. Female learner, KCD-C

That is what I learned, that you mustn't force a person to sleep with you, there must be consent. Male learner, PT-C

Learners in the intervention and the control schools reported moderate to high levels of perceived self-efficacy in refusing to have sex by stating that they were not ready or in the mood. When asked how they would ask for consent, male learners often shared strategies involving pressure or deceit.

I just lie to her—like I just lie to her and tell her we are going home and lure her by telling her at home they bought some stuff, and I want to show it to her. And then we will go home, as soon as we get to the house, it's a must, she will agree. Male learner, BL-I

Interviewer: *Okay, what did you learn in LO class that can help you ask for sexual consent?*

Respondent: *You beg.*

Interviewer: *That is what you learned.*

Respondent: *That I ask and beg for it, it is up to her whether she consents or not.* Male learner, KCD-I

Interviewer: *What have you learned in LO that will help you ask for and give sexual consent?*

Respondent: *I learned that if she does not want to have sex I should leave her and find another one, there are plenty of them out there.* Male learner, KCD-C

Female learners often stated that they would refuse to have sex with a boyfriend by telling him they were not ready, whereas male learners often reported that they would fabricate a story, such as being sick, being tired, or not having protection.

Summary findings about self-efficacy and sexual consent

In general, when the learners responded to the question of what sexual consent is, their answers showed a more general understanding of the concept rather than one that they had specifically learned in the LO classes.

Learners who could articulate what sexual consent was in their own words, rather than by being prompted by the interviewer, could more likely express the importance of consent in sexual relationships. In general, the learners struggled with the question of how to ask for consent and how to give consent.

The findings about self-efficacy and sexual consent applied to learners, in general, regardless of control or intervention school, gender, or district.

Parents' Views About Their Children Being Exposed to Sexuality Education in School, in General, and the Sexuality Education Part of the LO Lessons, in Specific

Comfort

All parents in the three sites said that they were comfortable with their children being exposed to sexuality education and that they supported the provision of sexuality education in schools. There were no differences between the control and the interventions schools. However, the reasons given for support of sexuality education differed by gender.

For example, in KZN, female parents in KCD-I said that they supported the provision of sexuality education because they acknowledged that the world is not what it used to be when they were young. Female parents in KCD-C reported that they were very happy that their children were being taught sexuality education in school because it equipped them with information about pregnancy prevention. Parents in PT-C said that they supported it because LO educators knew more about HIV and pregnancy than parents did, so the educators were well-placed to stop their children from becoming pregnant and, consequently, having to end their schooling. In addition to their support, female parents in PT-I said that they would encourage educators to provide more in-depth explanations to learners about how prevention methods work because as parents, they often went only as far as telling their children to simply abstain.

> *Personally, I'm happy. As parents, we can talk to our children but we cannot go into deeper details. Beyond that, even when you do talk to them about something, it's possible to forget some of the things that the educator would be able cover. This* [sexuality education] *helps us as parents.* Female parent, PT-I

> *I think children from 12 years are already getting pregnant. Even when you think you are aware of what your child is doing and then you hear a neighbor saying they saw your child with a boy and as a parent we are scared to tell them to use condoms, use prevention or abstain. What we normally do is tell them to abstain and tell them that I don't want you to do this, forgetting that they have feelings and they will do what they want. Anyway, besides they teach each other here at school. In LO, there is a chapter that speaks on things that we are shy or afraid of speaking about to our children as parents.* Female parent, PT-I

In BL, female parents were also comfortable with the curriculum and felt that it was helpful, important, and relevant. Female parents in BL-C also expressed that they felt the curriculum taught their children what they could not teach them at home. Female parents in BL-I approved of the lessons on contraceptives and STIs, and only one parent expressed concern that the LO lessons would encourage sexual experimentation. The female parents in BL-C expressed discomfort with the classes on

contraceptives because they thought that the learners were too young. When showed the diagrams included in the lesson on contraception one parent said

> *... young kids should not be involved in sex, their future is education, studying... they are not ready for that.* Female parent, BL-C

Male parents in KCD-I said that they supported the provision of sexuality education in schools because their children were exposed to sex in their day-to-day lives. Schools are places where children can be taught how to behave. In both intervention and control sites in KCD, male parents debated whether exposure to sexuality education would encourage learners to experiment sexually. No consensus was reached on this issue. However, male parents across both sites in KZN (KCD and PT) thought that when teaching learners about sexuality, HIV, and pregnancy prevention, the classes should be separated by the sex of the learner.

> *The way I see it is that they are helpful but also the other way I see it is that sometimes there could be a danger for someone wanting to experiment on what they learnt about; however, it is important to learn about it in school. I think it is influential in letting them know everything about how they should behave.* Male parent, KCD-I

> *I think it is helpful* [for young people to be taught sexuality education] *because the kids nowadays, there is nothing they don't know. Much rather when they are being taught, they should be separated. Girls learn on their own and boys learn on their own. The problem is if they are put together, there are things that will be said and others will end up laughing and others will then want to try what is being taught. They will want to experiment about what they learnt about each other. So they should be separated.* Male parent, KCD-C

Summary findings about parents' views on sexuality education being taught in schools

Across the sites, male and female parents expressed comfort knowing that their children were being given sexuality education in the schools. Female parents mainly saw this education as supplementing and adding to what they would teach their daughters. When this issue was brought up by some female parents in the discussion groups involving male parents, the question of whether this knowledge might lead to sexual experimentation was a prominent concern.

In terms of the content of the curriculum, the responses differed between the intervention and the control schools in BL. When shown the lessons and diagrams from the SLPs, parents of both sexes in the intervention school objected to the lessons on hormonal and other female contraception.

Sources of Information on Sexuality, HIV, and Pregnancy Prevention

Most parents, irrespective of gender or location, initially stated that they were happy that sexuality education was being taught in the schools. In terms of other sources of sexuality education, except for female parents in BL, they saw themselves as also having responsibility for providing some form of sex education to female children, whether this was simply a moral injunction to "not sleep with boys" or more elaborate information.

Questions around the sources of information brought up issues about appropriate gendered knowledge. Female parents mostly commented on where and how they thought female children should receive this information. For example, female parents in KCD-I thought that parents should also provide some education to young women at their homes. They stated that, just as had been the case when they were growing up, today's adolescents should learn about preventing pregnancy in culturally appropriate ways, i.e., through teaching by older girls, who would encourage them to have thigh sex and show them the value of non-penetrative sex. One parent raised concern that nowadays adolescents do not listen to what their parents tell them, that their children were more likely to listen to what people outside the home had to say. In KCD-C the female parents said that the home was an important space, where information about sex and sexuality should be imparted. They saw it as the duty of the mother to teach her children about sexuality and pregnancy prevention. However, they added that children did not listen to what they were taught by their parents at home, and that nowadays, adolescents received information about sex and sexuality from their peers and siblings.

In PT-C, female parents pointed to the church and clinic as appropriate places for the provision of information on sexuality, HIV, and pregnancy prevention. However, female parents in PT-I pointed out that clinics were not always accessible to young people, invoking the often reported unwillingness of service providers in clinics to provide these services to adolescents. They suggested that nurses should travel to schools and virginity testing sites should teach young people.

In BL, no sources of information were named. Female parents in BL-C said that there were no places, other than schools, where children could learn about sexuality, HIV, and pregnancy prevention. They also said that this was the reason why it was imperative that schools provide this information.

Among the male parents, the discussion centered around where the sources should be.

Male parents from KC-I felt that adolescents should learn about sexuality at school because they, as parents, do not feel comfortable with their children learning about this at home, where sex was actually happening. They acknowledged that church could be a source of information. In KCD-C, male parents thought that it was better for adolescents to learn about sexuality and pregnancy prevention at clinics and churches rather than at school because they did not trust the educators to give their children the correct information. However, the male parents in PT-C expressed uncertainty about clinics as sources of information on sexuality, HIV, and pregnancy prevention. They suggested that instead, perhaps if parents went with their children, then the nurse could tell the parent who would then explain it to the child later. In BL, aside from the home, male parents in BL-C identified television and radio as potential places for information to be accessed by children.

> *The government could try to add this education; it is there, it is just that it is not that popular yet. You will find that when it is being aired, the kids are not around, so if the government can take into consideration that by this time, the kids are already out of schools… and then they air this education on TV and on radio. I think this would be helpful.* Male parent, BL-C

Summary findings about parents' ideas on the appropriate sources of information about sexuality, HIV, and pregnancy prevention

In all three sites, there were no significant differences between the control and intervention schools about where female parents thought learners could receive information about sexuality, HIV, and pregnancy prevention. In KCD, the home was named as an appropriate site, whether the information was given by mothers or by other close kin. In PT, despite knowing about the resistance, female parents pointed to the church and clinics as places where young people could also access information about sexuality, HIV, and pregnancy prevention. In BL, female parents could not name any sources of such information.

In terms of male parents, there were differences between the intervention and the control schools. Male parents in KCD-I named schools; those in KCD-C named clinics and churches, expressing a distrust of schools. Male parents in PT-C named schools, expressing a distrust of clinics. In BL, male parents identified homes and popular media.

What is significant in this section is the emergence of parents' distrust of what are considered "mainstream" sources of information about HIV and pregnancy prevention for youth, particularly in the control schools in PT and KCD.

Gender and Sexuality Education

In general, the female parents in PT-C said that male and female learners should be given the same information about sexuality, HIV, and pregnancy prevention because these issues affect both boys and girls. One female parent said that being secretive would not be useful because young people were bound to find out about sex and sexuality. In terms of what the sexes should know, female parents in PT-C said that girls should be specifically taught about how to prevent pregnancy and avoid STIs, especially following menarche, because they were at greater risk of becoming pregnant when they were menstruating. They said that boys should be taught how to use protection so that they could protect themselves from diseases.

The majority of female parents in PT-I also felt that male and female learners should learn together. One parent said, "when both of them have unprotected sex, they both get infected, so both of them must be taught." However, one parent disagreed, saying that women have different bodies from men and if they are taught together, then they will make fun of each other. She added that as women, there were things that could not be discussed in front of men. She suggested that maybe young people should be separated for specific topics and come together for others.

Male parents in KCD_I insisted that male and female learners should learn about pregnancy prevention, HIV, and sexuality separately, whereas the majority of female parents in KCD-I thought that they should be taught together. Male parents also spoke in more depth about gender roles and norm expectations. They emphasized that it was important for boys to be taught to stay away from female learners. It was therefore important that male learners learn about sex because they were the ones who seduced girls. They said that female learners should be warned about the consequences of becoming pregnant and of acquiring HIV, and they should be taught about their bodies. One parent expressed her view that male and female learners should be separated during sexuality education because they will want to experiment with what they have learned.

Female parents in KCD-C thought that male and female learners should be separated. They said it was important for girls to learn to take care of themselves, to learn about contraception and the dangers of becoming pregnant, and about the importance of taking antiretrovirals. Although it was felt that both sexes needed to know everything, boys, in particular, should learn about the consequences of impregnating a girl.

One parent said that male learners should be taught by male educators and female learners by female educators, who would be better placed to talk about periods, for example. Others disagreed and said that both sexes should be taught everything so that no one gets deceived.

Male parents in KCD-C also felt that male and female learners should be separated during the LO classes. Despite their insistence on separating the sexes, male parents in KCD-C felt strongly that girls and boys should be taught the same things, especially about HIV, because it affects everyone, regardless of sex. They said that girls and boys should have the same information about HIV.

In BL, opinions about gender and knowledge did not feature in the female parent focus group in BL-I. In BL-C, female parents said that female learners should learn that sex may lead to HIV, STIs, pregnancy, and loss of a "great future," and should therefore learn to protect themselves. By contrast, they reported that male learners should learn how to use condoms.

Male parents in BL-I said that both male and female learners need the same lessons and should be given the same information. For example, both male and female learners should be taught about condoms. They added that girls, in particular, should be instructed in sexual and reproductive health and HIV issues by female relatives, and should also be taught how to use injectable contraceptives to prevent pregnancy. Male parents in BL-C said that some lessons should be disaggregated by sex. They said that female learners should be taught to abstain from sex, whereas male learners should be taught to delay sex, reduce the number of partners, and get tested for HIV.

Summary findings about how sexuality education should be delivered

In the PT sites, parents said that girls and boys should be taught about sexuality, HIV, and pregnancy prevention together. There were no significant differences between male and female parents, or control and intervention schools.

In the KCD sites, there were differences between the sexes in the intervention and the control schools. In the intervention school, female parents said that the sexes should be taught together, whereas male parents said the opposite. In the control school, there was no consensus among female parents, whereas male parents said that the sexes should be separated.

In the BL sites, male parents' opinions differed between the control and intervention schools. Parents of children in the intervention school said that the sexes should be taught together, whereas parents of children in the control school said that some lessons should be disaggregated by sex. The MBL female focus groups did not provide an opinion about whether to separate the sexes during the LO classes.

In general, in both the control and intervention schools, a theme emerged about sexuality and pregnancy prevention—that different aspects should be emphasized for girls and boys. It was said that boys should be taught not to seduce girls, whereas girls should be taught about the methods that will prevent pregnancy and that they should look after their hygiene. In terms of HIV, the consensus was that girls and boys should be given the same information about how it is acquired and about taking antiretrovirals.

Knowledge of the Curriculum

Female parents in PT-C said that they had seen the learners' sexuality and HIV prevention book used in the LO classes and had heard their children talk about the classes. One parent described the books as "out of the norm" but said that she preferred that they used books from school to learn about sexuality, HIV, and pregnancy prevention rather than ones they got from outside of school. In general, female parents in

PT-C thought that the lessons were great and supplemented what they tried to teach their children at home. They said that if more information can be given to their children, it should be added. One parent said that she liked the lesson on family planning but that it was also important to know to take breaks between using contraceptives so that one did not become infertile. There were no data for the female parents in PT-I.

Male parents in PT-I said that they had never seen the curriculum. Most stated that despite what is being taught in the LO classes, children generally did not listen. One parent said that his son told him that during the LO classes, they teach them about sex and bad behavior, but he had never seen the LO book. Another said that he did not know how the educators explained what was in the book. The male parents said that it was a pity that parents did not have time to look at their children's school books, and that they should really make the time.

Male parents in KCD-I said that they were not familiar with the curriculum materials and that they were seeing them for the first time. They said that this was because they were not really interested and so did not ask their children about their school work. One parent said that when his child asks for help, he refers him/her to his/her mother and generally avoids such situations.

Female parents in KCD-I also reported that they were not familiar with the curriculum and had not seen the SLPs or asked their children about what they were learning. They said that perhaps their children had not told them about what they were learning because they were too embarrassed. However, they stated that they had observed an increase in hygiene behaviors among girls.

Among the male parents from KCD-C, one father reported that he could not read and so did not know what was in the textbook. Others said that their children hardly did homework because they were always watching TV or on their phones. Female parents in KCD-C said that they had not seen the curriculum and were not familiar with it. The changes that one parent had observed, and attributed to the LO classes, were that her daughter was asking her questions about menstruation.

In BL-I and BL-C, male parents saw the LO book for the first time during the FGD, and said that they were aware that sexuality education was being taught in school. There were no data for female parents in BL-I; however, in BL-C, female parents said that they knew about the existence of an LO curriculum. Some had seen the book at home because their children had asked them questions about some of the topics.

Summary findings about parents' knowledge of the LO curriculum

In general, both male and female parents were not familiar with the materials being used to teach adolescents about sexuality, HIV, and pregnancy prevention. Although during the FGDs the parents commented on what they thought the lesson plans were about, it was clear that they took no interest in nor were they particularly concerned about what their children were being taught in the LO classes, and perhaps in school, in general. There were no differences between the control and the intervention schools or across sites.

Involvement

There was a mixed reaction among the female parents in PT-C about their personal involvement in their children's education around sexuality, HIV, and pregnancy prevention. Some reported that they were involved and had very open relationships with their children, and others stated that they felt embarrassed talking more deeply about pregnancy and HIV prevention, beyond advising their daughters to abstain. For

example, one parent said "I have young girls come over to me and tell me that 'in class, ma'am told us things that you usually talk about here at home and we think you are talking naughty stuff with us' and I tell them I am glad that they learn such things in school…"

Female parents in PT-I said that their involvement consisted of advising their children about sex at home. They added that they could only superficially advise their children because they did not often have the information themselves or forgot to cover a particular topic when speaking with their children. Another parent said that the children knew more than their parents about sex. Only one female parent reported being actively involved in educating her children. She said that when she goes to the clinic, she always brings back condoms for her 18- and 19-year-old sons.

In PT-I, only one male parent mentioned his involvement in teaching his son. He told the group that when his son dropped out of school and impregnated a girl, he advised him to work and pay "damages,"[1] and that his son took his advice. Another male parent said that it was difficult to talk to his children because "you cannot express things as they are."

When asked about what would facilitate their involvement, female parents in PT-C said that they would like to see more drama/stories based on the LO lessons that could be presented to the whole school because they are fun, not only educational. Another said that the new LO books with pictures in them made it easier to explain things to the children at home. Male parents in PT-I suggested that perhaps a nongovernmental organization should advise them on how to teach their children about sex, sexuality, pregnancy, and HIV prevention.

In terms of barriers to parental involvement, a female parent in PT-I said that one of the difficulties with being involved was that they were not doing it as a community. She added, "we have never done anything like awareness drives in communities. There are no support groups; we are not involved in anything as a community."

Others stated that although they do try to teach young people, they felt it was hopeless because children do not listen to them. Female parents from KCD-I said that parents should not stop talking to their children; other adults should be encouraged to advise children and tell them that they will inform their parents, or even take it upon themselves to discipline a child by spanking him/her if he/she is thought to be sexually active. These parents said that they were involved in their children's sexuality education by warning them about the consequences of having sex.

Male parents in KCD-I said that when they were advising their children about appropriate conduct, they found it useful to use other people as examples in explaining the errors they had made. In terms of facilitators, they said that aunties should speak with girls rather than with their parents. They suggested that government social workers should go to schools and teach young people about sexuality, HIV, and pregnancy prevention. They thought that this might facilitate their ease with being involved in their children's education. Barriers they mentioned in terms of hindrances to the parents' involvement in sexuality education were parents not being around for long periods of time and, therefore, feeling unable to talk to children. For mothers especially, they said that speaking to male children was difficult.

Female parents from KCD-C said that they often gave their daughters advice on matters relating to sexuality and pregnancy prevention. Female parents said that addressing these topics at school made it

[1] Damages or *inhlawulo* are a cultural practice among black South Africans where the genitor makes a one-time payment to the girl's family for impregnating her.

easier for them to bring up the subject at home. They did not talk about barriers to their involvement in adolescent sexuality education.

Male parents from KCD-C said that after the FGD, they wanted to go and speak with their male children and show them the SLPs. Some said that it was easy to speak with their male children but not with their female children, so gender was a barrier to discussing sexuality and pregnancy prevention. With male children, they said there was no topic that they felt they could not discuss. One parent said that being unable to read was a barrier. Another said that his own lack of knowledge about these issues was a barrier to teaching his children.

There were no data on parents' involvement in providing sexuality education in the BL sites.

Summary findings about parents' involvement in providing sexuality education at home

In KZN, female parents were more likely than male parents to provide their children with some kind of education about sexuality. This finding did not differ between the control and interventions schools or across the sites. The education that female parents gave ranged from moral injunctions to in-depth discussions. Some female parents said that they were embarrassed to talk about the subject, and others said that they felt they did not know enough about the subject. This finding was the same in both control and intervention schools in the KZN sites. Male parents also did not differ significantly among the sites and between the control and intervention schools. In general, male parents were less involved and suggested that adults other than parents, including relatives and social workers, should speak with their children. The male parents in the intervention school said that the new LO books with pictures would make it easier for them to talk to their male children. There were no data available on this issue from the MP sites.

LO Educators' Acceptance of and Comfort With the Sexuality Education Portion of the LO Curriculum

Perceptions of How Learners Received the Sexuality Education Materials

In rural KCD, there was a significant difference in the receipt of the LO curriculum by learners and, consequently, how the LO educator taught the sexuality education lessons. In KCD-I, the LO educator said that, in general and regardless of the topic, learners did not often ask questions in class. She explained that so far, the learners had not asked a single question about sexuality, HIV, or pregnancy prevention. As a consequence, her teaching style was primarily didactic and she gave learners exercises to do to gauge their understanding. The LO educator said that learners enjoyed the sexuality education lessons the most in the LO curriculum and were often most attentive and excited. She added that the learners most enjoyed the lessons on unplanned pregnancies, sex, and the differences between the female and male reproductive system.

In KCD-C, the LO educator described the learners as "curious" and she said that they willingly participated in the classes and found the classes stimulating. She gave an example of how learners provided their own examples of power imbalance in relationships, such as *ukuthwala*[2] and polygamy. The educator said that the examples provided by the learners enabled a critical engagement with cultural practices in the class. She added that this also made her teaching easier because it was discussion-based rather than didactic. She pointed out that, despite the learners' critical engagement with the material, specific cultural and gender norms pervaded the classroom, whereby boys were more vocal and asked the most questions

[2] *Ukuthwala* is the practice of abducting young girls to begin marriage negotiations, often enforced marriages, to older men.

and girls were less likely to voice their opinions. She attributed this to girls already having borne children and feeling embarrassed when contraception was being discussed.

In PT-I, the LO educator's experience was similar to that of the KCD-I educator: learners did not ask any questions and only answered those that the LO educator posed. There were no differences between the sexes because both male and female learners were reluctant to ask questions. However, in terms of the responsiveness of the learners, the PT-I LO educator's experiences echoed those of the LO educator in KCD-I: males were more responsive on such topics as STIs, unwanted pregnancy, and sexual activity, and female learners were quiet. She gave three reasons for why she thought this is the case. First, boys may be maturing faster than girls. Second, girls were probably shy when it came to the topic of sex and sexuality, and third, that girls may already be involved in relationships and felt embarrassed when this was being discussed. In PT-I, the LO educator reported that of all the lessons in the LO curriculum, learners were more excited and receptive to lessons about sex and sexuality.

In BL, the LO educators in both the control and intervention schools described the learners as receptive. In BL-I, the learners were receptive to lessons on setting goals, reaching their potential, and sexuality education, whereas those in BL-C were more receptive to sexuality education and physical education. The difference between the schools was that the LO educator in the control school listed broad categories, whereas the LO educator in the intervention school listed specific lessons.

Summary findings about the LO educators' teaching style and the learners' receipt of the LO curriculum

All LO educators described the learners as receptive to the LO curriculum, especially the sexuality education classes. There were no significant differences between the control and intervention schools.

In KZN, the LO educators in both intervention schools said that learners did not ask any questions and, therefore, their teaching was more didactic, whereas the LO educator in the control school described a very dynamic and discussion-based class. In general, when learners did ask questions, the LO educators said that male learners asked more questions than female learners.

Perceptions of Parental Engagement with the LO Curriculum

In terms of the parents' engagement with LO educators about sexuality education in the schools, there were no differences between the control and the intervention schools in KCD. Both LO educators reported a lack of engagement and disinterest on the part of both male and female parents. The LO educator in KCD elaborated on this lack of engagement by explaining that many of the learners' parents did not live at home, but had migrated in search of work. She added that it was common in the area for young people to be heading households and looking after their siblings, or to be living with their grandparents or great-grandparents, who knew very little about or did not want to talk about sex and sexuality. In terms of engagement by gender, both LO educators in KCD said that there were no differences between male and female parents or caregivers; both had no interest in discussing the topic.

In PT-I, the LO educator said that the quality and content of the LO lessons on sexuality being taught in schools were questionable and that the lessons had also not been well received by parents. S/he attributed this to the cultural value placed on virginity, which led to advocating abstinence and practices of virginity testing. According to the LO educator, "even if you can tell them [about the LO curriculum], they

[parents] wouldn't want to get involved. They believe we are going to test virgins at Enyokeni.[3] They strongly believe in that."

She added that the parents' reactions in PT-I were not uniform. Some were happy that sexuality education was being taught to their children because they were afraid to discuss "such things" with them. She pointed out that for some parents, the LO classes made it easier to talk about sex with their children, especially those parents who were concerned that their children might be receiving incorrect information from friends or peers. However, some parents believed that the LO educator was teaching their children "naughty things." The educator noted that among the parents who talked to their children at home, the messages that they gave them were often not the same as what was taught in the LO curriculum. For example, parents were likely to speak with their children about abstinence and not to discriminate or judge people who were different from themselves (she gave the example here of gay people), whereas the LO lessons that were taught at school focused on safe sexual practices and the reproductive system.

In MP, there were no differences between the control and the intervention schools concerning the parents' engagement with the LO educator. In both BL-I and BL-C , the LO educators said that the parents did not engage with them about the LO curriculum. Both educators said that the LO curriculum, especially the sexuality education part of the curriculum, had not been well received by parents. The LO educator in BL-C added that the parents thought that the government was teaching their children to engage in sexual activity.

Summary findings about the LO educators' views on parents' engagement with the LO curriculum

In all sites, across the control and intervention schools, and across genders, parents did not engage with the LO educators about the LO curriculum.

Comfort With the LO Curriculum or SLPs

There were significant differences in the level of comfort with and capacity to teach the LO curriculum between the control and interventions schools in KZN Province. The LO educator in KCD-I expressed absolute comfort teaching the LO curriculum and the sexuality education lessons, specifically.

> *I don't have problems with anything. I really don't. …I haven't come up with that challenge* [of being uncomfortable]. *I am a very outspoken person. I laugh a lot and whenever I teach, I laugh with them. Especially when we are about to approach the sexual part. I tell it as it is, especially when we are talking about the differences between a female and a male. I tell them that a vagina is inside and a penis is outside, I don't try to cover or say it is something else like "ikhekhe" (cake).* LO educator, KCD-I

By contrast, the educators in KCD-C and PT-I reported their discomfort with teaching the sexuality education part of the LO curriculum, in particular. Both educators said that they were uncomfortable using particular words in front of the learners because they were aware that culturally, it was deemed inappropriate for adults to use those words with children. They reported that they resorted to using euphemisms to get around this. Both educators said that they struggled with the wording of the curriculum and with what words they should use to get the messages across to the learners but, at the same time, being mindful of respecting cultural norms.

[3] The Zulu kings' royal compound at Nongoma.

Yes, there are challenges, [for example] *I have to think of how I am going to say certain things. In our culture, there are things that I cannot say to kids; so, I have to try and work around those things. Sometimes I don't say things as they are in the scripts but rather find an alternative word and comply with the culture.* LO educator, KCD-C

To avoid verbally explaining some words, the LO educator in PT-I said that she found writing the words and their definitions on the board was helpful. She reported that she also struggled with understanding the words, she specifically struggled to explain the difference between sex and sexuality to the Grade 9 class in the previous year. However, she recognized the importance of repeating some of the crucial lessons for learners to understand.

I didn't know how to explain those bigger words to them because of their ages, like using condoms; sometimes I just write notes on the board for them but, on the other hand, I feel some of them, they get pregnant and if you have started having sex you must use a condom, so as time goes on I was able to… when we were revising, I told them 'no you have to use a condom only if you are having sex to prevent STIs and pregnancy, unwanted pregnancy.' LO educator, PT-I

In BL, both BL-I and BL-C LO educators said that they were very comfortable teaching the LO curriculum. Although the LO educator from BL-C reported that she was most comfortable teaching the learners about studying and encouraging them to read, the LO educator from BL-I said that she told the learners that during the LO classes, she would teach them things that they will not learn at home.

I as a educator, I even tell them that what I teach you, you won't even get at home because the parents think it's taboo or it's not something to be spoken about. So, they have that privilege because in this class we call a spade a spade, if it is a female organ or male organ. At home they will tell you not to walk around at night, they don't say what will happen when you walk late. I say it clearly that if you sleep with a boy, without---if you are hyperactive without using a condom, that's pregnancy right there. So, the parents will say that's a taboo, it can never be said. LO educator, BL-I

The difference between schools was about the topics that the educators said they were comfortable teaching. The LO educator in BL-I stated that she was comfortable with the sexuality education topics specifically, whereas the LO educator in BL-C said that she was more comfortable with the part of the LO curriculum that did not deal with sexuality.

As to the LO guide, there were also significant differences in how helpful and useful the LO educators perceived it to be. The LO educator at KCD-I did not find the guide particularly useful nor the LO Grade 10 textbook. She felt that the textbook for Grade 10 gave summaries of topics rather than going in depth. However, when we collected the data, the Grade 10 LO guide (at least for the learners) had not yet been published. The LO educator may have been referring to something other than the sexuality education LO guide.

LO educator: *We have a textbook that comes with an individual educator guide.*

Interviewer: *Do you think it is helpful in any way? Do you feel that it has the right details to teach?*

LO educator: *Not really. Not at all, especially the grade ten one, I do not know about the other grades but the grade ten book, everything is summarized, I don't know why.* LO educator, KCD-I

The LO educator from KCD-I explained that she sometimes got confused by the educator's guide because, for example, the section she found least important was teaching learners about study skills, yet in

the guide, a rather lengthy section was dedicated to this; she thought it was a waste of time. When asked how the curriculum could be improved, she suggested providing more information in the sexuality education lessons, which she felt were rather brief given how important these particular lessons were for young people.

By contrast, the LO educators from the control schools said that they found the guide to be particularly useful for their teaching practice. The LO educator at PT-C thought the guide was helpful in providing definitions of terms that came up in the lessons. She said that she instructed learners to write the definitions in the back of the books to internalize their meaning and for future reference. Second, that they should include the use of props to demonstrate some of the lessons, which would make teaching easier.

In BL, both LO educators said that they found the guide helpful. There were no differences between the intervention and the control schools.

> [The educator's guide was] *very helpful because I know how to give them guiding examples, examples that they will even use in future. They know that okay, I won't pass grade nine until I set my goals, so I set a goal. And then in order for me to set a goal, I must have a checklist that I have to do this, I have to go to school.* .. [what would be more helpful in future would be], *Uhm, maybe if they can have---CDs, that they can play live and see reality as to what can happen if I don't say no to sex, and different STIs when I'm hyperactive and I have sex without a condom, the---the---they see it live, maybe they will be touched, and be like 'okay, this is not the story, it's reality.'* [Laughing] LO educator, BL-I

Summary findings about the LO educators' comfort with teaching the LO curriculum and the sexuality education part of the curriculum, in specific

The LO educators in KCD-I, BL-I, and BL-C stated that they were comfortable teaching the sexuality education portion of the LO curriculum, whereas the LO educators in KCD-C and PT-C reported their discomfort with teaching the sexuality education part of the LO curriculum. The comfort of the LO educator in MP differed by topic. LO educators in the intervention schools reported being comfortable teaching the sexuality education part of the LO curriculum, whereas those in the control schools did not.

In terms of the LO guide, in KZN there were differences between the intervention and the control schools as to how useful the educators found the guide. LO educators in the control schools said that they found the guide to be useful, whereas those in the intervention schools said that they did not find it useful. In BL, both LO educators said that they found the guide helpful. There were no differences between the intervention and the control schools.

Perceptions of SGB Members on Teaching Adolescents about Sexuality and HIV Prevention in School in General, and the Sexuality Education Part of the LO Lessons Specifically

Training of the SGBs

None of the SGBs in any of the schools reported that they had received training. In KCD-C, two SGB members indicated that they had received some training on adolescent sexuality and HIV prevention. One said that rather than a training session, what s/he remembered was a meeting with the DBE when the LO curriculum was introduced, so it was more of an "orientation."

Summary findings about the training of SGBs

None of the SGBs recalled receiving training. There were no differences between the control and the intervention schools. Only two SGB members in KCD-C reported having received some training.

Comfort with the LO Material

All SGB members across the sites and schools said that they were comfortable with sexuality education being taught at school. The LO curriculum was viewed positively and perceived to be helpful in providing learners with adequate information about sex and in giving parents the confidence to speak with their children about sexuality.

In KZN, the SGB said that the LO classes gave parents an opportunity to add to the learners' knowledge about sex, sexuality, HIV, and pregnancy prevention.

> *My child came back from school and tells me that 'when a penis enters a vagina, this is what happens.' I was so shocked but glad because I would never have had the courage to speak to her about these things. Now she knows how pregnancy happens and how people get infected with HIV*. SGB member, PT-C

> *…In my experience, when the LO was introduced, it was not comfortable. I have seen the LO educator sweating when s/he was about to teach lessons on sexuality, reproduction, and all those things. But then the sort of naughty learners would pay attention and the educator would say 'you are getting naughty now!' Also, from where we come from, you must have a pastoral factor, you must be pastor-like so you can talk about all the other spheres as if you are not married, so you have limitations on what to talk about in public or even to kids. There are things that* [I cannot talk about] *because I am not married and unfortunately most educators that are supposed to teach this subject, most of them are being unmarried and some of them, they don't get married so there is that gap where a educator that is not married is regarded not fit to talk about these things. So when we get into class and we talk about it, s/he has to be careful because even any sign of a laugh or any disturbance, you stop thinking about the incident, you think about what you are teaching because they* [the learners] *are into this stage* [having sex]. *Now I am starting to get positive because I know that these learners must know of these things, so it's a story, it's not a drama...it's real, it's part of their life, and also I feel maybe the school must have some set of forums...the outside committee must also have some forums where these things are actually practiced, whereby kids are being drawn in to the correct mind and attention of what is really happening, like they do with the policing forums where people are aware of their safety, they should also be aware of their safety that can be caused by not teaching your child proper sexuality lessons.* SGB member, KCD-C

Using the example of sexual abuse, one respondent from KCD-C said that the LO curriculum was important because it empowered youth with information about what was right or wrong.

> *If they say 'do not allow your uncle to touch you on your genitals,' if you say that to the child and I come up as the uncle and touch the child, then the child will report that 'my uncle touched me here.' Whereas if the child had not been told this, then she would not have said anything. I think the purpose of the lessons is to warn the children so that they know that when they do this, the consequences will be that. So that they can also be able to protect themselves and be able to report it if they need to report it and not be afraid, unlike before when people–even adults–used to be held against their will and carry on with life and keep quiet that somebody has had sex with them without consent because they fear that they will be shamed about it. So when children are afraid to talk, they continue life being damaged. Even with the suffering abuse from uncles, it could prove to be a barrier in their education if the child cannot disclose that information.* SGB member, KCD-C

All respondents in the KZN sites also insisted that it was very important that learners be taught about sexuality while they were still in school. In BL, the SGB in BL-I said that the LO curriculum should start earlier.

Summary findings about the SGBs' views of the LO curriculum

No differences were found among the sites or between the control and the intervention schools concerning the SGBs' support for and comfort with teaching the LO curriculum and the sexuality education part of the curriculum, in specific.

Teaching the LO Curriculum

In PT-C, it was not clear whether the SGB thought that learners should be separated or taught the LO lessons together. The members' position on this issue kept changing. In PT-I, there was a clear split in the SGB about whether to separate the learners for the LO lessons or to teach them together. In both schools, the general consensus that emerged was that learners should be taught the LO curriculum together most of the time, and that for some lessons, male and female learners should be separated. The educator would need to use his/her discretion in deciding which classes to separate or combine. The reason given by those who advocated separation was that some learners might be uncomfortable asking sex-specific questions in the presence of the opposite sex. The case made for male and female learners to be separated was that they could learn more effectively.

Those in favor of teaching male and female learners together argued that "when they do these things [have sex], it is both the girl and the boy. So they should be taught together so that they both know." One participant said that men are often afraid to speak up about their problems, even when they are among other men, so his concern was that when the LO educators separate the learners at school, the boys might be at a disadvantage and would not be given information by the male educator.

The SGB members who were in favor of males and females learning together said that it was a good idea to combine the two sexes because they experience the same things and should therefore learn to protect themselves at the same time.

In KCD-I, most respondents supported teaching both sexes together. Teaching both sexes together also gave both sides a chance to be heard and increased the opportunities for them to learn from each other through, for example, having conversations about how young boys force girls to have unprotected sex, the consequences of this, and what girls think about this issue. In KCD-C, the SGB members thought that it would be best to separate the two sexes during the LO classes. The educator said that s/he had noticed that when discussing topics that focused on females, the female learners in the class were embarrassed, whereas when learning about topics that focused on males, there was more respect shown by both male and female learners.

Only one SGB member in KCD-I was against teaching boys and girls together, but thought the idea of separating the two sexes was not logistically possible given the state of the school. S/he argued that there should be male and female LO educators for each grade, who could teach boys and girls separately. Separating the LO classes, according to the SGB member, would allow learners to engage in a more direct manner, and the LO educators would not find it necessary to use euphemisms to refer to male and female genitalia because they were trying to respect cultural norms of proper conduct. One SGB member in KCD-I said that in his/her experience, boys tended to be more excitable in the LO classes, whereas girls tended to be uncomfortable because they feared that if the educator talked about teenage pregnancy, the

subject would become too personal and embarrassing. The SGB members in KCD-C said that learners with children should also be separated from learners who did not have children, preferably by attending a school exclusively for young parents.

> *Maybe if the government finds that as soon as you get tempted and have a baby, you need to join others who have children and go to a separate school. So that they can talk the same language, you see? Because we call them children, but they are only children when they are in schools. They are old girls with boyfriends. Every Saturday, her boyfriend comes to visit her because she is a grown woman, but at school, we call her a child because she is wearing her school uniform. So let them be taught on their own and let them be taught a common language and be taught about things that they already know, maybe that will help us.* SGB member, KCD-C

SGB members in BL-I disagreed on the appropriate teaching methods. One member felt that learners should receive identical instruction with both genders together, explaining that:

> *…these people are the same, because the education they are receiving will help all of them, and where they do these things, it's the two of them, a male may not be the initiator because a female can also be the initiator, and as a result, they may have sex while they agreed on it.* SGB member, BL-I

Three members believed that boys and girls should be taught separately, enabling LO educators to focus on the specific topics most relevant to each gender. They felt this would reduce distractions and increase comfort.

SGB members in BL-C were also divided with respect to gender separation in the LO classes. One member felt that learners should be separated by gender, further specifying that educators should be of the same gender as their learners. As in BL-I, this BL-C SGB member felt that this would help learners feel comfortable asking questions. However, another parent disagreed, stating that "these topics suit all of them" and that "male and female do these things." They argued that "separating them is…difficult" because, in their experience, children may be more open with parents of the opposite gender.

Summary findings about the SGBs' views on how the LO curriculum should be taught

In general, the SGB members were divided about whether learners should be separated by sex during the teaching of the sexuality part of the LO curriculum. In MP and KZN, this division did not differ between the intervention and the control schools.

The only SGB that took a firm position that learners should be separated was the one in KCD-C.

Perceptions of SMT Members on Teaching Adolescents About Sexuality and HIV Prevention in School in General, and the Sexuality Education Part of the Life Orientation Lessons Specifically

Training of the SMTs

In KCD, the SMTs reported that they had received no training.

In PT-C, the SMT reported that the LO educators attended a three-day training on sexuality and HIV prevention organized by the DBE. One topic discussed during the training was the difficulty that learners had talking to their parents about sex, and they therefore turn to friends, peers, and educators (mostly the LO educators) with whom they have built a trusting relationship. The LO educators were taught how to

relay messages about sexuality to learners in a non-offensive manner, taking into account the learners' cultural and/or religious beliefs. The educators also watched a video at the training session that showed them what to teach. The video was considered to be very graphic (there were clips of STIs in it), but also very educational. One SMT member said that he wanted a copy of the video to show to his class, peers, colleagues, and other youth at the church.

The LO educator said that the training session was helpful not only in terms of teaching educators how to deliver sexuality messages to young people, but also how to do so sensitively. He added that he was highly inspired and influenced by the workshop and the video that was shown there; for days after he had returned to school, he kept sharing with the learners in all his classes everything he had learned during the training. In particular, he told them that he wished that they had had a chance to watch the video, so that they would think twice the next time they attempt to "do things." The general consensus of the group was that the training session helped the LO educators gain more confidence and courage when teaching learners about sexuality.

In PT-I, the SMT said that the LO educators had attended a workshop on sexuality education and the SLPs in 2016. The LO educator said that the training gave her the confidence to teach Grade 8 and 9 learners about sexuality, because she learned how to teach learners according to their age during the workshop. Before then, the educator had had no previous experience teaching LO; she was just given the LO book to use, without any knowledge of the subject.

The BL-I SMT last received training in October 2017. They reported learning that young people were sexually active but not aware of potential risks, that they were not comfortable discussing sexual activities, and that they "considered it a joke." The interviewer in BL-C did not ask the SMT about training.

Summary findings about training of the SMTs

In KCD, the SMT reported that they had not received any training. There were no differences between the control and the interventions schools.

At the PT sites, the LO educators had received training on sexuality education. In PT-C, the LO educators had received a three-day training from the DBE, and those in PT-I had received training on sexuality education and the SLPs in 2016. What they reported to be useful in the training was how to deliver sexuality messages to young people in a sensitive way, taking into account the learners' cultural and/or religious beliefs. This enabled the LO educators to have more confidence teaching the subject.

In BL-I, the SMT received training in October 2017; the question was not asked of the SMT in BL-C.

Comfort with the LO Material

In the KCD sites, the SMT was comfortable with the sexuality, HIV, and pregnancy prevention materials being taught to adolescents at school. The reasons given were that learners were already being exposed to sex and sexuality on television and at least the educator could clarify misconceptions. In KCD-I, the SMT recommended that sexuality education begin at age 16 because learners would be more motivated to take the subject seriously. In KCD-C, the SMT said that it was important for educators to acknowledge the maturity and cognitive levels of the learners when teaching the LO materials

In PT-C, although the SMT members initially said that the LO lessons were very helpful and good for learners, some educators were uncomfortable teaching certain topics related to sexuality. Even with the

advice provided during the training against selective teaching of the curriculum, one respondent stated that his personal biases usually prevented him from teaching learners how to put on or use a condom. (The LO educators were provided with an artificial private part together with other teaching materials, which they were required to use to demonstrate the lesson on condom use.) "I sometimes don't teach that particular aspect. I just tell them that there is a condom and if you are sexually active, make sure you use it." He added that there is a big box of condoms in the staff room, but he never distributes them because he does not want it to seem like he is sending learners to go and have sex, like "These are the condoms. Go and use them." He said that he does not have the confidence to teach learners how to master condom use because doing so would mean that he is sending children out into the world to use them.

Another member of the group added that teaching learners how to put on a condom was wrong, and it was not something that he would even think about teaching his own children. The same respondent also considered certain sections of the LO book to be pornography. He said that learners get excited and there was pandemonium when the educator brings graphic LO textbooks to class.

> *They were so excited, but I was serious and not laughing. When I teach about these things, I don't laugh. In fact, I am so serious because I want my learners to be knowledgeable about these things. They must be knowledgeable and know the end results of these things. Whatever they do, they must know the consequences.* SMT member, PT-C

Adding to these responses, another educator in the group was equally uncomfortable teaching learners about using condoms.

> *I don't go to the extent of telling them that if you happen to sleep* [with someone] *then you must use a condom. I don't preach that. I preach abstinence because that is what they should be doing. What if that condom breaks? You are using a condom and for whatever reason it breaks, what happens? You will be pregnant, you will carry STIs, because these things do happen. So with me, really, I am not comfortable with the part of condoms being pushed to learners.* SMT member, PT-C

According to the SMTs, the insistence that learners be taught how to use condoms was the result of the government putting pressure on the DBE to curb teenage pregnancies in local schools. The educators were therefore forced to teach the learners despite what they thought or how comfortable they felt. Sometimes the schools brought in nurses from the local clinic to help talk to learners about certain sexuality topics that the educators were not comfortable teaching.

In PT-I, the SMT said that they were both comfortable and uncomfortable with what learners were being taught. The discomfort arose because learners were being taught things that they had not yet been taught at home. The LO educator said that when you teach the learners the LO lessons, you have to use euphemisms like "cake" to explain big words because calling it what it is, was considered vulgar. She said that she felt comfortable with the topics covered in the LO curriculum because parents tended to give children vague messages like "don't play with boys." She added that learners did not understand what statements like this meant, so sometimes it was better to just use the technical terms because by the time you educator came up with things like "don't play with boys," "the damage was already done" (in the form of STIs and teenage pregnancies).

The BL-I SMT was comfortable with the LO material, stating that "knowledge is power" and that they therefore do not conceal information from learners. One member elaborated that as educators, they must be free to talk about it because they are "very much aware that not all parents agree with the learners on this topic."

Likewise, the BL-C SMT expressed comfort with all components of the curriculum. In particular, members acknowledged the LO curriculum as an opportunity to provide learners with accurate and appropriate

information as an alternative to media sources, recognizing that "if you don't tell these kids about sex, there is media, they get to see videos, they download things."

Summary findings about the SMTs' comfort with the LO curriculum

The SMTs in KCD and BL were comfortable with what was being taught in the LO curriculum. There were no differences in the responses between the control and the intervention schools.

In PT, the SMT was comfortable teaching some topics in the LO curriculum and not comfortable with other topics. In PT-C, the SMT felt that teaching learners about how to use a condom was wrong and that certain parts of the LO book were too graphic. In PT-I, the SMT raised concern about teaching subjects that had not yet been broached at home.

Teaching the Curriculum

In KCD-I, the SMT was divided in terms of whether learners should be separated by sex during the LO class. Some people believed that learners should be taught together and others thought that they should be separated. One argument supporting the separation of learners was that it would allow the LO educator to speak freely and avoid chaos erupting in the classroom when certain topics were discussed. Those who believed that both male and female learners needed to be taught in the same classroom explained that it allowed them to learn to understand each other. They added that it had never been suggested that life science learners be separated by gender; the subject also teaches learners about sex and reproduction and, therefore, why should this be the case only for the LO classes.

In KCD-C, the SMT felt that learners should be separated during the LO lessons, and that a educator of the same sex should teach each class. They reasoned that it would encourage class participation and put the learners at ease when asking questions. One SMT member said that s/he had noticed that girls tended to be especially shy in the LO classes, and felt embarrassed when the female reproductive system was discussed in class. To ensure that male and female learners were taught the same curriculum, the SMT said that the LO exam should be the same, irrespective of sex. Only one SMT member disagreed. S/he said that teaching learners together was more advisable because it minimized the risk of misunderstandings between the two sexes.

In PT-C, a SMT member said that there were topics that resonated more with either sex, and that s/he did not think that these topics needed to be emphasized to the whole class. Allowing an educator of the same sex to teach the class was identified as something that would increase the learners' level of comfort. In PT-I, the SMT said that learners should be taught together in the same class so that boys can understand girls and girls can understand boys.

In BL-I, the SMT also felt that boys and girls should receive LO instruction together. "What affects boys, it also affect the girls [sic]," said a member. They voiced concern that male and female learners might receive different information if separated by gender. The BL-C SMT agreed that male and female learners should not receive separate LO instruction unless a learner felt uncomfortable or needed private advice. One member elaborated that understanding the reproductive biology of the opposite sex was important preparation for marriage.

> *…they marry, they will stay with a wife and see these things happen, and they will be surprised, so they must know early when they are still young that there is menstruation. On the male side, there is that dream—what do they call it—the wet dreams. So, they must all know these things.* SMT member, BL-C

Summary findings about the SMTs' views on teaching the curriculum

At the KZN sites, there were significant differences about whether male and female learners should be separated when receiving the sexuality education part of the LO curriculum. In KCD, the SMT at KCD-I was divided on whether to separate the sexes when teaching the sexuality education part of the LO curriculum, whereas those in KCD-C felt that learners should be separated. In PT, PT-C said that learners should be separated, whereas the SMT in the intervention school felt that they should be taught together. In BL, there were no significant differences between the control and intervention schools; the SMTs stated that learners should receive instruction together.

Structural Facilitators of and Barriers to the Implementation of School-Based Sexuality and HIV Prevention Education

Facilitators

Across all schools, no or few facilitators were identified in support of the LO curriculum. The SGB in KCD-I indicated that they ensured that the LO educator at that school taught all LO classes. SGB members in BL-I stated that they invited nurses and social workers to come to the school to talk about HIV, in support of the curriculum, but that they could not because of the lack of approval.

SMT and SGB members across most schools suggested two broad strategies that could help the implementation of sexuality and HIV prevention education. First, they stated that schools needed to gain support from parents and community members to support the LO curriculum. For example, one SGB member suggested that the LO educator and the SGB should invite parents/elders from the community to impart indigenous information about sexuality to the learners to supplement what they already knew. Another SGB member suggested that parents should impart information to their children at home, that home instruction would help emphasize the information being taught in the classroom. SMT and SMG members also suggested that a meeting with the learners' parents should be organized to tell them that they should not punish their children when they heard them talking about sexual matters. The meeting could also provide a space for parents to ask LO educators about the curriculum and to familiarize themselves with the LO curriculum.

A related proposal to facilitate the implementation and success of the LO curriculum was to organize a community *Imbizo,*[4] during which adults in the community would be given an opportunity to talk to the learners, the idea being that maybe the learners would listen better to other adults in the community.

The SGB members' second suggested strategy was to strengthen the linkages between the school and the local clinic by bringing clinic staff, such as nurses, psychologists, and social workers, to the LO class to discuss HIV, pregnancy prevention, and sexual abuse. Respondents stated that these people were best placed to emphasize what was happening in the community and to teach young people how to protect themselves.

[4] A gathering or meeting usually called by a traditional leader.

Summary findings about structural facilitators for the implementation of the LO curriculum

No or few structural facilitators were identified in support of the LO curriculum. There were no differences between the control and the intervention schools.

Two main strategies were shared that could facilitate the implementation and success of the LO curriculum:

- Involving and getting buy-in from parents and other adult members of the communities.
- Strengthening the linkages between the schools and the local clinics.

Barriers

Four main structural barriers were identified by LO educators and SMT and SGB members to the implementation of the LO curriculum, two institutional and two cultural/normative. No clear trends emerged between the intervention and the control schools.

LO educators, SMT members, and SGB members cited the lack of time as an institutional barrier to the effective implementation of the LO curriculum. Some respondents implied that this was due to a failure of the school system to prioritize the LO lessons.

> *There is no problem with the subjects; the only issue is the allocation of time for the LO period, which is only twice a week and not enough for the educator to be able to deliver all this information.* SGB member, PT-C

To address the lack of sufficient time to teach the LO classes, the SGB in PT-C proposed that the class be taught three times a week and that a second educator be hired to teach the LO lessons.

Relatedly, the SLPs were said to be very brief and broad, and they did not accommodate slow learners. The SLPs encouraged educators to teach only what was in front of them and cover the whole curriculum in a specified period. The time constraints meant that the educator focused on those learners who understood the material, while slower learners lagged and could not get additional help. However, when using textbooks rather than the SLPs, the educator could identify and cater to the learners' needs and the included activities also accommodated all learners. One respondent suggested improving the lesson guides by dividing the information according to the age group, because certain terminologies sound vulgar to younger learners, who then complained to their parents.

Another institutional barrier was lack of resources. Some respondents shared that there was inadequate money or materials to accomplish their objectives or create a comfortable learning environment. Respondents stated that the funds the government allocated to schools were not sufficient to cover the things that educators needed to teach the LO classes, such as skeletons and other props, and suggested that the government discuss with LO educators the props they need to do their demonstrations. Some SGB members also stated that condoms were not as widely promoted or available in the communities as they should be. There was still a stigma against young people who go to the clinic to get information about or gain access to contraceptives. This lack of access to resources that were promoted in the LO curriculum and sexuality lessons meant that young people often got quickly discouraged from using contraceptives, despite understanding the importance of practicing safe sex.

One cultural/normative barrier was the lack of community and parental support for the LO classes. This made it challenging for educators to inform learners and give them as much information as possible, because when they went home and told their parents what they were being taught at school, the parents would accuse the educators of teaching their children bad language (i.e., swearing) and bad habits (often

sexually-related). The clash between the learners and their communities arose because the communities were not adequately informed about the LO curriculum. Respondents suggested finding ways to inform the communities about what learners were being taught.

Another cultural/normative barrier was the adults' disillusionment with the community and societal structures, and their perceived inability to impact learner behavior, home life, and community conditions.

> *It's because these kids get taught, but at the end, they don't take what they are being taught. When they get involved in sex, they do it in a wrong way… when they are being taught a proper behavior, they don't do that, even here at school, they can even have sex here at school. So, the kids are not understanding the curriculum.* SMT-member, BL-I

A less often mentioned but important barrier identified was language. Respondents stated that young people could better grasp difficult concepts when these concepts were taught to them in their mother tongue, because they could then relate the concepts to their own experiences. Teaching difficult concepts in English made it harder for learners to understand.

Summary findings about institutional barriers to the implementation of the LO curriculum

No clear trend emerged between the intervention and the control schools.

To summarize, the institutional and cultural/normative challenges mentioned were:

- Lack of time
- Lack of resources
- Community perceptions
- Discouragement and disillusionment
- Language

DISCUSSION

This qualitative study found some differences related to the LO curriculum and materials, and broader structural factors, between the intervention and the control schools and between male and female learners.

Most learners interviewed had positive perceptions of and experiences with the LO curriculum, and there were no meaningful differences between the control and intervention schools. However, learners' recollections of specific LO topics differed by school and gender, where in PT and KCD, male learners in the intervention schools could remember specific lessons, such as "prevention and symptoms" and "pregnancy prevention," whereas male learners in the control schools reported more generally what they recalled learning (e.g., "how to protect myself when having sex"). Similarly, in BL, female learners in the intervention school could name HIV and pregnancy prevention as specific topics they enjoyed, whereas those in the control school could not recall topics covered in the LO class. This indicates that the SLPs in the intervention schools were successful in helping LO educators impart specific information about sexuality and HIV prevention education, and that the LO educators did so in a manner that helped learners remember what they had learned even about one year after they had been exposed to the information.

Despite learners in the intervention schools remembering specific topics taught in the LO class, many learners in these schools struggled to share specific ways or examples of applying the knowledge and skills gained from the LO class. This limitation was likely related to lack of time, which the LO educators and SMT and SGB members pointed to as a barrier to implementing the LO curriculum effectively. Although imparting facts and figures to learners is straightforward, implementing strategies to ensure that knowledge is translated into improved skills and behavior change requires substantially more time, especially given that more interactive strategies, such as role playing, are required.

In general, parents seemed comfortable knowing that their children were learning about sexuality, and about HIV and pregnancy prevention and, in theory, supported the teaching of these subjects in the schools. However, the parents were not familiar with the content of the LO curriculum, and LO educators and SMT and SGB members pointed to some parents' lack of knowledge that their children were even learning these subjects in school (and other parents' lack of knowledge of the specific information their children were learning) as a barrier to the LO curriculum and the LO educators successfully changing learners' attitudes and behaviors.

Parents were divided about whether boys and girls should be separated for the LO classes, with some parents stating that adolescents needed to understand the biology and issues of the opposite sex, and other parents stating that combining males and females in the LO class made it more uncomfortable for the learners. Relatedly, learners reported that during some LO classes, male learners were disruptive, making jokes about sex and other issues, whereas some female learners were shy to ask questions or to speak up in class. Such feedback indicated the need to more closely examine the costs and benefits of teaching the LO lessons to both sexes in the same classroom.

The training for LO educators in the intervention schools increased the educators' comfort teaching sexuality and HIV prevention. This was indicated by the fact that the LO educators in the control schools stated that they were not comfortable teaching the sexuality part of the LO curriculum, whereas most LO educators in the intervention schools were comfortable. However, the LO educators in the control schools also stated that they found the LO guide useful, whereas those in the intervention schools did not find the SLPs useful. This may be the result of the SLPs being a newer tool, and the LO educators needing more

time to become accustomed to using the SLPs, especially in light of the newer, less didactic teaching methods promoted in the SLPs.

SGB and SMT members across the schools were comfortable with and encouraged the teaching of the sexuality and HIV prevention sections of the LO curriculum. However, they offered no or few ways in which they could provide support for the implementation of the LO curriculum, indicating that although they may support the teaching of sexuality and HIV prevention in the schools in theory, they may not view it as a priority.

Limitations

This qualitative study had several limitations. First, social desirability bias may have affected the responses provided by participants. This is a particular concern among learner respondents who were being interviewed at school and may have felt like they were being tested. LO educators may also have felt that their performance as educators was being evaluated and thus provided responses that showed themselves and their schools in a more favorable light. Although the consent procedures emphasized that learner and educator performance were not being evaluated, respondents may not have fully believed it.

Second, in the PT district, the interview guides for the intervention and the control schools were switched, and the control schools were asked additional questions about the intervention. This likely confused some participants, who may not have provided valid responses. Respondents at the intervention schools were not asked the additional questions about implementation of the SLPs, thereby contributing to the lack of complete information from intervention schools.

Moreover, issues of translation (from English to local languages) made have affected the validity of the data collected on self-efficacy and sexual consent, especially because there is not a translation for "sexual consent" in the local languages. Therefore, when the interviewer asked the question "Do you know what sexual consent is?" s/he had to translate the concept of sexual consent into a local language, thus often providing the answer, at least partially, to the question s/he had just asked.

Finally, questions about the structural facilitators and barriers, e.g., "How does the SGB/SMT support the teaching of the LO curriculum/SLP education in this school?", " What, if any, institutional challenges does the school face in implementing the LO curriculum/SLPs?" in the interview guide were not well understood by many participants. Many participants either did not answer these questions, or provided responses about general support and general challenges instead of specific support for teaching the LO curriculum and specific structural challenges.

RECOMMENDATIONS

The effectiveness of the SLPs can be enhanced by focusing on two areas of activity implementation before national rollout: educator training and parent training/involvement. Two additional areas of focus for longer-term consideration are offered: material development and clinic/nurse involvement.

Short-Term Recommendations

Educator Training

The DBE and EDC should increase the focus of educator training on interactive learning strategies, such as role playing. Scripts that learners can use to practice communication should be provided, and the LO educators should be encouraged to have learners practice the scripts in their local language. This approach may help learners internalize the information they gain from the SLPs and relate the lessons to their own lives. Educator training should also emphasize the lack of long-term effectiveness of using shaming methods with learners, such as making examples of particular learners who are known to be pregnant or who engage in risky behavior. Separating male and female learners during select lessons, or parts of some lessons, may increase the comfort of some learners, especially females, and the depth of classroom discussion. Educators may address the potential challenges arising from gender segregation (for example, learners not receiving the same information) by conducting part of a lesson together, and then separating learners to allow girls a safe space to ask questions.

Parent Training and Involvement

Given the high level of support for the sexuality portion of the LO lessons, future training sessions and workshops to educate and involve parents could include a review of the curriculum content; and a review of the general myths and misperceptions around sex, HIV, and pregnancy. Given traditional and cultural structures in South Africa, training/workshop facilitators could encourage parents to bring their children's aunts/uncles or other adults responsible for home-based sexuality education with them to the training sessions/workshops.

Long-Term Considerations and Recommendations

Material Development

The DBE and EDC should consider developing addition job aids, including visual materials, for LO educators. Comic books or graphic novels may be particularly well-received by youth. For example, comic books were used as part of a communication strategy in Botswana to reduce cross-generational sex between school girls and sugar daddies (Matheson, 2017).

Clinic/Nurse Involvement

As part of the sexuality and HIV prevention activity's focus on linkages and increased access to youth-friendly sexual and reproductive health care services, the DBE and EDC could also put in place a system for schools to explore opportunities to request nurses or other health care providers from the nearest clinic to attend an LO class to meet the learners. This would help learners become familiar with the nurses and other health personnel working in their communities, and potentially increase their comfort with going to the clinic for services or information.

CONCLUSION

This qualitative study reveals that learners are interested in sexuality education, and the SLPs are helping learners gain and retain specific pieces of information about sexuality and HIV prevention. The SLP training that the LO educators received has helped them become comfortable teaching the sexuality and HIV prevention education portions of the LO curriculum. There is widespread support from parents and SMT/SGB members for the teaching of sexuality education in schools. Schools can leverage this support to increase the effective implementation of the SLPs and sexuality and HIV portions of the LO curriculum by increasing communication with the learners' parents and ensuring that parents and other stakeholders in the communities are aware of both the content of the LO curriculum and the need to teach the material for better health outcomes among adolescents.

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APPENDIX A. QUALITATIVE IN-DEPTH INTERVIEW GUIDE FOR FEMALE LEARNERS

Name of Interviewer:	
Date of Interview:	
Name of School:	
Location of Interview:	
Length of Interview:	
Participant Code:	

INTRODUCTION: In our discussion today, I'm interested in your experiences learning about sexuality and HIV prevention through the life orientation curriculum. Please try to answer as honestly and fully as you can.

I'd like to first ask you a few questions about you and school.

1. How old are you?
2. What grade are you in? (RESPONDENT SHOULD BE IN GRADE 10. IF NOT, STOP INTERVIEW)
3. When did you first attend this school? (IF The year 2018 IS THE FIRST YEAR RESPONDENT ATTENDED THIS SCHOOL, STOP INTERVIEW)
4. (ASK IN INTERVENTION SCHOOLS ONLY) 3Have you seen this workbook before? (SHOW RESPONDENT THE SLP LEARNER WORKBOOK)
5. Who looks after you?
6. A) Is your mother still alive? B) Is your father still alive?

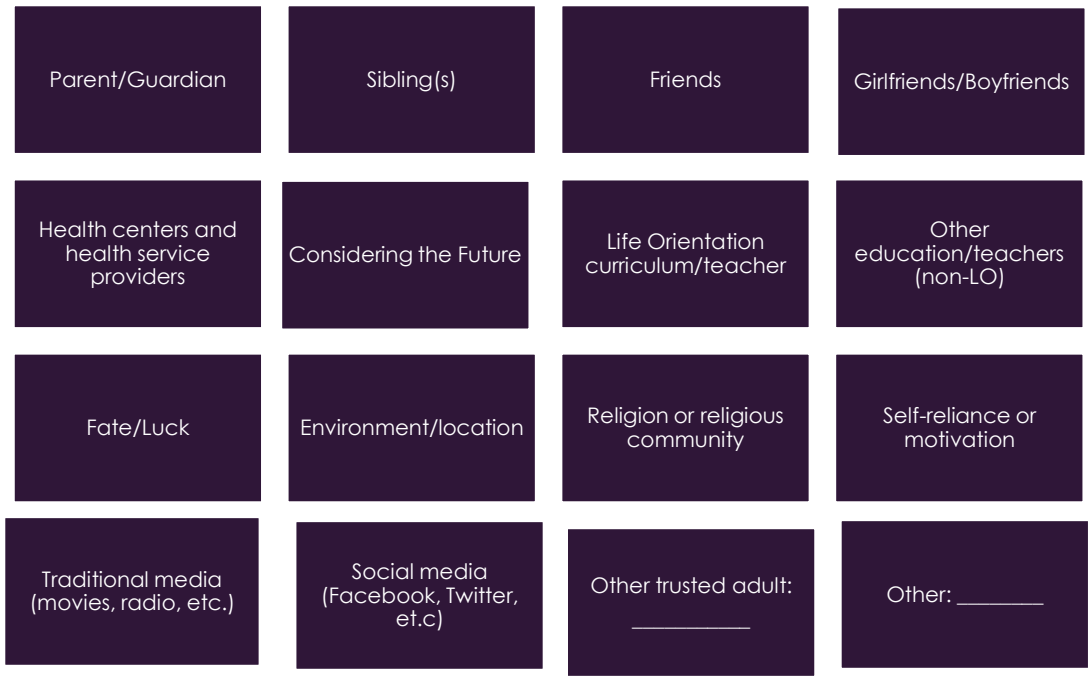
Participatory Rank Order Activity

Now we'd like to do a short activity with you.

EXPLAIN THAT FOR EACH QUESTION, THE YOUTH WILL ARRANGE THE CARDS IN ORDER OF MOST IMPORTANT OR BIGGEST INFLUENCE TO LEAST INFLUENCE.

CARDS WILL INCLUDE: CAREGIVER(S), SIBLING(S), FRIENDS, GIRLFRIENDS/BOYFRIENDS, HEALTH SERVICE PROVIDERS, CONSIDERING THE FUTURE, LIFE ORIENTATION CURRICULUM/EDUCATOR, OTHER EDUCATION/EDUCATORS, TRADITIONAL MEDIA (INCLUDING MOVIES, RADIO, ETC), SOCIAL MEDIA (INCLUDING FACEBOOK, TWITTER, ETC.), FATE/LUCK, ENVIRONMENT/LOCATION, RELIGION OR RELIGIOUS COMMUNITY, SELF-

RELIANCE/MOTIVATION, BLANK CARDS FOR YOUTH TO WRITE OR DRAW OTHER INFLUENCES.



Instructions:

REMIND THE YOUTH THAT THEY CAN INCLUDE THE SAME CARDS IN AS MANY ANSWERS AS THEY LIKE. ENCOURAGE YOUTH TO CREATE CARDS IF THERE ARE FACTORS THAT ARE NOT INCLUDED ON THE CARDS PROVIDED.

AFTER EACH QUESTION, DISCUSS WHY THE YOUTH PLACED THE CARDS IN THE ORDER THEY DID, WHAT ASPECTS OF THOSE PEOPLE/INSTITUTIONS WERE MOST HELPFUL OR AFFECTIVE (OR LIMITING/CHALLENGING) IN INFLUENCING THE QUESTION AT HAND (E.G. SUCCESS OR CHALLENGES IN PREGNANCY/HIV PREVENTION). PROBE FOR MORE INFORMATION ON WHO/WHY/HOW THESE FACTORS WERE PERCEIVED AS HELPFUL OR POSITIVE INFLUENCES, OR CHALLENGING/NEGATIVE INFLUENCES.

Questions:

1. Please order the top 3-5 influences that help you make informed decisions about sex.
2. Please order the top 3-5 challenges in making informed decisions about sex.
3. Please order the top 3-5 influences that help you access sexuality, pregnancy, and HIV-related knowledge or services
4. Please order the top 3-5 challenges when trying to access sexuality, pregnancy and HIV-related knowledge or services
5. Please order the top 3-5 influences that help young people remain negative for HIV or other STIs??
6. Please order the top 3-5 challenges young people have when trying to remain negative for HIV or other STIs?

In-Depth Interview Guide

Now we'd like to learn a little more about your experience with the Life Orientation curriculum

General – LO Curriculum and LO Educator

1. What are some topics you remember from your class (RESPONENT FREE-LISTS TOPICS; INTERVIEWER TICKS LIST OF TOPICS BELOW):

    - Setting goals
    - Hormonal contraception
    - Using Condoms/Barriers to condom use
    - Having one partner at a time
    - Using sexual and reproductive health resources in the community
    - Challenges of parenthood
    - Sexual consent
    - Power and control in relationships
    - STIs, HIV, and AIDS
    - Stigma
    - Healthy and unhealthy messages on gender
    - Other:

2. How interesting or enjoyable were the LO classes for you?
    PROBES:
    a. What about the lessons was interesting and enjoyable?
    b. Which class activities/exercises were most interesting and enjoyable?
    c. What about the lessons was not interesting and not enjoyable?
    d. Which class activities/exercises were least interesting and enjoyable?
3. How relevant/pertinent to your life were the LO classes? (INTERVIEWER GIVES COPY OF GRADE 9 LO CURRICULUM LEARNER BOOK TO RESPONDENT)
    PROBES:
    a. Which lessons from Grade 9 were the most relevant/pertinent to you? What made them relevant to your life?
    b. Which lessons from Grade 9 were least relevant/pertinent to you? What made them irrelevant to your life?
    c. Are there any topics around sexuality and HIV and pregnancy prevention that are important or relevant to you that were not covered in Grades 8 or 9? Which ones?
4. Did your educator give you enough information on sexuality and HIV and pregnancy prevention?
    PROBES:
    a. What about hormonal contraception?
    b. What about using condoms or having one partner at a time?
    c. What about healthy and unhealthy messages on gender?
    d. What else could the educator have told you about any of these topics?
5. How **comfortable** was the LO educator with teaching about sexuality and HIV and pregnancy prevention?
    a. What topics was the LO educator most comfortable with?
    b. What topics did it seem the LO educator was least comfortable with?
    c. How did the educator's comfort with the topic affect the class reception or understanding of the lesson?
    d. Did the educator encourage learners to ask questions? If so, were learners comfortable enough to ask questions?

Gender, Power and Control

6. Explain what you learned about power and control in relationships from the LO curriculum
7. In what ways does a power imbalance between women and men have an impact on HIV and AIDS?
8. In what situations do you think it is acceptable for a male partner to beat his girlfriend or wife?
   PROBES:
   - What if the girlfriend disrespects her partner?
   - What about if a she cheats on her partner?
9. How has the LO curriculum changed the way you think about gender, power, and control within relationships?

Sexual Consent

10. Explain sexual consent
11. How has the LO curriculum changed the way you think about sexual consent?

PROBES:

- What about better knowledge about how to ask for sexual consent?
- What about feeling more confident to say no to sex/dates?

12. What did you learn from the LO curriculum that will help you clearly ask or give sexual consent in the future? What will you do differently than before?

Decisions and Communication Around Sexual Behavior

13. How has the LO curriculum influenced your decisions around sex? (*PROBE WITH THE FOLLOWING QUESTIONS DEPENDING ON HOW LEARNER ANSWERED THIS FIRST QUESTION*)
14. How did the LO curriculum impact your ability to make decisions around:
    a. Delaying sex or not having sex?
    b. Your ability to not have sex even if you've had sex before?
    c. Decisions around condom use?
    d. Methods of preventing pregnancy?
    e. Ability to be assertive about your decision regarding condom use?
15. What did you learn in the LO curriculum about being assertive in making decisions about sex?
16. How has the LO curriculum influenced anything about your relationships and sexual decision making?
17. How did the LO curriculum prepare you to communicate more effectively around sex?
    a. How did it impact your ability to talk openly about sex with your partner?
    b. Ability to be assertive in negotiating sex?

HIV

18. What have you learned about STIs and HIV from the LO curriculum?
19. I don't want to know the results, but have you ever had an HIV test?

- If so, when was the test?

20. I don't want to know the results, but did you get the results of the test?
    - If not, why did you not get your results?

21. What made you decide to get an HIV test?
    PROBES:

    - Was there anything else that influenced your decision to get an HIV test?
    - Did the curriculum help your decision to get an HIV test?

22. How, if at all, did the LO curriculum or the LO educator help you get an HIV test?
23. How, if at all, have you changed your behavior to protect yourself from HIV based on what you learned in the LO curriculum?
24. How do you think the LO curriculum has changed your understanding of HIV and AIDS or your ability to remain HIV-negative?

Pregnancy

25. What have you learned about pregnancy and pregnancy prevention from the LO curriculum?

26. Can you give a few examples of ways to prevent pregnancy?
PROBES:

    - What are you doing to protect yourself from getting pregnant?
    - What are other behaviors females can practice to keep from getting pregnant?

27. Can you give a few examples of ways males can prevent pregnancy?
28. What did you learn about sexual and reproductive health resources in your community?
29. How do you feel about visiting a clinic or provider about reproductive health resources?
30. How do you think the LO curriculum has influenced your understanding of pregnancy or your ability to not become pregnant?

    PROBES: What about:

    - practicing abstinence?
    - self-efficacy in saying no to sex?
    - learning about different contraceptive methods?
    - knowing where to get contraception?

31. How, if at all, have you changed your behavior regarding pregnancy based on what you learned from the LO curriculum?

We almost to the end of the interview. I have one last question for you

32. Is there anything else you'd like to tell me about your perceptions of and experience with the LO curriculum?

Closing

Thank you very much for your time and sharing your knowledge and opinions. The information you have provided will help people here in your community and throughout South Africa develop and improve programs to stop the spread of HIV and help those who need services get them. As a reminder, we will not share the discussion recordings with anyone outside the study team and you will not be identified in any results we share with others. Thank you for participating in the discussion today.

APPENDIX B. QUALITIVE IN-DEPTH INTERVIEW GUIDE FOR MALE LEARNERS

INTERVIEWER TO FILL OUT THIS SECTION		
Name of Interviewer:		
Date of Interview:		
Name of School:	□ **Malamule** □ **Uxolophambili** □ **Yanguye**	□ **Mahuvo** □ **Imbeka** □ **Mkhombisi**
Location of Interview	□ **Indoors** □ **Outdoors**	
Language of Interview (Check all that apply)	□ **XiTsonga** □ **Sepedi** □ **Other:** _____	□ **IsiZulu** □ **English** □ **Other:** _____
Participant is Eligible? (Currently in Grade-10; AND was in Grade 9 in 2017; AND attended same school in 2017)	□ **Yes** □ **No**	
Participant Code (The last 3 digits of file name you will use to save the recording to Dropbox):		
Start Time:		
End Time:		

INTRODUCTION: *Welcome. Thank you for being here. My name is _____ and I work with SADC. We are trying to understand what you and other Grade 10 learners think about some of the things you are learning in school. We are especially interested in what you think about the sexuality and HIV prevention portion of the life orientation curriculum. The information you share will be help us understand how well the curriculum is working. As we explained we will not use your name or otherwise identify you personally in the analysis and reporting of the results of our discussion today.*

I'd like to first ask you a few questions about you and school.

1. How old are you?
2. What grade are you in? (RESPONDENT SHOULD BE IN GRADE 10. IF NOT, STOP INTERVIEW)
3. When did you first attend this school? (IF THE YEAR 2018 IS THE FIRST YEAR RESPONDENT ATTENDED THIS SCHOOL, STOP INTERVIEW)
4. (ASK IN INTERVENTION SCHOOLS ONLY) Have you seen this workbook before? (SHOW RESPONDENT THE SCRIPTED LESSON PLAN LIFE ORIENTATION LEARNER WORKBOOK)
5. Who looks after you?
6. A) Is your mother still alive? B) Is your father still alive?

Participatory Rank Order Activity

INSTRUCTIONS:

TELL THE LEARNER THAT YOU WOULD NOW LIKE TO PLAY A GAME USING SOME CARDS. THE CARDS REPRESENT PEOPLE AND THINGS.

PLACE EACH CARD ON A TABLE AND EXPLAIN THE MEANING OF EACH CARD AS YOU PLACE IT DOWN (*Ex: Parent/Guardian means mother or father; Sibling means brother or sister*). MAKE SURE ALL THE CARDS ARE VISIBLE, SO THE LEARNER CAN SEE THEM ALL AT THE SAME TIME. LET THE LEARNER LOOK THEM OVER FOR A MINUTE. EXPLAIN THAT YOU WILL ASK THE LEARNER A FEW QUESTIONS AND WOULD LIKE HIM TO CHOOSE 3-5 CARDS AND PLACE THEM IN ORDER OF MOST IMPORTANT TO LEAST IMPORTANT FOR THAT QUESTION. TELL THE LEARNER HE CAN CHOOSE THE SAME CARDS FOR AS MANY ANSWERS AS HE LIKES.

YOU CAN GIVE THE LEARNER AN EXAMPLE USING THE CARDS TO HELP HIM UNDERSTAND THE GAME. FOR EXAMPLE:

If I was playing this game, and you were asking me questions and you asked me to order the top 3-5 people or things that helped or supported me in completing my studies I would choose _____, _____, and _____.Then, if you asked me to order the top 3-5 people or things that made it difficult for me to complete my studies then I would choose _____, _____, and _____.

ASK THE LEARNER IF HE UNDERSTANDS THE GAME. ONCE HE UNDERSTAND, PROCEED TO QUESTION #1.

AFTER EACH QUESTION, DISCUSS WHY THE LEARNER PLACED THE CARDS IN THE ORDER HE DID AND WHAT ASPECTS OF THOSE PEOPLE OR THINGS WERE MOST

HELPFUL (OR MOST PROBLEMATIC) IN INFLUENCING HER. PROBE FOR MORE INFORMATION ON WHO/WHY/HOW THE LEARNER PERCEIVES THESE PEOPLE OR THINGS AS HELPFUL/POSITIVE, OR CHALLENGING/NEGATIVE.

Questions:

1. Please order the top 3-5 people or things that help or support you in make informed decisions about sex.
2. Please order the top 3-5 people or things that make it difficult or are problematic for you to make informed decisions about sex.
3. Please order the top 3-5 people or things that help you or make it easy to access sexuality, pregnancy, and HIV-related knowledge or services.
4. Please order the top 3-5 people or things that make it difficult or are problematic for you to access sexuality, pregnancy, and HIV-related knowledge or services.
5. Please order the top 3-5 people or things that help or support young people stay negative for HIV or other STIs.
6. Please order the top 3-5 people or things that make it difficult or are problematic for young people to stay negative for HIV or other STIs.

In-Depth Interview Guide

Now we'd like to learn a little more about your experience with the Life Orientation curriculum

Section A. General – Sexuality and HIV Prevention Lessons of LO Curriculum and LO Educator

1. How interesting or enjoyable were the LO classes on sexuality and HIV and pregnancy prevention?

   PROBES:
   a. What about the lessons was interesting and enjoyable?
   b. Which class activities/exercises were most interesting and enjoyable?
   c. What about the lessons was not interesting and not enjoyable?
   d. Which class activities/exercises were least interesting and enjoyable?

2. What are some other topics related to sexuality and HIV and pregnancy prevention that you remember from your Grade 9 or Grade 8 LO class (**DO NOT** READ THE LIST BELOW. RESPONDENT FREE-LISTS TOPICS).

   - Setting goals
   - Hormonal contraception
   - Using Condoms/Barriers to condom use
   - Having one partner at a time
   - Using sexual and reproductive health resources in the community
   - Challenges of parenthood
   - Sexual consent
   - Power and control in relationships
   - STIs, HIV, and AIDS
   - Stigma
   - Healthy and unhealthy messages on gender
   - Other:

3. FOR INTERVENTION SCHOOLS ONLY: How relevant/pertinent to your life are the LO classes on sexuality and HIV and pregnancy prevention? (INTERVIEWER GIVES COPY OF GRADE-9 LO CURRICULUM LEARNER BOOK TO RESPONDENT)
   PROBES:
   a. Which lessons from Grade 9 are the most relevant/pertinent to you? What makes them relevant to your life?
   b. Which lessons from Grade 9 are least relevant/pertinent to you? What makes them irrelevant to your life?
   c. Is there any topic around sexuality and HIV and pregnancy prevention that are important or relevant to you that was not covered in Grades 8 or 9? Which one?

4. Did your educator give you enough information on sexuality and HIV and pregnancy prevention?
   PROBES:
   a. What about hormonal contraception?
   b. What about using condoms or having one partner at a time?
   c. What about healthy and unhealthy messages on gender?
   d. What else could the educator have told you about any of these topics?

5. How comfortable was the LO educator with teaching about sexuality and HIV and pregnancy prevention?
    a. What topics was the LO educator most comfortable with?
    b. What topics did it seem the LO educator was least comfortable with?
    c. How did the educator's comfort with the topic affect the learners' reception or understanding of the lesson?
    d. Did the educator encourage learners to ask questions? If so, were learners comfortable enough to ask questions?

Section B: Gender, Power and Control

Now we are going to talk about gender, power, and control.

6. In what ways does power imbalance between women and men have an impact on HIV and AIDS?

7. In what situations do you think it is acceptable for a male partner to beat his girlfriend or wife? *PROBES:*

    - What if the girlfriend disrespects her partner?
    - What about if a she cheats on her partner?

Section C: Sexual Consent

8. Do you know what sexual consent is? (IF NO, SKIP THIS SECTION AND GO TO SECTION D ON DECISION AND COMMUNICATION AROUND SEXUAL BEHAVIOR)
9. IF LEARNER SAID YES TO QUESTION 10: How would you explain what sexual consent is?
10. How important do you think it is to have sexual consent from both partners before having sex?
11. If you wanted to have sex, how would you ask a boyfriend or girlfriend for sexual consent?
12. If you did not want to go on a date or have sex, how would you say no?

Section D. Decisions and Communication Around Sexual Behavior

13. I would like to know if and how the LO curriculum has influenced your decisions and communication around sex. Can you tell me about that?

PROBE WITH QUESTIONS #14 and #15 DEPENDING ON HOW LEARNER ANSWERS QUESTIONS #13. SELECT ONLY A FEW QUESTIONS UNDER #14 AND #15 TO PROBE WITH SO YOU ARE NOT REPEATING YOURSELF.

14. *PROBE*: How did the LO curriculum impact your ability to make decisions around:

    - Delaying sex?
    - Not have sex even if you've had sex before?

- Using condoms?
- Methods for preventing pregnancy?

15. *PROBE*: How did the LO curriculum prepare you to communicate more effectively around sex in terms of your ability to:

    a. Talk openly about sex with your partner?
    b. Be assertive in negotiating sex?

Section E. HIV

Now I am going to ask you a few questions on HIV.

16. I don't want to know the results, but have you ever had an HIV test?
    - If so, when was the test?

17. IF YEST TO QUESTION 16: I don't want to know the results, but did you get the results of the test?
    - If not, why did you not get your results?

18. What made you decide to get an HIV test (or not get an HIV test)?

    PROBES:

    - Was there anything else that influenced your decision to get an HIV test (or not get an HIV test)?

19. How, if at all, did the LO educator influence you get an HIV test (or not get an HIV test)?

Section F. Pregnancy

Next, we are going to talk about pregnancy and preventing it.

20. Can you give a few examples of ways males can prevent pregnancy?

PROBES:

- What are you doing to protect a girl from getting pregnant?
- What are other behaviors males can practice to keep a girl from getting pregnant?

21. Can you give a few examples of ways females can prevent pregnancy?

22. What do you know about sexual and reproductive health resources in your community?

23. How do you feel about visiting a clinic or provider about reproductive health resources? Would you be comfortable? Why or why not?

We almost to the end of the interview. I have one last question for you

24. Is there anything else you'd like to tell me about your perceptions of and experience with the LO curriculum, and how it influenced you and your behaviors?

Closing

Thank you very much for your time and sharing your knowledge and opinions. The information you have provided will help people here in your community and throughout South Africa develop and improve programs to stop the spread of HIV and help those who need services get them. As a reminder, we will not share the discussion recordings with anyone outside the study team and you will not be identified in any results we share with others. Thank you for participating in the discussion today.

APPENDIX C. FOCUS GROUP DISCUSSION GUIDE FOR PARENTS/CAREGIVERS

<table>
<tr><td colspan="3">FACILITATOR TO FILL OUT THIS SECTION</td></tr>
<tr><td>FGD Facilitator:</td><td>FGD Observer:</td><td>Date:</td></tr>
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□ Uxolophambili
□ Yanguye
□ Mahuvo
□ Imbeka
□ Mkhombisi</td><td>Location of Interview:
□ Indoor
□ Outdoor</td></tr>
<tr><td colspan="2">Language of Interview (Check all that apply):
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□ Sepedi
□ Other: _____
□ IsiZulu
□ English
□ Other: _____</td><td>Gender of FGD participants:
□ Males
□ Females</td></tr>
<tr><td>Participant Number: (ex: F1, F2)</td><td>Start time:</td><td>End time:</td></tr>
<tr><td colspan="3">Focus Group Participant Demographics
After informed consent, ask each participant to fill this form, either through written or verbal answers.</td></tr>
<tr><td>How old were you on your last birthday?
○ 18-19
○ 20-24
○ 25-29
○ 30-34
○ 35-39
○ 40-44
○ 45-49
○ 50-54
○ 55-59
○ 60-64
○ 65-69
○ 70-74
○ 75-79</td><td>What is your highest level of education?
○ Some primary school
○ Completed primary school
○ Some secondary school
○ Completed secondary school
○ Some post-secondary
○ Completed post-secondary</td><td>Currently, what is your marital status?
○ Single (never married)
○ Married, or in a domestic partnership
○ Widowed
○ Divorced
○ Separated</td></tr>
<tr><td>How many children you are living in your home?
○ 1
○ 2
○ 3
○ 4 or more</td><td></td><td></td></tr>
</table>

Introduction to Focus Group Participants

Welcome. Thank you for being here. My name is _____ and I work with _____.As we explained during the informed consent process, we are trying to understand what parents and guardians think about some of the topics that adolescents ages 14-19 years old are learning about in school. We are especially interested in what parents and primary caregivers think about adolescents (again, ages 14-19 years) learning about sexuality and HIV prevention in school. The information you provide will be used to revise curricula and related programs for adolescents in school. We will not use your names or otherwise identify you personally in the analysis and reporting of the results of our discussion today.

Ground Rules

We encourage everyone to participate, knowing there are no right or wrong answers. Speak up if you agree or disagree with someone, as we want to understand everyone's experiences and opinions. Everyone in this room has agreed to keep the conversation confidential, but, we ask you not to share any personal details. Please instead use your participant ID number (F1, F2, etc.) to identify yourself before you speak, and identify others with their participant ID numbers when you want to refer to them. We will record this discussion to help us capture everything we need for the analysis and summary, but we will not identify you personally. We ask that you please put your phones on silent or vibrate and if you need to take a call please step outside, so we are able to hear the recorded discussion again at a later time. This discussion will take about an hour. Do you have any questions before we get started?

Icebreaker

If you could visit any place in South Africa, or in the world, where would you go and why?

FOCUS GROUP QUESTIONS

INTRO: In our discussion today, I'd like you to think about your own adolescent children or the children you take care of – and about your friends' adolescent children or the adolescent children they take care of. I'm particularly interested in understanding perceived barriers/facilitators to sexuality education, how you feel about the things children learn in school, and how you think your friends feel about the things they learn in school on sexuality, HIV and pregnancy. Please try to answer as honestly and fully as you can.

1. Adolescents who are 14-19 years old in school are learning about sexuality and HIV and pregnancy prevention. What do you think and how do you feel about adolescent girls and boys learning about these things in school? How do you think your friends with adolescents feel about their children learning about these things in school?

Probes

1.1. Are there places other than in school that adolescent girls and boys should learn about these things? At home? From parents and siblings? From friends? From health care/service providers? From religious or community leaders?
1.2. How important is it that both boys and girls learn about these things? (IF NOT EQUALLY IMPORTANT FOR BOTH BOYS AND GIRLS TO LEARN): Why is it more important for girls/boys to learn about these things?
1.3. What is the most important thing for **girls** to learn about regarding sexuality, pregnancy, and HIV?

1.4. What is the most important thing for **boys** to learn about regarding sexuality, pregnancy, and HIV?

2. There is a specific curriculum/material that schools are using to teach adolescent girls and boys about sexuality and HIV and pregnancy prevention. How much do you know about/how familiar are you with this specific curriculum and material? What do you think/how do you feel about this curriculum and material?

Probes

2.1. Do your adolescents bring home work sheets/homework or talk about this curriculum or material? What has your adolescent said about what they are learning? Have you seen any behavior or knowledge changes you think may be from this curriculum?

2.2. Do you think the material you've seen is correct? Or are there things you believe they are learning that are incorrect? If you think there is some incorrect information, what parts are incorrect?

2.3. Is the material acceptable to you, or is too explicit/not appropriate for adolescents in school?

2.4. How much, if at all, does the material help you talk with your adolescent children/the children you are taking care of about sexuality, HIV and pregnancy?

3. (IN INTERVENTION SCHOOLS: INTERVIEWER DISTRIBUTES COPIES OF GRADE 8 AND GRADE 9 LEARNER BOOKS OF SCRIPTED LESSON PLANS TO PARENTS SO THEY CAN REVIEW. SHOW YELLOW COVER OF BOOKS). How many of you have seen these books? What do you think about the lessons in these books? How comfortable are you with your child learning this in school?

   (IN CONTROL SCHOOLS: INTERVIEWER DISTRIBUTES COPIES OF GRADE 8 AND GRADE 9 LEARNER BOOKS OF SCRIPTED LESSON PLANS TO PARENTS SO THEY CAN REVIEW). Some schools are using these books to educate learners on sexuality and HIV and pregnancy prevention. What do you think about the lessons in these books? How comfortable would you be if your child were learning this in school?

Probes

3.1. What do you think about lesson 9.2 on hormonal contraception (page 29 with pictures)? What do you like and dislike about this lesson?

3.2. What do you think about lesson 9.3 on using condoms? (page 36-39 with pictures)? What do you like and dislike about this lesson?

3.3. What do you think about lesson 9.9 on power and control in relationships? (pages 77-80 with pictures)? What do you like and dislike about this lesson?

3.4. What do you think about both male and female adolescents receiving this information? Do you think it is more appropriate for girls or boys, or equally important? Please explain.

3.5. Are there any topics that should be discussed more in-depth with girls or boys specifically? Any topics that should be avoided with girls or boys?

4. Parents are an important component of adolescents learning about sexuality and HIV prevention. How involved are you or other parents that you know in your adolescent children's education on sexuality, HIV and pregnancy prevention?

Probes

4.1 What makes it difficult for parents to be involved in their adolescent children's education on sexuality, HIV and pregnancy?

4.2 What helps parents to be involved in their adolescent children's education on sexuality, HIV and pregnancy?

4.3 What do you think would help parents to be more involved in their adolescent children's education on sexuality, HIV and pregnancy?

5. We've come to the end of my questions. Is there anything else you'd like to tell me about your perceptions of your children/the children you take care of learning about sexuality and HIV and pregnancy prevention in school?

Closing

Thank you very much for your time and sharing your knowledge and opinions. The information you have provided will help people here in your community and throughout South Africa develop and improve programs to stop the spread of HIV and help those who need services get them. As a reminder, we will not share the discussion recordings with anyone outside the study team and you will not be identified in any results we share with others. Thank you for participating in the discussion today.

APPENDIX D. QUALITATIVE IN-DEPTH INTERVIEW GUIDE FOR LIFE SKILLS/LIFE ORIENTATION EDUCATORS

INTERVIEWER TO FILL OUT THIS SECTION		
Name of Interviewer:		
Date of Interview:		
Name of School:	□ **Malamule** □ **Uxolophambili** □ **Yanguye**	□ **Mahuvo** □ **Imbeka** □ **Mkhombisi**
Location of Interview	□ **Indoors** □ **Outdoors**	
Language of Interview (Check all that apply)	□ **XiTsonga** □ **Sepedi** □ **Other:** _____	□ **IsiZulu** □ **English** □ **Other:** _____
Start Time:		
End Time:		

INTRO: *Welcome. Thank you for being here. My name is _____ and I work with SADC. As I explained during the informed consent process, I am interested in your experiences teaching (IN CONTROL SCHOOLS) the sexuality and HIV prevention portion/(IN INTERVENTION SCHOOLS) scripted lesson plans of the life skills curriculum. I am also interested in the training you've had to teach the sexuality and HIV prevention classes. The information you provide will be used to revise THE curricula and related programs for adolescents in school. We will not use your name or otherwise identify you personally in the analysis and reporting of the results of our discussion today. Please try to answer as honestly and fully as you can.*

First, like to ask you a few questions about you and school.

1. How many years have you been an educator?
2. How many years have you been a Life Skills/Life Orientation educator?
3. How long have you been teaching at this school?

Section A: (IN CONTROL SCHOOLS) LO Curriculum Training/ (IN INTERVENTION SCHOOLS) Scripted Lesson Plan Training

4. When was the last time you received training to teach the Life Orientation (LO) curriculum/scripted lesson plans (SLPs)?

5. How much of what you learned in the training are you able to apply while teaching your LO classes/SLPs?
   PROBES
   a. What are you able to apply?
   b. What is challenging to apply?

Section B: (IN CONTROL SCHOOLS) LO Curriculum Material/ (IN INTERVENTION SCHOOLS) SLP Material

6. How comfortable are you with the topics in the LO curriculum/SLPs?

PROBES

a. What topics are you most comfortable teaching?
b. Which topics are you least comfortable teaching?

7. How helpful was the LO material/SLPs and educator's guide for you?
   PROBES

   - How do you feel about the level of detail and guidance in the educator's guide?

   a. What do you like best about how the curriculum is structured?

   b. What could make the educator's guide more helpful in the future?

Section C: Relevance and Reception by Learners

8. How receptive are the learners to the LO curriculum/SLP topics? Which topics do they pay most attention to and which topics to they pay least attention to?
   PROBES

   a. What, if any, differences have you noticed between how female and male learners perceive sexuality and HIV prevention education?

9. What types of questions do learners ask in the LO/sexuality and HIV prevention education class?

PROBES

a. What types of questions do they ask?
b. What differences have you seen between female and male learners in asking questions?

Section D: Reception by Parents

10. How much do parents engage with you about sexuality and HIV prevention education?

PROBES

a. In your opinion, how has sexuality education been received by parents?

11. What, if any, difference have you noticed between female and male parents'/guardians' perceptions of the LO program/SLPs?
PROBES

    a. Have you seen any differences in how satisfied male vs. female parents seem about the LO class/SLPs?

Section E: Supportive School Environment

12. How supportive are the Principal, Deputy Principal and other educators of teaching the LO curriculum in school? How do they show their support or their lack of support?
PROBES

    a. If not supportive, what could they do to be more supportive of teaching the sexuality education portion of the LO curriculum/SLPs in school?

13. What, if any, institutional challenges do you face in implementing sexuality education portion of the LO curriculum/SLPs?

14. The school-based support team (SBST), previously known as the Institutional Level Support Team (ILST), is responsible for helping learners who need additional support in school in planning how to get that support. The SBST is made up of someone from the school management team (SMT), a representative from each phase of Grade, a SBST coordinator, and learning support educator. In what ways, if any, do you interact with the SBST?

15. In what ways, if any, do you interact with the SMT and school governing body (SGB) about the sexuality education portion of the LO curriculum/SLPs?

16. How often have you had to make a referral for a learner to receive a social or health service?
PROBES

    a. How easy or hard was it to make the referral?
    b. Did you get feedback about the learner you referred?

17. We've come to the end of my questions. Is there anything else you'd like to tell me about your perceptions of and experience with the LO curriculum?

Closing

Thank you very much for your time and sharing your knowledge and opinions. The information you have provided will help people here in your community and throughout South Africa develop and improve programs to stop the spread of HIV and help those who need services get them. As a reminder, we will not share the discussion recordings with anyone outside the study team and you will not be identified in any results we share with others. Thank you for participating in the discussion today.

APPENDIX E. FOCUS GROUP DISCUSSION GUIDE FOR MEMBERS OF THE SCHOOL GOVERNING BODY

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o 15-17
o 18-19
o 20-24
o 25-29
o 30-34
o 35-39
o 40-44
o 45-49
o 50-54
o 55-59
o 60-64
o 65-69
o 70-74
o 75-79</td><td>What type of SGB member are you?
o Elected educator
o Elected parent
o Elected learner
o Other member
o Other: _____</td><td>When did you first join the SGB?
o This is my first year
o Last year (2017)
o Before last year (Before 2017)</td></tr>
<tr><td>Are you male or female?
o Male
o Female</td><td></td><td></td></tr>
</table>

Introduction to Focus Group Participants

Welcome. Thank you for being here. My name is _____ and I work with SADC. As we explained during the informed consent process, we are trying to understand what SGB members think about some of the topics that adolescents ages 14-19 years old are learning about in school. We are especially interested in what you think about adolescents learning about sexuality and HIV prevention in school. We also want to learn about any training you've had to support the sexuality and HIV prevention part of the LO curriculum. The information you provide will be used to revise curricula and related programs for adolescents in school. We will not use your names or otherwise identify you personally in the analysis and reporting of the results of our discussion today.

Ground Rules

We encourage everyone to participate, knowing there are no right or wrong answers. Speak up if you agree or disagree with someone, as we want to understand everyone's experiences and opinions. Everyone in this room has agreed to keep the conversation confidential, but, we ask you not to share any personal details. Please instead use your participant ID number (F1, F2, etc.) to identify yourself before you speak, and identify others with their participant ID numbers when you want to refer to them. We will record this discussion to help us capture everything we need for the analysis and summary, but we will not identify you personally. We ask that you please put your phones on silent or vibrate and if you need to take a call please step outside, so we are able to hear the recorded discussion again at a later time. This discussion will take about an hour. Do you have any questions before we get started?

Section A: SGB Sensitization Training (THIS SECTION FOR INTERVENTION SCHOOLS ONLY)

1. When was the last time you received SGB Advocacy training on Sexuality and HIV Prevention Education as part of the SGB? (IF NO ONE RECEIVED TRAINING, STOP. GO TO SECTION B)
2. What types of things did you learn in this training?

   PROBES

   - What is your understanding of the objectives of the sexuality component of the curriculum?
   - What did you learn about the roles and responsibilities of the SGB within sexuality and HIV prevention education activity?

3. Did this training influence how you think about adolescents learning about sexuality and HIV and pregnancy prevention in school? If yes, how? If no, why not?

4. How did the training prepare you to support the sexuality and HIV prevention part of the LO curriculum and scripted lesson plans in your school?

5. How could the training be improved in the future?

Section B: LO Curriculum Material (THIS SECTION FOR BOTH INTERVENTION AND CONTROL SCHOOLS)

6. How comfortable are you with sexuality and HIV prevention being taught to adolescent learners in school?

7. Are there any topics related to sexuality and HIV and pregnancy prevention that you think should not be taught to adolescents in school? Which ones?

8. Are there any topics related to sexuality and HIV prevention you think the LO curriculum should spend more time on? Which ones?

9. Do you think any of these topics should be covered differently for female and male learners? If so, how?

Section C: Supportive School Environment (THIS SECTION FOR BOTH INTERVENTION AND CONTROL SCHOOLS)

10. How does the SGB support the teaching of the LO curriculum/SLPs on sexuality education in this school?

    PROBES

    - What else could the SGB do to support teaching of the sexuality and HIV prevention portion of the LO curriculum/SLP in school?
    - In what ways, if any, does the SGB interact with the school management team (SMT) to support the teaching of the sexuality education portion of the LO curriculum/SLPs?

11. What, if any, institutional challenges does the school face in implementing the LO curriculum/SLPs?

12. We've come to the end of my questions. Is there anything else you'd like to tell me about your perceptions of and experience with the LO curriculum?

Closing

Thank you very much for your time and sharing your knowledge and opinions. The information you have provided will help people here in your community and throughout South Africa develop and improve programs to stop the spread of HIV and help those who need services get them. As a reminder, we will not share the discussion recordings with anyone outside the study team and you will not be identified in any results we share with others. Thank you for participating in the discussion today.

APPENDIX F. FOCUS GROUP DISCUSSION GUIDE FOR MEMBERS OF THE SCHOOL MANAGEMENT TEAM

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o 40-44
o 45-49
o 50-54
o 55-59
o 60-64
o 65-69
o 70-74
o 75-79</td><td>What type of SMT member are you?
o Principal
o Deputy principal
o Head of department
o Other member
o Other: _____</td><td>When were you first part of the SMT?
o This is my first year
o Last year (2017)
o Before last year (Before 2017)</td></tr>
<tr><td>Are you male or female?
o Male
o Female</td><td></td><td></td></tr>
</table>

Introduction to Focus Group Participants

Welcome. Thank you for being here. My name is _____ and I work with SADC. As we explained during the informed consent process, we are trying to understand what SMT members think about some of the topics that adolescents ages 14-19 years old are learning about in school. We are especially interested in what you think about adolescents learning about sexuality and HIV prevention in school. We also want to learn about any training you've had to support the sexuality and HIV prevention part of the LO curriculum. The information you provide will be used to revise curricula and related programs for adolescents in school. We will not use your names or otherwise identify you personally in the analysis and reporting of the results of our discussion today.

Ground Rules

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<u>Section A: SMT Sensitization Training (THIS SECTION FOR INTERVENTION SCHOOLS ONLY)</u>

1. When was the last time you received SMT Orientation on Sexuality and HIV Prevention Education as part of the SMT? (IF NO ONE RECEIVED TRAINING, STOP. GO TO SECTION B)

2. What types of things did you learn in this training?

   PROBES

   - What is your understanding of the objectives of the sexuality component of the LO curriculum/the SLPs?
   - What did you learn about the roles and responsibilities of the SMT about the sexuality and HIV prevention education activity?

3. Did this training influence how you think about adolescents learning about sexuality and HIV and pregnancy prevention in school? If yes, how? If no, why not?

4. How did the training prepare you to support the LO curriculum/SLPs in your school?

5. How could the training be improved in the future?

Section B: LO Curriculum Material (THIS SECTION FOR BOTH INTERVENTION AND CONTROL SCHOOLS)

6. How comfortable are you with sexuality and HIV prevention being taught to adolescent learners in school?

7. Are there any topics related to sexuality and HIV and pregnancy prevention that you think should not be taught to adolescents in school? Which ones?

8. Are there any topics you think the LO curriculum should spend more time one? Which ones?

9. Do you think any of these topics should be covered differently for female and male learners? If so, how?

Section C: Supportive School Environment (THIS SECTION FOR BOTH INTERVENTION AND CONTROL SCHOOLS)

10. How does the SMT support the teaching of sexuality and HIV and pregnancy prevention curriculum in school?
    PROBES
    - What else could the SMT do to support teaching of the sexuality and HIV prevention portion of the LO curriculum/SLPs in school?
    - In what ways, if any, does the SMT interact with the school governing body (SGB) to support the teaching of the sexuality education portion of the LO curriculum/SLPs?

11. Do you know of any support measures in place for learners who have experienced things like sexual abuse or pregnancy?

- How often do learners who experience these things get referred to health and social services?

12. What, if any, institutional challenges does the school face in implementing the LO curriculum/SLPs?

13. We've come to the end of my questions. Is there anything else you'd like to tell me about your perceptions of and experience with the LO curriculum/SLPs?

Closing

Thank you very much for your time and sharing your knowledge and opinions. The information you have provided will help people here in your community and throughout South Africa develop and improve programs to stop the spread of HIV and help those who need services get them. As a reminder, we will not share the discussion recordings with anyone outside the study team and you will not be identified in any results we share with others. Thank you for participating in the discussion today.

APPENDIX G. PROTOCOL

PROTOCOL

USAID South Africa

Title:

Impact Evaluation of a School-Based Sexuality and HIV Prevention Education Activity in South Africa

Name of program/intervention being evaluated:

South Africa School-Based Sexuality and HIV Prevention Education Activity

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Implementing partner(s):

Measure Evaluation / University of North Carolina
Enterprises / University of Pretoria

Implementing mechanism:

MEASURE Evaluation Phase IV Leader with Associates Cooperative Agreement

Version date:

17 October 2017

Brief Summary

Purpose: To assess the impact of a school-based sexuality and HIV prevention education activity on learners over time

Participants: Cohort of 5000 girls in grade 8 (followed through grade 10), cross-sectional sample of 5000 girls in grade 10 at baseline, and cross-sectional samples of 5000 boys in grades 8, 9 and 10 at baseline, midline and end line, from a total of 115 schools in Mpumalanga and KwaZulu-Natal provinces in South Africa.

Procedures (methods): The evaluation will employ a two-arm, cluster randomized trial, where a secondary school is a cluster and a learner is the unit of observation/analysis. Impact will be measured by comparing changes over time in the incidence of HSV-2 or pregnancy; and knowledge, attitudes, and self-reported risk behaviors among the cohort of female learners and a cross-section of male learners enrolled in the selected schools between the intervention and control arms.

Qualitative data, in addition to existing M&E data, will be collected to understand if the scripted lesson plans and related activities are implemented with fidelity to the design; explore perceptions, acceptance of and comfort with the sexuality and HIV prevention education activity; and identify structural facilitators and barriers that affect implementation of the activity at multiple levels.

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INTRODUCTION

Background

Young people in South Africa, especially females, are at high risk of human immunodeficiency virus (HIV) acquisition. In the 2012 national survey, HIV rates rose from 3.1% among girls under age 14, to 5.2% among adolescent girls age 15-19. In 2013, 5.4% of girls 14–19 years old were pregnant (General Household Survey). Among female learners in 14 high schools in KwaZulu-Natal (KZN) province, the prevalence of HIV and herpes simplex virus-2 (HSV-2) are 6.4% and 10.7%, respectively, and the rate of teenage pregnancy is 3.6% (Karim, et al., 2014). The authors of this study conclude: "The high prevalence of HIV, HSV-2 & pregnancy underscore the need for school-based sexual & reproductive health services." South Africa's Department of Basic Education (DBE) has created a national HIV/AIDS strategy with the goals of reducing the incidence of HIV, other STIs, and pregnancy among learners grades 7-9 in public schools in all nine provinces (DBE 2010). The need for intervening with young women to reduce HIV incidence is further underscored by the objectives of the U.S. President's Emergency Plan for AIDS Relief's (PEPFAR) new Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe (DREAMS) initiative.

Gaining the knowledge and skills necessary to make healthy choices about sexual behavior as learners' transition to young adulthood is key to growing an AIDS-free generation and attenuating the potentially devastating effects of the epidemic. Additionally, it is important to identify both perinatally and behaviorally HIV-infected young people in schools and link these youths to HIV testing and counseling with onward linkages to care, treatment and positive prevention.

Through its life skills curriculum, in place since 2000, the DBE has attempted to address some of these issues. Previous studies found exposure to the curriculum to be associated with better knowledge, attitudes, and some practices, but there is uneven implementation among educators and schools and challenges with the curriculum (DBE 2010). Due to these problems, DBE, with support from the United States Agency for International Development (USAID), has invested in developing scripted lesson plans (SLP) and supporting activities to increase the rigor of the life skills program, based on recommendations from the DBE report and the Southern and Eastern Africa Consortium for Monitoring Educational Quality III (SACMEQ III) project in South Africa (2010). The main component of the new program is the sexuality and HIV education program targeted to secondary school learners and delivered by life skills educators trained in SLPs developed from an extensive review of existing life skills curricula and enhanced with interactive pedagogies. The SLPs aim to delay sexual debut, reduce unprotected sex, increase male and female condom use, reduce the number of sexual partners and reduce violence and risk. Supportive activities include mobilization and engagement of parents, school management teams (SMTs), and school governing bodies (SGBs); focusing on sexual and reproductive health and gender-based violence; and strengthening of referrals to health and social services. Additional supportive activities include linkages and increased access to youth friendly sexual and the integrated school health program.

The new SLPs will be made mandatory, timetabled, and assessed in order to institutionalize sexuality education in schools. To ensure implementation and the roll out of the new scripted lesson plans in select areas, USAID is currently providing technical support through a new award managed by the Education Development Center (EDC) to support DBE with in-service educator training activities, in targeted provinces and districts to strengthen DBE's ability to implement and monitor the new sexuality and HIV prevention education program. In addition, DBE is revising current policies to promote access to HIV

prevention services in schools using biomedical, behavioral, social and structural interventions to reduce transmission and vulnerability to HIV.

Expected Relationship between Program Exposure and Primary Outcome Measure: The program is expected to reduce the incidence of HSV-2 or pregnancy among female learners through one or more channels: improved knowledge, attitudinal change, increased school retention, risk mitigation, increased STI and HIV testing, and increased completed referrals for health services. The logic model guides the proposed evaluation strategy and forms the evaluation questions.

Most studies of similar programs have relied on self-reported risk behaviors, levels of HIV knowledge, and other behavioral data for assessing effectiveness. Of 83 studies of school-based sexuality programs, 65% found a significant impact on at least one sexual behavior but did not include biomarkers (Kirby, et al., 2006). A randomized trial assessing the impact of a school-based program in 328 primary schools in Kenya found that the program had a significant effect on risky HIV-related behaviors and a 65% decrease in pregnancies with adult fathers (Duflo, et al., 2006; Dupas 2006). In another large randomized trial in Tanzania, an educator-led and peer-assisted sexual health education program with a community component was found to have had a significant impact on knowledge, attitudes, reported sexually transmitted infection symptoms and sexual behavioral outcomes (Ross et al. 2007). McCoy et al (2010) reviewed the results from studies of nine behavioral interventions conducted in Africa, India, Thailand and Mexico and concluded that, overall, the evidence for behavioral interventions for women and girls in low- and middle-income countries successfully changing risk behavior and prevent HIV infection is limited.

Locally, the Stepping Stones program, an intensive 50-hour sexual health education activity aimed at changing gender norms and HIV risk behaviors, was evaluated in a large (n = 2,776) RTC of South African adolescents and young adults ages 15–26 by Jewkes et al. (2008). The evaluation found the program had prompted improvement in HIV testing rates, HIV-related communication, HIV-related sexual risk behaviors including condom use, and fewer men participating in the program reported IPV perpetration at 24 months than those in the control group (6% vs. 10%, $p = 0.054$). There was also a 33% decrease in incidence of HSV-2 in the intervention group when compared to the control group (Jewkes et al., 2008). Given that the incidence and prevalence of HSV-2 is higher for young people than HIV, this is often the biomarker of choice for these type of evaluation studies. Further, by including a biomarker for HSV-2, it is possible to have a better indication of sexual behaviors that are often poorly reported through self-report.

Before rolling out the new program nationwide, the USAID Mission in South Africa and DBE want to evaluate the program to see if it is having the expected impact. By contributing to the country's evidence base of effective HIV programming for youth, the proposed study will help to ensure that young people in South Africa receive high-quality sexuality and HIV prevention education while in school. It will help to institutionalize prevention education in the South African school system, therefore helping to ensure that programs aimed at preparing the country's youth to address sexual health and HIV challenges are sustainable.

Aims of the Impact Evaluation

The **goal** of the proposed impact evaluation is to assess the impact of a school-based sexuality and HIV prevention education activity on learners over a period of two years. The evaluation aims to provide the South African Department of Basic Education (DBE) and PEPFAR South Africa with evidence for the effectiveness of the sexuality and HIV education program by estimating the impact of the scripted lesson

plans and supporting activities on the incidence of HSV-2 or prevalence pregnancy among a cohort of girls in secondary school in two provinces of South Africa.
The **primary evaluation question** is: What is the effect of the scripted lesson plans and supporting activities on the incidence of HSV-2 or pregnancy at the end of 10th grade among a cohort of girls enrolled in grade 8 at the beginning of 2016 in intervention schools compared to a cohort of girls in grade 8 at control schools providing the current life skills program (i.e., the standard of practice)?

The **secondary evaluation questions** include:

- What is the effect of the scripted lesson plans and supporting activities on knowledge, attitudes, school retention, and self-reported risk behavior, STI and HIV testing, and completed referrals for health services at the end of 8th, 9th, and 10th grade among a cohort of girls first interviewed in grade 8 and among a cross-section boys interviewed in grade 8, grade 9 and grade 10?
- If there is a reduction in the primary outcome, does the intervention work by increasing school retention, or is the effect independent of school retention?
- Do effects differ by sex or by rural vs. urban schools?

The **primary hypothesis** is: The scripted lesson plans and supporting activities will result in a reduction of the incidence of HSV-2 and/or pregnancy over a period of three years among a cohort of girls enrolled in grade 8 at the beginning of 2016 compared to comparable girls in schools with the current life skills program. The primary outcomes of interest to test the hypothesis are HSV-2 incidence, pregnancy and the composite variable of HSV-2 incidence and pregnancy.

The **secondary hypotheses** include: The scripted lesson plans and supporting activities will enhance school retention, knowledge, attitudes, self-reported risk and health behavior (i.e., condom use at last sex and delayed sexual debut), uptake of STI and HIV testing and counseling, and completed referrals for reproductive health/family planning services among girls and boys in intervention schools with no change or less change among their counterparts at control schools.

The **primary outcome measure** on which this impact evaluation is powered is: the incidence of HSV-2, measured through dried blood spots, or self-reported pregnancy. There are **secondary outcome measures** including school retention, knowledge, attitudes, self-reported risk behavior (i.e., condom use at last sex, delayed sexual debut), uptake of STI and HIV testing and counseling, and completed referrals for reproductive health/family planning services: see Table 1 for details. The study is not powered on the secondary measures. Notably, because the changes in secondary outcomes are expected to be greater since these outcomes include key messages of the program, it is thought that powering the study for the primary outcome will result in a sufficient sample size to examine the secondary outcomes as well.

Table 1. Primary and secondary outcome measures, data sources, and data collection

Primary outcome Incidence of HSV-2 or pregnancy – *coded 1 if young person is positive (yes) on any of these two measures; zero otherwise.*	Female learners	HSV-2: biomarker (dried blood spots) testing at Time 1 and 3 (cohort only) Pregnancy: self-report from surveys at Time 1, 2 and 3

Secondary outcomes		
School retention	Female learners	School records of dropouts
Knowledge	Female and male learners	Self-report from surveys at Time 1, 2 and 3
Attitudes	Female and male learners	Self-report from surveys at Time 1, 2 and 3
Risk behaviors	Female and male learners	Self-report from surveys at Time 1, 2 and 3
STI and HIV testing	Female and male learners	Self-report from surveys at Time 1, 2 and 3
Completed referrals for health services	Female and male learners	Self-report from surveys at Time 1, 2, and 3

The qualitative component of the evaluation will answer the following questions:

1. What are the perceptions of learners about the sexuality education part of the life orientation lessons? Are there differences between the intervention and control schools?
2. What are the perceptions of parents about their children being exposed to sexuality education in school in general; and the sexuality education part of the life orientation lessons specifically? Are there differences between the intervention and control schools?
3. How accepting and comfortable are educators with implementing the sexuality education part of the life orientation curriculum? Are there differences between the intervention and control schools?
4. What are the perceptions of members of the school governing bodies (i.e. elected educators and parents) about teaching adolescents sexuality and HIV prevention in school in general; and the sexuality education part of the life orientation lessons specifically? Are there differences between intervention and control schools?
5. What are the perceptions of members of the school management teams (i.e. principals, deputy principals and heads of departments) about teaching adolescents sexuality and HIV prevention in school in general; and the sexuality education part of the life orientation lessons specifically? Are there differences between intervention and control schools?
6. What are the structural facilitators and barriers at the classroom, school, district, and provincial levels that affect implementation of the school-based sexuality and HIV prevention activity?

We expect that the knowledge generated from this study will be generalizable to other provinces in South Africa and to other African nations that are seeking to meet similar goals (e.g., reduce HSV-2 and pregnancy; enhance school retention; reduce self-reported risk and health behavior; increase uptake of STI and HIV testing and counseling; and increase completed referrals for reproductive health/family planning services among school-age girls and boys) through similar life skills curricula and scripted lesson plans. The findings of the study can be used by the South African government, and governments of other African nations, to inform HIV prevention and sexuality programming for in-school youth.

METHODS

Evaluation design

The evaluation will employ a two-arm, cluster randomized trial, where a secondary school is a cluster and a learner is the unit of observation/analysis. In the intervention arm school educators were trained to provide sexuality and HIV prevention education based on the new scripted lesson plans to learners enrolled in grade 8 at the beginning of 2016, while in the control arm the existing life orientation curriculum will be continued. Week-long educator trainings were led by Education Development Corporation (EDC) as part of the main intervention. Notably, the training of the educators did not happen in all intervention schools prior to the beginning of the 2016 school year (January 2016); therefore, some of the intervention learners will not have full coverage of the program in the first year, however, it is expected that they will be exposed to the full program starting in grade 9. The study applies a stratified multi-stage cluster sampling approach whereby a sample of schools in each arm will be randomly selected for a longitudinal observation of learners. The impact of the new program will be measured by comparing the incidence of HSV-2 or pregnancy among the cohort of female learners enrolled in the selected schools between the intervention and control arms. The cohort of female learners in the intervention and control arms will take part in an annual panel survey from grades 8 through 10. Biomarker collection for HSV-2 will be collected from the cohort of girls in grade 8 and in grade 10. All biomarker samples collected during grade 10 will be tested for HSV-2. Biomarkers collected at grade 8 will be stored at -80 degrees Celsius and only be tested, for baseline comparison, if the corresponding grade 10 biomarker result is positive for HSV-2; this permits assessing if the HSV-2 is an incident infection since baseline. Pregnancy self-report will be obtained at each survey time. Learners will be followed even if they drop out of school to ensure a complete picture of intervention effects. Additionally, each year a cross-sectional sample of male learners in the same schools will participate in the annual surveys. A cross-sectional sample of grade 10 girls in the same schools will also be surveyed during the first year of data collection (when the cohort is in grade 8). Grade 10 girls will be used as a comparison group for the grade 10 longitudinal sample at end line.

Target population and program assignment

The initial coverage of the program for the evaluation will include two provinces from which five high-priority education districts with a high prevalence of STIs and pregnancy are selected for program implementation, as identified by the USAID mission in South Africa (USAID/SA) and DBE. Public secondary schools in the five districts will be randomly assigned to either the intervention or control arm for the purpose of the evaluation. DBE will provide MEASURE Evaluation with information on each secondary school in the five priority education districts, including the location, number of enrolled learners, a measurement of socioeconomic status (SES) of the catchment learners, catchment area, and drop-out and retention rates from previous years. Retention means school completion at end of the year during the years of the study. Target schools will be in the three lowest SES quintiles, schools that include grades 8-10, and schools with at least 25 learners that will be randomly assigned to either the intervention or control arm. The population covered will be a cohort of female learners enrolled in grade 8 at the beginning of 2016 and a cross-section of female learners in grade 10 and male learners in grade 8 at baseline. Educators in the same schools, parents, School Management Teams, and School Governing Bodies will also be involved in the intervention activities. If feasible, qualitative data will be collected at midterm (2017) and end line (2018) with a sample of these groups to provide greater depth on program acceptability and sustainability. The DBE will play a key role in engaging control schools in the study and ensuring that the program will be rolled out to include the control schools upon completion of the

program evaluation. Information will be collected from control schools throughout the project to determine what types of sexuality education activities are being undertaken (i.e., if any new program activities are introduced over the follow-up period).

The geographic focus where the sexuality education activity is implemented is aligned with the 27 identified priority districts for PEPFAR support in South Africa. Based on USAID guidance, in collaboration with the Department of Basic Education, the EDC intervention activity will focus in 7 sub-districts located in 7 target districts; these are City of Johannesburg – Johannesburg West (Gauteng), Thabo Mofutsanyane (Free State), Ehlanzeni – Bohlabela and Gert Sibande (Mpumalanga), City of Cape – Metro North (Western Cape), uThungulu and eThekwini – Pinetown and Umlazi (KwaZulu Natal). The evaluation will only take place in the districts in Mpumalanga and KwaZulu Natal. In the same districts where the program is being implemented, USAID also has other grantees that are undertaking HIV testing and counseling services. USAID intentionally placed the EDC program in these districts so that if referrals for further counseling and testing was needed, this would be available. Some of the sites will include mobile clinics that may visit the schools over the course of the study. As part of the data collection, the evaluation team will seek to monitor exposure at the school level (intervention and control schools) to these mobile clinic services.

The School-Based Sexuality and HIV Prevention Activity is also aligned with the DREAMS Initiative guidance due to targeted focus on adolescent girls using evidence based interventions as per the UNESCO, International Technical Guidance on Sexuality Education: An Evidence informed Approach for Schools, Educators and Health Educators, 2009. This impact evaluation will overlap with the DREAMS impact evaluation in Kwazulu-Natal, eThekwini schools located in Umlazi and Pinetown DBE districts.

The qualitative component of the evaluation will be implemented in schools in three districts: Bohlabela (Mpumalanga), and Pinetown and King Cetshwato (KwaZulu Natal). One intervention and one control school will be selected in each of these districts.

Exposure measurement

All female and male learners enrolled in grade 8 at the beginning of 2016 in an intervention school will be considered exposed to the new program, while those enrolled in a control school will be considered exposed to the standard curriculum (i.e. the control program). The cohort of learners will receive their respective program in each school year until the end of grade 10, with an expected exposure of three school years. Surveys will ask learners questions about their exposure to the various lesson plans. This will provide information on the number of educators trained and the level of exposure of the new program to the learners. Additionally, educators will be interviewed about the scripted lesson plans and supporting activities they delivered during a school year for possible analysis of types of interventions (e.g. scripted lesson plans and supporting activities vs. supporting activities only) actually implemented. However, the sample size will not be powered on analyses with these different exposure variables as this is powered based on an intention to treat analysis.

Data collection

The data will be collected at multiple observation points over three study years from grade 8 until the end of grade 10 (i.e. between 2016 and 2018): baseline data collection in July-September 2016 (Time 1), midterm data collection in July-September 2017(Time 2), and end line in July-September 2018 (Time 3).

Biomarker data collection – Dried blood spots for HSV-2 testing will be collected at baseline and stored for future testing at end line. Biomarkers will be collected again at end line and tested for HSV-2; biomarkers from baseline will be stored at -80 degrees Celsius and the corresponding baseline samples will only be tested for comparison, for those samples that are HSV-2 positive at end line. The later testing of the baseline biomarkers will permit a determination of whether an individual with HSV-2 at end line had an incident infection between baseline and end line or if she was already HSV-2 positive at baseline. All positive biomarker tests will be subject to confirmatory tests to minimize measurement error. Grade 10 learners will receive the results of the HSV-2 testing. Referral procedures will be determined prior to IRB submission prior to end line data collection. The selection of HSV-2 testing was determined because the prevalence and incidence of HSV-2 is expected to be higher than other STI and this is a better indication of sexual experience (unprotected sexual activity) than self-reported behaviors.

Prior to obtaining the dried blood spots, individual parental consent and learner assent will be obtained for the biomarker part of the study. Learners will be asked to take consent forms home for parent/guardians to sign/consent. Follow up reminders will be given to the learners to return consent forms. The nurse will provide simple explanations of the testing procedures to a group scheduled for data collection on a specific date. The trained nurses will also provide a health screening for the cohort of grade 8 female learners across all three time points. The health screening involves going through a standardized check list of the algorithm for syndromic diagnosis of STI. Any learner who presents a health issue, including symptoms of HSV-2, will be referred to the School health nurse (from the District Health PHC team of that catchment area) for access and treatment at the local public health clinic for further management. Furthermore, identification or recognition of any condition or situation with a legal mandatory reporting requirement by the health care worker will be managed in the best interest of the learner using the established reporting and referral network for the school. Due precautions would be taken to adhere to universal precautions of blood borne infections, needle stick injury prevention and medical waste management.

The counseling and referral process based on the health screening form is as follows: The nurse will ask the girl the questions on the screening form. General counselling will be given to all girls, which informs that the discussed symptoms might be related to an STI and could be indicative of health problems that girls should get care for. We also mention that some STI spread when a person does not have symptoms, and that they should to see a doctor if they start to experience any of the symptoms. Girls who respond yes to any of the health screening questions will also be advised and given a referral letter to see a doctor for further evaluation of the symptom(s). They will be given a referral form from the nurse and be reminded that they can decide on whether they want to share the referral letter with their parent(s)/guardian. The referral letter is pre-signed by the school so that the school does not know which girls are being referred.

At midterm, we will not collect the biomarkers, however, the nurses will also undertake the health screening to identify any health issues of the cohort of girls and to refer the girls.

Between baseline and end line, all dried blood spots will be stored in a -80C freezer. The specimens will all remain in South Africa at the HIV Immunopathology Laboratory of the Department of Immunology of the University of Pretoria. No names will be stored with the dried blood spots; only study identification numbers will be stored for linking the end line survey and specimens over time within individuals.

ODK surveys – Audio-assisted self-administered interviews will be completed by learners at each of the three survey times to measure self-reported outcomes including pregnancy, knowledge, attitudes, etc., among the cohort of female learners and a cross-section of male learners.

Parental consent and learner assent will be obtained before the learner completes the self-interview. Trained data collectors will oversee the data collection process and be available to assist the learners with the ODK survey.

The surveys will be translated to local languages by professional translators. The surveys will be available in the local languages of choice for the learners. The languages available for this survey include English, Sepedi, Swati, Tsonga and IsiZulu.
Adequate care and precautions would be taken to protect the safety of all field workers and the electronic instruments used for the ODK survey.

The welfare of the learners will remain a priority. With due consultation with the school authorities and the school governing bodies, arrangement would also be made and funded to ensure the safe return home of the learners.

Built Environment Tool – During data collection, interviewers will administer an observational checklist with a small number of questions for school administrators. The checklist will obtain information on the school environment including access to toilets, tap water, electricity, learner engagement in risk-taking behaviors (e.g., smoking on the premises). Information from the school administrator will include questions about other sexuality education activities in the last quarter, visits from a school nurse, attendance rates, and drop-out rates. Information on the built environment will be collected at baseline, midterm, and end line and will be collected from both intervention and control schools.

The tools will not capture personally sensitive data. Consent will be obtained from the administrators before the built environment tool is administered.

Qualitative tools – MEASURE Evaluation will collect qualitative data after midline quantitative data collection and before end line quantitative data collection. Qualitative data will be collected from male and female Grade-10 learners (through in-depth interviews (IDIs)); parents/guardians of Grade-10 learners (through focus group discussions (FGDs)); life orientation educators (through IDIs); member of the school governing bodies (through FGDs); and members of the school management teams (through FGDs). The qualitative data collection tools will examine select baseline and midline quantitative findings in greater depth; explore the context of learners' survey responses; examine the school environment and support for sexuality education; and identify factors within the program pathway that facilitate or act as barriers to expected outcomes. Interviews and focus group discussions will be digitally recorded

Other sources – To monitor the process and quality and fidelity to program implementation, we will collect educators' training registers and reports, and use program reports of lessons delivered. This information will come from EDC and its partners.

Data quality assurance – The University of Pretoria will hire data collection teams that will include trained interviewers, nurses and trained supervisors. All study team members will be trained on consent procedures and how to collect the data through ODK surveys, dried blood spots (nurses only), and qualitative methods. No data (hard or soft copy) will have personal identifiers. All data collection forms

will be checked by the team supervisor before senior supervisors will hand-deliver completed forms to the headquarters office. Electronic data from ODK surveys are uploaded and automatically transferred to UNC servers through a secure platform. Using ODK alleviates the need for data entry and makes data available in a more efficient timeframe. Country manager will oversee the fieldwork and submitted data, in addition to UNC staff.

Sampling

The study applies a stratified multi-stage cluster sampling approach in order to obtain a random sample of learners from the intervention and control domains, respectively.

Sampling frame – The sampling frame will be constructed from a list of schools provided by the DBE, which has information on the location and number of learners. The frame will be stratified within each domain to enhance the representativeness of the sample (strata may include district, urbanicity, poverty level, and school size depending on the number of schools). We will finalize and make any necessary revisions to the proposed sampling design when all necessary information is provided to ensure that the study objectives are met. Because the program needed to push forward with implementation, school selection has already occurred. In total, the study includes 58 intervention schools (23 in Mpumalanga and 35 in KZN) and 57 control schools. The school is classified as the Primary Sampling Unit (PSUs).

The current plan is that all female and male learners in grade 8 in January 2016 in the selected schools will be approached and asked to take a parental consent form home; i.e., all are eligible for inclusion in the study producing a self-weighting sample within provinces such that larger schools contribute more learners than smaller schools. Given that the number of learners in 2016 was not available by the time of sampling, we included supplementary schools (the intention was to have 50 intervention and 50 control schools).

Qualitative sampling strategy

MEASURE Evaluation will sample at the school-level and learner-level for the qualitative study. First Purposeful sampling will be used to select intervention schools. In each district, the school with the highest dosage of intervention activities will selected. The highest dosage includes the greatest combination of the following: a) Schools that, in 2017, had Grade-9 classes where all scripted sexuality education LO lessons were taught; b) School where sensitization activities for school governing boards were initiated by November 2017; c) Schools where the school management team supportive activities were initiated by November 2017. MEASURE Evaluation will us matching to select control schools. Next, in each district, the control school will be matched to the selected intervention school, matching on: a) school size; b) school location; c) circuit manager; d) matric outcomes; e) proportion of learners who lived in food insecure households in 2017; and e) proportion of females learners who reported being pregnant in 2017. Then, Grade-10 male and female learners will be randomly sampled from each sampled school using the 2017 Grade-9 learner list. Parents or guardians of Grade-10 learners will be selected for focus group discussions through convenience sampling; these parents/guardians will not necessarily be the parents/guardians of the Grade-10 learners who are selected for in-depth interviews. Life orientation educators, members of the school governing bodies and members of the school management teams will be automatically eligible based on the sampled schools.

Statistical power/sample size

The goal of the sample size calculation is to power the statistical analysis on the primary outcome: the incidence of HSV-2, or pregnancy among female learners. We performed sensitivity analysis of the sample size calculations based on various combinations of parameter assumptions to inform the sample size of

learners and schools presented here. The required sample size based on simple random sampling with an assumed attrition rate at 5% per year (or 14.3% over three school years) is 675 female learners per arm to detect the difference in the HSV-2 incidence rate of 0.04 in the intervention arm vs. 0.08 in the control arm over three school years at α of 0.05 (two-sided) and power (1-β) of 0.8. Likewise, the required sample size based on simple random sampling with the same level of attrition rate at 5% per year is 614 female learners per arm to detect the difference in the incidence rate of HSV-2 or pregnancy of 0.06in the intervention arm vs. 0.11 in the control arm over three years at α of 0.05 (two-sided) and power (1-β) of 0.8. We adjusted the sample size for: 1) design effect to account for elevated standard errors in a cluster sample design, and 2) baseline prevalence of the primary outcome to account for loss of units available to estimate the incidence rate. First, the design effect from clustering is approximated as $1 + \mathrm{ICC} \times (\bar{M} - 1)$ where ICC is intra-cluster correlation and $\bar{M}$ is the average cluster size (Kish, 1965). We assumed a maximum ICC of 0.03 and plan to take a random sample of an average of 50 female learners per school, implying a design effect of 2.47. Next, we assumed the prevalence at 1% of HSV-2 and 0% of pregnancy, implying the prevalence at 1% in the incidence of HSV-2 or the composite indicator of HSV-2 and pregnancy among the target population. With a total sample size in both arms together of 5,000 female learners (50 female learners per school and 100 schools in total), we estimate a power of 92% for the analysis of the incidence of HSV-2, and 94% for the analysis of the incidence of HSV-2 or pregnancy. The study is not specifically powered on the secondary outcomes; however, given that the level of change is expected to be larger for these outcomes we expect to have a sufficient power to perform the analysis.

The expected sample size for boys is 5,000, or 50 boys per school per year over three years.

Qualitative sample size

To explore a limited number of domains and themes in greater depth, the qualitative study will take place in six schools (three intervention and three control schools) across three districts. The expected sample size is:

- 36 Grade-10 female learners, or 6 per school
- 36 Grade-10 male learners, or 6 per school
- 12 focus groups of parents/guardians with 8-10 parent/guardians in each group, or 2 focus groups per school
- 6 life orientation educators, or 1 per school
- 6 focus groups of school governing body members with about 5 members in each group, or 1 focus group per school
- 6 focus groups of school management team members with about 5 members in each group, or 1 focus group per school

Inclusion Criteria

- The inclusion criteria include the following:
- all girls in grade 8 in selected schools at time of enrollment (baseline); followed longitudinally those that enroll in the study
- all boys in grade 8 in selected schools at time of enrollment (baseline)
- all girls in grade 10 at the time of enrollment (baseline)
- 58 intervention and 57 control schools were selected randomly to participate in the study. The inclusion criteria for the selection of schools include:
- schools in PEPFAR priority provinces

- secondary schools
- schools in the Quintiles 1-3 range
- schools with at least grades 8-10 present

All schools that met these selection criteria were reviewed by the provincial DBE to determine if there are any reasons to eliminate any of the eligible schools prior to selection. Once the list was finalized, selection of the intervention and control schools happened. We need a minimum of 50 schools in each group, however, we selected a larger number in case of school refusal or small class sizes.

Exclusion Criteria

There will be no exclusion criteria of schools besides random selection of the schools. For the participating learners, the survey will be administered in English plus four local languages will be available. If a learner is unable to take the survey in one of these five languages, she may need to be excluded if the interviewer does not speak the necessary language to support completion of data collection.

Selection bias: The aforementioned randomization will minimize self-selection bias of schools and learners at baseline between the intervention arms as they have an equal chance of being assigned to either the intervention or control arm. However, selection bias may be of concern when learners of certain characteristics transfer or drop out of schools in a systematic way in different arms after their initial assignment. We will monitor learners' transfer or drop out and their exposure to program throughout the evaluation to examine the extent of possible selection bias. The goal is to follow up with all learners in the cohort of grade eight girls at baseline, even if they transfer or drop out. However, we are not able to find learners that transfer or drop out, then the learner will be dropped out of the study. We will also apply an intention-to-treat analysis and analyze data of learners based on their initial assignment of program. Another source of selection bias is attrition of learners. If those learners are systematically different from those in school in the outcomes or relevant characteristics, it may bias the study results. We will monitor attrition of female learners and retrieve contact information from girls and schools to follow up with those at home who have left school at midterm and end line. An important component of the program is to follow ALL baseline participating learners. The survey at the end of the first year will obtain detailed contact information from all learners. This will happen for learners in both the intervention and control schools. Detailed tracking mechanisms including telephonic and home visits will be employed to ensure the highest follow-up rates possible, even among those who leave the school or community. A final source of bias is based on which learners receive parental consent and which ones do not. If there is a systematic reason for not receiving parental consent (e.g., parents are away or do not read/understand the form), this may bias the data. If possible, we can use school-level information to determine if there are differences in demographic characteristics of learners who receive consent to participate and those who do not.

Methods of recruitment

DBE will provide MEASURE Evaluation with information on each secondary school in the five priority education districts, including the name, type, location, and quintiles. Public secondary schools in the five districts were randomly assigned to either the intervention or control arm.

All schools will be informed by DBE and subsequently contacted by researchers prior to the project implementation and evaluation to obtain permission to be included in the study. After initial contact,

trained study staff will explain the study and criteria for participation to both the learners and the parent/legal guardian.

Consent/Assent

Written informed consent will be obtained from the parents prior to the initiation of study related activities and prior to each round of data collection. For all learners who receive parental consent, on the day of the survey and biomarker collection, we will request the learner's assent to participate. These are standard procedures for data collection with young people. If the learner is 18 or older she will sign her own consent form.

The consent and assent will detail all study procedures including potential risks and benefits and time spent participating in the research. Participants will read or have read to them the consents/assents before study procedures are begun. Participants will provide their signature on the assent and consent forms. Parents/legal guardians who are unable to read or sign their name can make a mark (a cross) in the presence of a witness. Signed copies of the consent and assent forms will be given to the participants.

After end line data collection, any young person who tests positive for HSV-2 will be referred for further testing and treatment. Referral letters will be given to the learner to deliver to her parents.

Potential study participants will be told that they are free at all times not to participate in the research and that refusal to participate will in no way affect their academic enrollment or performance at their school. Participants will also be encouraged to share with researchers any concern they might have regarding their research participation.

Measurement challenges

There may be measurement error in drop outs rates for girls and boys as reported by the schools due to inaccurate record keeping. Learner responses about their exposure to the sexuality education activities in intervention and control schools may be over-reported due to social desirability bias and recall error/bias. While measurement errors in these records will not affect the primary outcome measurement, it may affect the aforementioned dose-response analysis depending on the nature and magnitude of the measurement error through statistical power (when the error is random) or bias (when the error is systematic). Educator delivery of the scripted lesson plans will be randomly monitored by the program team to ensure fidelity to the intervention. The proposed study will use the program reports from various site visits and report any deviations. Also educators' records of delivered lessons can be used as another program intervention exposure measure.

Key confounding factors - Confounding is of concern when there is a systematic and unobserved difference in characteristics between intervention groups that also influences the outcome of interest. We attempt to prevent the problem through random assignment of schools to the intervention or control arms. Because the number of schools to be selected may be moderate and may not eliminate a potential imbalance by chance, we will stratify the schools by potentially relevant characteristics prior to randomization and ensure balance in these characteristics. Additionally, we will examine the baseline characteristics of schools and learners to assess the extent of attained balance between the arms and report the results; any observed differences will be controlled for in multivariable models.

Social desirability bias and recall error – Self-reported outcomes, such as pregnancy, attitudes, and risk behaviors, may be subject to social desirability bias and recall error. One way to reduce this error is to use audio assisted self-administered survey software to implement the learner surveys. Open Data Kit (ODK) is an open source mobile data collection platform. With ODK, surveys are programmed into an electronic format, inclusive of data quality checks, skips and logics, to reduce data collection error. The survey is then uploaded onto a tablet via ODK, for field data collection. Audio files will be attached to each question, which allows the interviewee to both hear (through headphones) and see the question on the tablet.

Biomarkers – Biomarker outcomes for HSV-2 are subject to false positives and negatives. All positive results will be sent for confirmatory biomarker testing.

Spillover effects – There may be spillover effects when there are peer interactions between learners from different study arms (i.e., those not exposed to the new program gain information and knowledge provided through their peers in the new program). We will collect information on peer-interactions through self-report surveys to examine the extent of spillovers at the data analysis phase.

Contamination or inadequate program exposure - The aforementioned problem of peer interactions and learner's transferring in and out of schools between the intervention and control arms may result in contamination of program exposure. By asking girls the school she attended in the previous year, we can attempt to know about exposure in the control schools. Additionally, delay or interruption in program implementation may result in inadequate program exposure. We will ensure that the lesson plans are delivered on schedule by reviewing monitoring sheets of implementation of the lesson plans. We will also monitor individual learner exposure to the lesson plans via educator records and possibly via interviews with the learners.

Analytical framework

The program impact on the primary and secondary outcomes will be measured through multivariable regression for repeated measures to analyze the longitudinal data. Specifically, we will apply Generalized Linear Mixed Models (GLMM) to allow for both fixed and random effects and response variables from different distributions (binary, continuous, Poisson, etc.). The impact will be estimated by the coefficient of the program indicator as a fixed effect. We will control for other covariates to enhance the estimate precision and to account for imbalance in observed characteristics (which should be minimal after randomization) as fixed effects with clusters (i.e. schools) treated as random effect. At the end of the first year and subsequently at the end of the second school year we can examine some of the secondary outcomes (e.g., school retention, knowledge, attitudes, and risk behaviors) to see if they are changing in the expected direction and determine if there are greater changes in the intervention as compared to the control group; similar analysis methods will be used for these analyses as for the end line analyses as described above.

We will investigate impact heterogeneity by testing for coefficients of interactions between the program indicator and characteristics of interest (e.g. sex, school type, age, urban/rural, socioeconomic status, academic achievement, language group) in our analytic regression model, although the study is not powered for these tests.

If the units have different observation periods and points (due to attrition despite our effort to follow up with female learners who have left school) we may apply survival analysis to address censoring. We will account for the sample design (variable sampling weights) to estimate the parameters of interest. The analyses will be performed in Stata statistical software (StataCorp, College Station, TX).

Digital recordings of the qualitative data will be translated into English and transcribed. Transcripts will be imported into the qualitative data software program, Dedoose.

Five interrelated steps for the qualitative data analysis will be followed: reading, coding, displaying, reducing, and interpreting.[5],[6]. For the first step of reading, the study investigators will immerse themselves in the data, read the transcripts multiple times, and begin to develop questions about the data and identify preliminary emergent themes.

For the second step of coding, study staff will develop an initial codebook with topical codes based on questions from the interview/focus group guides. Using the draft codebook, two independent coders will code the same five transcripts to test the reliability of the coding scheme and identify additional themes and codes. The codebook will be finalized and the two coders will code the remaining interviews. During this initial round of coding, coders will assign topical codes to sections of text so that the text can be more easily and meaningfully searched and extracted.

Additional emergent codes (codes developed based on new concepts and ideas not directly linked to the interview questions) will be identified and separated/combined with the other codes as needed. The revised codes will then be applied during a second round of coding. In order to ensure that codes are applied in accordance with codebook definitions, three transcripts will be randomly selected and independently coded by another researcher. Any discrepancies in the coding will be assessed and resolved as needed and adjustments to code applications made. After this, we will generate code reports for the final codes.

For the third step, displaying, code summaries will be developed for each of the final codes in order to identify key sub-themes within each code and to examine the evidence supporting these sub-themes. In the fourth step, reducing, key elements and themes will begin to form and essential concepts and relationships between the different themes and sub-themes will be identified by developing matrices. During the fifth and final step of interpretation the principal investigator and local research coordinator will identify and explain the core meaning of the data and synthesize and communicate the findings through the process of writing up and presenting the data.

Confidentiality of data

Anonymous data collection strategies are put in place to maintain a high level of confidentiality. No questionnaires or specimen collection forms will contain names or other explicit identifiers.

Confidentiality will be discussed in detail with all members of the research team, and will be addressed during a training session on research ethics. Site staff will receive Human Subjects Protection training.

[5] Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*: Sage.

[6] Ulin, P., Robinson, E., & Tolley, E. (2005). Qualitative methods in public health: A field guide for public health research: San Francisco: Jossey-Bass.

Training will emphasize the importance of protecting the confidentiality of study participants and the data collected about the participants.

All data will be password protected and accessed only by authorized members of the research team. All data collection forms will be checked by the team supervisor before data are uploaded to UNC. All logs of data activities, data printouts, etc. will be kept in a locked and secure file cabinet, and digital data will be stored in a password-protected and encrypted computer database. Once data collection is complete and the data has been cleaned, any paper study materials will be locked up; these files will be kept for 15 years as required by the IRB. Complete data sets and the meta data and do files will be stored in a password-protected and encrypted computer database for 15 years at the Scholl of Health Systems and Public Health, HW Snyman building, University of Pretoria.

The specimens of participants will be destroyed at the end of the study. Future researchers will not have access to the code that links the specimen to the participant.

The UNC team will work with the in-country partners to identify a mechanism to destroy materials in a safe and secure manner.

Ethical Review

The final study protocol including study procedures, data collection tools, and consent forms will be approved by the Faculty of Health Sciences Research Ethics Committee at the University of Pretoria (UP). All schools will be contacted prior to the project implementation and evaluation to obtain permission to be included in the study. Prior to approaching the schools, we will work with the provincial and district-level DBE offices to obtain their approval. Prior to each round of data collection, a form will be sent home to the parents of the participating youth (e.g., grade 8 girls and boys at time 1; grade 9 girls and boys at time 2, and grade 10 girls at time 1 and time 3) requesting parental consent for their child to participate in the survey and biomarker data collection (grade 8 – baseline girls and grade 10 – end line girls only). For all youth who receive parental consent, on the day of the survey, we will request the young person's assent to participate. These are standard procedures for data collection with young people.

APPENDICES

Timeline

Table B-1 presents the timeline of the proposed evaluation activity. The baseline survey will take place in August 2016, followed up interim survey in August 2017 and the end line survey in August 2018. The qualitative study will take place in February 2018.

Table B-1. Timeline of the proposed evaluation (organized by calendar year)

Activity	2015: Year 1		2016: Year 2				2017: Year 3				2018: Year 4			
	Q2-3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
USG-DBE planning, approvals, and procurement	X	X												
Development of research	X	X	X											
Submission of protocol to South African and U.S. ethics committees				X										
Expected receipt of research ethics approval				X										
Pre-survey sampling field visits				X										
Pilot test of data collection tools				X										
Data collector training					X									
Data collection: annual survey					X				X				X	
Data cleaning						X				X				X
Data analysis and dissemination meeting														X
Drafting of research report														X
Dissemination events														X

Development of qualitative component of evaluation									X					
South Africa and USG stakeholders feedback and buy-in for qualitative component										X				
Submit modification of protocol for qualitative component to South African and U.S. ethics committees										X				
Expected receipt of research ethics approval for qualitative study										X				
Pilot test of qualitative data collection tools											X			
Qualitative data collector training											X			
Data collection: IDIs and FGDs											X			
Translate and transcribe qualitative data											X			
Qualitative data analysis											X	X		
Draft qualitative report												X		
Qual. dissemination events												X		

Innovation

The rigor of this study (randomization and biomarker outcomes) should make a significant contribution to the evidence base for behavioral interventions, as its design attempts to address shortcomings from previous studies on such interventions, including life skills programs. We are not aware of another life skills program that has been evaluated in such a rigorous manner. And the rigorous, standardized way in which the life skills curriculum is being delivered (through scripted lesson plans) is novel and maximizes the likelihood of such interventions having an impact, by reducing implementation variability. This study will therefore contribute to the evidence base of effective HIV programming for youth. The proposed randomized study design minimizes methodological limitations and problems often observed in quasi-experimental and observational studies, and provides a strong ground for examining the program impact.

The study design will use a biomarker outcome (incidence of HSV-2) and self-reported pregnancy as a primary outcome for assessing the effectiveness of the sexuality and HIV prevention education program. This represents a novel and advantageous approach to estimating the impact of school-based sexual health and HIV programs, as most similar programs have relied on self-reported risk behaviors and other behavioral data for assessing effectiveness. The advantage of utilizing biomarkers (for HSV-2) is that it gives a clearer, more direct and more accurate indication of learners' sexual risk behaviors.

The study design will also include components that examine educator-learner modes of interaction that are mostly innovative in the South African school setting. Lessons are commonly delivered in a didactic manner. Educators will be trained to utilize an interactive pedagogy with guides for addressing difficult issues using participatory methods. If feasible, the evaluation will use a mixed methodology and attempt to capture and measure the effects of this learning approach as well as the actual lesson content using quantitative and qualitative data sources.

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APPENDIX H. EVALUATION TEAM MEMBERS

Ilene Speizer, PhD is the Principal Investigator (PI) and activity lead for the impact evaluation. Her responsibilities include overall development and implementation of the evaluation, collaboration with the local research partner, and coordination with USAID/South Africa and the implementing partner. She is a Research Professor at the University of North Carolina at Chapel Hill (UNC-CH) and a Research Associate on the MEASURE Evaluation project, with more than 20 years of research and evaluation experience in public health. Her primary research interests focus on impact evaluations for adolescent sexual and reproductive health. This evaluation builds on previous work in program evaluation and studies on family planning, HIV and AIDS, and STI prevention. She is currently Co-PI and the Technical Deputy Director on the Bill & Melinda Gates-funded Measurement, Learning & Evaluation (MLE) project that is evaluating family planning programs in four countries.

Andy Beke, MMED is based in South Africa and serves as the local PI for the evaluation. He is a senior lecturer and adjunct professor with the University of Pretoria and a principal specialist with the Mpumalanga Department of Health in South Africa. Dr. Beke has 35 years of experience providing direct medical care, managing health service delivery points, and providing leadership and support to occupational and environmental health programs. Dr. Beke has also been involved in monitoring and evaluating occupational and environmental health programs, and coordinates and teaches several public health courses.

Mahua Mandal, PhD is a Monitoring and Evaluation Specialist in Youth and Gender and leads the qualitative component of the evaluation. She also works closely with the PI on the overall development and implementation of the evaluation and assists with data analysis and report writing. She has 15 years of experience in public health, and has conducted mixed methods research and evaluation in women's, children's, and adolescent health for eight years. She has conducted evaluations of HIV and AIDS, reproductive health, adolescent health, and gender-based violence programs in Africa and Asia. Before conducting research and evaluation, Dr. Mandal was the Youth Reproductive Health Technical Advisor at USAID/Washington.

Darryn Durno, BA is based in South Africa and is Director of the SADC Research Centre, the research organization that collected, managed, and helped analyze the qualitative data. Mr. Durno has 15 years of experience managing research in the field.

Nolwazi Mkhwanazi, PhD is based in South Africa and is the local consultant who worked closely with the qualitative co-PI to implement the qualitative study. Dr. Mkhwanazi is a medical anthropologist who is interested in issues related to gender and the politics of reproduction. She received her PhD from Cambridge University. Over the last two decades, Dr. Nolwazi has conducted long-term ethnographic research on early childbearing, kinship, and care, which is the subject of her current book manuscript. She also has a forthcoming book entitled *Young families: Gender, sexuality and care*. Dr. Mkhwanazi is involved in several national and international collaborative projects, including a comparative research project on young people's use of mobile technology to form sexual, intimate, or romantic relationships in India and South Africa. She is currently supervising seven PhD and four Master's learners. In 2017 and 2018, Dr. Nolwazi was seconded to the Wits Institute of Social and Economic research under the Medical Humanities program.

Khou Xiong, MPH is a Research Associate and the lead person working with the PI on protocol development, tool development, and all phases of data collection. She works closely with the local research partners on the training of trainers, training of enumerators, and supports all data collection and field-

based activities. She liaises on a regular basis with the South Africa-based Research Associate on day-to-day activities. She assists with data analysis and report writing. Ms. Xiong's work in public health includes research on water sanitation and use, sexual and reproductive health, HIV and AIDS, and mHealth applications to address health issues in under-resourced communities.

Aiko Hattori, PhD is the Sampling Expert for the South Africa impact evaluation. She conducts sampling calculations and supports the selection of the schools for the intervention and the control sites. She also conducts data analysis. Ms. Hattori is a Research Associate and Public Health Economist with MEASURE Evaluation and has been working in the field of public health for more than 15 years. She has a PhD in Maternal and Child Health and an MPH in Biostatistics from the UNC-CH. Her research has centered on evaluations of health policies/programs in both developed and developing countries. Since 2012, her research at MEASURE Evaluation has involved impact evaluations of public health projects in multiple developing countries, including Bangladesh and Zambia. She has designed and conducted sample designs for population surveys, and managed and analyzed the data collected.

Rick O'Hara, BS is a Data Manager/Analyst at the Carolina Population Center, where he has provided data management services for more than two decades. He worked most recently with the Measurement, Learning, & Evaluation project where he managed data for four countries (India, Kenya, Nigeria, and Senegal). Mr. O'Hara previously worked as a data manager/analyst on several Carolina Population Center projects, including Add Health, South Africa Testing Innovations, National Children's Study, Nang Rong Projects, Russia Longitudinal Monitoring Survey, and the Iowa Youth and Families Project.

Ndinda Makina, MPH is the team's South Africa-based Research Associate. She works closely with local research partners on the training of trainers, training of enumerators, and supports all data collection and field-based activities. She liaises closely with USAID/South Africa, the DBE, and the US-based evaluation team. She assists with data analysis and report writing. Ms. Ndinda has contributed to research design, fieldwork data collection, data analysis, and reporting for several studies, including a nationwide study assessing the barriers to education in South Africa and evaluating malaria interventions in Malawi.

Stephanie Watson-Grant, DrPH serves as Country Portfolio Manager for the evaluation. She provides oversight and support to the MEASURE Evaluation team throughout the implementation of the evaluation. She monitors compliance with MEASURE Evaluation Phase IV Agreement conditions, reporting requirements, and approves workplan deliverables. Dr. Watson-Grant has more than 10 years of experience in the field of international health and development. Her areas of expertise are HIV planning and program implementation, HIV monitoring and evaluation systems assessment, management of USAID-funded projects, survey implementation, capacity building training, and measurement of country ownership.

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