

**Understanding Grade 10 Life Sciences teachers' perceptions and
experiences of teaching topics on human reproduction**

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

of

MASTER OF EDUCATION

(SCIENCE EDUCATION)

of

RHODES UNIVERSITY

by

Fenni Silas

January 2015

DECLARATION

I, **Fenni Silas**, hereby declare that the work contained in this thesis is my own original work and has not previously in its entirety or in part been submitted at any university for a degree. All sources I have used or quoted have been indicated and acknowledged using complete reference according to Departmental Guidelines.

Signature:

Date:

ABSTRACT

This study was conducted in order to understand Grade 10 Life Science teachers' perceptions and experiences of teaching human reproduction topics in the Ohangwena political region in the northern part of Namibia. It also explored how the culture of the majority of the inhabitants of Ohangwena region who are Oshiwambo speaking impacts the teaching of human reproduction topics. The study was prompted by the fact that the Grade 10 Life Science syllabus requires learners to learn details of human reproduction although in Oshiwambo culture such things are not discussed openly. And this section has proven to be one of the poorly answered sections in the Grade 10 national examinations.

A total of thirty five (35) Grade 10 Life Science teachers participated in this study. It is a qualitative case study underpinned by an interpretive paradigm. The unit of analysis for this study was teachers' perceptions and experiences of teaching the topic of human reproduction. Data were generated through document analysis, questionnaires and tape recorded semi-structured interviews. Such data were analysed inductively by sorting them into categories and then into emerging themes. Categories included teachers' views and experiences of being taught and teaching human reproduction, how culture influenced the manner in which teaching and learning of human reproduction takes place as stated in the socio-cultural theory, and how teachers of different gender perceived and experienced the teaching of human reproduction according to the feminist standpoint theory. The emerging themes were colour coded and then developed into analytical statements. Data triangulation, member checking, and follow up interviews ensured data validity and trustworthiness.

This study revealed that the cultural belief of the Owambo people that prohibits adults to talk to children about things related to sex because it encourages them to practice sex is still strong among individuals in the community including teachers themselves. As a result, teachers are not comfortable with teaching human reproduction topics. From the findings, it is recommended that teachers should be empowered to teach Life Science, specifically human reproduction topics, with confidence. Furthermore, parents should be made aware of the importance of including human reproduction topics in the school curriculum so that they can motivate their children to study it with an open mind.

DEDICATION

I dedicate this thesis to my parents, my late father; Josua Eelu Silas and my mother; Tessa Tshoopala Iikuyu. Your upbringing in its entirety made me the person I am today. From you, I learned a lot that is useful for life.

ACKNOWLEDGEMENTS

First, I would like to thank the Almighty God who gave me the strength to complete my study.

I am indebted to my supervisor Dr. Kenneth Mlungisi Ngcoza and co-supervisor Dr. Charles Chikunda who made sure they gave me their utmost support that I needed in this research journey.

To Mr Robert Kraft, my sincere thanks for being prepared to read my work and guide me. Your hard work has just paid off.

I am highly indebted to my dearest husband, Modestus and my niece Maria for the unconditional support they offered me throughout this journey. The same goes to my mother and siblings for keeping me in their prayers and giving me courage to complete this study.

I also would like to thank the Director of Education of Ohangwena region, Ms. Steenkamp for granting me permission to go out into schools in Ohangwena to collect data and most importantly for being so understanding and allowing me to take leave now and then. My heartfelt tribute goes to my colleagues at PAD subdivision for standing in for me whenever I was on leave.

Many thanks to my research participants for being so kind and making time to share information that I used as data in this study. Without your support I would not have made it to this level.

I am equally thankful to my MEd fellow students for their words of encouragement and critical comments on my research work. You have been there for me, we walked together and we really walked far.

Table of Contents

DECLARATION	ii
ABSTRACT.....	iii
DEDICATION	iv
ACKNOWLEDGEMENTS.....	v
ACRONYMS and/or ABBREVIATIONS	ix
LIST OF TABLES.....	x
LIST OF FIGURES.....	x
CHAPTER ONE	1
CONTEXT/BACKGROUND OF THE STUDY.....	1
1.1 Introduction	1
1.2 Background of the study	1
1.3 Potential value of the study	7
1.4 Research goal and objectives.....	7
1.5 Theoretical Frameworks.....	8
1.6 Definition of key concepts used in the study.....	9
1.6.1 Perception.....	9
1.6.2 Experiences	9
1.6.3 Taboo	9
1.7 Thesis outline	9
1.8 Concluding remarks.....	11
CHAPTER TWO	12
LITERATURE REVIEW	12
2.1 Introduction	12
2.2 The concept of human reproduction.....	12
2.3 The Namibian curriculum for basic education: Its expectations on what should be taught under human reproduction	Error! Bookmark not defined.
2.4 Culture and the teaching of Sexuality education and /or human reproduction	14
2.5 Gender as related to culture and teaching of sexuality education and/or human reproduction ..	16
2.6 Teachers' perceptions and experiences of teaching sexuality education and /or human reproduction topics.....	17
2.7 Theoretical Frameworks	18
2.7.1 Socio-cultural theory.....	19
2.7.2 Feminist Standpoint theory	20
2.8 Concluding remarks	22

CHAPTER THREE	23
RESEARCH METHODOLOGY	23
3.1 Introduction	23
3.2 Research design	23
3.3 Research site	24
3.4 The sample	25
3.5 Research goal and questions	27
3.6 Data gathering techniques.....	28
3.6.1 Document analysis	28
3.6.2 Questionnaire	29
3.6.3 Interview	30
3.8 Data analysis	33
3. 9 Validity and trustworthiness.....	34
3.10 Ethical considerations	35
3.11 Limitations to the study	35
3.12 Concluding remarks	36
CHAPTER 4	37
DATA PRESENTATION AND ANALYSIS	37
4.1 Introduction	37
4.2 Teachers' profiles.....	37
4.3 Document Analysis.....	38
4.3.1 Grade 10 Life Science syllabus	38
4.2.2 Grade 10 Life Science Textbooks	39
4.2.3 Life Science Examiners reports for 1999-2013	41
4.3 Presentation of questionnaire and semi-structured interview data	42
4.3.1 Teachers' perceptions and experiences of how they were taught human reproduction	43
4.3.2 Teachers' preference of the gender of the Life Science teacher at their time of schooling ...	46
4.3.3 Teachers' degree of comfort to teaching human reproduction topics	47
4.3.4 Teachers' perceptions (views) on the inclusion of human reproduction topics in the Life Science Syllabus	52
4.3.5. Teachers' views who (in terms of sex) is appropriate to teach human reproduction topics .	53
4.3.6 Teachers' experiences of teaching human reproduction topics.....	55
4.3.6.1 Teachers' experiences of girls' and boys' participation during human reproduction lessons	55

4.3.7 Factors influencing the teaching of human reproduction	58
4.3.8 Challenges faced by teachers during the teaching of human reproduction topics.....	60
4.3.9 Techniques used by teachers to deal with the challenges they experience during the teaching of human reproduction.....	61
4.4 Concluding remarks	63
CHAPTER 5	64
DATA INTERPRETATION AND DISCUSSION	64
5.1 Introduction	64
5.2 Analytical Statement 1: Teachers have a range of experiences and perceptions on the teaching of human reproduction	66
5.3 Analytical Statement 2: Culture of either the Life Science teacher or learners can affect the way human reproduction topics are taught.....	69
5.4 Analytical Statement 3: Female and male Life Science teachers experience the teaching of human reproduction topics differently.....	71
5.5 Analytical Statement 4: Life Science teachers face challenges when teaching human reproduction topics.....	72
5.6 Analytical Statement 5: Life Science teachers try to deal with challenges they face when teaching human reproduction	74
5.7 Concluding remarks.....	75
SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSION	76
6.1 Introduction	76
6.2 Summary of findings	76
6.3 Recommendations	78
6.4 Areas for future research.....	80
6.5 Limitations of the study	81
6.6 Conclusion.....	82
References	83
APPENDIX E: Analysis of questionnaire data	94
APPENDIX G: Interview Transcripts 1-4	145

ACRONYMS and/or ABBREVIATIONS

MoE	Ministry of Education
MEd	Master of Education
FAO	Food and Agriculture Organisation
HIV	Human Immunodeficiency Virus
AIDS	Acquired Immune Deficiency Syndrome
MKO	More Knowledgeable Others
NSA	Namibia Statistics Agency
STDs	Sexually Transmitted Diseases
STIs	Sexually Transmitted Infections
T1	Teacher one
T2	Teacher two
T3	Teacher three
T4	Teacher four

LIST OF TABLES

Table 1: Shows data gathering techniques, data collected using such techniques and the purpose for data gathered.....	32
Table 2: Shows errors made by learners in answering questions on human reproduction [source: MoE, 2009-2013]	41
Table 3: Evidence of consistency and discrepancy in Yes responses.....	51
Table 4: Shows teachers' views on the gender appropriate to teach Human Reproduction.....	54
Table 5: Shows rating of girls' participation during Human Reproduction lessons	56
Table 6: Shows reasons why girls' feel shy and uncomfortable while boys feel comfortable and enjoy being taught Human Reproduction	56
Table 7: Shows themes and analytical statements.....	65

LIST OF FIGURES

Figure 1: Shows the Namibian Regional Map [source: www.google.cpm.na/image	27
Figure 2: Shows the basic competencies to be met by learners as far as Human Reproduction is concerned [MoE, 2009, p. 30].....	Error! Bookmark not defined.
Figure 3: Shows diagrams found in Life Sciences textbooks as extracted from Life Sciences in Context textbook [source: du Plessis, 2007, p. 114-118 & 120]	40
Figure 4: Shows examples of activities included in the learners's book titled 'Disvcovering Life Science- Grade 10' [source: Chikarango, 2009, p. 134 &136]	41
Figure 5: Shows teachers' degree of comfort to teach Human Reproduction topics [n=35]	48
Figure 6: Shows sex of the teacher regarded suitable to teach Human Reproduction.....	53

LIST OF APPENDICES

- A Permission letter to the Regional Director
- B Approval letter from the Regional Director
- C Letters to the Principals
- D Consent letters for teachers
- E Questionnaire transcript
- F Interview questions
- G Interview transcripts

CHAPTER ONE

CONTEXT/BACKGROUND OF THE STUDY

Experiences, culture and personality are just part of who teachers are, and they go wherever teachers go-including their classrooms. Yet, many choices that teachers make are determined more from their cultural background than from individual beliefs (White, Zion & Kozleski, 2005, p. 2).

1.1 Introduction

This chapter gives an overview of my study, the focus of which was on grade 10 Life Science teachers' perceptions and experiences of teaching topics on human reproduction. My interest in this study was aroused by the fact that the Grade 10 Life Science syllabus requires learners to learn details of human reproduction, yet in the Oshiwambo culture these matters are not discussed openly.

In this chapter, I begin by sketching the background of the study, followed by the research goal, objectives and research questions, the theoretical framework underpinning the study, data generation techniques I employed, the potential value of the study, definitions of key concepts used, and the thesis outline. The chapter ends with some concluding remarks.

1.2 Background of the study

This study examined the views and experiences of Grade 10 Life Science teachers on the teaching of human reproduction topics. The National Curriculum for Basic Education states that Natural Science¹ an area of study under which Life Science falls, is one of the key learning areas and every person must have at least an understanding and some competence in it (Namibia. MoE, 2008). It is then recognised that Natural Science contributes to the foundation of a knowledge-based society by empowering learners with the required scientific knowledge, skills and attitudes (ibid).

¹ The Natural Sciences are separated into Agriculture, Life Science and Physical Science. Life Science is introduced in the upper primary phase (Grades 5-7) as Natural Science and Health Education (NSHE) where the basics of human reproduction are taught and the content expands at junior Secondary phase (Grade 8-10).

The national policy guide for Natural Science thus includes in its aims the following relating to the functions of the human body:

- Develop an understanding of basic functions of the human body, be aware of common diseases and importance of a clean environment in order to maintain a healthy lifestyle; and
- Develop a responsible attitude with regards to family planning and sexuality. (Namibia. MoE, 2008, p. 1)

The policy guide also encourages teachers to make their Life Science classrooms inviting and supportive to learning through displays. It adds that this can be done by learners or the teachers because it is believed that support materials enhance learning as learners see the same thing over a period of time and this will help them to remember and understand.

The structure of the Grade 8-10 Life Science curriculum in Namibia consists of (six) 6 themes namely; what is Life Science, Scientific processes, Health education, Diversity of organisms, Human Biology and Ecology. The details of the curriculum differ from Grade to Grade. In the context of this study, I will therefore concentrate on the theme Human Biology which encompasses human reproduction.

With regard to the Grade 10 Life Science syllabus, learners are expected to acquire the following competencies when it comes to human reproduction (Namibia. MoE, 2008 p. 30):

- Describe the structure of female and male reproductive systems;
- Outline the functions of each system (male & female);
- Discuss the effects of testosterone, oestrogen and progesterone in the development of sexual characteristics and puberty;
- Describe the menstrual cycle and the role of oestrogen and progesterone in the menstrual cycle;
- Describe conception and the development of a foetus throughout pregnancy;
- Discuss the function of the placenta, amniotic fluid and the uterus in the development of a foetus;
- Suggest how the development and health of a foetus are affected by the lifestyle of the expectant mother; and

- Discuss the process of birth.

In some countries such as Portugal, Ethiopia, Spain and Australia sections of the topic that deal with human reproduction in Namibia are taught under the theme Sexuality or Sex education. I would therefore like to bring to the attention of the reader that in this context reference will be made to studies on sexuality (sex) education when relevant to this study. I also learnt that most of the readings available were on sex education and not on human reproduction specifically. I henceforth provide this explanation in order to avoid misunderstanding.

In Africa, studies by Abimbola (1998); Veiga, Teixeira, Martins & Melico-Silvestre (2006); Smith (2012) revealed the teaching of the topics on human reproduction in Life Science subjects has been viewed from different perspectives by teachers. For instance, some teachers felt that these topics are difficult to teach, mentioning the poor teacher training as one factor for this perception. Others found it difficult to teach human reproduction because this is perceived as ‘taboo’ in their own culture, their learners’ or both (ibid).

Culture is defined in various ways. For instance, Nieto (2000) defines culture as beliefs, values, perceptions, norms, actions, artefacts and language shared within a group and passed down to a succeeding generation. Similarly, Dahl (2001) explains culture as a collectively held set of attributes which is dynamic and changing over time. Put differently, Ndura (2004) terms culture as “the acquired complex knowledge that individuals and communities use to affirm and interpret the values, beliefs, customs and practices that distinguish them from other people and groups in society” (p. 10). Furthermore, culture is also defined as a distinctive way of life that involves teaching and learning (Livesy & Lawson, 2008). In support of this, Lemke (2001) echoed the same sentiment by pointing out that the way we learn, walk, talk, what we believe and value may be typical of people who led lives like us including all cultures in which we have lived.

With reference to culture, specifically the belief that Owambo people have about the teaching of human reproduction has a negative effect on what learners learn because their teachers do not teach the topics fully. That is, teachers avoid teaching the topics in the required detail because they do not want to offend parents (Smith, 2012). Instead, they skim through the topics with their learners. This means, the quality of teaching and learning of human reproduction topics is compromised in the process. To this end, Goldman (2012) alluded to the fact that

sexuality education issues, discussions and vocabulary are intimidating to many people resulting in making the execution of the curriculum more complex.

It is important to understand, however, that teachers are shaped by the dominant discourse that circulates in their communities. For instance, the teacher may have come from a culture where he/she has never experienced his/her elders talking about growing up and changes that took place in their bodies. They therefore grew up in a culture that disapproves or avoids any discussion of sex related matters. It could also be that when they were taught about human reproduction at school, they found it unseemly. Conversely, strong cultural beliefs have a great potential to compromise the quality of education delivered at any level. As indicated in the epigraph, White, Zion and Kozleski (2005) observed that what teachers decide to teach and how to teach it, is grounded on their culture. Echoing the same sentiment, Viega et al. (2006) maintain that school is just one of the agents with a tangible impact on sex education and that it has a pivotal role; however its productivity decreases if there is no support by the public and prevailing political system.

As indicated at the beginning of this chapter, in the Namibian Life Science curriculum; the topic called 'human reproduction' is part of the broader theme referred to as the Human Body, which covers topics such as the respiratory system, blood circulation, and the nervous system, reproduction and so on (Namibia. Ministry of Education [MoE], 2009). The topic human reproduction covers a description of the structures and functions of the female and male reproductive systems, the role of testosterone, oestrogen and progesterone in the development of sexual characteristics and puberty, the description of the menstrual cycle, conception, pregnancy, birth etcetera (Namibia. MoE, 2009) It is worth noting that this is not intended to be sex education *per se* even though it may be seen to be so by some parents.

In Namibia, the teaching of human reproduction topics had been surrounded by silence due to cultural taboos (Kuteeue, 2004; Nashidengo, 2013). One of the taboos as the study by Kuteeue (2004) showed, is talking about sex to innocent children. It is thought that it would encourage them to try it out, that is, to practice what they learnt at school. It also emerged from Kuteeue's (2004) study into sexual and reproductive health needs of adolescents, conducted in the Oshana, Ohangwena and Karas Regions of Namibia, that parents did not see the need for sex education (which in their understanding is part of human reproduction) as knowing so much would only lead to their children being promiscuous.

In an informal discussion with fellow Rhodes MEd students, I learnt that some parents in a particular community, where one of my fellow students is a teacher, complained that the school teaches topics to their children that are above their age. In other words, they were too young to know such things (referring to the content of human reproduction). It also emerged from the same discussion that many Life Science teachers wanted to keep a professional distance between them and their learners because naming of sex organs is embarrassing to them and they regard it as an insult especially in the northern part of Namibia (Ohangwena, Oshana, Oshikoto and Omusati Regions). Adding weight to this, the findings from a study conducted in Namibia by Nashidengo (2013) divulged that:

Many Namibian teachers are challenged by linking school life with an outside world. For instance, teaching a lesson on the human reproductive system. This stirs discomfort in some learners because there is a big gap between a learner's out of school life and science teaching in the class. In other words, it is against the cultural background of some learners to talk about 'private parts' freely. (p. 1)

The quote above describes the situation I experienced as a learner and in my early years of teaching. As a learner, I found it very uncomfortable to be taught about human reproduction specifically the reproductive system, characteristics of boys and girls at puberty, the menstrual cycle and the process of birth. I was shy to participate in lessons when human reproduction was discussed and all I wanted was the chapter to come to an end.

Our Grade 10 Life Science teacher who was a female rushed us through the chapter and provided superficial explanations for some of the topics. Other sections such as the reproductive system of male and females, menstrual cycle and conception were left to us to read on our own and to make our own notes. No one was allowed to laugh during these lessons, because if you did it was assumed that you already knew everything about human reproduction and did not need to be in that class. The environment was totally different at that particular time.

Likewise, at home my parents never talked about sex related matters to us children. Not even my mother talked to me about the menstrual cycle to prepare me as a girl for changes at adolescence. I therefore, ensured that my Life Science textbook was hidden from my parents. I felt I would be blamed for bringing a textbook with pictures of the reproductive system home. Whenever I had to study for a test, I did it away from my parents' presence. Apart from that, I

did not learn much in Grade 10, but when I proceeded to Grade 12, my teacher who was also female was very open, explained why the chapter was important and motivated us to participate freely. From there, I developed a positive attitude towards the topic and it was no longer such a threat to me.

When I became a teacher, my Grade 10 learners showed discomfort with the topic on human reproduction. Only a few boys were keen to learn about things related to females. However, they were not comfortable to actively partake in discussions that concern the male reproductive system. Personally, I could not mention any of the organs in the local language, Oshiwambo as it is regarded as an insult. This means even when learners seemed to struggle to understand the topic under discussion, I could not code switch to assist them to understand things better. This somehow had a negative impact on some learners' understanding of the topic as demonstrated by the answers they gave in tests and exams. For example, they confused organs such as vulva and clitoris and could not differentiate between semen and sperm cells.

The Grade 10 Examiners' reports for 2009, 2010, 2011, 2012 and 2013 pinpointed the topic of human reproduction as one of the areas that need attention because learners answered the examination questions poorly. The poor performance could also be attributed to a range of other possible causes: lack of basic competency in writing, lack of understanding by learners, vague answers and different ways of interpreting the syllabus (Namibia. MoE, 2009, 2010, 2011, 2012 & 2013). Specific examples are as follows:

1. Learners were asked to study the diagram showing the menstrual cycle and tell *how long the menstruation period is for that particular woman? Some learners answered: 4 weeks or 4 periods* instead of *4 days*. Candidates were confused between menstrual cycle and menstruation and uterine lining and uterine wall;
2. Learners could not explain how carbon dioxide is excreted from the foetus. They responded that *it is excreted by the foetus itself* instead of *through the mother's blood*; and
3. Learners could name male reproductive organs, but failed to give their functions. For example, they referred to the function of testicles as: *it store/transport/ carry semen* instead of *it produces sperm and male hormones (testosterone)*.

The study was thus undertaken to find out how some Namibian teachers find the teaching of human reproduction topics within Grade 10 Life Science considering the influences of their personal, school and immediate cultural contexts and the demands of the syllabus.

1.3 Potential value of the study

As an educator I have undertaken this study in order to gain insights into how teachers responsible for Grade 10 Life Science felt about the teaching of the topic on human reproduction considering that culture may have an effect on the teaching of this topic. Such insights would inform Teacher Education and Advisory Teachers for Life Science of the experiences of teachers in the field to enable them to assist them to handle the topic more effectively.

The study will thus bring to the attention of curriculum developers the fact that the curriculum may contradict cultural expectations; hence teachers face challenges in delivering certain content. This necessitates the need for support from curriculum developers in terms of teaching pedagogy.

These research findings would also provide useful information to both novice and experienced Life Science teachers which would enable them to handle the topic of human reproduction more effectively. In the same vein, it would also create awareness of how to handle cultural differences in science classrooms. Again, the research will inform me as a former Grade 10 Life Science teacher and currently an Education Planner. Similarly, by conducting this research I could become a more informed parent.

1.4 Research goal and objectives

The main goal of this study was to understand Grade 10 Life Sciences teachers' perceptions and experiences of teaching the topics on human reproduction. To realize this goal, the following objectives and questions were developed.

- To understand how and what teachers are expected to teach on human reproduction topics. **Question 1:** What are the syllabus and other guiding documents' requirements with regard to the teaching of human reproduction in Grade 10 Life Science and how well has this requirements been met by Grade 10 Life Science teachers?
- To understand Grade 10 Life Science teachers' views and experiences of how they were taught human reproduction topics. **Question 2:** What are grade 10 Life Science teachers' perceptions and experiences on how human reproduction topics were taught during their school time?
- To understand Grade 10 Life Science teachers' views and experiences of their own teaching of human reproduction topics. **Question 3:** What are Grade 10 Life Science teachers' perceptions and experiences of teaching human reproduction topics?
- To determine the impact of teachers' culture on the teaching of the topics on human reproduction. **Question 4:** How do Grade 10 Life Science teachers' cultural beliefs influence the teaching of human reproduction topics?
- To identify challenges experienced by teachers when teaching topics on human reproduction. **Question 5:** What challenges do Grade 10 Life Science teachers face when teaching human reproduction topics?
- To establish ways in which teachers tackle the challenges they face when teaching topics on human reproduction. **Question 6:** How do Grade 10 Life Science teachers deal with the challenges they face when teaching human reproduction topics?

1.5 Theoretical Frameworks

This study is based on the premise that one of the obstacles to effective teaching of human reproduction in schools is that the subject is regarded as a taboo by the vast majority of teachers (Veiga et al., 2006). Therefore, the focus was on how culture shapes and affects the teaching of a topic regarded as a 'taboo' such as human reproduction. In Namibian schools, science

teachers interact with learners from different backgrounds although in most cases these learners were from the same culture as them.

In light of the above, socio-cultural learning theory informed my study. This theory stresses that cultural beliefs and attitudes have an impact on how teaching and learning takes place (Cherry, 2013). To cover a wider spectrum of culture, the gender aspect was also explored in relation to the teaching of human reproduction.

The socio-cultural theory was therefore supplemented with feminist standpoint theory which sees gender as an important factor in knowledge construction taking place in a specific social position and stresses that men and women experienced things differently (Haralambos & Holborn, 2004).

1.6 Definition of key concepts used in the study

The following are key concepts that are often referred to in this study.

1.6.1 Perception

Perception refers to the way in which something is regarded, understood, or interpreted. In the context of this study, perception refers to what Grade 10 Life Science teachers regard the teaching of human reproduction topics.

1.6.2 Experiences

Experience is defined as an event or occurrence which leaves an impression on someone. This means that Grade 10 Life Science teachers having gone through teaching of human reproduction must have picked up a number of things through the practice.

1.6.3 Taboo

Taboo is something that is prohibited or restricted by social custom. In this study, discussion around sex related matters with children is prohibited.

1.7 Thesis outline

This thesis consists of six chapters including the introduction.

Chapter 1 gives the background of the study, research goal and objectives on which the research questions are based. It highlights some potential value of the study. It also discusses the two theoretical frameworks informing the study which were used to analyse the data gathered in this study, it defines key concepts used in the study and it ends with some concluding remarks.

In **Chapter 2**, I review the literature relevant to the study. The aspects covered in this chapter include the definition of human reproduction, curriculum expectations in terms of teaching human reproduction, and aspects of culture, gender, teachers' perceptions and experiences of teaching sexuality education and/or human reproduction and theoretical frameworks, namely, socio-cultural theory and the feminist standpoint theory.

In **Chapter 3**, I present the methodology used which covers the research paradigm underpinning my study, research goal and questions, research site and participants, data gathering techniques, analysis and validation. I also discuss the ethical issues and limitations of this study.

Chapter 4 is the data presentation and analysis chapter where research findings as gathered through document analysis, questionnaires and semi-structured interviews are offered with brief comments from the researcher.

In **Chapter 5**, data is analysed and interpreted using insights from the Chapter 2. These interpretations were done by means of analytical statements which I developed from the themes that emerged from the data.

Finally, in **Chapter 6** a summary of findings, recommendations and conclusions are provided, the implication of the findings for teachers and learners are discussed, and proposals to remedy the problem faced by teachers when teaching human reproduction are offered. I also discuss the limitations of the study and possible future research ideas.

1.8 Concluding remarks

In this chapter I have sketched the overall study journey. I started by giving the background to the study in which I explained why the topic is being investigated. I discussed the goal, objectives and research questions, followed by the potential value of the study and highlight the theoretical frameworks informing the study. The key concepts in the study were defined.

The next chapter provides a review of literature relevant to this study.

CHAPTER TWO

LITERATURE REVIEW

Reviewing literature documents is how one's research adds to the existing literature. In qualitative inquiry, researchers are more interested in whether the findings of a study support or modify existing ideas and practices advanced in literature (Creswell, 2008, pp. 89-90).

2.1 Introduction

The previous chapter dealt with the context of the study aimed at understanding Grade 10 Life Science teachers' perceptions and experiences of teaching human reproduction topics. This chapter is a review of related literature to demonstrate how this study adds value to what has already been found by previous researchers. Firstly, the concept of human reproduction is defined to broaden the reader's understanding and specify how I worked with the concept in relation to the research questions in Section 1.3 of the previous chapter. In the second and third section of the review, the concepts of culture and gender are discussed in relation to the teaching of science, specifically the teaching of sex education and/or human reproduction. In addition, I engage with previous studies on the teachers' views on, and experience of, teaching of human reproduction (under sex education). I also discuss the two theoretical frameworks that I found appropriate for my study, namely, socio-cultural theory and feminist standpoint theory. Finally, some concluding remarks are provided.

2.2 The concept of human reproduction

As indicated in the previous chapter, this study focused on Grade 10 Life Science teachers' perceptions and experiences of teaching human reproduction topics, not specifically sexuality education. The two concepts are different and should not be misunderstood because human reproduction is about how the reproductive system functions and new individuals are formed (Chikarango, 2007) whereas sexuality education has to do with acquiring information and developing attitudes and views about sex, identity, relationships, intimacy and making informed decisions about behaviour (Forrest, 2004).

In the context of my study, I used the definitions of human reproduction supplied in the textbooks used in Namibian schools which I regard as appropriate for this study. Mackean (1986) clarifies that the two sexes, male and female, each produces reproductive cells called gametes from which a new organism is formed. Human reproduction therefore refers to the process by which new organisms are formed as a result of the combination of an egg and a sperm cell (Chikarango, 2007). He adds that human beings reproduce sexually and for a new offspring to be produced the egg and sperm meet/combine and become one (zygote). The fusion of gametes takes place in the reproductive system of a woman where it develops into a baby (ibid). In other words, the process of reproduction in humans requires the production of a male sex cell (spermatozoa) by mature adult males and female sex cells (ova) by mature adult females which begins at puberty stage.

Studies show that some countries do not teach human reproduction under Human Biology as it is the case in Namibia. For instance, in countries such as Portugal (Veiga et al., 2006); South Africa (Nqolomba, 2008); Spain (De Irala, Gomara & Lopez Del Burgo, 2008); Uganda (de Haas, Hutter & Timmerman (n.d); Ethiopia (Fentahun, Assefa, Alemseged & Ambaw, 2012); Kenya (Smith, 2012); Nigeria (Akpama, 2013); and Iran (Roudsari, Javadnoori, Hasanpour, Hazavehei & Taghipour, 2013) the theme sexuality or sex education is the main theme under which human reproduction topics are taught.

It is for this reason that the literature reviewed in this thesis is not explicitly on human reproduction but rather from studies on sexuality/sex education of which human reproduction is part. Hence, the definition for sexuality/sex education as Toor (2012) puts it, is a broad term, treated as a usual topic for health education and used to describe the education about human sexual anatomy, reproduction, sexual intercourse, reproductive health, emotional relations, reproductive rights and responsibilities, abstinence, contraception and other aspects of human sexual behaviour. Furthermore, sex education does not exclusively focus on coitus and reproduction but also considers all aspects of life with sexuality (p. 178).

Sex education is central to adolescence for several reasons: 1) it provides students with relevant information which could prevent worries and tensions, 2) students will have access to scientific knowledge and a healthy attitude for freedom from sexual dysfunctions; given the fact that discussions of issues around sex and human reproduction are taboo in most cultures, it is at school that learners will acquire some knowledge they will use to prevent unwanted pregnancy

and mastering their menstrual cycle and 3) to make students aware of sexual-social issues (Toor, 2012). To add more weight to the above, Shaffer (1960), expanded:

Sex education is a complex topic and it is more than mere classroom instruction, because under this umbrella there are a number of related individual goals. Among these are answering simple questions by children; supplying facts about the anatomy and physiology of the organs of reproduction; providing help and direction to boys and girls in establishing appropriate masculine and feminine roles; development of acceptable sexual behaviour; preparation for marriage; a foundation for responsible parenthood and achievement of a happy, stable family life; comprehending the issues in population control, teaching the importance of preventing certain diseases; and reducing the problems of premarital pregnancies, abortions and illegitimacy. (Shaffer, 1960, p. 178)

The aspects covered under the concept of human reproduction in the Namibian curriculum had been spelled out in Chapter 1 of this thesis.

2.3 Culture and the teaching of sexuality education and/or human reproduction

According to White, Zion and Kozleski (2005), we all participate in a variety of cultural settings such as communities and families. Teachers are not an exception, hence “they bring themselves-their life experiences, histories and cultures into the classroom” (White et al., 2005, p. 2). In the classroom they meet with learners from different or the same culture. On this note, Robinson (2010) argues that teachers must be prepared to learn about every culture they may encounter. She further clarified that appreciating the cultural differences of students enables teachers to provide a friendly classroom environment. In contrast, failing to recognize cultural differences of some students can result in a poor learning environment for them (ibid). Jegede and Aikenhead (1999) observed that if Western science does not correspond with learners’ culture then the teaching of it becomes problematic.

As alluded to earlier, the teaching of sexuality in schools is culturally unacceptable to communities in a number of countries for example, in Portugal (Veiga et al., 2006); South Africa (Nqolomba, 2008); Nigeria (Akpama, 2013); Uganda (de Haas, et al., (n.d); Iran (Roudsari et al., 2013) and Kenya (Smith, 2012). This would mean that parents and elders do not talk to their children or young unmarried adolescents about sex or reproduction as it seems immoral and indirect approval for them to engage in sex (de Haas et al., n.d). As a result of such cultural beliefs, conflict between home or community and school arise (Smith, 2013;

Roudsari et al., 2013; de Haas et al., n.d), and this could be a justification for why the teaching of certain topics in Life Science are a challenge for some teachers.

Echoing the sentiments above, Robinson (2010) expressed that sometimes the way to behave at home or school may clash, and it is therefore up to the teacher or student to see what norm or custom to follow. In addition, White et al. (2005) state that:

Teachers, students and families may disagree on the nature and value of schoolwork; work ethics may differ in definition and the role of home, family and community may diverge in respect to school. (p. 3)

Adding to White et al. (2005), the findings by Smith (2012) purport that teachers are demotivated to discuss sex related issues with learners. One of the teachers in her study revealed: “You are teaching children what they are not supposed to be taught and this is where sometimes we have a small problem between the local community and school” (p. 35).

Smith (2012) further explained that when teachers find that children think it is abnormal for them as adults to talk about things they do not hear in the society where they live, such children become ashamed. Hence, teachers do not say things as they are supposed to be. For instance, they use a lighter word for sex organs such as penis or vagina (ibid).

Furthermore, de Haas (n.d) put it teachers may lose the respect they enjoy in society. In addition, Nashidengo (2006) conceded that science educators and learners in Africa experience a conflict between their cultural values and the science curriculum. In a study conducted in Namibia, he learnt that cultural beliefs may prevent a teacher from giving local examples or drawing on learners’ everyday knowledge when teaching human reproduction. According to him, this resulted from the fact that some parents do not allow their children to discuss their private parts openly since it is associated with satanic notions.

Smith (2012) also discovered that teachers found it even more challenging to teach human reproduction topics when their own children are part of the class. Teachers therefore tried to solve this problem by swapping classes with another teacher.

In a study similar to that of Smith (2012), conducted in Tanzania, Mkumbo (2012) found out that teaching topics related to physiological aspects of sexuality/human reproduction is

challenging. The way the teacher sees his/her ability to teach human reproduction topics (self-efficacy) plays a role in how comfortable/uncomfortable they may be (Helleve, Flisher, Onya, Kaaya, Mukoma, Swai & Klepp, 2009). Another obstacle to the teaching of sexuality is the fact that the teachers responsible for teaching it, face criticism from other staff (teachers) hence, they do not get support from them (Mkumbo, 2012). It is because of these experiences that I wanted to find out the Namibian Grade 10 Life Science teachers' perceptions and experiences of teaching human reproduction topics.

2.4 Gender as related to culture and teaching of sexuality education and/or human reproduction

It is through culture that gender is determined. For example, the manner in which men and women are brought up, tells what their culture expects of them in terms of their conduct in the community. Therefore, gender is defined by the FAO (1997) as the relation between men and women, both perceptual and material. In other words, gender refers to a set of qualities and behaviours expected from a female or male by society (Ning, Dai & Zhang, 2010, p. 2). Also, gender is the “widely shared expectations and norms within a society about appropriate male and female behaviour, characteristics, and roles” (Gupta, 2000, p. 3) and is closely associated with sexuality. Renzetti and Curran (1989) clarified that gender is not determined biologically, as a result of sexual characteristics of either women or men, but is constructed socially. Furthermore, gender roles are imposed through a variety of social influences. They are formed during socialisation in childhood and adolescence and influences how women and men view things. This would apply to the teaching of sex education and or human reproduction in schools.

In a study on teachers' attitudes towards sex education by Toor (2012), it was found that 69% of the respondents favoured the teaching of sex education to both boys and girls together in a class. In the same study, male teachers preferred teaching about sexuality more than their female counterparts. In a different study, Nqoloba (2008) investigated attitudes of teachers towards sexuality and HIV and AIDS education and found the following:

- 96% female teachers in comparison to 86% male teachers agreed that learners should be taught about menstruation while more males (72%) than female teachers (64%) felt that learners should be taught masturbation; and

- A few more female teachers (62%) in contrast to 60% males supported the teaching of sexual intercourse to learners. Also, 77% female teachers favoured the teaching of puberty changes whereas only 72% of male teachers felt the same.

In light of the above, gender is a feature in my study as the subject Life Science is taught by both male and female teachers and both are part of this study. As defined in the first paragraph of this section, gender is shaped by society; hence this information enabled me to interpret the data regarding the influence of the teachers' culture on the teaching of human reproduction topics. As Ndura (2004) accentuates, gender is one of the several variables that makes up one's cultural identity thus the two concepts are intertwined.

2.5 Teachers' perceptions and experiences of teaching sexuality education and/or human reproduction topics

As put by Creswell (2008) in the epigraph, a literature review serves as an indicator of what has already been researched and what the current research can add to it. In this section, in addition to some brief discussions in Sections 2.4 and 2.5, I present in greater detail what previous studies have found regarding teachers' views and experiences of teaching sex education and/or human reproduction.

Studies repeatedly show that teachers responsible for teaching sexuality support the idea that school children should be taught topics related to human reproduction and also acknowledge that teachers find it challenging to teach these topics (Helleve et al., 2009; Nqoloba, 2008; Mkumbo, 2012; Toor, 2012). In a study done by Lotokwayo in 1997 in South Africa with teacher trainees, he revealed that they were uncomfortable teaching topics such as masturbation, sexual intercourse and erection as this was not congruent with the learners' culture and was not supported by the community.

Furthermore, Nqoloba (2008) reported that in the Eastern Cape Province in South Africa teachers admitted that they were not raised the same way they are expected to raise their own children. They grew up in the era where sex was bounded by silence. That is, they struggle to discuss sexuality with their children. In addition, in *isiXhosa*, genital organs are not called by their real names and explicit words related to sexual intercourse are not used as it is against

their culture. A similar study conducted in Malawi by Kachingwe, Norr, Kaponda, Mbeza and Magai (2005) reported that teachers see the teaching of sex education as risky because it could cause problems with parents, schools and the law. Smith (2012) concurs with the previous writers by stating that teachers who are from cultures that forbid the discussion of human reproductive topics with children fear negative reactions from the local community. As a result they teach the topic in a shallow manner although some teachers may be knowledgeable in the subject (ibid).

The teacher's confidence in teaching a topic is influenced by the knowledge, skills and strategies acquired during their teacher training, and for many teachers in schools this was not the case (Mkumbo, 2012). In a number of studies teachers stress the need for proper training in order to teach sex education effectively (Sieg, 2003; Toor, 2012, de Haas et al., n.d.). In the same vein, a study conducted with Nigerian teachers in Kwara State revealed that human reproduction topics are some of the topics perceived as important but difficult to teach (Abimbola, 1998). The teachers in the afore-mentioned study cited complexity of the topics, lack of teaching aids, abstractness, sophistication, insufficient teaching experience and never having studied the content area at university as reasons.

2.6 Theoretical Frameworks

In educational research, theories are formulated to clarify, foretell, and comprehend phenomena and, in several cases, to contest and extend present knowledge within the bounds of critical leaping assumptions (Swanson, 2013). The theoretical framework is the structure that can grip or support a theory of a research study, introduces and pronounces the theory that expounds why the research problem under study exists (ibid). Crotty (1998) broadens this by saying that the theoretical framework divulges approaches and the underlying philosophical supposition that underpins the research.

The Natural Science policy guide encourages teachers to teach Life Science creatively especially in presenting content and facilitating learning (Namibia. MoE, 2008). It is thus expected that teachers are well-acquainted with the syllabus content so that they can teach it thoroughly. Teachers are also challenged to ensure that learners are well supported to acquire the necessary subject content knowledge.

This study is based on the premise that one of the obstacles to effective teaching of human reproduction in schools is that the subject is still regarded as a taboo for the vast majority of teachers (Veiga et al., 2006). The implication here is that culture has an effect on teaching some science topics, in particular, human reproduction in the context of my study.

In light of the above, the socio-cultural learning theory supported by the feminist standpoint theory informed this study. I now discuss each of these in detail below.

2.6.1 Socio-cultural theory

The major theme of Vygotsky's (1978) socio-cultural theory is that social interactions play a fundamental role in the development of cognition (p. 1); and also on how cultural beliefs and attitudes impact on how instruction and learning takes place (Cherry, 2013). Scott and Palincsar (2013) reiterate that the socio-cultural perspective focuses on the role that participation in social interactions and culturally structured activities play in influencing mental development. This suggests that the culture of either the teacher or that of his/her learners might influence how teaching and learning takes place and hence the kind of meaning learners make when taught human reproduction in the context of this study is influenced by how their own community views it.

Lemke (2001) took Vygotsky's work further and explained that the socio-cultural theory underscores that all human activity functions mostly on upbringing, the community they live in, religion, culture and so on. According to him, socio-cultural implies notions of thinking about science or doing science as a human activity that is carried out within the instructional and cultural context. Hence, teachers cannot ignore that learners' learning is also rooted in those contexts. As such, Lemke (2001) further denotes that it is critical for teachers to understand that science is part of the larger community and culture. In other words, science cannot be taught without considering learners' culture.

Therefore, teachers' experiences of teaching the selected Life Science topic (human reproduction) that is perceived as a 'taboo' in Oshiwambo culture, is worth knowing about to see its impact on the effective teaching of this particular topic. In this study, the socio-cultural theory helped me understand why teachers view the teaching of human reproduction the way

they do, their reasoning around the topic, how they teach it and the manner in which they handle challenges due to multiple reasons. This formed the basis of my data analysis. Within the socio-cultural perspective, I also drew on Vygotsky's (1978) notion of More Knowledgeable Others (MKO) as an analytical tool.

From this perspective, it is believed that teachers have more knowledge on human reproduction topics which they ideally are supposed to transfer to their learners. To give credence to the latter, it is argued that the role of the teacher in a socio-cultural context, is to acquaint learners with and support the use of new knowledge on the social plane of the classroom, in a way that scientific knowledge befits the shared knowledge of the classroom (Leach & Scott, 2003). Furthermore, Hodson and Hodson (1998) point out that the central role of the teacher is to guide learners to new levels of conceptual understanding by interacting and talking with them.

The above arguments are true, however, in the case of teachers who came from cultures that regard the discussion of human reproduction topics as 'taboo', this means the teacher will find it difficult to play an effective role in the learning of this particular topic. Thus, their experience on how they implement this notion when teaching this will give a picture of how teachers try to harmonise their own cultures and their learners' culture with the curriculum expectations. Do they impart knowledge on human reproduction in a genuine manner? It is a fact that the culture of either the teacher or that of his/her learners may be viewed as being dishonoured or disrespected by the demands of the curriculum.

2.6.2 Feminist Standpoint theory

The Feminist Standpoint Theory supports the view of socio-culturalists because it identifies knowledge as a social product developed from a specific social position (Sprague-Jones & Sprague, 2011). Another way of putting it, the theory is grounded on the position that any view on experience is built from a specific situation (Collins, 2000; Connell, 2007; Haraway, 1988; Harding, 1998; Hartsock, 1983; Smith, 1990). More recently, feminist standpoint theory has developed in response to feminist theorists' recognition that gender cannot be understood in isolation from other social categories (Connell, 2007). As indicated above in Sub-section 2.6.1, teachers' perceptions and experiences of teaching human reproduction topics to Oshiwambo speaking boys and girls in an Oshiwambo cultural context will be explored.

Collins (2000) and Smith (1990) argue that gender is a significant factor creating differences in how people construct understanding. Therefore, feminist standpoint epistemology maintains that the way in which women encounter social life gives them unique insights into how society works. In other words, people from this school of thought believe that feminist knowledge can only come from examining the unique experience of women in societies in which men and women experience social life in different ways (Haralambos & Holborn, 2004). Therefore, this study is expected to provide a rich story of teachers' perceptions and experiences since it is inclusive of both male and female teachers however the question is: Is it the same case in this study?

Working from the standpoint of a particular social group entails grounding inquiry in their experiences and centering on their material interests (Sprague, 2005). Delanty (2005) makes a point that is crucial to my use of the theory in this research, that a feminist standpoint approach is reflexive. Its reflexivity is characterized by its recognition of the social position of the researcher in social science; that it has an emancipatory agenda, shown by its will to deconstruct the existing male-centred constructions in order to realize new possibilities for women. Although I am not that concerned with the male-female dichotomy in research, I draw strongly from this theory; that of the idea of reflexivity in research.

The concept of reflexivity also highlights the characteristics of a reflexive researcher in social science: the researcher must question their own role in the research process and be able to adopt multiple standpoints as opposed to a single standpoint as in a critique (Delanty, 2005). Feminists, who adopt this standpoint position (Smith, 1987; Harding, 1991; Collins, 1990), argue that scientific knowledge is constrained by the social location of the scientist, and therefore the existence of the woman in social research leads to quite different kinds of experience which in turn require a different cognitive approach to that of mainstream science, as historically practiced.

Related to this, Daniels (2012, p. 2), commenting on institutional culture and the patterns of social interaction within them, concluded that "the boundaries which shape researcher's horizons often serve to severely constrain the research imagination". For feminist epistemology, the object of study is also the subject; the knower and the known are the same, the reflexive relation is one of self-scrutiny and questioning one's own role in the research

process (Stanford Encyclopedia of Philosophy, 2006). My use of various research methods, data sources as discussed in Chapter 3, more than one theoretical lens in the form of statements (Chapter 4) are all my efforts to abide by reflexivity in research as argued by the Feminist standpoint approach.

2.7 Concluding remarks

This chapter reviewed the literature on sex education, human reproduction and teachers' perceptions and experiences of teaching sex education and/or human reproduction topics. The review covered the definition of human reproduction, culture and the teaching of sex education and/or human reproduction, gender as related to culture and the teaching of sex education and/or human reproduction, teachers' perceptions and experiences of teaching sex education/human reproduction topics the socio-cultural and feminist standpoint theories in terms of how they fit within the study. The next chapter focuses on my research methodology.

CHAPTER THREE

RESEARCH METHODOLOGY

Qualitative research refers to a process that investigates a social human problem, whereby the researcher conducts the study in a natural setting and builds a whole and complex representation by a rich description and explanations as well as a careful examination of participants' words and views (Flick, 2006, p. 12).

3.1 Introduction

In Chapter two I presented the literature relevant to this study. In this chapter, I give an overall picture of how the research topic and question(s) were explored. I thus discuss the research design and methods used to gather, analyse, discuss and interpret the data. A description of the research site, participants and the criteria used to select the sample is also explained in this chapter. I further discuss my research goal and questions and thereafter describe how the data gathered was validated through triangulation to ensure trustworthiness of the results. The chapter ends with an explanation of the ethics employed and the limitation of the study.

3.2 Research design

This study has been designed to conform to the interpretive paradigm. An interpretive approach provides a rich description of the phenomenon and if possible, develops some explanations (Cohen, Manion & Morrison, 2007, p. 36). Furthermore, an interpretive paradigm seeks to understand the subjective nature of human experience and is concerned with all the individuals' actions or interpretations during a certain process (Cohen et al., 2010). In this study, an interpretive paradigm was appropriate as it helped me to gain deeper insights into teachers' perceptions and experiences of teaching human reproduction. With regard to the latter, Babbie and Mouton (2001) accentuate that the goal of an interpretive paradigm is to define and realise events within the actual, natural circumstance in which they happen. Within the interpretive paradigm, a qualitative case study approach was adopted.

According to Creswell (1994), a case study is a sole case of a limited system such as a child, a group, a class, a school and so forth. A case study is also defined as a study of a case in a setting

and it is significant to set the case within its setting (Yin, 2009). Furthermore, a case study allows the researcher to catch the complexity and situatedness of behaviour, presents and represents reality to give a sense of being there (Cohen et al., 2011). Echoing this sentiment, Hodkinson and Hodkinson (2001) state that case studies retain more ‘noise’ of real life and bring out substantial issues that were unexpected when the research started. This means that using this kind of study revealed the teachers’ views and experiences which enabled me to learn new things that were not in the hypothesis. In this research, a case study approach was suitable because as a researcher using a qualitative and interpretive approach I was directly involved in the process of gathering and analysing data (Creswell, 1998).

My case was Grade 10 Life Science teachers in Ohangwena region with teaching experience of the subject of two or more years. I aimed to gain an understanding of how these teachers view and experience their real life classroom situations as far as human reproduction is concerned. For that reason, my unit of analysis was understanding Grade 10 Life Science teachers’ perceptions and experiences of teaching the topic on human reproduction within the Oshiwambo culture, in particular.

In support of these arguments, Creswell (2008) affirms that in qualitative research the choice of a site should help the researcher understand the central phenomena. Researchers are thus interested not only in the ‘stories’ and explanations that people put forward regarding their perspectives and experiences, but also in the way they themselves attend to the process of obtaining information (Hesse-Biber & Leavy, 2005).

3.3 Research site

This study was conducted in Ohangwena Region in Northern Namibia. Ohangwena is the second most densely populated region after Khomas. Its population in 2011² stood at 245 466 people while Khomas had a total of 342 141 people (Namibia. National Statistics Agency [NSA], 2011). There are 249 schools of which 120 offer Grade 10. I therefore chose this site for numerous reasons.

² The population figures above are for the 2011 population and housing census which is the latest census conducted in Namibia. This kind of census is conducted after every ten years.

Firstly, it is the region in which I work as an Education Officer based at the regional office. As a result, I had come into contact with a number of teachers at different platforms where we got to know one another. Secondly, through the interactions I had with teachers, school principals and Inspectors of Education, I secured their support to conduct this research. The support was rendered by either granting me permission to work with teachers in the schools they supervise, assisting in distributing the questionnaires or participating in the research.

Thirdly and most importantly, the inhabitants in this region are mostly Oshiwambo speaking people whose cultural views with respect to discussing sex related matters openly is regarded as a 'taboo'. That is, it is not permissible for adults to discuss things related to sex, be it changes that take place in their bodies at the adolescent stage, making babies, protecting oneself from Sexually Transmitted Infections (STIs) and so on. This made the selected teachers appropriate research participants for this study. A taboo as defined by Farberow (1963) as what is allowed and forbidden, the 'do's and the 'don'ts' and are developed by societies for their members out of self-defense, and custom enhancing reasons.

3.4 The sample

Trochim (2006) defines sampling as the process of selecting units (for example, people, and organisation) from a population of interest so that by studying the sample, we may fairly generalise our results back to the population from which they were chosen. It is crucial that sampling choices are made early on in the planning of research as factors such as expenses, time and regular convenience might inhibit the scholar from acquiring information from the whole population (Cohen et al., 2011).

For this study, purposeful sampling was used to select Grade 10 Life Science teachers of different sexes in the Ohangwena Region. At least 45 teachers who have taught Life Science for at least two years or more were targeted to participate in this study. However, due to low return rate of the questionnaire, I only managed to get 35 research participants because the other ten (10) could not meet the sampling criteria. The manner in which the main research participants were sorted is explained in Sections 3.6.2 and 3.6.3 of this chapter.

Haiping (2012) clarifies that in purposive sampling those who have in-depth knowledge and experience about an issue under investigation are chosen. Nqolomba (2008) argues that a sample is usually easy to manage and can be made available more easily than a population. I used this sampling technique because of the nature of this study. That is, the data I was looking for would only be obtained from a particular group of Life Science teachers, namely, those with at least two years teaching experience of this subject at the Grade 10 level.

Furthermore, in purposeful sampling researchers deliberately select persons and locations to study or comprehend the central phenomenon (Creswell, 2012). Cohen et al. (2011) supplement that in purposive sampling time and again (but by no means exclusively) a feature of qualitative research is that researchers select the cases to be encompassed in the sample on the basis of their finding of their typicality or possession of the specific characteristics wanted. Thus, in my sampling I was mindful of my area of interest. That is, Grade 10 Life Science teachers' perceptions and experiences of teaching human reproduction topics. I purposively picked Grade 10 Life Science teachers, both male and female, teaching in the Ohangwena Region who met the sampling criteria. This criteria was necessary because it enabled me to analyse data gathered using the elements of both socio-cultural theory which sees culture as a factor that impacts on the manner in which learning takes place and the feminist standpoint theory which argues that women and men in a society have different experiences about events, as discussed in Section 3.8. The map below shows the 14 political regions inclusive of Ohangwena.

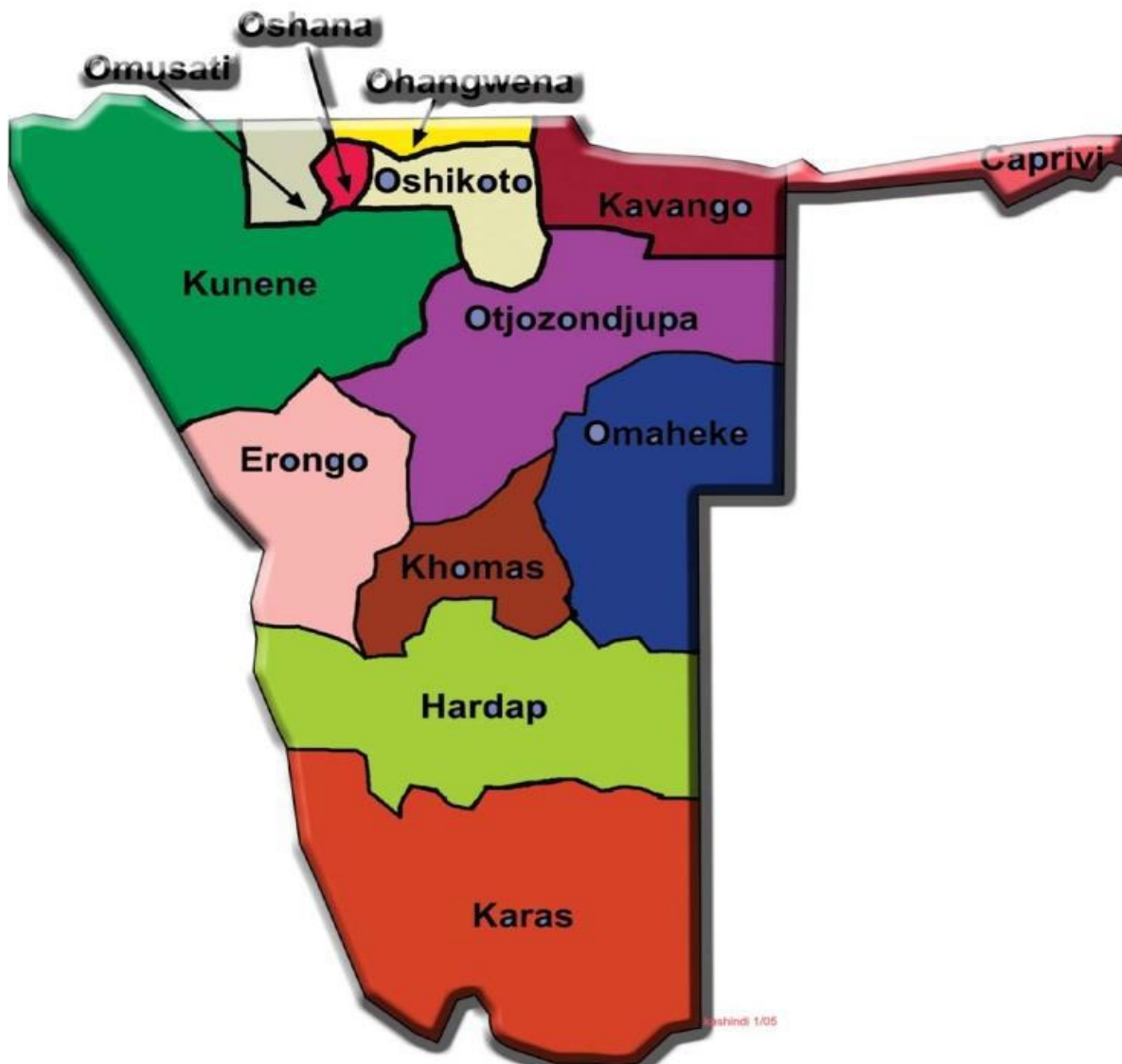


Figure 1: Shows the Namibian Regional Map [source: www.google.cpm.na/image]

3.5 Research goal and questions

The main goal of this study was to understand Grade 10 Life Science teachers' perceptions and experiences of teaching human reproduction topics.

To realise this goal, I developed the following research questions:

Research questions:

1. What are the syllabus and other guiding documents' requirements with regard to the teaching of human reproduction in Grade 10 Life Science and how well has these requirements been met by Grade 10 Life Science teachers?
2. What are grade 10 Life Science teachers' perceptions and experiences of how human reproduction topics were taught during their school time?
3. What are Grade 10 Life Science teachers' perceptions and experiences of teaching human reproduction topics?
4. How do Grade 10 Life Science teachers' cultural beliefs influence their teaching of human reproduction topics?
5. What challenges do grade 10 Life Science teachers face when teaching human reproduction topics?
6. How do Grade 10 Life Science teachers deal with the challenges they face when teaching human reproduction topics?

The answers to these questions were obtained through using questionnaires and semi-structured interviews as main data gathering techniques. These two main data gathering techniques were supplemented with document analysis as baseline data (to strengthen my context). The three data generating techniques were used for triangulation purposes. I now discuss in detail, each of these data gathering techniques in the subsequent section.

3.6 Data gathering techniques**3.6.1 Document analysis**

In this study, I analysed the Grade 10 Life Science syllabus, Life Science textbooks and Life Science Examiners' reports for the past five years (2009-2013). The Grade 10 Life Science syllabus was analysed in order to understand what the syllabus requires learners to know with regard to human reproduction. This was done to consider the depth and scope of the content to be covered. I was also interested to see whether it encouraged teachers to link human reproductive concepts to everyday knowledge.

Secondly, I analysed two prescribed textbooks titled *Discovering Life Science Grade 10* and *Life Science in Context Grade 10* mainly to understand what the content covers. I focused my analysis of the textbooks on how the topic is presented (e.g. Is the language straight forward or has the author tried to use informal words for some of the terms?), the illustrations used and general picture of the chapter in the two textbooks). Thirdly, I scrutinised Grade 10 Life Science Examiners' reports for 2009-2013 to establish how the human reproduction questions have been answered and to read the overall comments and or suggestions of examiners' over the years.

According to Cohen et al. (2007), document analysis provides an opportunity for the researcher to reach even isolated subjects. Through document analysis, I was able to get additional information that was impossible to get from the questionnaires and interviews. This information is presented in Chapter Four Section 4.4.

3.6.2 Questionnaire

In the questionnaire (see Appendix E), I used a combination of closed and open-ended questions to explore Grade 10 Life Science teachers' perceptions and experiences of teaching the topics on human reproduction. The advantage of closed questions is that they are straight to the point and more focused while open ended questions enable participants to provide explanations to questions which help to qualify their responses and avoid the limitation of replies (Cohen et al., 2011). The questionnaire also enabled me to reach a wider community of teachers because it was distributed to all Grade 10 Life Science teachers in the Ohangwena Region to get a broader perspective on this topic.

I sent out 150 questionnaires to 120 schools offering Grade 10 after I piloted it with my three colleagues (who were also Life Science teachers) from our work place. The number of questionnaires sent out exceeded the number of schools because there were more than one Grade 10 Life Science teachers in schools with a bigger learner enrolment. I received at least 45 questionnaires back of which 2 were incomplete and another 8 were completed by teachers with less than two years experiences and thus could not be considered. That means in Chapter Four I will present data from 35 questionnaires only.

3.6.3 Interview

Kvale (1996) defines an interview as an interchange of views between two or more people on a topic of mutual interest (p. 14). On the same note, interviews enable participants to discuss their interpretations of the world in which they live, and to express how they regard the situation from their own point of view (Cohen et al., 2011). In this study, I opted to include a semi-structured interview as one of my data gathering techniques in order to fill up the information gaps that emerged from the questionnaire data. That is, I used the interview to probe teachers to give in-depth information on the topic under investigation. Therefore, when conducting a semi-structured interview, the researcher utilises an interview schedule with open-ended questions which he/she intends to ask (Leedy & Ormrod, 2005). Leedy and Ormrod further recommended that a semi-structured interview is suitable for qualitative studies.

In addition, semi-structured interviews provide useful information when the interviewer cannot directly observe participants and gives the interviewer an opportunity to ask further questions to elicit information (Creswell, 2012). Since I could not observe teachers' lessons on human reproduction, the semi-structured interview provided me with an opportunity to seek clarity on various aspects geared towards achieving the research goal.

Four teachers (two males and two females) from four different schools were interviewed individually to elicit in-depth information on this topic. They were given pseudonyms teacher 1, 2, 3, and 4 which I shortened as T1, T2, T3 and T4. These teachers who formed part of the group which returned the questionnaires were purposefully selected from the schools nearby my work place for easy access. Although the questionnaire was anonymous, they were unexpectedly returned in envelopes with school stamps which I used to confirm that the targeted teachers did qualify for the interview.

I first designed and piloted an interview schedule (see Appendix F) with two teachers. I also presented my research questions to my fellow MEd students for their input. Piloting and sharing of the interview questions with fellow students enabled me to identify questions that needed to be rephrased to capture information that answered my research questions in the actual interview.

All interviews were conducted at the participating teachers' convenient time and place. I ensured that my interviews did not interfere with lessons by arranging to conduct them after school. The interviews were audiotaped with the participants' consent and thereafter transcribed verbatim. The transcriptions were subsequently given back to the interviewees to verify the authenticity of their responses. The verification of data by the respondent is referred to as member checking (Creswell, 2012) and this is further discussed in Section 3.9 of this chapter.

The first interview was conducted as agreed. The teacher was, however, referring to sexuality education when answering most of the questions. In my follow-up questions, I managed to a certain degree, to guide him to what the interview was focused on. A follow-up interview which only concentrated on areas where the teacher did not answer satisfactorily was also conducted in order to obtain data relevant to the study.

The second interviewee was busy most of the time which led him to suggest that we conduct the interview over the phone at either 00H00 or 06H00 early morning. I opted to do it early morning, however, he could not answer at the agreed time. This interview only materialised three days later at 15H30. It was fortunately, not interrupted by incoming calls. The sound quality of the tape was also good. I did not encounter problems in conducting the third interview. Although the teacher made reference to STIs prevention in some of her answers, I was able to redirect her to the area of focus, the teaching of human reproduction topics in tenth grade.

In the fourth interview, the teacher I initially planned to interview took maternity leave. She however referred me to her colleague who also teaches some Grade 10 Life Science learners at their school. It was a fortunate situation because this particular teacher was willing to be interviewed. I conducted the interview at around 14h00. The teacher requested me to interview her quickly because she had to invigilate Grade 10 examinations at 15H00. At the beginning of the interview there was noise from learners who walked past the window of the office in which we were busy conducting the interview as well as two teachers who were chatting outside a nearby office. There were no more disruptions and the interview went well. All teachers preferred to be interviewed in English and interviews lasted between 16-27 minutes. Participants had no problem with the interviews being tape recorded. They also assured me that

I could approach them for further questions. I did not experience any problem with the audiotape. The process of data gathering is summarised in Table 3.1 below.

Table 1: Shows data gathering techniques, data collected using such techniques and the purpose for data gathered

Data gathering technique	Data collected	Purpose
<ul style="list-style-type: none"> • Document analysis (a) Analysis of the Life Science syllabus (b) Analysis of the Life Science Grade 10 prescribed textbooks (c) Analysis of the examiner's report 	<p><i>What the syllabus requires learners to learn regarding human reproduction. Does it encourage teachers to draw from learners' prior knowledge?</i></p> <p><i>How is the topic presented in the textbooks?(How much content does the textbook cover, the language and illustrations used</i></p> <p><i>How is this topic performed over the years? What problems, (if any) did examiners register in relation to performance?</i></p>	<p><i>To determine the depth of the content to be taught under human reproduction.</i></p> <p><i>To evaluate the content, illustrations and terms used in learners' textbooks.</i></p> <p><i>To gain insights into performance of the topic under investigation.</i></p>
Semi-structured questionnaire and interview	<i>Teachers' experiences and perceptions of teaching human reproduction, cultural influences on the teaching of human reproduction and strategies attempted by teachers to address challenges they face.</i>	<i>To get relevant information that answers my research questions.</i>

3.7 Piloting

This study was preceded by a pilot of data gathering techniques. Leedy and Ormrod (2005) argue that piloting enables the researcher to determine whether respondents will struggle to understand the questions and whether the kinds of responses obtained will have sufficient value to help answer the research query. Firstly, the questionnaire guide and interview schedules were piloted as explained earlier in Sections 3.6.2 and 3.6.3 before the main data was collected.

I also made time to ask those I piloted with, to assess the questionnaire and interview schedule. Their input was recorded and considered to improve the instruments.

The data gathering techniques were improved by correcting errors detected, deleting questions that did not provide answers to the research questions and rephrasing questions in an understandable way. This process also enabled me to prepare myself to ask more probing questions in the actual interview. In view of the above, Schram (2006) observed that:

As a qualitative field worker, you cannot view your task simply as matter of gathering or generating 'facts' about 'what happened'. Rather, you engage in an active process of interpretation: noting some things as significant, noting but ignoring others as not significant, and missing other potentially significant things altogether. (p. 9)

3.8 Data analysis

Cohen et al. (2011) define qualitative data analysis as making meaning of data in terms of the partakers' definitions of the situation, observing patterns, themes, categories and consistencies. I used an inductive analysis coupled with the socio-cultural and feminist standpoint theoretical frameworks to make sense of the data collected in this study.

McMillan and Schumacher (2010) define inductive analysis as the process where a qualitative scholar synthesises and makes sense of the information, beginning with precise data and ending with categories and patterns. Furthermore, in inductive analysis, data in the form of transcripts are read through several times and sorted into themes according to what emerges out of such data (Reichert, 2010). For instance, I looked for teachers' views and experiences of teaching human reproduction topics, teachers' views and experiences of teaching human reproduction to boys and girls, factors impeding effective teaching of human reproduction, challenges faced by teachers and how they dealt with such challenges.

At the same time, I considered that the socio-cultural theory emphasises that culture influences the manner in which teaching and learning takes place and the feminist standpoint theorists who argue that women experience things differently from men. Therefore, with such lenses, I also looked at the following in my analysis: the cultural issues (gender related, religious beliefs) arising from the data, whether Grade 10 Life Science male and female teachers

perceive and experience the teaching of human reproduction the same way or not. I also used this notion to analyse whether my participating teachers face similar challenges or not.

The data that were relevant to the themes identified for use in Chapter four were colour coded depending on the type of information they provided. For instance, I colour coded data related to the curriculum with a purple colour, a blue colour was used to represent information on teachers' perceptions of teaching the topic, green for teachers' experiences of teaching the topic, challenges were colour coded pink and a lime colour was used to indicate solutions to challenges. For culture related issues an orange colour was used. I adopted the suggestion by Thomas (2003) to do colour coding by using the computer. Later, I transferred the data from its original cluster position into themes as they were identified during the coding process and such themes translated into analytical statements.

3. 9 Validity and trustworthiness

In order to ensure credibility, validity and genuineness, the process of triangulation of data was carried out. Triangulation involves finding evidence from different sources of information or different methods of data generation (Van As & Van Schalkwyk, 2008). In this study data were gathered using three different data gathering techniques namely document analysis, questionnaire and semi-structured interview. Using several data gathering techniques can give a researcher a chance to discover the information which one method fails to provide (Leedy & Ormrod, 1989). I also made provision for member checking of the transcribed interviews (Creswell, 2012) to ensure that the meaning of the data gathered was maintained.

Creswell (2012) defines member checking as a process in which the researcher asks one or more participants in the study to check the accuracy of the account (p. 259). One of the participants did not see the need to verify the information in the transcript. Another participant only read the first page of the transcript and informed me that it was fine while the other two read through and made some grammatical corrections. The manner in which I validated the data gathered also shows the reflexivity I discussed earlier in Section 2.6.2 of this thesis.

3.10 Ethical considerations

To avoid tensions and ensure research participants' safety in my research journey, I followed the appropriate ethical principles of conducting research. Ethical consideration involves making participants aware of what is expected so that they can make an informed and voluntary decision on whether or not to participate (Liamputtong, 2007).

Before I carried out this research, I wrote a letter to the Director of Education of Ohangwena region requesting for permission to conduct a research in Junior Secondary Schools in the region (see Appendix A). Permission to conduct research was granted (see Appendix B). Another letter was addressed to school principals to seek permission to conduct research with Life Science teachers at their schools (see Appendix C). Consent was also sought from specific Grade 10 Life Science teachers who participated in the research. This means I asked them to indicate their willingness to complete the questionnaire and to be interviewed by means of signing consent letters (see Appendix D).

To be transparent, I explained the purpose of the study to my research participants and assured them of confidentiality and anonymity. Teachers were asked not to write their names on the questionnaires. Those whom I interviewed, were identified by pseudonyms Teacher 1, 2, 3 and 4 shortened to T1, T2, T3 and T4. I asked for their permission to tape record individual interviews. I further clarified to the participants that participating in the study was a voluntary decision and they could therefore agree or withdraw from partaking at any time.

3.11 Limitations to the study

Creswell (2012) states that limitations may address problems in data collection, unanswered questions by participants or better selection of purposeful sampling of individuals or sites for the study (p. 259). This study was conducted in one of the 14 regions in Namibia that is, Ohangwena and only a few (thirty five) Grade 10 Life Science teachers participated. Therefore, the findings from this research cannot be generalised. However, some insights on the impact of culture on the teaching of science can be of great use to educators both in the country and abroad.

Another limitation is that the questionnaire and interviews were in English as it was the research participants' choice. It could be that teachers did not express themselves the way they intended as they are all English second language speakers. This might have led to loss of meaning and accuracy of information provided. Also, I cannot rule out the fact that in some instances the participants may have said what they assumed I would like to hear and did not necessarily provide their honest answers to questions.

3.12 Concluding remarks

In this chapter I described the research design applied to generate data that enabled me to gain insights into the topic under investigation. I also described the site and how I chose the research participants. The chapter further covered data generating techniques used to answer my research questions, namely, documents analysis, questionnaire and semi-structured interviews which were first piloted prior to the actual data gathering exercise. I then discussed how data were analysed and interpreted to draw conclusions regarding the findings. Finally, I elaborated on validation methods, ethics and limitations of the study.

In the next chapter, I present and analyse the data gathered in the study process using the techniques I described in Section 3.6 of this chapter.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

To analyse is to find some way or ways to tease out what we consider to be of essential meaning in the raw data; to reduce and reorganise and combine so that the readers share the researcher's findings in the most economical, interesting fashion (Ely, Anzul, Friedman, Garner & Steinmetz, 1991, p. 140).

4.1 Introduction

The preceding chapter described how data was gathered to gain an understanding of Grade 10 Life Science teachers' perceptions and experiences of teaching human reproduction topics. In this chapter, I present the data I gathered through questionnaires and interviews. Before presenting the data from questionnaires and interviews, I provide an outline of some of the documents that I reviewed. The selected documents support the teaching of human reproduction in Namibia and were used in this study in part to strengthen the context.

The chapter begins with a profile of the site and participants, and thereafter presents the results of the main study. The questionnaire and interview data are presented together because most of the questions were asked in both techniques. This was done purposely to ensure validity of data. In an attempt to document such data neatly and report it in an accessible manner, I deemed it necessary to use headings that I formulated from the questionnaire. By so doing, I was also able to focus on relevant data as Ely, Anzul, Friedman, Garner and Steinmetz (1991) emphasised in the epigraph above.

4.2 Teachers' profiles

As indicated in Section 3.3, the study was conducted in Ohangwena region, one of the 14 education regions in Namibia. The thirty five (35) out of forty five (45) Grade 10 teachers who returned the questionnaires and have taught the subject in this particular grade for at least two years or more participated in the study. The majority of the research participants are Oshiwambo speaking people, the dominant ethnic group³ in the region and only five spoke

³ Other tribes found in Ohangwena region include the San (Aakwankala), Hereros (Aaherero), Caprivians (Aakaprivi), Kavangos (Aakavango).

Silozi as a home language. This therefore did not have effect on the purpose of the study which was underpinned by the fact that the discourse around sex related matters is a ‘taboo’ to Oshiwambo speaking people. That is, I had a reasonable number of Oshiwambo speaking teachers participating in the research. Participants comprised of 18 males and 17 females who are Grade 10 Life Science teachers from different religions and with teaching experiences ranging from 2 to 22 years.

What follows is the presentation of the data I gathered for this study. After presenting data from documents, I first present the survey data and thereafter the data generated from interviews.

4.3 Document Analysis

Data from the analysed documents were used to answer the following research question: What are the syllabus and other guiding documents’ requirements with regard to the teaching of human reproduction in Grade 10 Life Science and how well have these requirements been met by Grade 10 Life Science teachers?

4.3.1 Grade 10 Life Science syllabus

The Grade 10 Life Science syllabus articulates that learners are expected to demonstrate the following competencies after learning the content of human reproduction. This translates that Grade 10 Life Science teachers should make sure that learners have acquired the following competencies:

7.6 Reproduction	<ul style="list-style-type: none"> know the structures and function of the female and male reproductive systems and acknowledge the roles of testosterone, oestrogen and progesterone in the development of sexual characteristics and puberty understand the roles played by oestrogen and progesterone in the menstrual cycle 	<ul style="list-style-type: none"> describe the structures of female and male reproductive systems outline the functions of each system (male and female) discuss the effects of testosterone, oestrogen and progesterone in the development of sexual characteristics and puberty describe the menstrual cycle and the role of oestrogen and progesterone in the menstrual cycle
7.7 Conception, pregnancy and birth	<ul style="list-style-type: none"> understand conception and the development of a foetus throughout pregnancy, and realise the role of the placenta, amniotic fluid and the uterus in the development of a foetus acknowledge that the lifestyle and health of the expectant mother influences the development and health of a foetus know the process of birth 	<ul style="list-style-type: none"> describe conception and the development of a foetus throughout pregnancy discuss the function of the placenta, amniotic fluid and the uterus in the development of a foetus suggest how the development and health of a foetus are affected by the lifestyle of the expectant mother discuss the process of birth

30

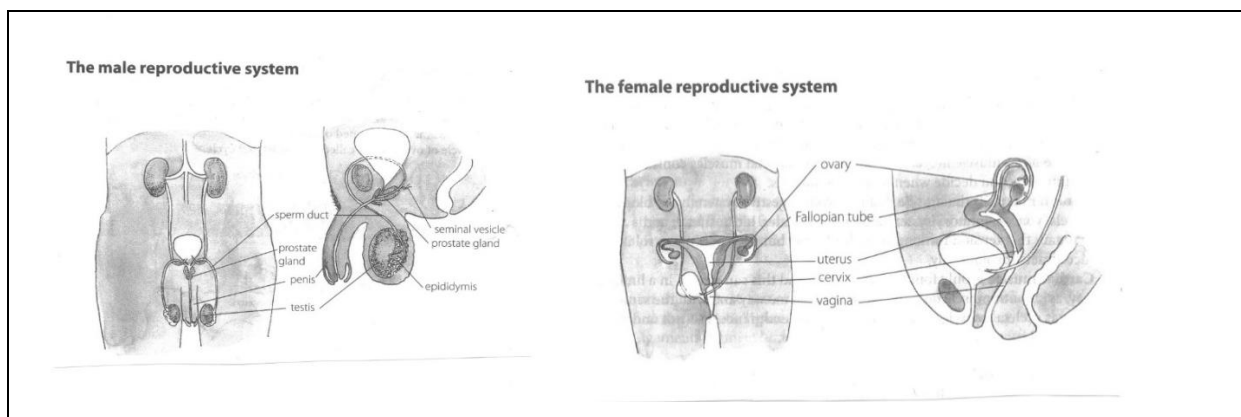
Figure 2: Shows the basic competencies to be met by learners as far as human reproduction is concerned (Namibia. MoE, 2009, p. 30)

The syllabus requires learners to acquire an understanding of the whole process of reproduction in humans. This means that it requires the teachers to talk to learners about things they possibly do not hear about at home such as their private parts, explaining their functions, explaining how a woman conceives *etcetera*. The teacher has therefore to work out how to deal with the topic and get learners to actively participate during lessons. Furthermore, the syllabus did not suggest any link to the learners' prior knowledge when teaching human reproduction.

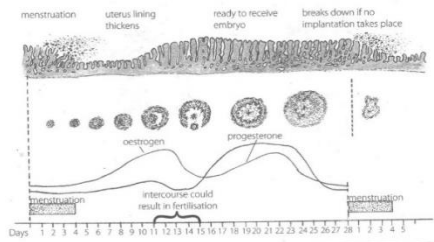
4.2.2 Grade 10 Life Science Textbooks

Discovering Life Science Grade 10 (textbook 1) and Life Science in context Grade 10 (textbook 2)

The textbooks I analyzed are those used by teachers and learners in Namibian schools. These textbooks are written in accordance to the basic competencies reflected in the grade 10 Life Science syllabus. The content follows the order of the syllabus competencies; therefore the entire content is covered. However, this limited the depth of the content covered and narrowed the learning scope because the author tries to target only the basic competencies. The language used is straight forward (e.g. organs are called by their real names) and easy to understand. Authors also made use of diagrams in presenting the content. For example, diagrams (in a vertical and cross section view) of the male and female reproductive systems are provided before the functions of those organs and so on. The figure below shows some examples of diagrams that accompany the content presented in these textbooks.



Menstrual cycle



Conception, pregnancy and birth

Male and female sex cells
The male and female produce special reproductive cells called **gametes**.

The male gametes are called the **sperm** and the female gametes are called the **ova** (ovum is the singular).

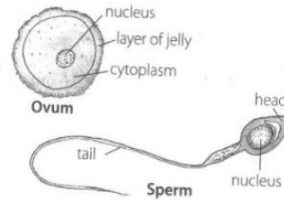


Figure 7.32 The male and female gametes

The stages of ovulation, fertilisation and implantation

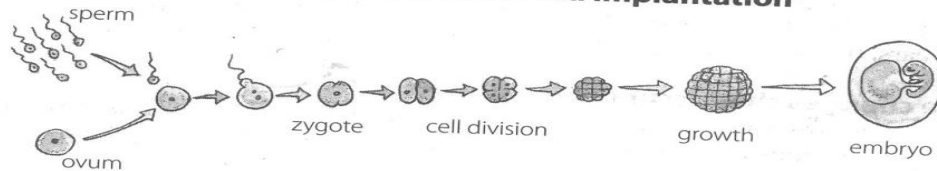


Figure 7.33 Only one sperm fertilises an egg.

Birth

This occurs about nine months (38 – 40 weeks) after fertilisation. The wall of the uterus has thick, strong muscles ready for the baby's birth. A few days before birth the baby turns in the uterus until its head points downwards and the head drops lower in the uterus.

Birth begins when the uterine muscles start to contract and continue to contract. This is the beginning of labour. The cervix opens to allow the baby to pass into the vagina, which expands to accommodate the baby. During this process, the amniotic sac tears and amniotic fluid is released. This is often called 'the waters breaking.' After some time the contractions push the baby out of the mother's body. A few minutes later more

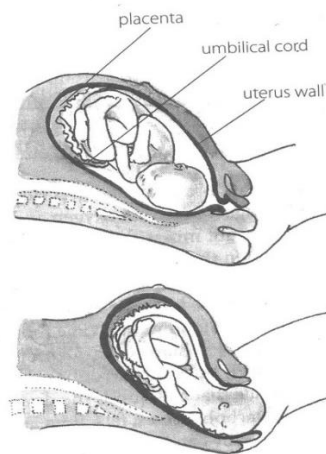


Figure 3: Shows diagrams found in Life Sciences textbooks. Extracted from Life Sciences in Context textbook [source: du Plessis, 2007, p. 114-118 & 120]

From the pictures above, I observed that the author tried to illustrate the exact pictures in real life. I however noticed that the chapter in Discovering Life Science textbook is presented in a way that there is an activity after a discussion of each topic while there was none in the Life

Science in context textbook. Examples of such activities are shown below.

ACTIVITY		QUESTIONS												
<p>WORK ALONE</p> <p>FUNCTION OF THE FEMALE SEX ORGANS</p> <p>1. Copy the table below and rearrange functions in the second column to match parts of the female reproductive system in the first column.</p> <table border="1"> <thead> <tr> <th>Part</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>Ovary</td> <td>where a baby develops during pregnancy</td> </tr> <tr> <td>Oviduct</td> <td>Where sperms are deposited</td> </tr> <tr> <td>Uterus</td> <td>Production of eggs and hormones</td> </tr> <tr> <td>Cervix</td> <td>Separates uterus from vagina</td> </tr> <tr> <td>Vagina</td> <td>Where fertilisation takes place</td> </tr> </tbody> </table>		Part	Function	Ovary	where a baby develops during pregnancy	Oviduct	Where sperms are deposited	Uterus	Production of eggs and hormones	Cervix	Separates uterus from vagina	Vagina	Where fertilisation takes place	<p>1. Explain what is meant by the term puberty?</p> <p>2. State any three characteristics that develop at puberty in:</p> <p>a) boys</p> <p>b) girls</p> <p>3. Name the hormone that influence secondary characteristics in:</p> <p>a) boys</p> <p>b) girls</p> <p>4. State the other function of the hormone that influence secondary characteristics in girls.</p>
Part	Function													
Ovary	where a baby develops during pregnancy													
Oviduct	Where sperms are deposited													
Uterus	Production of eggs and hormones													
Cervix	Separates uterus from vagina													
Vagina	Where fertilisation takes place													

Figure 4: Shows examples of activities included in the learners' book titled 'Discovering Life Science- Grade 10' [source: Chikarango, 2009, pp. 134 &136]

4.2.3 Life Science Examiners reports for 1999-2013

These reports show that over the years learners do not answer the questions on human reproduction well. Some of the mistakes made in answering questions that have been picked up by the examiners are summarized in the table below.

Table 2: Shows errors made by learners in answering questions on human reproduction [source: MoE, 2009-2013]

Question	Examiner's observation	Expected answer
Using the given calendar (calendar shows menstrual days for Mary in May and June), <i>On which date could Mary have become pregnant if she had unprotected sex?</i>	Learners gave day (s) of the week instead of date (s).	17-19 May.
<i>Explain the changes that occur in the uterus lining when progesterone level increases during the menstrual cycle.</i>	Most learners mentioned uterine wall instead of uterine lining. They did not know the difference between the functions of oestrogen and progesterone.	Oestrogen thickens the uterus lining while progesterone thickens the uterus lining more.
<i>What is a zygote?</i>	Most learners defined fertilization instead.	A fertilized egg/ovum/diploid cell with 46 chromosomes OR a cell formed after fusion of male and female gametes/nuclei.
The diagram shows the means of attachment of the foetus to the mother during development. <i>Indicate on the diagram, by</i>	Some learners made no attempt to answer this question	Umbilical vein- downwards umbilical artery-upwards

<i>using arrows, the direction of blood flow in the vessels of the umbilical cord.</i>		
<i>Suggest the function of the ciliated cells in the oviduct.</i>	Learners referred to carries or transport. Many confused the cilia in oviduct with those in the trachea.	Pushes/move/sweep ovum towards the uterus.

The information in Table 2 above shows that performance in human reproduction topics was not convincing because:

- Learners lacked the correct vocabulary;
- Learners had limited knowledge of the subject; and
- Learners struggled to give reasons for their answers.

Given the above observation, the examiner suggested that teachers need to improve on their teaching of Life Science. Only then, could learners' performance improve. Specific remarks were made with regard to the interpretation of the syllabus as it was observed that teachers interpret the Life Science syllabus differently and as result they do not really cover all aspects. The examiner also suggested the need to use a variety of resources to have more information on the topic being taught. Most importantly, the examiner urged teachers to use science terms and facts and not general English during teaching. Also, it is emphasized that the explanations of terms must be scientifically correct. Furthermore, teachers were advised to pay attention to topics such as the structure and functions of the male and female reproductive system, the role of estrogen and progesterone in the menstrual cycle and the function of the placenta and blood vessels found in it.

This raises some challenges experienced by teachers when teaching topics on human reproduction. It remained to be seen in the questionnaires and interviews, how Grade 10 Life Science teachers attempted to deal with these challenges.

4.3 Presentation of questionnaire and semi-structured interview data

As I explained in the introduction above, most questions posed to the research respondents in the questionnaire were also repeated with those interviewed. I therefore found it essential to

combine such data. The data gathered through the questionnaires and semi-structured interviews were used to answer the following research questions:

- What are grade 10 Life Science teachers' perceptions and experiences of how human reproduction topics were taught during their school time?
- What are Grade 10 Life Science teachers' perceptions and experiences of teaching human reproduction topics?
- How do Grade 10 Life Science teachers' cultural beliefs influence their teaching of human reproduction topics?
- What challenges do grade 10 Life Science teachers face when teaching human reproduction topics?
- How do Grade 10 Life Science teachers deal with the challenges they face when teaching human reproduction topics?

The findings were as follows:

4.3.1 Teachers' perceptions and experiences of how they were taught human reproduction

Teachers' perceptions

Teachers were asked to share their views on how human reproduction topics were taught while they were learners at school. The purpose was to get background information in terms of where the research participants came from with the topics on human reproduction. The manner in which these teachers were taught could have affected their views on the topic. Research findings show that teachers had different views towards learning this topic. Some indicated that they found human reproduction important because it was taught by enthusiastic teachers who also encouraged them to take it positively. For instance, 13 out of 35 or 37% of the research participants who had positive views of the topic emphasized its importance: *“Interesting because it gives a clear picture about human body e.g. stages: a human being has to go through to become an adult, sexual developments that take place both in males and females.”* (Questionnaire data, question 2.1, bullet number 3).

“Myself I have enjoyed it because I was exposed to know my reproductive organs and to know the parts and their functions, to be introduced to the stages of puberty and ... what are the factors that can lead to a person to be a young parent.” (Interview transcript 1, line 35).

Another respondent who is a female acknowledged that the topics were informative and interesting; however, she blamed the classroom environment for being unfriendly to girls. She said: *“It was an interesting topic, informative and enjoyable. Myself I never felt comfortable at this topic especially on the female sections as boys in the class used to tease girls.”* (Questionnaire data, question 2.1, bullet number 1).

In contrast, some said that it was embarrassing to be taught such things and others could not see the need to learn about it as it contravened with their cultural values. For example, 10 out of 35 respondents pointed out that the topics were sensitive and uncomfortable to teach also because of cultural restrictions. Some of them were quoted as follows:

“The topic was very sensitive and teachers could not explain all the details thoroughly”. (Questionnaire data, question 2.1, bullet number 2).

“It was a sensitive topic to me because that time children were not allowed to talk about it”. (Questionnaire data, question 2.1, bullet number 4.)

“The topic was very sensitive and teachers could not explain all the details thoroughly. Learners were not given an opportunity to express their pre-knowledge on the topic as they were considered minors and they were not expected to know much about reproduction.” (Questionnaire data, question 2.1, bullet number 8).

“I say they were not really explained as we expected. We noticed that the teacher was somehow reluctant to teach some of the things that are looked at as the taboo in the society. Most of our elders have this thing of there are things that you have to say around children. So like mentioning the reproductive organs is something that is not allowed. Especially if you have to talk to a person of the opposite sex. So it is something that they look at like no, is not appropriate”. (Interview transcript 3, line 32 and 37).

Teachers' experiences

Many of the teachers (33 out of 35) representing 94% who participated in this study could vividly recall how their teachers conducted the teaching of human reproduction and only (2 out of 35) indicated that they did not study this topic at the time of their schooling. They related that in most cases teachers were uncomfortable or shy hence they avoided learners' questions, rushed learners through the content or left out some of the topics. *"Teachers were not giving clear explanation and do not like to be asked detailed questions by learners."* (Questionnaire data, question 2.1, bullet number 11). Another respondent revealed that: *"Teachers presents [meaning presented] this lesson in a teacher centred approach. No learner's view was asked and the teacher [teachers'] explanation was short and quick."* (Questionnaire data, question 2.1, bullet number 18).

Out of shyness and discomfort in teaching human reproduction, some teachers also tried to avoid eye contact with their learners (in this case my research participants). Perhaps they felt it would give them a bit of courage to deliver the content. The following describes their approach: *"They [referring to human reproduction topics] were not taught comfortably and freely, because I remember our Life Science teacher use to put on shades/rather specs [sun glasses] believing that he would not face the learners during the presentations of the topic, especial at crucial topics like menstruation and sexual intercourse."* (Questionnaire data, question 2.1, bullet number 21). Adding to this, other participants (3 out of 35) recalled how they were sometimes instructed to do self-study on the topics under discussion by saying: *"Teachers avoided some issues more especially sexual intercourse and menstruation. Sometimes teacher instructed us to study on our own, as apparently we knew some of the things"* (Questionnaire data, question 2.1, bullet number 7). Another respondent with a similar experience contributed that *"The human reproductive were not taught into details. Some sensitive organs were left untouched by the teacher."* (Questionnaire data, question 2.1, bullet number 23).

Something that came out of the study was that only few (3 out of 35) or 8% of the participants were taught by teachers who freely explained the content and treated the topic in a normal way. Their teachers explained facts clearly and encouraged them to participate in lessons. This made them as learners of the time enjoy the topic especially because it was taught at the time when they were adolescents.

In summary, the majority of research participants had interesting experience as far as human reproduction teaching is concerned. Topics were taught differently from any other Life Science topics (as participants put it) because teaching aids were rarely used, learners had no opportunity to seek clarity for unclear explanations provided and teachers spared learners some information thinking that they were too young to know everything about this topic. The extract below encapsulated what respondents encountered.

“Differently [that is teaching], no teaching aids , no clear explanation (in details), teachers were not free, they were not asked by learners unless they angry and leave the class, the next day the teacher will jump to the other (next) chapter.” (Questionnaire data, question 2.1, bullet number 24).

4.3.2 Teachers’ preference of the gender of the Life Science teacher at their time of schooling

Research respondents were also asked to indicate who (in terms of gender) they would have preferred to teach them Life Science while they were learners. Many of the teachers (22 out of 35) that is 63%, who participated in the study favoured male Life Science teachers and only eight (8 out of 35 or 23%) would have opted for a female teacher. The remaining 5 out of 35 (14%) indicated that they would have accepted a teacher of either sex.

Respondents who preferred a male teacher cited reasons such as:

- Male teachers were free and provided detailed explanations on human reproduction topics while females were shy and considered some topics more sensitive to explicate. So, one of them said: *“Female [s] are not open sometimes when discussing female reproductive parts and in this topic, female part is playing a major role. Women are shy to explain in detail some process that happening to them. For example menstrual [cycle].”* (Questionnaire data, question 2.2, bullet number 3). And another added: *“Male teachers they don’t shy they go straight to the point, if the concept is vagina they will call it a vagina, not any other hidden name.”* (Questionnaire data, question 2.2, bullet number 20);
- Females were at risk of being teased by boys in the class;

- Male teachers could explain more about the male reproductive system which could benefit girls in the class. *One of the female teachers reasoned: “Because I am a female and most of the things I know especially on my body, so a male teacher will explain more on males and it will be easier for him to answer my questions that I do not understand well unlike a female like me.”* (Questionnaire data, question 2.2, bullet number 9); and
- Male teachers opened the floor for learners to ask questions.

On the other hand, those who preferred a female Life Science teacher based their option on the following:

- Much of the content under human reproduction relates to females. Female teachers would be in a better position to explain things well. Also, girls will realise that the content is simply about the nature of a woman and is not meant to humiliate them.

The reason given for the choice of any of the Life Science teacher regardless of their sex was:

- The sex of the teacher did not matter as long as that teacher is able to explain the content in detail for learners to gain the relevant knowledge and without shying away from reality. In this regard, one of the research participants stated: *“I would prefer any of the two as long as such teacher would give me the relevant knowledge I would need to understand the subject fully.”* (Questionnaire data, question 2.2, bullet number 12).

In general, the above information shows that during their time of schooling most of the research participants had more trust in male Life Science teachers when it came to explaining the subject content.

4.3.3 Teachers’ degree of comfort to teaching human reproduction topics

In exploring the effects of the teachers’ culture on the teaching of human reproduction topics, teachers were asked to indicate whether they (themselves) were comfortable teaching human reproduction or not? They were also required to provide reasons. The graph below shows the number of teachers who were or were not comfortable to teach human reproduction topics.

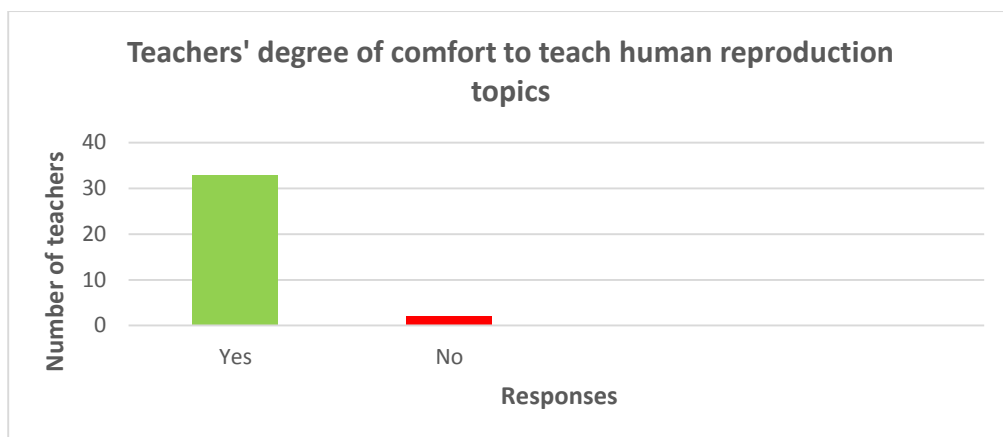


Figure 5: Shows teachers’ degree of comfort to teach Human Reproduction topics [n=35]

Figure 4 illustrates that many teachers who participated in this study, 33 out of 35 (94%) feel at ease about teaching human reproduction topics. Only 2 out of 35 (6%) of the participants admitted that they experienced discomfort in teaching human reproduction topics. Below are the teachers’ justifications related to the answers presented in the graph above:

Teacher participants who felt comfortable to teach human reproduction expressed the following reasons: *“These topics affect the real life of learners in such a way that once they become knowledgeable on reproduction, they will be able to control themselves and determine their futures.”* (Questionnaire data, question 2.3 (b), bullet number 1).

“The topic is very interesting, many learners in Grade 10 are in their mid-puberties and they are curious to know how their reproductive organs function and what they look like. They pay full attention, ask questions and share their experiences.” (Questionnaire data, question 2.3 (b), bullet number 8).

“I am mature enough, thus I have no shame when it comes to the reproductive system. Secondly I have been teaching that part for more years (experience).” (Questionnaire data, question 2.3 (b), bullet number 12).

“I know the subject well. I am well qualified/trained in the subject.” (Questionnaire data, question 2.3 (b), bullet number 15).

“The topic is self-explanatory: the content has no limitation in understanding since learners are aware of body changes as well as the phenotype organs of the reproductive system. I am so comfortable with it because learners are always excited to know.” (Questionnaire data, question 2.3 (b), bullet number 17).

“This is a real life topic; I like to tell the truth for the learners to be aware of all things related to reproduction. Thus prevent unwanted/unplanned pregnancies and transmission of STDS.” (Questionnaire data, question 2.3 (b), bullet number 18).

“Confidence within me and the knowledge about the topic has been a pushing factor and it has been motivating me to discuss with learners in more details which stimulate learners to ask more questions and enjoy the topic.” (Questionnaire data, question 2.3 (b), bullet number 26).

“I just enjoy it because it is such very important to all human beings- it develops our understanding of how we reproduce, how offspring feed while in the womb, why sometimes people could not have children, sexually transmitted diseases and we can prevent them or what to do if one is infected and birth control methods. It really covered very essential topics not only for those who want to become nurses but for everybody.” (Questionnaire data, question 2.3 (b), bullet number 27).

“I feel more comfortable telling the learners, teaching the learners the truth. And I realise that after teaching this topic, there is a reduction in teenage pregnancy and stuff.” (Interview transcript 1, line 130).

“I freely explain ... each concept in the topic without shyness because now I know the importance of teaching it.” (Interview transcript 2, line 41).

“I do not really consider those cultural beliefs if I have to teach the learners. Sometimes even they are asking questions, for example, I am a lady, they are asking about females, women and stuff, those things I do not really have a problem with I just explain to them.” (Interview transcript 4, line 72 and 77).

To sum up, the quotes above illustrate that teachers’ comfort to teach human reproduction topics depend on factors such as their inner sense of responsibility (e.g. the teachers feel that

they have a responsibility to impart knowledge to learners), learners' age (at Grade 10 level, learners are at the right age to learn about human reproduction), teaching experience (the longer the teacher has taught the subject, the more experienced they become), teacher training received at the tertiary institution and the learners' reaction towards the topic (if they show excitement, it puts the teacher at ease).

On the contrary, the two uneasy teachers' reasons were based on the facts that one lacked sound content knowledge and the other was shy. They were quoted as follows:

"There are some of the questions that girls ask based on menstruation, conception and so on, that I cannot answer properly." (Questionnaire data, question 2.3 (b), bullet number 19).

"I feel shy to mention parts of the body as they are and learners especially boys they find it stranger. Learners did not know that those male/female reproduction parts exist. (Questionnaire data, question 2.3 (b), bullet number 30).

Like I'm female and when I am teaching is like I have to undress myself in front of the learners. That's one of the things that comes to mind like maybe the learners they are just imagining me naked now, in front them." (Interview transcript 3, line 114).

Although 94% of teachers answered yes to the question of whether they were comfortable to teach human reproduction topics, I realised that not all of them meant it. I was able to figure this out when I analysed their written responses to the follow up question: *If yes, what makes you comfortable teaching these topics?* The analysis focused on whether there was an agreement in the two answers or not. The results of the analysis revealed that 19 out of 35 (54%) respondents clearly explained what made them comfortable to teach human reproduction, 14 out of 35 (14%) respondents' answers were neutral (did not convincingly justify what makes them comfortable) because the teachers either indicated that they are obliged to do so or they do not smile when teaching. Some claim to be comfortable because they restrict learners in terms of asking questions during lessons on human reproduction and so on. The remaining 2 out of 35 (6%) respondents clearly stated why they were uncomfortable. The evidence to the above observation is presented in the table below by giving six examples in each category.

Table 3: Evidence of consistency and discrepancy in Yes responses

Question 2.4 (a)	Answer	Reasons consistent with the yes answer
Are you comfortable to teach human reproduction topics?	Yes	<ul style="list-style-type: none"> • <i>Enough knowledge, and teaching materials for making learners understand the topic well. It also makes me feel old enough, when I explain to the learners who want to know more about themselves.</i> • <i>I enjoyed this subject at school and teaching this topic I don't have a problem since I just present my lesson in English, I really do not know any parts in my learners' language about this topic so I feel comfortable.</i> • <i>I am mature enough thus I have no shame when it comes to the reproductive system. Secondly I have been teaching that part for more years (experience).</i> • <i>What makes me comfortable is the moral I'm giving to learners, that in some of what I'm talking about, and, I explain to learners that that we are not referring to any learner, neither being personal but learning the natural phenomena which applies to every <u>normal</u> person.</i> • <i>I am very comfortable because learners in Grade 10 are approaching puberty stage and the topic on human reproduction is relevant to them.</i> • <i>I gained confidence from my Life Science and Biology teachers, as they were free in teaching these topics. I like these topics and enjoy teaching them because they are talking about our body, no experiments are required.</i>
Question 2.4 (a)	Answer	Reasons tentative to the yes answer
Are you comfortable to teach human reproduction topics?	Yes	<ul style="list-style-type: none"> • <i>These topics affect the real life of learners in such a way that once they become knowledgeable on reproduction, they will be able to control themselves and determine their futures</i> • <i>Because most of learners participate highly and they attentively listen, learners are ever curious to know more about reproduction and sometimes they want the teacher to go beyond what is prescribed for their Grade.</i> • <i>I believe it is facts and part of our lives even if we decide not it talk about them they are there and they exist.</i>

		<ul style="list-style-type: none"> • <i>I believe that these topics have to be covered because they will be tested at the end of the year, hence all the competencies must be taught and mastered by all learners.</i> • <i>I stick to the objectives in the syllabus and clear it out to learners that what we are discussing is vital for their own personal health and to help them when they may become medical practitioners.</i> • <i>It is because it helps me to share knowledge and skills with learners for them to get more information about reproduction.</i>
--	--	---

4.3.4 Teachers’ perceptions (views) on the inclusion of human reproduction topics in the Life Science Syllabus

22 out of 35 (63%) of the teachers who participated in the research felt that human reproduction was an important topic to teach to the learners because it serves as an opportunity for them to learn about their reproductive system - something they do not hear at home. The inclusion of human reproduction topics in the Life Science syllabus also enabled learners to prepare for careers such as nursing. Participants also felt that learners would be able to avoid teenage pregnancy and Sexual Transmitted Diseases (STDs) if they are well informed about how their reproductive systems function.

Amongst others the following are some of the teachers’ perceptions on human reproduction in their original words:

“The topic itself is very important one will say. It is important because learners are expected to know human physiology so to say. It is very appropriate because it also help learners to build up their careers, because some would like to be doctors, some would like to be nurses, some would like to be ... whatever field they would like to venture into” (interview transcript 1, line 56 and 65).

“You know we are talking about learners in the current situation you are talking about people who are 15,16,17,18 you know up to 20 years neh. And these people you know need to understand human reproduction mostly because we want to... we want to avoid these things of

teenage pregnancy and we want to educate people you know how to handle pregnancy, how to handle themselves after pregnancy.” (Interview transcript 2, line 55).

“Learners or kids need to know what is going on inside them. If they are taught, it will help them to prepare for life and prepare for what is coming” (interview transcript 3, line 45 and 50).

In contrast, one of the respondents had a different view on the matter and argued: “After being taught this chapter, it serves as an eye opener to many learners who may end up practising what they learn in class leading to unplanned pregnancies and contraction of STDs.” (Questionnaire data, question 2.12 (b), bullet number 1).

4.3.5. Teachers’ views who (in terms of sex) is appropriate to teach human reproduction topics

Respondents’ views on who (in terms of sex) should teach human reproduction topics as a result of their own teaching experience were also captured. Respondents were given three choices, namely, male, female or either (meaning any teacher regardless of sex). Their responses were recorded as shown in the graph below.

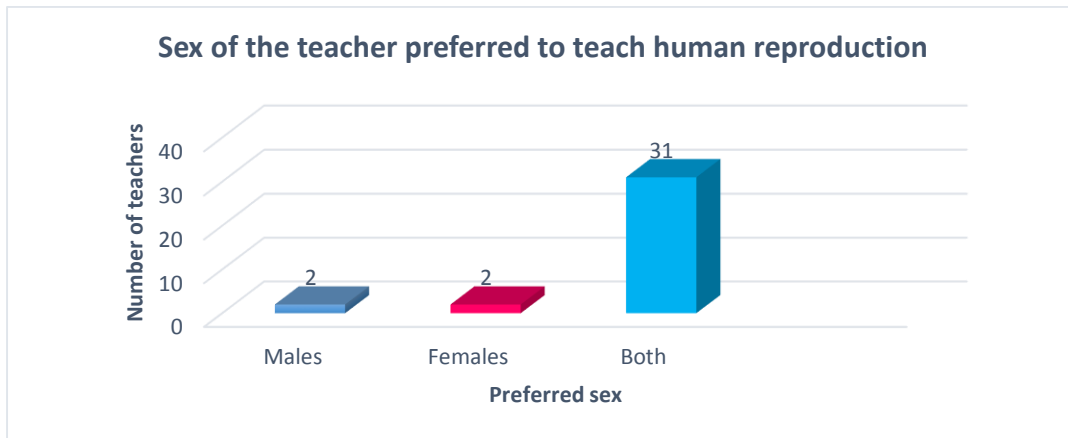


Figure 6: Shows sex of the teacher regarded suitable to teach Human Reproduction

In figure 6 above, most of the research participants, 31 out of 35 (89%) prefer human reproduction to be taught by any teacher qualified to teach Life Science. Only 4 out of 35 (11%) had a preference for a particular sex. The data summarizing their reasons is presented in Table 4 below:

Table 4: Shows teachers' views on the gender appropriate to teach Human Reproduction

Who (in terms of sex) should teach Human reproduction topics? (Reasons)		
Male	Female	Either
<ul style="list-style-type: none"> • <i>Male biology teachers are much more open when it comes to the topic on human reproduction compared to their female counterparts. The main cause is culture, religion and beliefs.</i> • <i>Males are naturally good with this topic because its [it's] their nature and enjoy it very much though, they have no experience in menstrual cycles</i> 	<ul style="list-style-type: none"> • <i>Females have more experiences when it comes to pregnancies, birth and taking care of the new born babies compared to man whose shallow experiences end with fertilisation.</i> • <i>Because most of the topics are based on the female rather than the male. Therefore, females have in depth knowledge on these topics that they can present them to learners.</i> 	<ul style="list-style-type: none"> • <i>Both male and female have the same potential to make learners understand and pass this subject, as long as they will be free to express their points.</i> • <i>The reproductive system is both for male and female. It does not matter who is teaching it as long as he/she has all the necessary information.</i> • <i>Human reproduction is just a topic of a school subject, therefore there is no need to say males or females teachers should teach it any other subject teacher who is qualified to teach must be in position to teach it to learners thoroughly.</i> • <i>As long as the person is trained to teach that subject Life Science or Biology. Because these subjects do not only consider males or females but both.</i> • <i>Because those reproductive organs are found on both males and females, for that matter, either a male or a female teacher can teach. It is not designed for male or female teachers but for both.</i> • <i>Everybody can teach this as long as he/she went through training.</i> • <i>Both sexes should be open to discuss the human reproductive system.</i> • <i>Human reproduction should not be regarded as a one gender topic, it should be taught by both males and that is why both girls and boys should be encouraged to be open because we need both males and females Life Science and Biology teachers. Both sex need to</i>

		<p><i>understand reproduction system fully.</i></p> <ul style="list-style-type: none"> • <i>As long as the person has been trained to teach a subject and is at liberty to express himself/herself there will be no reason not to deliver on such a subject matter. I see both males and females as capable of facilitating on human reproduction depending on an individual's inner ability, but not gender.</i>
--	--	--

What I discovered from the above data is that the research participants' views had changed with age. When they were young and still at school, they regarded male Life Science teachers as better (see Section 4.3.2) unlike now where they seem to no longer associate the subject with the specific sex of the teacher. This point will further be elaborated on in Chapter Five.

4.3.6 Teachers' experiences of teaching human reproduction topics

In this section, I probed experiences that my research participants had from the actual teaching of human reproduction. The teachers' experiences were explored in terms of the participation of girls and boys during lessons on human reproduction and how the culture of the community interfered with the teaching of human reproduction.

4.3.6.1 Teachers' experiences of girls' and boys' participation during human reproduction lessons

Research participants stated that girls are generally more shy and uncomfortable than boys when these topics are taught. Girls look at each other's faces or down when the teacher is explaining facts. The shyness is attributed to them feeling unhappy with the presence of boys in the class. An example given was that during the teaching of the menstrual cycle, girls were very shy because this cycle takes place in females only. They felt that the teacher is sharing their secret with the boys. Furthermore, boys tend to make fun of the girls if they are actively involved in such lessons. This resulted in some girls opting to keep quiet in the lesson and writing down any question they have to ask their teacher after the lesson.

With the boys, participants in the research indicated that boys actively participated in lessons and show a lot of enthusiasm towards the topic. As research participants put it, boys ask a lot of questions especially on things that relate to females. They also make silly jokes and comments in some instances. When the discussion is about the structure of the male reproductive system, they show less interest, however, some of them still ask and share what they have experienced in their own bodies. Respondents rated girls' and boys' participation as shown in the table below:

Table 5: Shows rating of girls' and boys' participation during Human Reproduction lessons

Girls' participation rate	Number of teachers		Boys' participation rate	Number of teachers	
Poor	3		Poor	0	
Average	19		Average	2	
Good	10		Good	12	
Very good	3		Very good	21	
	Total	35		Total	35

I further probed teachers as to what aspects made girls and boys behave differently during human reproduction lessons? Teachers' views on the factors contributing to the difference in learners' behaviours are summarised in the table below.

Table 6: Shows reasons for the difference in girls' and boys' behaviour during Human Reproduction lessons

Reasons why girls feel shy and uncomfortable being taught human reproduction	Reasons why boys feel comfortable and enjoy being taught human reproduction
<ul style="list-style-type: none"> • <i>The cultural beliefs made it difficult for the girls to fully participate in lessons.</i> • <i>Because they feel intimidated by male presence.</i> • <i>They still consider reproduction as something secret which should not be discussed in lessons.</i> 	<ul style="list-style-type: none"> • <i>Traditionally males have no great shame of their reproductive parts compared to females. A baby boy can be naked in the house but a girl of the same age cannot be, it is like a taboo.</i> • <i>They are curious about women, so they want to learn the theory of what they might experience later on.</i> • <i>Because, they feel comfortable and due to the fact that these phenomena do not apply to them.</i>

<ul style="list-style-type: none"> • <i>Because they feel personalised as these phenomena apply to them.</i> • <i>They find the topic sensitive and offensive and so they choose not to participate actively.</i> • <i>When sex is discussed openly or when menstruation is discussed in the presence of males, normally in our culture, sex related issues are not discussed openly so it affected the learners too.</i> • <i>Because they feel that it is more personal they are afraid of mockery from the males' side.</i> • <i>They do not want boys to know about their stuff.</i> • <i>It could also be the way they are brought up because at home some parents haven't discussed those things with the learners.</i> 	<ul style="list-style-type: none"> • <i>Boys are curious to know especially how the menstrual cycle happens.</i> • <i>Boys mostly are less shy by nature.</i> • <i>They are eager to get more information about girls as these topics are more about girls.</i> • <i>Boys do not mind, you can talk about almost everything, they do not mind even the girls hearing about it.</i> • <i>They do not care who is present. They talk openly about anything/topic.</i> • <i>They are keen to hear things very well.</i>
---	--

The reasons in the table above, emphasised that upbringing of boys in Oshiwambo culture favoured them because they were shaped into free, curious people. As a result, they participate more than girls in human reproduction lessons.

In addition, the research results show that learners, mostly males bring a lot of misconceptions, beliefs and or myths regarding human reproduction to the classroom. One research respondent stated: *“I have noticed that there are a lot of misconceptions. Aahm, like for example, there [are] already things that they have heard... Just like you find for example things like menstrual cycle, you find a kid saying: “no it is because an egg is broken, that’s why the person is bleeding. Things like for example no! You do not have to sleep with a person of the opposite sex, you can fall pregnant or so. They bring a lot of things like that and every group comes with their different ideology and different myths so...yah”*. (Interview transcript 3, line 57, 59 and 155).

Another teacher was quoted saying: *“There are certain misconception, but by looking at it most of the information they know it”* (interview transcript 4, line 49).

It also emerged from the research data that some learners seem to know a lot about the topic. *“In fact they know a lot on this chapter of human reproduction. Especially boys, even girls, but the problem with girls they do not say out things, but they know, they know a lot, quite a lot”* (interview transcript 4, line 47).

“Even though we are teachers, we also learn some of the stuff from the kids. A lot of things come up and they will also prompt you to do a lot of research” (interview transcript 3, line 145 and 149).

4.3.7 Factors influencing the teaching of human reproduction

Research participants pointed out the following issues as playing a role in the teaching of human reproduction:

(a) Traditional and cultural beliefs

Participants in this study reported that parents restrict their children by not involving them in discussions related to sex. They also indicated that this tradition is stricter on females (girls) than boys. One of the research participants said: *“Traditionally males have no great shame of their reproductive parts comparing to females. A baby boy can be naked in the house but a girl of the same age cannot be, it is like a taboo. There is more fear in mentioning a females reproductive parts than doing so about a male reproductive system.”* (Questionnaire data, question 2.8 (b), bullet number 3).

Another respondent added: *“Girls are not exposed to discussions of reproduction as early as boys it’s for that reason that they feel shy and uncomfortable to participate in such a topic.* (Questionnaire data, question 2.8 (b), bullet number 7). From this information, there seems to be more obstacles in the way of girls coming to terms with what they have to learn under human reproduction.

While I acknowledge that both traditional beliefs and religion are components of culture, in this case I make specific reference to the local culture of learners. The learners whom the research participants deal with come from a community that opposes open discussion of things

related to sex (as indicated by most (17 out of 35) of the research participants). The problem experienced by the teachers with regard to this was narrated as follows: “*Sometimes when you are explaining these things depending on the syllabus’ basic competencies, you might find some of the learners you know... thinking that thing you are talking about is prohibited and you are just talking openly like that. They are even thinking that you are insulting them although you are being guided by the syllabus.*” (Interview transcript 2, line 91).

Teachers who participated in this study moreover reported incidents where complaints were laid for teaching these topics to learners. One of the teachers recalled how he was approached by a parent who said: “*Oh! our kids are being taught those things of reproduction whatever... how to make babies, how to handle pregnancy and so on... Are you guys not promoting teenage pregnancy? Because now kids know everything about sexual activities and so on*” (Interview transcript 2, line 100). Another teacher had a case of a learner who went to the principal to report that they were being taught insults.

(b) Religion

According to the research participants, most of the learners they teach are Christian who believe that discussing sexual issues in public is a sin. Teachers observed that learners tend to remain silent throughout the lesson. Teachers further admitted that this reaction makes it difficult for them to assess whether learners understood or not.

(c) Language of instruction

Some the research participants indicated that they had problems explaining some terms clearly because of a limited vocabulary in both English and their vernacular. Examples of terms given were *ovulation* and *hormones*.

(d) Teenage pregnancy

Some research participants (3 out of 35) highlighted that they found it difficult to teach about conception, pregnancy and birth when one of the girls in the class was pregnant. As per their observation other learners keep looking at her which made her feel uncomfortable.

(e) The desire for knowledge

Although some learners appear not to enjoy this topic, their teachers observed that they are curious to know about reproduction especially that they reached puberty stage. Research participants also indicated that they were willing to share such knowledge. It was emphasised by one of the participants as:

“Since I came in a different era, this is the 21st century, learners or kids need to know what is going on inside them or in their environment if for example a person is now coming from adolescent to puberty, a person needs to know; what exactly is going on inside me because there are some feelings that develop and we would not want a learner to think ‘maybe I am going crazy or something is not normal’. If they are taught, it will help them to prepare for life and prepare for what is coming.” (Interview transcript 3, line 45).

4.3.8 Challenges faced by teachers during the teaching of human reproduction topics

The questionnaires and interviews were also used to highlight the challenges faced by Grade 10 Life Science teachers who took part in the study. Culture emerged as one of the major underlying challenges in the teaching of human reproduction. Others involved teachers not being conversant with the language, specifically terms used in human reproduction, lack of teaching aids, misconceptions about the topic, some learners being offended by the topic, shyness, labelling of the teacher. Research participants related the challenges as:

“The terms used as well as the teaching materials in practical terms. Also, some learners take it as if they are trained and motivated to involve in sexual related activities.” (Questionnaire data, question 2.10, bullet number 1).

“The high rate of teenage pregnancies. Most of the time there are pregnant learners around and one really needs one to be very careful not to mention something that might kind of offend the pregnant learner.” (Questionnaire data, question 2.10, bullet number 5).

“Shyness as in some cultures and religions, juniors are not exposed to discussions concerning reproduction.” (Questionnaire data, question 2.10, bullet number 6).

“Challenges are only lack of teaching aids especially those concrete ones because we only draw on flip charts sometimes the drawing isn’t drawn properly. So lack of these teaching aids is the only challenge.” (Questionnaire data, question 2.10, bullet number 7).

“Some learners can label a teacher as a pagan somebody.” (Questionnaire data, question 2.8, bullet number 16).

“Mostly it is poor involvement in lesson on female learners when it comes to topics on human reproduction. This is the biggest challenge because it seems I am teaching only one group of learners which is boys only.” (Questionnaire data, question 2.8, bullet number 19).

“It is so challenging in a sense that culturally these sensitive issues are not discussed with children’ for example sex. This is the reason why girls are probably not open to participate and contribute learning about human reproduction.” (Questionnaire data, question 2.8, bullet number 27).

The results show that most of the research participants (10 out of 35) faced the problem of shyness especially among girls. They (7 out of 35) also raised the need for teaching aids, in the form of models for teachers to be able to explain the structures of the reproductive systems better. Only a few (2 out of 35) said as teachers, they were also shy to teach human reproduction to children who are not exposed to such discussions at home. One of the participants expressed this as: *“You know when parents go through these learners’ text book or books, they feel like their kids are taught things that are of not their level at all, because I say we link different beliefs to what we are going through.”* (Interview transcript 1, line 166).

4.3.9 Techniques used by teachers to deal with the challenges they experience during the teaching of human reproduction

Teachers indicated that they attempt to ensure that the challenges they face do not become obstacles in the way of teaching human reproduction. The following are some of the methods they tried out:

- Conducting a special meeting with learners before the chapter is taught. It is reported that in such a meeting, teachers explained how the topic is important in learners' lives and requested them to regard it as any other topic in Life Science. Teachers also added that they encourage their learners to freely participate during lessons and warn boys not to associate what is being taught with individuals in the classroom. Furthermore, they also caution learners not to practice sex as a result of learning human reproduction at school. Two of the research participants shared their experiences as:

"I urge my learners not to refer to anyone during the lesson, the mentioning of individuals names is prohibited and nothing should be taken personally. I normally let them know that it is just a normal lesson like any other lesson that requires their outmost participation." (Questionnaire data, question 2.11, bullet number 5).

"In the introduction of the topic is where I used to make sure that I explained it clearly that in Life Science we are study the knowledge of nature, therefore we will feel free to ask and answer by mentioning every word on human's body, there is no name of the body organ which is an insult." (Questionnaire data, question 2.11, bullet number 9).

- Asking parents to start talking to their children about things related to human reproduction at home. In some cases teachers showed parents what the syllabus requires learners to learn in Grade 10 and explained the importance of the topic in life. One of them said: *"I try to... you know just bring the syllabus to the parent then I tried to show her the basic competencies and here and there explained learners' need to understand this topic because today we are calling them children or we are calling them learners, but tomorrow we are calling them adult people or parents who will be able to teach their own people in the community the importance of this topic."* (Questionnaire data, question 2.11, bullet number 9).
- Use locally available materials to teach human reproduction lessons. Some research respondents reported that they use handouts, copy pictures from books and magazines, ask learners to come up with some of the materials. Others draw posters as one of them described it: *"[I] draw posters even though sometimes they are not clear enough."* (Questionnaire data, question 2.11, bullet number 3).

- Giving learners an early warning and referring them to guiding documents. It seems that some of the teachers who took part in the study gave counselling to their learners during the first lesson on human reproduction. Below are examples of how they did it:

“I tell learners that what I teach them is not from my head, but from the syllabus. I tell learners that we cannot practice what we are learning in the classroom” (Questionnaire data, question 2.11 bullet number 15).

“I caution learners not to involve them in unnecessary teasing and to keep the subject information as such for the subject, but never to use that knowledge to insult one another.” (Questionnaire data, question 2.11, bullet number 26).

“You have to be strict in your classroom situation that as we approach this topic, we need to follow and we need to ask questions where it is necessary to ask, you need to listen attentively, you need to respect each other in terms of the gender now in class.” (Interview transcript 1, line 180).

4.4 Concluding remarks

In this chapter I presented the data that emerged from the data gathering techniques I used in this study. In document analysis, I concentrated on the syllabus expectations with regard to human reproduction, how the content is presented in textbooks used by Namibian learners and the examiner’s comments in terms of how the topic has been answered from 2009 to 2013. The content covered in the textbooks matches the syllabus requirements although some teachers do not deliver the content as expected due to the restriction of cultural issues as indicated in the questionnaire and interviews. Data were mainly presented in the order of the questionnaire guide and categorised based on the questions. The interpretation and discussion of the data is presented in the next chapter.

CHAPTER 5

DATA INTERPRETATION AND DISCUSSION

An attempt by the researcher to find meaning in the data to answer the “So what?” questions in terms of the implications of the findings (Gay, Mills & Airasian, 2009, p. 448).

5.1 Introduction

The previous chapter consisted of a presentation of the data I gathered during this study by means of document analysis, questionnaires and semi-structured interviews. In this chapter, I interpret and discuss my research findings based on Grade 10 Life Science teachers' perceptions and experiences of teaching the topics on human reproduction. This discussion constitutes the key messages from the data integrated with my own experience as a researcher and those which are contextualized in the related literature.

To remind the reader, I could only relate my findings to literature on sex/sexuality education (which human reproduction is part of) as I could not get any literature that dealt explicitly with teachers' perceptions and experiences of teaching human reproduction. I also linked my discussion to the socio-cultural and feminist standpoint theories which underpin this study. This approach concurs with what Gay et al. (2009) state in the epigraph above. That is, I tried to make sense of the data I gathered using literature, my theoretical lenses and my own experience. My discussion is guided by some analytical statements that I developed in an attempt to answer my research questions (see Table 7).

The research questions which guided my study are:

1. What are the syllabus and other guiding documents' requirements with regard to the teaching of human reproduction in Grade 10 Life Science and how well has this requirements been met by Grade 10 Life Science teachers?
2. What are grade 10 Life Science teachers' perceptions and experiences of how human reproduction topics were taught during their school time?
3. What are Grade 10 Life Science teachers' perceptions and experiences of teaching human reproduction topics?

4. How do Grade 10 Life Science teachers' cultural beliefs influence their teaching of human reproduction topics?
5. What challenges do grade 10 Life Science teachers face when teaching human reproduction topics?
6. How do Grade 10 Life Science teachers deal with the challenges they face when teaching human reproduction topics?

In view of these research questions, I inductively developed five analytical statements using themes that emerged from the data I gathered. Table 7, summarises how the analytical statements were used to respond to my research questions.

Table 7: Shows themes and analytical statements

Data sources	Themes	Analytical statements	Research questions addressed
Questionnaires and interviews	Experiences and perceptions around teaching human reproduction	Life Science teachers have a range of perceptions and experiences on the teaching of human reproduction	2 & 3
	Socio-cultural theory	Culture of either the Life Science teacher or learners can affect the way human reproduction topics are taught.	3 & 4
	Feminist Standpoint	Female and male Life Science teachers experience the teaching of human reproduction topics differently.	3 & 4
Document analysis, Questionnaires and Interviews	Challenges to the teaching of human reproduction	Life Science teachers face challenges when teaching human reproduction topics	5
Questionnaires and Interviews	Attempts to overcome challenges to the teaching of human reproduction	Life Science teachers try to deal with challenges they face when teaching human reproduction topics	6

5.2 Analytical Statement 1: Teachers have a range of experiences and perceptions on the teaching of human reproduction

As I presented in the previous chapter, teachers who participated in this study have perceptions and experiences about how they were taught human reproduction topics at the time of their schooling, the importance of human reproduction to learners and how they as Life Science teachers teach such topics. Some of these experiences have been acquired through their own schooling, their actual teaching of human reproduction topics and being part of the prevailing culture. These findings resonate with White et al.'s (2005) argument that teachers bring their life experiences, histories and cultures into the classrooms where they meet with learners from the same or different cultures.

Research findings showed that some of the teacher participants enjoyed learning about human reproduction when they were learners. They seemed to have been lucky because they were taught by teachers who had no fear about discussing these topics with them. Those teachers had also tried to close the gap that existed between the learners' culture and curriculum expectations by encouraging them to take a positive attitude towards human reproduction which helped them (research participants) to realise the benefits of learning human reproduction. To recap, one research participant explained: *“Myself I have enjoyed it because I was exposed to know my reproductive organs and to know the parts and their functions, to be introduced to the stages of puberty and ... what are the factors that can lead to a person to be a young parent.”* (Interview transcript 1, line 35).

On the other hand, some teacher participants had bad experiences and negative perceptions on how human reproduction was taught. This was influenced by the fact that their teachers were not comfortable in teaching such topics. As a result, some of the teachers asked their learners to study the chapter on human reproduction on their own, that is, to read it and make their own notes. Other teachers did not like to be asked questions when teaching these topics and teaching aids were rarely used. In a situation like this, there was very little learning taking place because those teachers were reluctant to teach the detailed content of the topics.

As part of their school life perceptions and experiences, most research participants found that male Life Science teachers taught human reproduction topics better, in the sense that they explained the content in detail. It was also experienced that male teachers were straight forward

in their explanations and they called sex organs by their real names. Some male Life Science teachers of that time were similarly commended in that they encouraged discussion on the topic. This served as an opportunity for the research participants to learn and was an advantage for the female research participants (at the time of their schooling) because they were able to understand the content, especially the male reproductive system, better. This confirmed the findings by Toor (2012) that male teachers prefer to teach topics related to sexuality.

In their role as Life Science teachers, the research participants viewed it as necessary for learners to be taught human reproduction in school. Some of the reasons they cited were that it is an opportunity for learners to get to know their reproductive organs and understand how they function which could help them to prevent unwanted pregnancies and possibly sexually transmitted diseases (STDs). This for example, means if learners who are sexually active understand the menstrual cycle they will know when it is safer to have sex. In addition, learners are also likely to take better care of their bodies.

As the research participants revealed in this study, learners do not have sex education discussed at home. Instead, the inclusion of these topics in the curriculum is the only opportunity for them to learn and talk about the subject. In the future some of the learners may take up careers such as nursing and medicine. In view of the above, it was similarly argued by Helleve et al. (2009); Nqoloba (2008); Mkumbo (2012) and Toor (2012) that teachers support the teaching of sexuality to adolescents. Toor (2012) reasoned that this kind of education provides learners with relevant information which could help any anxiety and tensions that they face. Toor (2012) further states that given the fact that issues around sex and human reproduction are a taboo in most cultures, at school learners will acquire some knowledge they could use to prevent unwanted pregnancies and deal with their menstrual cycle. Again, in campaigning for the importance of human reproduction in the syllabus, Life Science curriculum developers in Namibia stress that the field of Natural Science contributes to the foundation of a knowledge based society by empowering learners with scientific knowledge, skills and attitudes (Namibia. MoE, 2008).

At the time of this study, the majority of my research participants did not associate the appropriate teaching of human reproduction topics with the particular sex of a teacher. They saw both male and female teachers as capable of teaching human reproduction topics as long as they are trained in that field. The research participants seemed to believe that all teachers

should be able to teach human reproduction topics effectively and thus there is a need for proper training that equips them with the necessary skills to tackle the subject content. This resonates well with the words of Mkumbo (2012) who asserts that the teachers' confidence in teaching a topic is influenced by the knowledge, skills and strategies acquired through teacher training. It is also the expectations of curriculum developers that Life Science teachers are able to teach the subject content thoroughly (Namibia. MoE, 2008). In addition to the training, teachers should also be prepared to share their knowledge on the subject matter.

What Mkumbo (2012) seems to be missing, however, is that cultural traits can enable or constrain the teacher as seen in this study. In this regard, Feminist Stand Point theorists argue that dominant conceptions and practices of knowledge attribution, acquisition, and justification systematically disadvantage women (Anderson, 2011). In this study it was evident that cultural expectations are that men feel more at liberty about talking about reproductive issues than women do.

There are disparities in the teachers' views at the time they were learners and now that they are teachers. As reported earlier in this section, when they were children at school, they would have preferred to be taught by male teachers for they explained the content, but their views have changed with time. In support of the latter, Dahl (2001) emphasised that culture changes over time. It seems their understanding has changed perhaps because nowadays cultural concerns are not as restrictive. Most importantly, a large number of my research participants have teaching experience of less than 5 years which means they are young. The younger generation regardless of sex has a different understanding about contemporary issues including teaching human reproduction and is more at ease to teach it compared to the generation that taught them. The literature I discussed in Chapter two made no mention of whether topics related to sex should be taught by male or female teachers.

In their teaching of human reproduction to both boys and girls teachers experienced different behaviours among boys and girls. Girls were generally shy and showed discomfort during lessons on human reproduction. On the other hand, boys actively participated in lessons and were enthusiastic about the topic. I did not come across any literature that shared findings on teachers' perceptions and experiences of teaching sexuality and/or human reproduction with the focus on the different behaviours of boys and girls. A lot of things contributed to this kind

of behaviour on both girls' and boys' side and they will be discussed under Analytical Statement 2.

5.3 Analytical Statement 2: Culture of either the Life Science teacher or learners can affect the way human reproduction topics are taught

As some research participants reflected back on their schooling, some of their (mostly male) teachers taught the topics on human reproduction in a free and open manner. Such openness had a positive influence on how some of the teachers who participated in this study taught their own learners. The teachers stated that they do not shy away from talking to children about human reproduction because they were also taught by teachers who were not shy.

For instance, one of the teachers explained in her own words that: *"I gained confidence from my Life Science teacher and Biology teachers as they were free in teaching these topics"*. In Chapter two I defined culture as beliefs, values, perceptions, norms, actions, artefacts and language shared within a group and passed down to a succeeding generation (Nieto, 2000). Again, Lemke (2001) pointed out that the way we learn, walk, talk, what we believe and value may be typical of people who led lives like us including all cultures in which we have lived. In the context of this study, positive perceptions, actions and the norms their teachers used were carried over to the generation in which my research participants found themselves.

In view of the above definition, the research participants indicated that their cultural beliefs and that of their learners strongly disapproved of discussion about things related to sex which made them fear transgressing the cultural borders. This compromised the teaching and learning of human reproduction and put learners at a disadvantage. Viega et al. (2006); Nqolomba (2008); Smith (2012); Akpama (2013) and Roudsari et al. (2013) confirmed that many communities especially in Africa do not support the inclusion of sexuality education in schools because they regard it as a taboo. Nashidengo (2006) also established that in Namibia cultural beliefs of most communities may prevent teachers from giving practical examples or draw on learners' prior everyday knowledge when teaching human reproduction. And lastly on this note, Jegede and Aikenhead (1999) admitted that if Western science does not correspond with a learners' culture then teaching some topics becomes problematic which was what emerged from the data collected in this study.

As most of the parents do not allow children to talk about their reproductive organs openly, learners found it embarrassing and inappropriate to encounter this in the classroom. It therefore became very difficult for the teacher to teach the topics effectively. With regard to this, Smith (2012) explained that when teachers find that children think it is abnormal for them as adults to talk about matters that are not discussed in the society where they live, they feel mortified. Hence, they do not use the correct terminology, using euphemisms for body parts which will affect the way the learners perform in the examinations.

The examiners' reports showed that teachers need to improve on the way they teach human reproduction currently because they use general English in their teaching and not scientific terms and facts (Namibia. MoE, 2010). I have experienced that during my time of schooling, my Life Science teacher would refer to the penis as the *male part (organ)* and the vagina as a *female part*. In actual fact, there are many organs in the male and female reproductive system therefore it was not always clear which one the teacher referred to. The chances of learners referring to these organs the way their teacher did were also high and they lost marks in exams. Although this practice may be against the teachers' will, it is contrary to the expectations of the following in terms of the role of the teacher; *the role of the teacher in a socio-cultural context, is to acquaint learners with and support the use of new knowledge on the social plane of the classroom, such that scientific knowledge befits the shared knowledge of the classroom* (Leach & Scott, 2003). Or what Hodson and Hodson (1998) stated that *the central role of the teacher is to guide learners to new levels of conceptual understanding by interacting and talking with them*. In other words, the teacher(s) are finding it difficult to harmonise the culture and curriculum expectations.

Some teachers were viewed as *pagans* or *atheists* because what they taught was against the bible and the culture of that particular community. This is very true of the Owambo people. People who talk openly about things forbidden by the society are displaying characteristics of non-Christians (immoral). For some communities in which my research participants taught, the community accused them of promoting sex among learners which led to teenage pregnancies. Just as de Haas (n.d) revealed in his study that parents and elders in Uganda do not discuss sex or reproduction with young unmarried adolescents because it is immoral and an indirect approval for them to engage in sex. Similarly, Smith (2013) argued that conflicts between home or community and school arise as a result of these cultural beliefs. This has a negative impact on the teaching and learning of human reproduction.

Teachers belong to a community and are part of the culture in a particular community and they respect that culture. Yet again, teachers are respected members of the community and may also want to keep the respect the community have for them, and therefore it is difficult when their views about the inclusion of human reproduction in the curriculum differs from their community. Evident to this argument are the following extracts by three research participants:

“After being taught this chapter, it serves as eye opener to many learners end up practising what they learn in class leading to unplanned pregnancies and contraction of STDs.” (Questionnaire data, question 2.12 (b), bullet number 1).

“I feel shy to mention parts of the body as they are and learners especially boys they find it strange. Learners did not know that those male/female reproduction parts exist. (Questionnaire data, question 2.3 (b), bullet number 30).

Like I’m female and when I am teaching is like I have to undress myself in front of the learners. That’s one of the things that comes to mind like maybe the learners they are just imagining me naked now, in front them.” (Interview transcript 3, line 114).

The way the teacher sees his/her ability to teach human reproduction topics (self-efficacy) plays a role in how comfortable/uncomfortable he/she may be as argued by Helleve et al. (2009). For instance, a teacher who walks into the classroom with feelings expressed in the extract above will teach only what is absolutely necessary and may not cover all aspects of the syllabus. Even those teachers who are knowledgeable in the subject will teach superficially (Smith, 2012). This was proven by the Life Science examiner who reported that Life Science teachers do not cover all aspects of the syllabus (Namibia. MoE, 2010). Yet, the syllabus items that teachers omitted were tested in examinations and learners struggled or made no attempt to answer such questions.

5.4 Analytical Statement 3: Female and male Life Science teachers experience the teaching of human reproduction topics differently

The upbringing of boys and girls also had an influence on how teaching and learning of human reproduction takes place. Firstly, female teachers were raised in the manner that girls/women

are not supposed to be naughty, talkative and outgoing as opposed to boys. Most of the content on human reproduction is female related and boys in the class tease the girls and sometimes the teacher herself. This would also compromise the teaching of human reproduction topics by female teachers who became reluctant to reveal too much about the subject content that concerns them. In the prevailing culture, males were shaped to be inquisitive, open and confident. Therefore, male teachers are likely to teach the topics more freely than most of their female colleagues.

As a result of their openness, male teachers faced fewer behavioural problems with their learners during the teaching of human reproduction compared to their female counterparts. This happened because most of the male teachers coached their learners about the sensitivity of the topic prior to teaching it. Their natural confidence seemed to encourage better behaviour as observed in this study.

Female teachers commented that it was more comfortable for them as girls to be taught by a teacher of the same sex. The discussion in this section serves as justification for the emphasis made in the feminist standpoint theory (see Chapter two Section 2.7.2) that feminist knowledge can only come from examining the unique experience of women in societies in which men and women experience social life in different ways (Haralambos & Holborn, 2004).

5.5 Analytical Statement 4: Life Science teachers face challenges when teaching human reproduction topics

There are a number of challenges to the teaching of human reproduction. This study found the following with culture being the underlying factor:

- Some teachers found it difficult to communicate the content correctly because they do not have correct vocabulary. Terms such as ovulation, fertilization, zygote, embryo and hormones are among those identified by the teachers. One reason for this could be that most of these terms are not found in their/learners' vernacular. It is usually easier for one to explain something if he/she understands it in his/her own language. Even if the terms were also in the vernacular, teachers would still find it difficult to explain because most of content of this topic are regarded as a taboo. Nqolomba (2008) found out that

although teachers see the importance of sexuality education for learners, they acknowledge that it is difficult to teach. Additionally, teachers in the same study also declared that they are expected to raise children in a way totally different from how they were brought up. That is, they are expected to talk about things they never heard from the elders, when they themselves were children.

- In Namibia, pregnant girls are allowed to remain at school until they are almost due to deliver. This was a problem for some Life Science teachers when teaching human reproduction topics as the pregnant girl's fellow learners giggled and looked at her to the extent that she felt uncomfortable. The teachers had to conduct the teaching mindful of such a situation. There is a possibility of the teacher omitting things they regarded as sensitive to the pregnant girl in the class. The literature I discussed in Chapter 2 did not focus on this aspect in particular such as (Helleve, 2009; Nqolomba, 2008; Mkumbo, 2012; Toor, 2012).
- Shyness among learners is another challenge to the teaching of human reproduction because it affected interaction in the classroom. This meant that teachers struggled to evaluate the success of their lessons. The main contributing factor to learners feeling inhibited in class is that they find it unusual for a teacher (an older person) sometimes the same age as their parents having this conversation with them. Learners may also be worried of what others will think of them if they actively participated during lessons on human reproduction. They may for example be labelled as being more experienced with sex.
- Lack of suitable teaching and learning materials made the teaching of human reproduction difficult in the sense that a teacher might want to use a model of the reproductive system for learners to see specific organs but they were not available. They used the lecture method instead which is not always effective because learners need concrete examples to make learning more meaningful. This is exactly what Abimbola (1998) found when he conducted a study with Nigerian teachers on topics they viewed as difficult to teach where they indicated that one thing that makes human reproduction difficult to teach is the lack of teaching aids.

- Negative labelling of the teacher by learners and/or parents. Some of the teachers are being labelled as *pagans* because they teach children about things regarded as insults. This results in ineffective teaching and learning in the sense that the teacher becomes discouraged and skips topics or simply asks learners to do self-study. This was confirmed by Smith (2012) that teachers are demotivated to discuss sex related issues with learners as it creates a problem between the local community and the school.

5.6 Analytical Statement 5: Life Science teachers try to deal with challenges they face when teaching human reproduction

The Life Science teachers who participated in this study did not sit around idling in despair as a result of the challenges they faced in their teaching of human reproduction. They reported the following attempts to deal with the situation:

- Conducting a meeting with Grade 10 learners before teaching the topics on human reproduction. The purpose of the meeting was to sensitise learners to the sensitive topics. Teachers therefore tried to create awareness on the importance of the topics, for instance, learners would understand how their bodies function and develop a sense of understanding and respect for others. It was also in those meetings that teachers acquainted learners with the syllabus expectations as a way to show that what is taught was not the teachers' initiative, but a requirement of the curriculum. This exercise helped to reduce incidences of misbehaviour among learners during lessons. This approach seemed to match the views of Robinson (2010) that it is up to the teachers to see what norm or custom to follow if they experience culture and school clash. She further advised that teachers become familiar with their learners' culture in order to create a friendly classroom environment. So, the above attempt is a way of creating an environment where learning can take place. It is also to a certain degree, a way to harmonise culture and curriculum expectation as it was implied in the socio-cultural theory (see Section 2.7.1). In my teaching career I have noticed that learners' behaviour and perceptions improved each time I gave them a talk before or during the introduction of the topics on human reproduction.
- Requesting parents (during parents meetings) to start talking to their children about things related to sex at home. Teachers used a similar approach to try to convince

parents that it is important for learners to be taught human reproduction topics because they are in the process of growing up and for them not to find these topics strange, they should at least hear their own parents talking about it.

- Using readily available materials to teach human reproduction. As a way of improvising teachers drew pictures, made copies from textbooks and asked learners to design some the teaching and learning aids. This attempt was employed when there were not enough textbooks, models of male and female reproductive system and so forth. To be specific, teachers copied resources that they found appropriate to enhance learners understanding of the topic. This helped to meet the syllabus requirements, that is, learners acquiring an understanding of human reproduction. Here teachers seemed to have acted in line with the call by the examiner for them to consult a variety of resources to get more information on the topic (Namibia. MoE, 2010).

5.7 Concluding remarks

In this chapter I interpreted and discussed the data generated from document analysis, questionnaires and semi-structured interviews. I discussed the data via analytical statements, where data revealed how Life Science teachers who participated in this study perceived and experienced the teaching of human reproduction which included challenges teachers faced and solutions they sought. Cultural factors emerged as the main challenge to the teaching of human reproduction topics in Grade 10 Life Science not only in Namibia but also in other countries in the world as per the findings of this research and related literature.

In the next chapter, I summarise the findings of the study, make recommendations and suggest areas for future research. I further discuss the limitations of the study and finally conclude this thesis.

CHAPTER 6

SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSION

Conclusions are based on the results of data analysis and should indicate for example, whether the research hypothesis was supported or not (Gay, Mills & Airasian, p. 6).

6.1 Introduction

In this chapter, I summarise the findings on Grade 10 Life Science teachers' perceptions and experiences of teaching human reproduction topics. This summary serves to highlight the main findings of this study. I also in this chapter, include a number of suggestions that in my view would form part of the solution to the problem I investigated in this study. The chapter ends with a conclusion.

6.2 Summary of findings

This study on Grade 10 Life Science teachers' perceptions and experiences of teaching human reproduction topics was conducted in the Ohangwena political region in Namibia. Qualitative data were generated through the use of thirty five (35) questionnaires and four (4) individual semi-structured interviews.

I found it important to define and understand the population under study. This study centred on teachers who teach Life Science in Grade 10 in the Ohangwena region regardless of their sex. The age of the teachers was not a condition, however, I needed to use data from teachers with teaching experience of at least two or more years and who are Oshiwambo speaking. The respondents chosen represented a range of experiences with different teaching backgrounds which made it possible for me to compile a rich story about the issue under investigation. Teachers who participated in this study taught in different environments within a culture that does not approve of children being involved in discussions related to sex. As a result most of them faced challenges in teaching human reproduction topics as I discussed in Chapter five.

This investigation has made a number of significant observations on teachers' perceptions and experiences; gender, culture and curriculum expectations. The study makes it clear that cultural beliefs around sex related issues are a barrier to effective teaching and learning of the topic human reproduction. It emerged from this study that most of the teachers feel uncomfortable about teaching the details of the human reproduction organs because this is not acceptable in their society and as a result, learners' performance in the topics concerned has not been impressive over the years.

From this study, I revealed that the community in which my research participants work views discussions around sex as a 'taboo (Nashidengo, 2006). Therefore, even topics on human reproduction are discouraged. This in my view, is a misunderstanding of the subject since human reproduction is not the same as sex education, however, there are overlaps in terms of the content covered in these two topics. According to the culture of the Owambo people children are considered too young to know for example how their reproductive organs function as it could encourage them to practice sex and therefore having unsafe sex. Some cases of teenage pregnancies among school girls are blamed on the inclusion of these topics in the Life Science syllabus. This feeling is not prevalent only among members of the society but also in some Life Science teachers. In Owambo culture, only elders can talk to each other about matters regarding sex as it is felt that these discussions are appropriate for their age.

This study further highlights that the teaching of human reproduction topics to Grade 10 Life Science learners is in most cases done as an obligation for teachers to meet the curriculum expectations. Life Science teachers do not control the content of the curriculum, equally, they cannot change the culture of the society to appreciate the necessity of including contemporary issues. For that reason, teachers who provided data to this study admitted that they had to teach the topic because it is tested in exams and not necessarily because they are comfortable with it. It is a matter of doing what the regulations require and compromising your inner feelings. It is however worth appreciating the fact that some teachers do not submit to their culture and try to ensure that learners get the required information as far as human reproduction is concerned.

This study demonstrates the view that, the lack of appropriate vocabulary, specifically terms used in human reproduction, lack of teaching aids, misconceptions about the topic, teenage pregnancy, shyness among learners, labelling of the teacher are the major challenges to effective teaching of human reproduction. These challenges are attributed to complex

traditional beliefs, religion, English as a language of instruction, teenage pregnancy and the desire for knowledge.

Similarly to the findings of many of the writers whom I referred to in Chapter two in this thesis, teachers in countries such as Portugal (Veiga, et al., 2006); Namibia (Nashidengo, 2006); South Africa (Nqolomba, 2008); Nigeria (Akpama, 2013); Uganda (de Haas, (n.d); Iran (Roudsari, et al., 2013) and Kenya (Smith, 2012) face similar cultural restrictions. This is a real and ever-present problem.

Therefore, it is important to note that in this study the research questions developed from the research problem have been answered and tentative hypotheses have been confirmed. The findings in this study indicate that many of the teachers in Ohangwena region do not teach human reproduction topics with confidence because of the society in which they work. In my opinion, other teachers in other parts of the country are not an exception since the culture is not very different from one region to another. Teachers cannot be blamed for not executing the teaching of human reproduction as per the curriculum developers' expectations because as White et al. (2005) put it, culture is one of the aspects that make a teacher. It will therefore take a while before teachers feel at ease with the content of human reproduction in Life Science Grade 10.

6.3 Recommendations

- The current situation of Grade 10 Life Science teachers' perceptions and experiences of teaching human reproduction topics needs to be remedied by addressing its root causes. Social and cultural factors are the main obstacles to effective teaching of human reproduction topics. One way to assuage conflict between culture and curriculum expectations is awareness creation among parents and community members at large, for them to realise the importance of including human reproduction topics in the school curriculum. This is necessary because this study documented that the majority of the community members still feel that learners are being encouraged to practice sexual intercourse by their Life Science teachers through the teaching of human reproduction.

Through that broad understanding, there will be fewer cases of children and their parents complaining about what is taught in schools as far as human reproduction and/or sexuality education is concerned. Therefore, my first suggestion is that a proper platform be created where traditional leaders (headmen and Chiefs) together with political leaders such as Regional Councillors and Governors are made to understand how the teaching of human reproduction topics in schools benefits learners in the long run. For instance, for one to become a medical doctor, he/she must have done Life Science and Biology at school. Thereafter, these leaders can then create awareness among their own people (community members including those whose children are in Grade 10). Ideally, this means that if parents understand the inclusion of human reproduction topics in the school curriculum, they will help their children to appreciate and value it. This approach in my view will work better, rather than teachers doing it all by themselves as individuals at school level.

- My second recommendation would be capacity building for practicing Life Science teachers. Keeping in mind that this study took note of various challenges faced by teachers during the teaching of human reproduction, there is a need for in-service training for teachers to be equipped with the necessary teaching strategies to handle these topics more effectively. One way to achieve this is when Advisory Services at the regional level join hands with those responsible for supporting Life Science teachers at a national level to conduct workshops to that effect and these could be linked to HIV/AIDS education. It should be an opportunity for teachers to present the problems they face and solutions should be worked out accordingly. Alternatively, a survey (needs analysis) prior to the workshop can be conducted to collect and summarise all problems faced by Life Science teachers with regard to the teaching of human reproduction topics. This will give Life Science subject advisors the opportunity to do thorough consultations with relevant resources for an amicable solution to be found.

It will also be necessary to congregate practicing Grade 10 Life Science teachers and explain to them why these topics are part of the curriculum and should be taught in an attempt to build confidence in them to transfer the required knowledge to learners with confidence. This study found that some of the teachers agree with their community that sex education encourages children to be precocious. Perhaps, they need some sort of

awareness creation to help them realise how vital their role can be in shaping the future generations through education.

In addition, the Directorate of National Examination and Assessment (DNEA)'s statistics on end of year results should be utilised to identify teachers who are doing well in teaching human reproduction topics, that is, identification of good practices in the field. These teachers should be asked to share the strategies they use to teach these topics successfully. Once the teachers have some direction (of more than one technique) on how to go about teaching a sensitive topic, they would at least gain confidence in teaching it.

Teacher training institutions (pre-service) should also see to it that teacher trainees leave institutions with the relevant knowledge and skills to teach Life Science, specifically human reproduction. The content on human reproduction should be made clear to teachers to avoid all misconceptions.

- The third recommendation is the provision of resources for teaching and learning to schools. A number of teachers indicated the lack of resources such as models of the male and female reproductive system and posters related to human reproduction topics. In their view, these would have improved their teaching. There should be budgetary provision at Directorate of Education level for the Advisory Services sub-division, particularly for the Education Officer, who is responsible for Life Science to procure such resources and distribute them to teachers during subject workshops. Alternatively, teachers responsible for teaching Life Science should also make it a priority that teaching aids reflect in the school budget and that the required items are acquired.

6.4 Areas for future research

In future studies could be undertaken to:

- Examine learners' perceptions and experiences of how human reproduction is taught in the same region.
- Explore parents' perceptions and experiences of the inclusion of human reproduction topics in the Life Sciences syllabus.

- Observe experienced Grade 10 Life Science teachers of both sexes to determine how they teach human reproduction topics effectively.
- Develop and evaluate programmes that aim at building confidence among Life Science teachers to deal with social and cultural factors impeding the effective teaching of human reproduction topics.
- Include a bigger sample to gain more insights and a bigger picture of the problem under investigation.
- Investigate how Grade 10 Life Science teachers could be supported to reduce the challenges they face at present as reported in this study.

6.5 Limitations of the study

The focus of this study was to investigate how Grade 10 Life Science teachers' perceive and experience the teaching of human reproduction topics. In my view, the following aspects limited my study:

- Finance and time factor were a challenge so the study was carried out in one region only. As a result, the findings cannot be generalised. Nevertheless as indicated earlier in Chapter three, it did provide some insights into the problem.
- This study fore grounded teachers' perceptions and experiences as units of analysis, leaving out the voice of learners and parents on how they perceive the teaching of human reproduction in Life Science in the tenth grade. This could have generated more insights but it was beyond the scope of this thesis.
- My position as a senior official at the Regional Directorate of Education could serve as a threat to the participants. It is possible that what they shared with me especially in interviews may not be a true reflection of their honest views and opinions.

If I were to conduct this study again, I would be very careful with the setting of the questionnaires and interview questions, especially follow-up questions to ensure that the data I gather was relevant to the research questions I was attempting to answer. During the analysis of my data, I realized that some of the questions could have been phrased differently to get

more useful data. I also realised that there was a need to delete a research question on how teachers help learners make sense of the topic on human reproduction because the data I gathered did not answer the question. I did however gather interesting data on how the participants were taught the topic when they were once learners. As a result, I added a new research question which was not originally there.

6.6 Conclusion

This study on Grade 10 Life Science teachers' perceptions and experiences of teaching human reproduction topics illuminated how the culture of the community and the teacher affects the teaching of these topics. The study is critical given the fact that the culture of the Owambo people does not approve of children being involved in such discussions. This cultural belief has a negative impact on learners' performance as revealed by the outcomes of the study that 1) teachers are not comfortable teaching reproduction 2) poor performance in answering human reproduction questions in the examinations has been noted and documented by the Grade 10 Life Science Chief markers and 3) some complaints of the teaching of human reproduction in schools were registered in some of the schools where the research participants teach.

This study revealed that silence still surrounds discussions around human reproduction thus teachers struggle to teach these topics effectively. It emerged from the teachers that learners are also not at ease with these discussions. As a result learning becomes limited. The study therefore acknowledges what the socio-cultural theory stated that culture impacts the manner in which teaching and learning takes place. The study thus suggests that Advisory Services and curriculum developers use the resources at their disposal to empower Life Science teachers through capacity building workshops.

References

- Abimbola, I. O. (1998). Teachers' perceptions of important and difficult biology contents. *Journal of Functional Education, 1*(1), 10-21.
- Aikenhead, G. S., & Jegede, O. J. (1999). Cross-cultural science education: A cognitive explanation of a cultural phenomenon. *Journal of Research in Science Teaching, 36*(3), 269-287.
- Akpama, E. G. (2013). Parental perceptions of the teaching of sex education to adolescent in secondary school in Cross River State, Nigeria. *IOSOR Journal of Research and Methods in Education, 1*(3), 31-36.
- Anderson, E. (2011). Feminist Epistemology and Philosophy of Science. *Episteme, 8*(2), 144-164.
- Babbie, A., & Mouton, J. (2001). *The practice of social research*. Oxford: Oxford University Press.
- Cherry, K. (2013). *What is sociocultural theory?* Retrieved January 7, 2014, from: <http://psychology.about.com/od/developmentcourse/f/socio-cultural-theory.html>
- Chikarango, T. (2007). *Discovering Life Science Grade 10, Namibia JSC*. Windhoek : Zebra Publishing.
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education* (5th ed.) London: Routledge.
- Cohen, L., Manion, L., & Morrison, K. (2010). *Research methods in education* (6th ed.) London: Routledge.
- Cohen, L., Manion, L., & Morrison, K. (2011). *Research methods in education* (7th ed.) London: Routledge.
- Collins, P. H. (2000). *Black feminist thought: Knowledge, consciousness, and the politics of empowerment*. New York: Routledge.
- Connell, R. (2007). *Southern theory: The global dynamics of knowledge in social science*. Sydney: Allen & Unwin.
- Creswell, J. W. (1994). *Research design: Qualitative and quantitative approaches*. Thousand Oaks, CA: Sage Publications.
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage Publications.

- Creswell, J. W. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Thousand Oaks, CA: Sage Publications.
- Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. London: Sage.
- Dahl, S. (2001) *Communications and culture transformation: Cultural diversity, globalization and cultural convergence*. Retrieved March 6, 2014, from www.stephweb.com/capstone/capstone.pdf.
- Daniels, H. (2012). Institutional culture, social interaction and learning. *Learning, Culture and Social Interaction*, 1(1), 2-11.
- De Haas, B., Hutter, I., & Timmerman, G. (n.d). *Ambivalent cultural schemas: Why teachers feel uncomfortable teaching comprehensive school based sexuality education in Uganda*. Retrieved 23 June, 2014, from http://iussp.org/sites/default/files/event_call_for_papers/20130816%20Paper%20ambivalent%20cultural%20schemas%20IUSSP%20Billie%20de%20Haas%20final.pdf
- De Irala, J., Gomara, I., & Lopez Del Burgo, C. (2008). Analysis of contents about sexuality and human reproduction in schools textbooks of Spain. *Journal for Public Health*, 122, 1093-1103.
- Delanty, G. (2005). The cosmopolitan imagination: Critical cosmopolitanism and social theory. *The British Journal of Sociology*, 57(1), 25-47.
- Du Plessis, S. (2007). *Life Science in context grade 10*. Windhoek: Longman.
- Ely, M., Anzul, M., Friedman, T., Garner, D., & Steinmetz, A. (1991). *Doing qualitative research: Circles within circles*. London: Falmer.
- FAO. (1997). *Gender: The key to sustainability and food security*. SD Dimensions, May 1997. Retrieved from www.fao.org/sd
- Farberow, N. L. (1963). *Taboo topics*. New York: Antherton Press.
- Fentahun, N., Assefa, T., Alemseged, F., & Ambaw, F. (2012). Parents' perceptions, students' and teachers' attitude towards school sex education. *Ethiopia Journal of Health Science*, 22(2), 99-106.

- Flick, U. (2006). *An introduction to qualitative research* (3rd ed.). London: Sage Publications.
- Forrest, S. (2004). Sex education that works. Retrieved from: <http://www.avert.org/sexedu.html>
- Goldman, J. D. G. (2012). A critical analysis of UNESCO's international technical guidance on school-based education for puberty and sexuality. *Sex Education*, 12(1), 199-218.
- Gupta, G. R. (2000). *Approaches for empowering women in the HIV/AIDS pandemic: A gender perspective*. United States of America: ICRW.
- Haipinge, R. (2012). *Women's vulnerability to HIV and AIDS: An investigation into women's conceptions and experiences in negotiating sex and safe sex in Okalongo constituency, Omusati Region, Namibia*. Unpublished master's thesis, Education Department, Rhodes University, Grahamstown.
- Haralambos, M., & Holborn, M. (2004). *Sociology themes and perspectives* (6th ed.). Hammersmith: Collins.
- Haraway, D. (1988). Situated knowledge: The science question in feminism and the privilege of partial perspective. *Feminist Studies*, 14(3), 575-99.
- Harding, S. (1991) *Whose science? Whose knowledge? Thinking from women's lives*. Milton Keynes: Open University Press.
- Harding, S. (1998). *Is science multicultural? Postcolonialisms, feminisms, and epistemologies*. Bloomington: Indiana University Press.
- Hartsock, N. (1983). The feminist standpoint. In S. Harding & M. H. Dosdrect (Eds.), *Discovering reality: Feminist perspectives on epistemology, meta-physics, methodology and philosophy of science* (pp. 283–310). Netherlands: Reidel Publishing Company.
- Helleve, A., Flisher, A. J., Onya, H., Kaaya, S., Mukoma, W., Swai, C., & Klepp, K. I. (2009). Teachers' confidence in teaching HIV/AIDS and sexuality in South African and Tanzanian schools. *Scandinavian Journal of Public Health*, 37(2), 55-64.
- Hesser- Biber, S. N., & Leavy, L. P. (2005). *The practice of qualitative research*. Thousand Oaks, CA: Sage Publications.
- Hodkinson, P., & Hodkinson, H. (2001). *The strengths and limitations of case study research*. Learning and skills development agency conference, December, University of Leeds, Leeds.

- Hodson, D., & Hodson, J. (1998). Science education as enculturation for practice. *School Science Review*, 80(290), 17-24.
- Kachingwe, S. L., Norr, K., Kaponda C. P., Norr, J., Mbweza, E., & Magai, D. (2005). Preparing teachers as HIV/AIDS prevention leaders in Malawi: Evidence from focus groups. *The International Electronic Journal of Health Education*, 8, 193-204.
- Kuteeue, P. (2004, July 14). Namibians persisting with risky sexual study. *The Namibian*, p. 4.
- Kvale, S. (1996). *Interviews*. London: Sage Publications.
- Leach, J., & Scott, P. (2003). The demand of learning science concepts-issues of theory and practice. *School Science Review*, 76(277), 47-51.
- Leedy, D., & Ormrod, J. E. (1989). *Practical research planning and design*. New Jersey: Upper Saddle River.
- Leedy, D., & Ormrod, J. E. (2005). *Practical research planning and design* (8th ed.). New Jersey: Upper Saddle River.
- Lemke, J. L. (2001). Articulating communities: Socio-cultural perspectives on science education. *Journal of Research in Science Teaching*, 38(3), 296-316.
- Liamputtong, P. (2007). *Researching the vulnerable: A guide to sensitive research methods*. London: Sage Publications.
- Livesy, C., & Lawson, T. (2008). *AS sociology for AQA*. (2nd ed.).
Onlineclassroom/Sociology Central: Available at: [as_sociology_for_aqa_-_2nd_edition_textbook](#)
- Lotokwayo, N. (1997). *An investigation into the attitudes of teacher trainees towards the inclusion of sexuality education in the primary school curriculum*. Unpublished BEd Dissertation, University Transkei, Mthatha, Eastern Cape, South Africa.
- Mackean, D. G. (1986). *GCSE biology*. Hong Kong: John Murray Publishers.
- McMillan, J. H., & Schumacher, S. (2010). *Research in education: Evidence based inquiry*. (7th ed.). New Jersey: Pearson.
- Mkumbo, K. A. (2012). Teachers' attitudes towards and comfort about teaching school based sexuality education in urban and rural Tanzania. *Global Journal of Health Science* 4, 149-158.
- Namibia. Ministry of Education. (2008). *National curriculum for basic education*. Okahandja: NIED.

- Namibia. Ministry of Education. (2008). *Natural Science policy guide*. Okahandja: NIED.
- Namibia. Ministry of Education. (2009). *Examiner's report Junior Secondary Certificate*. Windhoek: DNEA.
- Namibia. Ministry of Education. (2009). *Life Science syllabus Grade 10*. Okahandja. NIED.
- Namibia. Ministry of Education. (2010). *Examiner's report Junior Secondary Certificate*. Windhoek: DNEA.
- Namibia. Ministry of Education. (2011). *Examiner's report Junior Secondary Certificate*. Windhoek: DNEA.
- Namibia. Ministry of Education. (2012). *Examiner's report Junior Secondary Certificate*. Windhoek. DNEA.
- Namibia. Ministry of Education. (2013). *Examiner's report Junior Secondary Certificate*. Windhoek: DNEA.
- Nashidengo, W. P. (2006). *Bridging the gap between learners' needs and science teaching in a post-independence Namibia*. Published Master's thesis, Curtin University of Technology, Perth.
- Nashidengo, W. P. (2013, November 1). Effects of socio-cultural knowledge on science education. *New Era*, p. 3.
- Ndura, E. (2004). Teachers' discoveries of their cultural realms: Untangling the web of cultural identity. *Multicultural Perspectives*, 6(3), 10-16.
- Nieto, S. (2000). *Affirming diversity: The socio-political context of multicultural education* (3rd ed.). New York: Longman.
- Ning, H., Dai, X., & Zang, F. (2010). On gender difference in English Language and its causes. *Asian Social Science*, 6(2), 1-5.
- Nqolomba, T. (2008). *Attitudes of teachers towards sexuality and HIV and AIDS education*. Unpublished master's thesis, Education Department, University of Zululand, KwaZulu-Natal.
- Reichertz, J. (2010). Abduction: The logic of discovery of grounded theory. *Forum: Qualitative Social Research*, 11(1), 214-228.
- Renzetti, G. M., & Curran, D. J. (1989). Gender and organisation: A selective review and critique of a neglected area. *Organisation Studies*, 4, 219-242.
- Robinson, H. M. (2010). Teacher preparation: Exploring culture and identity. *Texas Child Care*, 2-9.

- Roudsari, R. L., Javadnoori, M., Hasanpour, M., Hazavehei, S. M. M., & Taghipour, A. (2013). Socio-cultural challenges to sexual health education for female adolescents in Iran. *Iranian Journal of Reproductive Medicine*, *11*(2), 101-110.
- Schram, T. H. (2006). *Conceptualising and proposing qualitative research* (2nd ed.). Upper Saddle River, NJ: Merrill/Prentice Hall.
- Scott, S., & Palinscar, A. (2013). Socio-cultural theory. Retrieved 7 January, 2014, from [http://www. Education. Com/reference/article/socio-cultural.theory/](http://www.Education.Com/reference/article/socio-cultural.theory/)
- Shaffer, T. E. (1960). The role of the school and the community in sex Education and related problems. *Journal of the American Medical Association*, *195*, 667-670.
- Sieg, E. (2003). Sex education and the young: Some remaining dilemmas. *Health Education*, *103*(1), 34-40.
- Smith, D. E. (1987). *The everyday world as problematic: A feminist sociology*. Boston: North Eastern University Press.
- Smith, D. E. (1990). *The conceptual practices of power: A feminist sociology of knowledge*. Boston: North-eastern University Press.
- Smith, K. (2012). *The taboo and the teacher: Youth sexuality and teachers' education strategies for sexual and reproductive health and rights in Kenyan Massailand*. Unpublished master's thesis, University of Amsterdam, Amsterdam.
- Sprague, J. (2005). *Feminist methodologies for critical researchers: Bridging differences*. Walnut Creek, CA: AltaMira Press.
- Sprague-Jones, J., & Sprague, J. (2011). The standpoint of art/criticism: Cindy Sherman as feminist artist? *Sociological Inquiry*, *81*(4), 404-430.
- Stanford Encyclopedia of Philosophy. (2011). *Metaphysics research lab, CSLI, Stanford University*. Retrieved 11 November, 2014, from <http://plato.stanford.edu/entries/capability-approach/>
- Swanson, R. A. (2013). *Theory building in applied disciplines*. San Francisco, CA: Berrett-Koehler Publishers.
- Thomas, R. A. (2003). *General inductive approach for qualitative data analysis*. School of Population Health, University of Auckland, New Zealand.
- Toor, K. K. (2012). A study of the attitude of teachers, parents and adolescents towards sex education. *MIER Journal of Educational Studies, Trends & Practices*, *2*(2), 177-179.
- Trochim, W. M. (2006). *The research methods knowledge base* (2nd ed.). Retrieved 20 June, 2014, from <http://www.socialresearchmethods.net/kb>

- Van As, M., & Van Schalkwyk, M. (2008). *Research and information management IV and research methodology*. Pretoria: UNISA.
- Veiga, L., Teixeira, F., Martins, I., & Melico-Silvestre, A., (2006). Sexuality and human reproduction: A study of scientific knowledge behaviors and beliefs of Portuguese future elementary school teachers. *Sex Education*, 6(1), 17-29.
- Vygotsky, L. S. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.
- White, K. K., Zion, S., & Kozleski, E. (2005). *Cultural identity and teaching*. NIUSI: Arizona State University.
- Yin, R. K. (2009). *Case study research: Design and methods* (4th ed.). Thousand Oaks, CA: Sage Publications.

APPENDIX A

Fenni Silas
P.O Box 15276
Oshakati
Cell: 0812802595
E-Mail: tweenikumwe@gmail.com
Fax to e-mail: 0886547662

21 February 2014

To: The Director of Education
Ohangwena Region
P.O. Box 88005
Eenhana

Dear Mrs. Steenkamp,

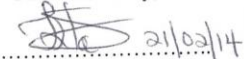
SUBJECT: REQUEST FOR PERMISSION TO CONDUCT EDUCATION RESEARCH IN OHANGWENA REGION

I, **Fenni Silas** student number **11S7110** currently studying with Rhodes University hereby seek permission to conduct an educational research in your region. I am currently in my second year of Masters in Science Education.

My research interest is to **understand grade 10 Life Science teacher s' perceptions and experiences on the teaching of human reproduction topics**. This interest was driven by the fact that the northern part of Namibia is mostly dominated by Oshiwambo speaking people whose culture does not allow parents and elders to speak to children about things related to human reproduction or sex however, the syllabus requires teachers to do it. The research will therefore provide insights on how teachers balance the two.

Should you need further clarity, please do not hesitate to contact me on the above mentioned number. I do hope that my request receives your favorable consideration and I am looking forward to your prompt reply.

Yours Sincerely,


..... 21/02/14

Fenni Silas
Rhodes University Student

APPENDIX B



OHANGWENA REGIONAL COUNCIL

EDUCATION DIRECTORATE
SPECIAL EDUCATION PROGRAMMES

Private Bag, 88005, Eenhana. Tel. 065- 290 200, Fax. 065- 290 224.

Enquiries: M. Hauuanga
Ref.: 12/2/6/1

25 February 2014

To: Ms. Fenni Silas /0812802595
E-Mail: tweenikumwe@gmail.com

SUBJECT: PERMISSION TO CONDUCT RESEARCH

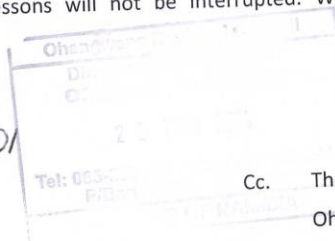
The subject above has reference.

The Ohangwena Education Directorate feels privileged for selecting our region to be part of the exercise. It is our belief that the research outcome will benefit a Namibian child holistically as it aims at exploring a very important teaching and learning element. Being able to balance culture and the syllabus requirement will not only empower teachers but definitely also emancipate the young souls to be able to phase the life challenges more specifically when it comes to that critical topic under research.

Permission has therefore been granted to you to conduct research in Ohangwena Region, provided that normal lessons will not be interrupted. We wish you success in your endeavour.

Sincerely yours

Sanet L. Steenkamp
Director of Education
Ohangwena Region



Cc. The Chief Education Officer
Ohangwena Region

APPENDIX C

Fenni Silas
P.O. Box 15276
Oshakati
Cell: +26481 2 802 595
e-mail: tweenikumwe@gmail.com

23 May 2014

The Principal

School.....

Circuit.....

Dear sir/madam

RE: PERMISSION TO CONDUCT RESEARCH AT YOUR SCHOOL

I am a Master Degree student in the education department at Rhodes University (RU). My research title is: **Understanding Grade 10 Life Science teachers' perceptions and experiences of teaching topics on human reproduction**. The research is to be conducted among grade 10 Life Science teachers who will voluntarily to take part in the research.

It is against this background that I am firstly seeking permission for your grade 10 Life Science teachers and to take part in this study by completing a questionnaire. Secondly, could you please assist me in handing the enclosed questionnaire to teacher(s) concerned? The research questionnaires should be completed by teachers responsible for the Life Science grade 10 at their free time to avoid disruption of lessons. Thirdly, kindly render me your support in returning the completed questionnaire.

Enclosed is a letter from Rhodes University (where I am studying) explaining the nature of my research. Also, find the authorisation letter from the Regional Director, Ms Sanet Steenkamp.

Your support in this regard will be highly appreciated and should you have any query, do not hesitate to contact me at the number given above.

Yours Sincerely

.....
Ms Fenni Silas
RU Student

APPENDIX D

Teacher's consent letter

I -----have agreed to take part in **Ms Fenni Silas** research project where she attempts to understand **Grade10 Life Science teachers' perceptions and experiences of teaching human reproduction topics**. All the research procedures were clearly explained to me. I understand that I will take part from this program to my own will. I do understand that the information I will give is confidential and it will be used for research purpose only. I also understand that the information I will give will be shared only with the supervisor and will not be shared or commented to anyone.

Signature -----

Date-----

APPENDIX E: Analysis of questionnaire data

Date: 29/07/14

1. What are Grade 10 Life Science teachers' perceptions and experiences of teaching the topics on human reproduction?
2. To what extent do Grade 10 Life Science teachers' cultural beliefs influence the teaching of the human reproduction topics?
3. What challenges do Grade 10 Life Science teachers face when teaching human reproduction topics?
4. How do Grade 10 Life Science teachers deal with the challenges they face when teaching human reproduction topics?

*** Data from the questionnaire informed me in refining my research sub questions. I deleted the questions on how teachers help learners make sense of the topics on human reproduction because the data I gathered did not answer it.*

1. What are Grade 10 Life Science teachers' perceptions and experiences of teaching the topics on human reproduction?

What are your perceptions and experiences on how the topics on human reproduction were taught while you were a learner at school?

Perceptions	Experiences
<ul style="list-style-type: none"> • It was an interesting topic, informative and enjoyable. Myself I never felt comfortable at this topic especially on the female sections as boys in the class use to tease girls. 	<ul style="list-style-type: none"> • Human reproduction was not taught in Grade 10 at the time of my schooling. Biology which was used in Grade 10 during era was only covered plant production. • Precisely it was good

<ul style="list-style-type: none"> • The topic was very sensitive and teachers could not explain all the details thoroughly. • Interesting because it gives a clear picture about human body e.g. stages: a human being has to go through to become an adult, sexual developments that take place both in males and females. • It was a sensitive topic to me because that time childrens were not allowed to talk about it. 	<ul style="list-style-type: none"> • I was afraid to learn that topic because it was not easy to discuss the reproductive organs such as penis in class with girls around. After some times, I learn to be free but uncomfortable to ask a teacher about female reproductive organ. • It was a bit difficult to understand because by then this topic was never taught in upper primary phase. Nowadays when learners get in Grade 10 they have basic knowledge about the topic. I can remember my teacher trying to make us understand menstrual cycle. • They were taught from Grade 10. It was easy to comprehend because I was grown enough. • It was an interesting topic, informative and enjoyable. Myself I never felt comfortable at this topic especially on the female sections as boys in the class use to tease girls. • Teachers avoided some issues more especially sexual intercourse and menstruation. Sometimes teacher instructed us to study on our own, as apparently we knew some of the things. Nice quote
---	---

- The topic was very sensitive and teachers could not explain all the details thoroughly. Learner were not given an opportunity to express their pre-knowledge on the topic as they were considered minors and they were not expected to know much about reproduction.
- It was more theoretical there were no enough teaching aids that time so the teachers only taught theoretical. We learnt without seeing some of concrete materials which are used these years.
- It was kind of shameful when it comes to the pictures or drawing of male reproduction because the penis used to be shown clearly and testis but pictures or drawing of female we could hardly not know what is the vagina.
- Teachers were not giving clear explanation and do not like to asked detailed questions by learners.
- I was always ready for the subject to listen to it attentively. As I was young that time I failed to understand reproduction in depth especially what a cell is, genes and they can be

inherited from parents to the offsprings.

- I did not realise the importance of this when I was a learner.
- Can not real remember that much but, I know we did circulatory system in Grade 10 and nothing was done concerns reproduction. In Grade 12 I did the topic on how sex cells are passed to offspring but the parts of reproduction was not done/covered.
- Although learners appear to be shy on this topic. They enjoy them a lot, they perform well in these topics.
- I'm not taught the human reproduction in Grade 10 as well as in Grade 12 because we were taught Cape system.
- The teachers where shy and teach in hidden details, learners made noise and no comment were made only us the dedicated scholars managed to pass.
- Teachers presents this lesson in a teacher centred approach. No learners views was asked and the teacher explanation was short and quick.
interesting

- They were not taught as they supposed to be taught because all my teachers were just unqualified.
- It was taught quite excellent the one who taught me was a good teacher (male) it was during CAP EDUCATION (South Africa).
- They were not taught comfortably and freely, because I remember our life science teacher used to put on shades/rather specs believing that he would not face the learners during the presentations of the topic, especially at crucial topics like menstruation and sexual intercourse. **Interesting quote**
- Topics on human reproduction were taught with more emphasis and a teacher would give a floor to all learners to ask questions. Learners were more than curious to ask questions. It was that time in school when we were at puberty stage and the topic on human reproduction were more than relevant.
- The experiences on these topics were good. Because my teachers knew what they were doing as Life science and Biology teachers. They were against

idea of female learners being passive on this topic, and use to embarrass us, which was bad time, but now I understand the reasons.

- Differently, no teaching aids , no clear explanation (in details) teachers were not free, they were not asked by learners unless they angry and leave the class, the next day the teacher will jump to the other (next) chapter. Nice quote
- My perception was good.
- Well understood.
- I felt uncomfortable especially when human private parts are mentioned and when menstruation is discussed, but later I realised that the purpose was not to disappoint or embarrass us but to make us aware of everything happening with our bodies. I realised that reproduction is such an interesting topic dealing with how life begins (fertilisation) and how the zygotes develop to maturity, I understood even when my body temperature and moods change during ovulation time- I appreciate this topic and I really enjoy it.

- Teachers were not free to express or explain some concepts to learners. They (teachers) regards some of the topics as taboos and learners were regarded as young kids which are not supposed to know every thing as far as human reproduction is concerned.
- I did not see the necessity of talking about sensitive things like sexual intercourse and all sexual organs to me it was like a tabu (cultural background).
- At my time in school teachers were not free to mention words as it describe the terms they thought is taboo to say it. Teacher thought that they teach learners sins.
- I was fortunate to have been taught well the topics on human reproduction.
- They used diagrams to explain it and teacher taught it with understanding for learners to know what human reproduction deals with.
- My perception was that reproduction is a violation of God's rule as it say words which are sensitive to listen.

Interesting quote

- The human reproductive were not taught into details. Some sensitive organs were left untouched by the teacher. **Nice quote**
- Interesting because it gives a clear picture about human body e.g. stages: a human being has to go through to become an adult, sexual developments that take place both in males and females.
- It was a sensitive topic to me because that time childrens were not allowed to talk about it. **Interesting quote.**

Teacher's choice

- Male teachers according to my experiences used to be free and provide detailed explanations on topics related to human reproduction. Females used to be shy and considers some structures to be more sensitive them to explain.
- Because male teachers tend to explain in more details than female teachers as sometimes be shy and fear to elaborate more on sensitive topic(s).
- Female are not open sometimes when discussing female reproductive parts

and in this topic, the female part is playing a major role. Women are shy to explain in detail some process that is happening to them. For example, menstrual.

- Just to be more comfortable knowing that I share the same reproductive system with the person discussing the system I have than the opposite person, I could not feel that the teacher was saying a lot about the female reproductive system since it does not apply to that teacher (male).
- I would prefer any of the gender as long as he/she is comfortable to explain all in details without skipping or running from reality.
- I would have been more comfortable than in a male class.
- Because female teachers seemed to be shy about discussing reproduction and they were teased by older boys.
- Male teachers seem to be more too open and flexible when teaching Life Science & Biology. Female teachers are often shy and they do not always open up the floor to learner to share

their ideas and experiences especially when it comes to reproduction.

- Because I am a female and most of the things I know especially on my body, so a male teacher will explain more on males and it will be easier for him to answer my questions that I do not understand well unlike a female like me.
- I felt it was good because we have same thing but taught by a female is like an insult. **Interesting quote.**
- I preferred any trained teacher, because what is needed is just to follow the basic competencies and teach learners what the syllabi regusting them to know.
- I would prefere any of the two as long as such teacher would give me the relevant knowledge I would need to understand the subject fully.
- Males teachers are more enthusiastic when teaching the topic on human reproduction they are trying to explaining every thing related to the topic of human reproduction.

- Because males teachers to me use to be open and discuss things in details and like the female teachers.
- I felt females teachers explained things well.
- Because when it comes to these types of topics reproductions males are more open and free than female teachers.
- My choice could be any, I really don't mind whoever teach as long as the teacher has relevant knowledge to surface the lesson and make me understand the learning outcomes.
- Female reproductive system play a role in this topic. It is better to be presented by a female teacher so that she can answer all the questions related to females. I was only free when a female teacher is presenting this topic.
- Because human reproduction is more on female than on male as a result, some female teachers are shy to give more information on some of the subtopics such a menstrual cycle etc.
- Male teachers they don't shy they go straight to the point, if the concept is

vagina they will call it a vagina, not any other hidden name.

- Reasons being, she would know exactly what she talks about, based on experiences and she would encourage learners to be comfortable as it is part of life rather than feeling guilty when mentioned those crucial parts.
- I would prefer to be taught by a male biology teacher because female biology teachers are not too open on it comes to the topic on human reproduction. Male teachers are too much open and would explain everything to the last detail even create a space needed for learners to interact in the lesson by asking and answering questions.
- Because both Life science and Biology requires teachers who are open, without being shy. Female teachers are known to be shy when it comes to human reproduction topics, only a few can teach the topic freely. With male teachers, they can tackle each and every aspect of the topic.
- From experience me as a female teacher I teach this topic freely, deeply. I appreciate questions from

learners because any function of any parts or any process, kind of they are involved and also me myself, that's why I enjoy teaching this topic instead of getting angry.

- I was taught by a female teacher. It wouldn't be a problem even if I was taught by a male teacher, which happened later during my further studies.
- Male explains everything clearly without shy, especially the topic human reproductive system.
- Because I know I am a female too and therefore it doesn't matter what she says-male teacher sometime also teach it making female learners especially that parts of menstruation which embarrass females learners in front of male ones.
- Because female teachers are sometimes shy and regard the topic as a sensitive topic.
- Female teachers are shy to explain some sensitive terms menstrual cycle.
- Because female have more experience than men. Female is not shy as men,

	<p>men are afraid to take [tackle] the through.</p> <ul style="list-style-type: none">• Male teachers explain topics related to reproduction clearly than female teachers. This is because female teachers are too shy to speak out sensitive words such as vagina or sexual intercourse in a detailed way.• Both my Life Science and Biology teachers were males. They had no problem expressing themselves regarding the reproduction topic. I had few friends who were taught by females but they complained of them (teachers) not expressing themselves freely.• Female are more open to teach human reproduction system than male. Female can give all the details needed in a specific basic competence during teaching (reproductive system).• Male teachers are more freely to discuss all issues and topics than female teachers.• Because male teachers they don't hide information like female teachers and they are free they don't use to be shy.
--	---

Are you comfortable to teach topics on human reproduction? What makes you comfortable/ uncomfortable?

- The topic itself is enjoyable and learners pay attention at all time.
- The topic is very interesting, many learners in Grade 10 are in their mid-puberties and they are curious to know how their reproductive organs functions and how they look like. They pay full attention, ask questions and share their experiences.
Interesting quote
- Because it is not that complicated most of the (things) taught are on our bodies so it is not that difficulty even learners enjoy the topic very much
- The topic is self explanatory: the content has no limitation in understanding since learners are aware of body changes as well as the phenotype organs of the reproductive system. I am so comfortable with it because learners are always excited to know.

- These topics affect the really life of learners in such a way that once they become knowledgeable on reproduction, they will be able to control themselves and determine their futures. **Interesting quote**
- The topic itself is enjoyable and learners pay attention at all time.
- Enough knowledge, and teaching materials for making learners understand the topic well. It also make me feel elder enough, when I explain to the learners who want to know more about themselves.
- Because most of learners participates highly and they attentively listen, learners are ever curious to know more about reproduction and sometimes they want the teacher to go beyond what is prescribed for their Grade.
- I believe it is facts and part of our lives even if we decide not it talk about them they are there and they exist.

- Nowadays learners understands and they have a pre- knowledge. They are all comfortable with the topic.
- I believe that these topics have to be covered because they will be tested at the end of the year, hence all the competencies must be taught and mastered by all learners.
- The topic is very interesting, many learners in Grade 10 are in their mid-puberties and they are curious to know how their reproductive organs functions and how they look like. They pay full attention, ask questions and share their experiences.
Interesting quote
- Because it is not that complicated most of the (things) taught are on our bodies so it is not that difficulty even learners enjoy the topic very much.
- I enjoyed this subject at school and teaching this topic I don't have a problem since I just present my lesson in english, I really do not know any parts in my learners' language about this topic so I feel comfortable.
- I like to teach what is real, and according to my observation learners

	<p>are always unlikely to know what is their body organs functioning on their bodies.</p> <ul style="list-style-type: none">• I am mature enough thus I have no shame when it comes to the reproductive system. Secondly I have been teaching that part for more years (experience). The subject is taught in a foreign language.• These topics arose learners attention and their participation are highly compare to other topics.• Because the reproductive system is just a system like some other system of the body. It is even more self explanatory since it involve things that learners can see and even touch.• I know the subject well. I am well qualifie/trained in the subject.• Because I'm teaching the same way as other topics and I don't treat the specially but just the same as other topics.• The topic is self explanatory: the content has no limitation in understanding since learners are aware of body changes as well as the
--	--

phenotype organs of the reproductive system. I am so comfortable with it because learners are always excited to know.

- This is a real life topic, I like to tell the truth for the learners to be aware of all things related to reproduction. Thus prevent unwanted/unplanned pregnancies and transmission if STDS.
- There are some of the questions that girls ask based on menstruation, conception and so on, that I cannot answer properly. An uncomfortable male teacher
- I don't feel mercy! Or shy, because it is how I was taught no jocks call a spade a spade not a spoon! If you want you learners to be true Doctors for you when you become old. *The manner in which the teacher was taught influences the way he/she teaches it.*
- What makes me comfortable is the moral I'm giving to learners, that in some of what I'm talking about, and, I edged learners that that we are not referring to any learner, neither being personal but learning the natural phenomena which applies to every normal person.

- I am much comfortable because learners in Grade 10 are approaching puberty stage and the topic on human reproduction is much relevant to them. Learners pay much attention to this topic on human reproduction than to any other topic.
- I gained confidence from my Life Science and Biology teachers, as they were free in teaching these topics. I like these topics and enjoy teaching them because they are talking about our body, no experiments are required.
The manner in which the teacher was taught influences the way he/she teaches it.
- The information on this topic is something real not only for learners to pass but for my own information in life, taking care of my body, knowing how body parts are working helps me to educate my own children and community members.
- Learners are more interested in learning about reproduction in humans, they actively take part in class discussion and ask questions

	<ul style="list-style-type: none">• Confidence within me and the knowledge about the topic has been a pushing factor and it has been motivating me to discuss with learners in more details which stimulate learners to ask more questions and enjoy the topic.• I just enjoy it because it is such very important to all human beings- it develop our understanding of how we reproduce, how offspring feed while in the womb, why sometimes people could not have children, sexually transmitted diseases and we can prevent them or what to do if one is infected and birth control methods. It really covered very essential topics not only for those who want to becomes nurses but for everybody.• Because the topics on human reproduction tackle the real life process which learners need to know so that they a clear picture on this topic. This make me feel comfortable because I teach what is taking place in a real situation.• Because these they do not need and additional information and student need to be well informed about facts of life to avoid misconception.
--	--

- I feel shy to mention parts of the body as they are and learners especially boys they find it stranger. Learners did not know that those male/female reproduction parts are exist. An uncomfortable female teacher.
- Because this topic open the mind of an individual to know how a person come into existence and how to take care from STDS and how children should be fed.
- I stick to the objectives in the syllabus and clear it out to learners that what we are discussing is vital for their own personal health and to help them when they may become medical practitioners.
- Naturally I like Biology/Life Science and this makes me feel so proud of teaching our own body and this help learners to understand their bodies better and accept all the development and changes that are take /appear on their bodies.
- It is because it helps me to share knowledge and skills with learners for them to get more information about reproduction.

	<ul style="list-style-type: none"> • I am self confident teacher and when I am teaching these topics I dont worry and I use to be free.
--	--

How would you rate the girls’ participation in lessons when they are taught topics on human reproduction?

Perceptions	Experiences
<ul style="list-style-type: none"> • The cultural belief made it difficult for the girls not to fully participate in lessons • Women feel shy and uncomfortable when sexual related are discussed. Sometimes they want to know but feel shame to ask. • Girls seem to be more shy than boys. • Because they feel intimidated by male present and they feel it is something to be ashamed of. • Girls seems to be passive when talking about things that concerns females than males. • It seems female learners are eager to know about sexuality and how reproduction take place, including menstruation and safe period. 	<ul style="list-style-type: none"> • They still consider reproduction as something secret and cannot be discussed in lessons • They choose to be silent sometime as result of shyness and fear, because if they participate more boys will spoil them that how do they know that. • Only few girls will ask question or try to answer questions verbally. • They feel more comfortable because they feel the side of girls is the one that is more embarrassing. • they do not talk much or fully participate • Before I start with this topic, I use to briefly share my past experience with my learners and tell them to be free, they should just not say the words in their vernacular language, they used to participate very well. <i>Interesting quote</i>

<ul style="list-style-type: none"> • Many girls are always shy, thus they do not talk much or fully participate • They are more shy than boys. They are not open when asked questions. • Because girls are always shy, especially when it come's to the topic of menstrual cycle which is not happening to males. They do not give answers. 	<p><i>that limits the use of local language when dealing with these topics.</i></p> <ul style="list-style-type: none"> • The only part they have a problem is about menstruation and sex as they feel like being humiliated by revealing a secret about them to the males. • Girls are always shy when the teacher explain on the side of the female reproduction system • The first year I taught L. Sc. Grade 10, learners (girls) were too shame and uncomfortable to participate in lessons. But at present girls' participation has improved.
<ul style="list-style-type: none"> • They feel like being humiliated by revealing a secret about them to the males. 	<ul style="list-style-type: none"> • They are a bit shy when you are talking things related to them.
<ul style="list-style-type: none"> • Girls are always shy when the teacher explain on the side of the female reproduction system. 	<ul style="list-style-type: none"> • They participate fully in this topic. They feel that it is very easy and they ask questions to know much about the topic.
<ul style="list-style-type: none"> • Almost girls are too shy to participate, not 100% percents of girls participate fully only few do participation. 	<ul style="list-style-type: none"> • Girls' participation is high as they want to know more about themselves and also give their experiences.
<ul style="list-style-type: none"> • They look desperate and hungry for information you know half of the topic is about ladies and they see it as the focal point of their body. 	<ul style="list-style-type: none"> • When you call vagina, cervix clitoris, and explain what is a clitoris. Few will look at you and many will look down or pretend to do different thing. Some may even think that maybe you want to go for them

<ul style="list-style-type: none"> • Shyness is very high. 	<ul style="list-style-type: none"> • Girls do not do not participate actively in class when the topic is on human reproduction
<ul style="list-style-type: none"> • Because they feel personalised as these phenomena applies to their nature, and they have mixed feelings that they wil be labelled as such. 	<ul style="list-style-type: none"> • They would choose to write a question on a paper than asking it verbally.
<ul style="list-style-type: none"> • They might have something to say but they cannot do it, they fear boys will laugh at them or that they will think they are doing it that's why they know. 	<ul style="list-style-type: none"> • They ask questions means that they want to have clear information e.g. not to do unsafe sex due to STDS, to measure their body temperatures to know their menstrual cycles, ovulation etc.
<ul style="list-style-type: none"> • I think the reasons for girls lack of participation is that they find the topic to be much sensitive and offensive and so they choose not to participate actively. 	<ul style="list-style-type: none"> • They are not that free participating.
<ul style="list-style-type: none"> • Girls are shy when it comes to these topics. They might have something to say but they cannot do it, they fear boys will laugh at them or that they will think they are doing it that's why they know. They would choose to write a question on a paper than asking it verbally. 	<ul style="list-style-type: none"> • Most the boys use to laugh and spoil them when ever girls rise up their hands to say something.
<ul style="list-style-type: none"> • Many girls are a bit shy. 	<ul style="list-style-type: none"> • Girls mostly tend to participate well mostly when we are talking about the male reproductive system and they shy down on female reproductive system.
<ul style="list-style-type: none"> • Girls are shy to speak about reproductive organs and process 	<ul style="list-style-type: none"> • When I am teaching human reproduction I use to ask any learner to give the answer, but they use to

involved in the human reproductive system e.g. menstrual cycle	give correct answers means they know a lot.
<ul style="list-style-type: none"> • Because they feel humiliated when sex is discussed openly or when menstruation is discussed in the presence of male ones, normally in our culture, sex related issues are not discussed openly so it affected the learners too. Nice quote 	<ul style="list-style-type: none"> • Because some girls use to be shy and make them not to participate in the lesson actively
<ul style="list-style-type: none"> • Girls feel the topic sensitive to fully participate. 	
<ul style="list-style-type: none"> • Most of the girls do not feel comfortable with discussing topic related human reproduction 	
<ul style="list-style-type: none"> • Most of the girls feel humiliated and shy. They don't feel comfortable and they don't want the private parts to be mentioned. 	
<ul style="list-style-type: none"> • Boys thinks that only the female sexual organs are sensitive cause shame 	
<ul style="list-style-type: none"> • They are more shy because these topics are more sensitive than. 	
<p>How would you rate the boys' participation in lessons when they are taught topics on human reproduction?</p>	
<ul style="list-style-type: none"> • They used to be interested in the lessons, though they take it for fun sometimes. 	<ul style="list-style-type: none"> • They always want to know everything on women, so that whenever they are going to experience, they know all theoretically.
<ul style="list-style-type: none"> • They are not shy or scared of anything pertaining the topic under discussion 	<ul style="list-style-type: none"> • Boys got a lot of questions to ask mostly on the female reproductive

	<p>system instead of the male reproductive system.</p>
<ul style="list-style-type: none"> • Asking sexual related makes them heroes. 	<ul style="list-style-type: none"> • Very much active and sometimes they get out of control if the teacher is not careful.
<ul style="list-style-type: none"> • Boys are more open 	<ul style="list-style-type: none"> • Boys are good, however they are not much interested in male reproductive system as they do to female reproductive system. Female learners pay more attention to both male and female reproductive system.
<ul style="list-style-type: none"> • Boys are courageous and very confident when comes to this chapter. 	<ul style="list-style-type: none"> • They ask so many questions, comment to the teacher's explanation and they share their experiences.
<ul style="list-style-type: none"> • They enjoy the topic, they are not shy they really want to know everything especially on the female parts. They are open and active 	<ul style="list-style-type: none"> • Boys tend to participate well, they mostly asks question much about what happen to females.
<ul style="list-style-type: none"> • Boys are more open 	<ul style="list-style-type: none"> • Boys are free to answer questions related to them and they like to ask general questions relating to the subject.
<ul style="list-style-type: none"> • Boys feel like are gaining information to know more about girls, then they keep on participate highly than girls in all the topics concerning reproduction. 	<ul style="list-style-type: none"> • They try to ask curiosity questions
<ul style="list-style-type: none"> • Very interested especially when the teacher explain on the opposite sex. 	<ul style="list-style-type: none"> • They always interested to ask questions especial on female reproductive system and other related topics.
<ul style="list-style-type: none"> • They are keen to hear things very well. 	<ul style="list-style-type: none"> • Boys always want to know anything related to girls. They pose funny question and make ridiculous

	comment but I always have to tell the truth yet protecting my girls (ethics).
<ul style="list-style-type: none"> • Most boys they enjoy when they talk about different sex affairs. 	<ul style="list-style-type: none"> • They participate well questions and comments are always from their side in the lesson
<ul style="list-style-type: none"> • Because boys are not eager to know more about female as a result their participation is not that high compare to girls. 	<ul style="list-style-type: none"> • They ask more questions more than girls.
<ul style="list-style-type: none"> • They don't shy, they regarded the topic as the best one from all the topics. 	<ul style="list-style-type: none"> • Boys do participate actively in class on the topic of human reproduction compared to girls. They find the topic to much relevant and interesting and so they would ask questions that are quiet challenging.
<ul style="list-style-type: none"> • Because, they feel comfortable as they are judging their fellow, and due to the fact that whatever phenomena does not applies to them. 	<ul style="list-style-type: none"> • They are free to participate in this topic, is only that they like joking about it in a way that the over do it and it becomes unnecessary for the lesson.
<ul style="list-style-type: none"> • They wanted to know more on contraceptives like vasectomy whether its painful or not, type of food a pregnant women should eat, type of work she can do, why, to do abortion etc. 	<ul style="list-style-type: none"> • They are always actively participation.
<ul style="list-style-type: none"> • Boys are curious to know especial how menstrual cycle happen etc. 	<ul style="list-style-type: none"> • Most boys enjoy this topic so their participate is very good compared to the one for girls.
<ul style="list-style-type: none"> • They are open to discuss, no shy and they turn to enjoy the topic. 	<ul style="list-style-type: none"> • Boys want to hear more the existence of female reproduction.
<ul style="list-style-type: none"> • Boys normally are not shy by nature, they like moking other or each other 	<ul style="list-style-type: none"> • Boys use to laugh girls and they think the topic is meant for girls only.

when discussing these topics, they don't care who is present. They can talk openly about anything/topic.	
<ul style="list-style-type: none"> Boys become curious when it comes to these topics they want to know more. 	<ul style="list-style-type: none"> Boys mostly tend to participate well on topics of female reproductive system.
<ul style="list-style-type: none"> They find it funny. Some of them are even shocked to see or to hear those parts. 	<ul style="list-style-type: none"> They participate more as they will ask what they practice
<ul style="list-style-type: none"> They shy away on male reproductive system. 	<ul style="list-style-type: none"> They give correct answers and free to say the answers out
<ul style="list-style-type: none"> Boys prefer this kind of topic. 	<ul style="list-style-type: none"> Because boys they use to be free and they like to know more who is coming to female reproductive system.
<ul style="list-style-type: none"> They are eager to get more information about girls as these topics are more girls. 	
How do boys and girls react during at the actual teaching of human reproduction topics?	
<ul style="list-style-type: none"> Looking at each other implying that reproduction is privacy and need not to be part of the lessons Girls tend to react negatively while boys react positively they don't fear anything. Boys react naughtily, they are looking as they are eager to know, but they are too hyper. Girls react somehow shy, and uncomfortable even though, they look as they are willing to know. 	<ul style="list-style-type: none"> Looking at each other. Boys talk freely though not all of them and they enjoy the lessons on the topic. Girls seem to be not that interested in class, but a lot will come individually to ask for lessons. Boys are more active than girls during the lessons. Few boys make fun out of reproductive (female) parts, they only stop after a warning from a teacher.

<ul style="list-style-type: none"> • Boys enjoy the lessons on the topic. • Girls listen attentively. • Boys are not shy but girls are very shy. On boys side this topic does not include them so much it is only the reproductive parts and their functions. Boys are too active • The minority feels ashamed but the majority feel free as the subject is being tough in English. • Some use to be active and asking more questions about this topic, but some they use to be shy and just quite without participating as they don't understand. • They use to tease each other by calling themselves names of different parts of their body and so forth. • Boy react to be free and comfortable. Girls some they wont attended as they feel being exposed • Almost amazingly and they tend to show much interest in the topic especially on the system of a different or opposite gender. 	<p>Girls listen attentively and they ask follow up questions thereafter.</p> <ul style="list-style-type: none"> • Very much interested by asking questions. They are willing to learn more. • Normally when it's a turn to explain the female reproductive system, boys laugh and make fun of it. Girls sometimes laugh but not much. When it is the turn for male reproductive system boys keep silent and girls tend to be more curious to know male organs. • Boys participate well while girls are not. • Actually I have not yet seen bad intention between boys and girls during my presentation. When they present their given tasks they do not laugh that offends others opposite sex. • Mostly they prefer oral questions to be answered according to gender, e.g. if the question is asking on female reproductive system male prefere female to answer or vice versa. • Boys tend to dominate the girls in participation on human reproduction topics.
---	--

- Boys react more bravely and stare theirs to girls while girls fenty their head and feel victimised.
- Girls are so shy and thought to run out of the class.
- Girls tend to be shy while boy sometimes become noty.
- Girls feel they are the one personally involved in the discussion, thus they react negatively toward the topic while boys enjoy because it is like a game to them.
- Girls are normally shy.
- Boys like the topic and enjoys it much, that the are able to ask questions freely. They do not associate it as personal. Girls are sensitive to the topic, they do not participate willingly, when they are asked to say something they take it personal and feel bad to be pointed out.
- Boys are more interested and curious, they ask more questions and are actively involved in a lesson on the topic of human reproduction. Girls are less interested, do not ask questions

- Girls sometime may laugh and look down and are less active especial on topic of menstrual cycle. Boys talk alot and ask lot of questions. **If girls would be taught separate form boy their participation should improve.**
Interesting quote.
- They use to listen attentively as they wanted to hear more on how their bodies work. They like the topic very much and do not feel good when the lesson is over, as they find it more interesting to them.
- They try to ask as much questions as they can in order to know more sometimes they may try to tease others of opposite when we are focusing on their system.
- During the period of human reproduction boys are always looking the girls as the parts mentioned and start lughing and giggling.
- Girls participate less while boys participate more they ask many question and they enjoy and they become more open than girls.

and are passively involved, they find the pictures offensive and sensitive and so do not participate in a lesson.

- Girls use to be abit down and uncomfortable while boys use to be existed about the topic and eager to find out more by asking a lot of questions, as these is the most open platform for them to discuss these critical issue.
- As I said above paragraphs boys are free to ask any question, but girls, no! if they is one girl to ask many questions, that girl will be regarded as the one on heat.
- Girls feel abit shy when it is on the female reproductive system and the process and boys are also not free when discussion on male reproductive system is motivated but many of them they are free.
- Positive towards learning, yet hyperactive.

- The participation in the class by girls is low when compared to boys.
- Normally boys like to ask funny questions issues related to this topic especially those that concern girls and they ask questions also concerning their other male counterparts. They really enjoy the topic. But girls are shy abit, they don't ask for more information about this because they are not that free, they feel abit offended.
- Boys are sometimes making jokes and ask more questions.
- Depending on what learners you have because some become very interesting and express that they wanted to become nurses (midwives) so that they will assist women during birth process.
- Sometimes girls are shy when you say something like during sexual intercourse the male has to move up and down in order to ejaculate. While boys sometimes start to laugh, because they find some word/terms to be funny to them.

	<ul style="list-style-type: none">• On girls side they like some sexual organs to be called/given nicknames while boys they do not mind and they have a positive reactions while girls little bit.• Their responses are more or less the same.
--	---

What do you think influences them (learners) to react as you mentioned above?

- The traditional belief and how parents restrict kids on reproduction related matters
- Because sometimes they use to discuss this with their peers on daily basis.
- Religious and culture, most of the learners are Christian, and they believed that, discussing sexual issues in public are sinning. Culture believed that, those who discuss sexual related are prostitute or they want sex.
- Traditionally males have no great shame of their reproductive parts comparing to females. A baby boy can be naked in the house by a girl of the same age cannot be, it is like a taboo. There is more fear in mentioning a females reproductive parts than doing so about a male reproductive system. **Interesting quote**
- Cultural beliefs and also because there is more information to discuss on reproduction of females then males.
- It is just a matter of naughtiness of boys, they sometimes take the lesson as a joke.
- I think this is due to cultural mind set as discussing sexual related topic has been a taboo among Oshikwanyama speaking tribe. **Interesting quote**
- Girls are not exposed to discussions of reproduction earlier as boys its for that reason that they feel shy and uncomfortable to participate in such a topic.
- I think girls are not much participative because this topic is too much on females especially menstruation, pregnancy, birth and so on. So girls feel like the topic is too much on them.
- I give roles of girls to boys and vice versa. I teach them to have a free state of mind that one day they will come doctors or nurse and their work is to help not to look on gender. They enjoy this topic. *Answer not in line with question*

How teachers deal with learners' reactions when teaching human reproduction?

- Emphasising that is part of the syllabus which can be part of exams and needs to be mastered by all the learners. Informing the learners that gaining information on reproduction will enable learners to cope with secondary characteristics.
- Calm them down and tell them to take it as it is.
- By motivate learners to take this topic seriously so that this information will help them in future and to be aware of changes everything they have.
- By explaining how important to learn the information because it affects their everyday life. they have learn and use the information.
- I encourage them to feel free and accept all parts (male and female) are of equal contribution in reproduction and all are naturally occurring in every person. And it is very important for them to know how their body parts function.
- Myself I discipline my learners in class with a serious face so that they will not get out of hand. **Interesting. Is this not scaring them?**
- I give warning and then explain to them that what we are discussing is not fun at all just a matter of sharing the knowledge about the reality of human body which is part of the nature of a humankind.
- I encourage them to be open, participate, share their experiences and ask questions where they do not understand. I tell them reproduction is the way through which everybody comes on earth so they should not be ashamed of talking and learning about it.
- With girls who do not want to participate or who are shy should be motivated by asking them questions to engage them into the lesson. But to those boys who are so active should be told not to over do it because girls will not feel good.

- I mostly motivate them and to my side am not a shy person, so I keep my learners entertained when I see negative reactions by saying I was once a doctor and treated a female patient but I never realised she was a female. ???
- I encourage them to participate in all competencies because in exams they are going to answer all questions in addition to know all humans system to be taught their wives and their husbands in future.
- I use to encourage them to stay free as the topic is not specific to anyone. I further tell them that reproduction happened in all of the living things to keep life goes on.
- Let them understand the whole idea of teaching the topic human reproduction, system as it will help them to gain knowledge for future and nowing their reproductive body system especially those who want to become doctors.
- I always encourage the girls to refrain from such reaction and tell them that the reproductive organs are part of the human nature and we cannot do away with this. Boy are give more questions based on the male reproductive system just to keep the balance. ????
- I always explain to them to participate well as the presentations are just real situation in life.
- I just inform them that parts of sexual organs are equal and must be treated equally. This is no does not mean that females have the same importance as males and also it is stated in the human right. ???
- I am a teacher by profession and I have to manipulate my attitude toward learners they are just teenagers and they are right to be excited. I just have to confirm with them yet emphasise on the learning outcomes.
- I tell my learners the importance of studying this topic e.g. careers becoming a nurse or doctor you should know the content. It is also an important lesson where information on prevention of teenage pregnancies is gained.

- I tell girls not to be shy, but to be free and not to link science to bible. I tell boys not to laugh but to concentrate because the topics are not for fun, but for study purposes.
- Neutral and to accommodate them as learners and kids at the same time kids who are still growing and experience different experiences during puberty.
- I try to create a room for both boys and girls to interact in a learning process and I would encourage most girls to ask questions and to become interested and actively involved in a lesson.
- By drawing their attention to science and reality. Girls discuss about boys issues while boys discuss about girls issues. This way they get encouraged because they are not talking about themselves but others.
- Positive reactions, I encourage them to study hard and become midwives of just nurses or even doctors. I emphasise on avoiding teenage pregnancy.
- I normally discourage silly jokes, and encourage every-body to take part because after all they will be assessed.
- Encourage learners to participate during the lesson. Ignoring the fact that they are the one under discussion
- I normally help them to cope by first telling them that, the purpose of discussing this topic is for us to know and understand ourselves more better is not to offend anybody or to make that because all these are God created process and structures which have their own natural purpose which should be appreciated.
- I motivate girls to be free and participate because these topics are not are not individually based. I use to tell them that the native is like that so there is no need for them to feel embrass or shy.

- I encourage girls to be more open like boys and motivate boys to continue to be curious enough.
- I will be serious and allow no body to make any remarks and not allowing vanicular to be used during this topics.
- I use to encourage the girls to be part of the lesson and to be realise that the topic is not meant for them only but for both boys and girls. While to the boy I use to tell them to ignore and delete the wrong mentality that topic is there to spoil girls only. But to educate them all.
- I encourage them to keep what is in the lesson for the lesson, but not to use the language lesson to dimin, tarnish or insult fellow learners.
- Will tell them to be self-confident and face the reality.
- I try to tell them the truth and what is expected to be taught in their subject syllabus at their level.
- Just to tell them the truth and make them aware that they are spoiling their parents.
- I use to encourage them to be free and ask so that they will understant more and protect themself from unwanted pregnance and STDs.

Teachers' thoughts on who to teach (male/female) human reproduction topics?

- Reproductive system can be found in both male and female's bodies, hence both need to have more information about reproduction so that they will be able to effectively teach it to the learners.
- Today we talk of gender equality so male and female should be treated equal.
- Both male and female have the same potential to make learners understand pass and like this subject, as long as they will be free to express their points.

- The reproductive system is both for male and female. It does not matter who is teaching it as long as he/she has all the necessary information.
- It should be assigned to both gender since the topic covers both.
- It does not really matter who is suitable for presenting which topic. All teachers are qualified and professionals in addressing all objectives in the subject.
- Human reproduction is just a topic of a school subject, therefore there is no need to say males or females teachers should teach it any other subject teacher who is qualified to teach must be in position to teach it to learners thoroughly.
- Females have more experiences when it comes to pregnancies, birth and taking care of the newborn babies comparing to man whose shallow experiences end with fertilisation. *In favour of one sex*
- As long as the person is trained to teach that subject Life Science or Biology. That person is able to teach that subject unless not trained. Because these subjects does not only consider males or females but both should be involved in training as education is for all, whether male or female.
- As a trained pupils we can manage to teach this topic and it makes both our learners (boys or girls) to be free in state of mind. ????
- As long as they have knowledge on the topic. Reproduction is just a topic like any other topics.
- To encourage both boys and girls to done away with old belief of saying private parts are not openly discussed among other peoples. Also to motivate those who are shy to to say anything on reproduction topic.

- Males give a lot of information and are free to talk at the same time female teachers are more informative when it comes to reproductive system e.g. menstrual cycle (from practical point of view).
- Studies or learning have no choices
- Because those reproductive organs are found on both males and females, for that matter, either a male or a female teacher can teach. It is not designed for male or female teachers but for both.
- Any teacher is welcome as long as she/he has advanced knowledge and the ability to explain strength rule out undesirable behaviours. The teacher must not be shy in telling what it is.
- Topic content is very important in this regard male or female teacher can teach this topics by following the basic and give the required content.
- Because most of the topics are based on female than on male. Therefore, female have in depth knowledge on these topics that they can present them to learners.
- Males do not shy. *Favouring one sex*
- To accommodate and familiarise both parts to the experience and knowledge about these phenomena.
- Male biology teachers are much more open when it comes to the topic on human reproduction compared to their female counterparts. The main cause is culture, religion and beliefs. *In favour of one sex*
- Most females are shy and not comfortable with the topic, but I would not want to include myself in this list because I am not shy. I am comfortable and enjoy it very much. I am sure there are other females who are like me. Males are naturally good

with this topic because of their nature and enjoy it very much though, they have no experience in menstrual cycles. *Favouring one sex*

- The information on this topic is very important to everybody, it teaches everyone how to plan our families and take care of our children, how to avoid STDs which kills many people in Africa, how to live hygienically. It is an educative topic.
- Everybody can teach this as long as he/she went through training.
- Both sexes should be open to discuss the human reproductive system.
- We need to know ourselves better and there is nothing that needs to be between males and females- we only need to be careful to teach the topic in such a way that we are not hurting any gender or mocking anyone.
- Because this topic should not discriminate on the gender, female teachers should also be empowered to teach the topics on reproduction because some of the learners will be free to participate if the teacher teaching the topic is a female.
- Human reproduction should not be regarded as a one gender topic, it should be taught by both males and that is why both girls and boys should be encouraged to be open because we need both males and females Life Science and Biology teachers. Both sexes need to understand the reproduction system fully.
- As long as you are a teacher and you are trained in that field you will definitely teach the subject.
- Because both female and male are human beings and should not be differentiated on the basics of sexual orientation. Females need to be empowered to enrol in courses related to sexual reproduction to teach Life Science or Biology Subject.
- As long as the person has been trained to teach a subject and is at liberty to express himself/herself there will be no reason not to deliver on such a subject matter. I see

both males and females as capable of facilitating on human reproduction depending on an individual's inner ability, but not gender.

- Both male and female if they majored in Biology they did Human Biology which involve Human reproduction. Using their Biology secondary school experience assist in teaching human reproduction.
- In the teaching professional there are male and female teachers. All teachers (male & female) undergo the training on how to teach some of those topics.
- Both, because these topics are on both females and males.
- All the teachers male or female they can be able to give more information to give more information to the learners about human reproduction.

What do you think are the challenges associated with the teaching of the topics on human reproduction?

- The terms used as well as the teaching materials in practical terms. Also some learners take it as if they are trained and motivated to involve in sexual related activities.
- Only one gender use to be active sometimes learners use to ask some things which are practical that the teacher cannot prove also.
- Materials for teaching aid, such as posters and models that hinder the interest of learners. Shy for both teachers and female learners.

Some questions from learners are too privacy and they ask from experience.

- Misconceptions among the learners since the lesson is more on theory.
- The high rate of teenage pregnancies. Most of the time there are pregnant learners around and it really needs one to be very careful not to mention something that might kind of offending the pregnant learner. *interesting quote*

- Shyness as in some cultures and religions, juniors are not exposed to discussions concerning reproduction.
- Challenges are only lack of teaching aids especially those concrete ones because we only use to draw on flip charts sometimes the drawing is n't drawn properly. So lack of these teaching aids is only the challenge.
- Challenges comes to female or girls who have started their menstruation and when you touch about that they seem to be low self-esteem and those boys and girls who have children always participate less.
- Some learners rised in the background that mentioning the private parts is a taboo. Learners are more interesting in asking general things than what they are requested to know.
- Most of the thing tought cannot be seen as they are genotype. They are sensitive.
- Female learners are not actively participating and sometimes it is difficult to explain in more detail as some words are more sensitive to mention among learners.
- Girls participation

Boys reaction towards girls.

Teacher who are shameful to teach this topic.

- The general understanding of learners should be encouraged for them to be free when they are participating in classes.
- Teaching medias- the lack of both visual aids and vivid poster and the main obstacle or hinderance in learning this topic. Despite this is not an exception or reason a qualified teacher should use we/I should always make a plan: my classes have posters and other teaching materials that I prepared using the available resouces.

- Sometimes learners ask questions which are not part of the basic competencies that require to know.
- Some learners can label a teacher as a pagan somebody.

Lessons are just theoretical and you cannot do practice in classroom.

- Proper books for Biology, I wish those olden text book be brought back in schools e.g. senior Biology Grade started 8 and more other books which was being used those days.
- Uncomfortability of learners especially girls.

Guilty conscious among learners who are feeling victimised by discussing issues concerning among them.

Confusing among learners especially understanding the differences.

- Mostly it is poor involvement in lesson on female learners when it comes to topic on human reproduction. This is the biggest challenge because it seems I am teaching only one group of learners which is boys only.
- Shyness of girls, hinders their participation and leads to lack of understanding.
- No enough time and teaching facilities e.g. posters on STDs different contraceptives. Learners are getting this information at schools only. By the end some learners practice unsafe sex leading to teenage pregnancy.
- I don't find it really challenging cause most of the learners enjoy it. They ask various questions and sometimes they don't even want the lesson to end.
- Learners (girls) being shy and not participating actively in the lesson.
- Boys- enjoying looking and teasing girls in the lesson when discussing the topic.

- Challenges are many-when the female learners feel uncomfortable, they are likely not to do better in exams because they do not concentrate better. Boy can do better.

- Cultural background

Religion

Comfortability

- It is so challenging in a sense that culturally these sensitive issues are not discussed with children for example sex. This is the reason why girls are probably not open to participate and contribute learning about human reproduction.
- Only teachers talk about that topic apart from parents
- Teaching aids that model the real female and male sexual reproductive organs.
- Teaching female learners in the same class with male learners.
- I do not find much challenges apart from learners' eagerness to tease each other based on the acquired information on the topic.
- It needs a self-confident with high self-esteem to have that courage to teach all the topics using diagrams and for learners especially girls to know how those parts in their body functions.
- Learners may ask more critical questions and you may not be able to give the answers to them.
- It is because you are expected to give or explain everything and give everything real life examples.
- We do not have all the necessary teaching aid that we need to use when we are teaching this topic.

How do you address the challenges you mentioned?

- Through special meeting with learners.

By updating parents for them to be free to talk to their kids on human reproduction

By stressing that human reproduction is not taught for fun but for academic.

- Advice them to read other sources in order to confirm they think was not real.
- Draw posters even though sometimes they are not clear enough.

Motivate learners

Referred the question to nurse and doctors at hospital.

- By trying to go into details, use diagrams and give a lot of activities.
- I urge my learners not to refer to anyone during the lesson, the mentioning of individuals names is prohibited and nothing should be taken personal. I normally let them know that it is just a normal lesson like any other lesson that requires their utmost participation.
- Parents and guardians should develop a culture of discussing issues related to reproduction so that at school learners will build on their prior knowledge.
- I would like to request the Ministry/government to make sure that every school is having enough teaching materials especially from the Ministry of Health and Social Services are the ones having those materials based on human reproduction.
- Just emphasise that all learners are young and their will encounter those things in near future so they must now prepare how their body will change and they must be ready.
- In the introduction of the topic is where I used to make sure that I explained it clearly that in Life Science we are study the knowledge of nature, therefore we will feel free to

ask and answer by mentioning every word on human's body, there is no name of the body organ which is an insult. *Interesting*

- By using teaching aids.

Encourage learners to be free

Be free to teach learners

- Invite a Life Skills teacher to make the learners understand on the topic of human reproduction system.
- Girls are encourage to participate and do more by means of drams, where by boy are give role of girls and vice verse

Boys are advised not to be personal.

- Use the available resources, I use handout, get pictures from book and many other sources (magazines).

Sometimes learners also prepare when they are given a detailed criterion document to work with.

- I provide a copy of the syllabi to learners and I always ask learners to go through before the lesson for them to be aware of what they are expected to learn. Any question which is not part of the basic competencies I tell them to research about it.
- I tell learners that what I teach them is not from my head, but from the syllabus. I tell learners that we cannot practice what we are learning in the classroom.
- By having a pre-discussion about life in general.

Explain to boys and girls to feel comfortable and free to understand the concept better.

- I would try to create a room for all learners to actively participate in a lesson but these challenges come from culture, religion and even traditional beliefs.

- I usually divide the sub-topics to different groups just to make them talk, and able to search information. In some cases, girls discuss about information related to boys while boys discuss information related to girls (females).
- Educating community members to talk to their children freely regarding this topic. Telling learners to make correct choices, finish their educations first.
- Encourage the girls to be free and participate.
- I encourage all learners to understand how important is the topic and to concentrate and understand it fully. I also encourage them to respect each other as human-no teasing each other. I encourage them all to be confident.
- By motivating learners to concentrate on the content of the subject regardless of their cultural or religious background.
- Although culture has not it all education with human development should address it and we all need talk about it so it must be made clear so that the next generation can be well equipped with enough information on human reproduction without fear of discussing sensitive issues.
- Learners must taught that topic so that they must know their bodies and to know how they must behave or respect each other. There is diseases which circled around in our community learners must know how to protect themselves against those and to consider their education seriously.
- Provide schools with enough teaching aids on reproductive and empower both female and male to take up the topic in the same way as they learn other topics of various subjects and to make learners that the topic is not meant certain groups of people but for both human being.

- I caution learners not to involve them in unnecessary teasing and to keep the subject information as such for the subject, but never to use that knowledge to insult one another.
- If you are not self-confident its highly pathetic as it will be worthless.

You will start hating teaching as a profession cause learners won't leave you with their enquiring mind that need to be cleared. *Not answering the question.*

- I try to answer some of their questions and telling them to go and as a homework or tell them that some of those things are more explained better in Grade 11 and 12 syllabus, they will find them when pass.
- Just to teach our learners to be grown up and act maturely.
- Learners should be motivated, encouraged and inspired to participate well in all lessons.
- The Ministry of Education need to provide us with all the teaching medias so that we will be able to give relevant information to the learners. *Not answering the question*

Is there any other additional information you would like to share with me that I may not asked?

- Yes. How does the teaching of the topic reproduction affect the life of Individual learners? After being taught this chapter, it serve as eye opener to many learners end up practising what they learn in class leading to unplanned pregnancies and contraction of STDs.
- When teaching this topic, never ever try to translate into their mother tongue because it will sound as an insult. *Interesting quote.*

Never be shy to demonstrate any parts on pictures or posters.

Respect learners' religion and try to know how you will accomodate them in to effectively teaching this topic.

- We need more relationships between parent and Life Science teachers to encourage them to talk about reproduction system with their children at home for them to view the topic as it is needed to be discussed.
- Yes on the topic of family planning and contraceptives, girls use to participate less also and some time they may be using a specific contraceptive under discussion, this make them to be more shameful.
- Yes, how can we make female biology teachers become more actively involved when teaching the topic on human reproduction?
- Learners debate in this kind of topics if a teacher is expressing freely on the questions they asked and the way the topic is given to them and from debating or asking questions they are gaining and become interesting in the subject which will be make them good professionals.
- Whether cultural background has influenced the learners' perception towards this topic.
- The information I have is just about the performance of the learners in reproductive system.

They perform better as they are familiar with some of what has been taught and the lessons are interesting to them they do not forget easily.

- We want to help us with teaching aid so that learners will be able to understand this topic.

APPENDIX F: Research Goal and Questions

The main goal of this study was to understand Grade 10 Life Science teachers' perceptions and experiences of teaching the topics on human reproduction.

To realise this goal, I have developed the following research questions:

1. What are Grade 10 Life Science teachers' perceptions and experiences of teaching the topics on human reproduction?
2. To what extent do Grade 10 Life Science teachers' cultural beliefs influence the teaching of the topics on human reproduction?
3. What challenges do Grade 10 Life Science teachers face when teaching the topics on human reproduction?
4. How do Grade 10 Life Science teachers deal with the challenges they face when teaching the topics on human reproduction?

Interview Schedule

Research topic: Understanding Life Science teachers' perceptions and experiences of teaching human reproduction topic.

Questions

1. Could you please tell what your experiences were of being taught Life Science at school, in particular, the topics on human reproduction? (Ice breaker)
2. Could you please tell me for how long have you been teaching Life Science and what have been your experiences of teaching it? (ice breaker)
3. (a) What are your perceptions of teaching the topics on human reproduction? **OR** How does it feel to teach human reproduction?

- (b) What are your experiences of teaching the topics on human reproduction?
- (c) What factors in your view influence the teaching the topics on human reproduction?
4. (a) How do your cultural beliefs influence the teaching of the topics on human reproduction?
- (b) How do the learners' and parents' cultural beliefs influence the teaching of the topics on human reproduction?
5. What challenges do you face when teaching topics on human reproduction?
6. Given the challenges you face, what do you do to ensure that learning takes place when teaching the topics on human reproduction?
7. Is there anything you would like to share with me on the teaching of the topics on human reproduction?

APPENDIX G: Interview Transcripts 1-4

Interview Transcript 1 (G1)

Me: Good afternoon Sir?

T1: Good afternoon Mom?

Me: How are you?

T1: Very fine. How are you?

Me: I am ok. My name is Fenni Silas. I am a Master of Education student at Rhodes University. Aaaahmm, first of all let me thank you for making time for this interview. Just to remind you once again, the purpose of this interview is to understand Grade 10 Life Science teachers' perceptions and experiences of teaching human reproduction topics. So, the perception refers to views and experiences is what the teacher has picked up through the teaching of human reproduction.

T1: Ok.

Me: Aah. Aaaahmm, with you permission, I will record the interview and I assure you that your identity will remain confidential. No teachers' name will be mentioned and this information is for study purpose only. It will not be used for something else.

T1: Ok

Me: Yaah. Shall we start then?

T1: Yes, we can start mem.

Me: For how long have you been teaching Life Science Grade 10?

T1: 6 years

Me: You taught it for 6 years?

T1: Yes

Me: Could you please tell me? If we can reflect back to the time you were a learner? Aaahnmm, how was Life Science taught, specifically human reproduction during the time of your schooling?

T1: During our time of schooling aaaah... some topics in Life Science where not there particularly the one you are referring to. They were not there, but generally what we were taught mostly it was based on animal and plant husbandry. That was the main themes that were taught.

Me: Ok. And in Grade 12, did you do Biology?

T1: Yes, I did.

Me: Were you taught the topics on human reproduction?

T1: Yes, we were taught these topics.

Me: Just a little reflection then on how it was taught.

T1: Yah! Eeeh, during that time it sounded like it was a little bit a taboo for us to be taught such topics, but particularly myself I have enjoyed it because I was exposed to know my reproductive organs and to know the parts and their functions, to be introduced to the stages of puberty and eeh, eeeh what are the factors that can lead to a person to be a young parent, to respect the opposite sex. Because you know we were taught male reproductive organ & female reproductive organs.

Me: Ok, but how did the teacher teach these topics? Did the teacher sound confident or was he/she a bit uncomfortable?

T1: Yah. Teachers were one can say during that time they were kind of uncomfortable because eeh,eeh to people who are mostly believe in Christianity and because somehow it was not well explained and learners believing in these other churches aaaah how can I put it? In some religious beliefs it was not well introduced. They believe that people are being introduced to Satanism.

Me: So the issue of religions had the effect on how the teacher taught?

T1: Yes and also gender. One teacher who was teaching the subject was pregnant and she felt like she was humiliating herself when she was teaching this topic.

Me: Having gone through that now, can you give an example of how the teacher seem to feel she is humiliating herself?

T1: Yah! When she taught about conception, she did not really explain much and avoided most learners' questions.

Me: Alright let's talk about you as a Life Science teacher. What are your views on the topic human reproduction? How do you see it?

T1: Yah! Eeeehmm. The topic itself is a very important topic one will say. And nowadays learners are participating fully. Eeeh, it is important because learners are exposed to know human physiology so to say. Eeeh to respect each other at school and also to make future plans, to prevent unwanted teenage pregnancy because if you know your sexual organs function in terms of when you are perceived to be an adult not really an adult but that stage where girls 'menstrual cycle start. It is the time when they are ready to give birth and when boy starts having wet dream and stuff they can make someone pregnant, I mean if they can sleep around. It is the same topic where learners are exposed to know that there are diseases called Sexual Transmitted Diseases that can affect their sexual organs. So to say it is very appropriate because it also help learners to build up their careers, because some would like to be doctors, some would like to be nurses, some would like to be ... whatever field they would like to venture into. It gives them a chance to know each other and respect each other in terms of how I should treat a male and what should I do should I be exposed to this and that? Thank you very much.

Me: Ok. Now, your aaah, your experiences now as you teach the topic human reproduction. Let's say you are discussing the reproductive system of either male or female or you are talking about conception, or may be...

T1: Ovulation

Me: Yah, ovulation or menstrual cycle or any other topic yah, eeehmm how do your learners' aaahmm react to that?

T1: You know education is like... one is picking up knowledge and skills and understanding. But yet when we are talking about education, education has to start home. What I want to say one feels the girls' side especially the female' s side particularly when it comes to this ovulation, menstruation cycle... some of our children are not exposed to this things before one would like to say parental involvement like a mother –daughter relationship. The mother has at least to inform the daughter that at a certain age in your life, you will experience changes that may occur which are related to what we call physical changes neh?

Me: hmmm.

T1: Yah, that translate the child moving from pre-adolescent to adolescence. But, learners especially females they feel a bit uncomfortable, because they feel that it is more personal they are afraid of mockeries from the males' side, but generally when one taught such topics, you see the outcomes when they are tested especially in the examination, many of the learners do quite good in that specific topic and it is a very good topic that one ... eehh to be taught.

Me: Oh yah! The girls are a bit uncomfortable in comparison to boys?

T1: Exactly, because sometimes you see you ask them aaah any of them aaah if any of them has an experience... what was their experience the first time when they have experienced it? And you realise that learners that are not well informed from home they do it in class without having precautions like pads that need to be used to avoid bleeding on the chairs that we experienced especially to girls that stay with grandparents, girls that have inferiority complex.

Me: I see. Aaahmm... yah in your view, what do you think influence the teaching of human reproduction topics?

T1: Oh, yah! Factors that influence ...point number one is the learners'so to say the common STDs that they experience. Like in our country Namibia, they said there are common Sexual Transmitted Diseases. One would say a person who was not educated about sexual reproduction eeh, eeh may not know that there is such a factor. Another factor is teenage pregnancy that is quite high one will say because learners were not taught probably were not influenced on how they should manage themselves in terms of sex or sexuality behaviour. Another thing is, is, is managing one has to know how his /her body functions particularly on the part of our reproductive organs. We should know because of the respect for others not to expose, not to insult, not to use this local languages in terms of mentioning hidden parts that are very import in our bodies or in our... yah on our bodies yah.

Me: Soo! You mentioned that one has to be very careful...now, eeh you explained that one has to be careful of what you say and what not.

T1: Exactly.

Me: Does this mean that there are some cultural beliefs that may lead to this?

T1: Yes, I cannot rule it out. There are, because people have different backgrounds and cultures. And I would like to say culture has to be there, but yet reality has to be reality. In other words, we cannot hide behind culture anymore. We must call a spade a spade. If it is like sex and sexuality, reproductive organ we need to know them. And in so to say in our vernaculars we have those names of those sexual parts /organ that people use and eeh education as I said earlier, it gives us skills, knowledge and understanding of how his / her body operates he/she will have to make the right choice on when and how he /she must engage in relationship particularly that involve sexual as to know when and how and with whom...what are right procedures that one has to follow when it comes to that and how does he /she control her body if she is experiencing these changes are occurring particularly hormonal changes that are related to male realising his manhood, female realising her female hood and want to experience this other things. Yes

Me: Ok ,but then does it mean you , yourself do not really have a big problem explaining in details as to how the human reproductive system were...or functions and how conception takes place and so forth?

T1: Not at all, Not at all. It is not a problem and I will say, these topics are also found in other subjects. We have got a subject called Life Skills eeh Life Skills is a subject that is created ... to create awareness among the learners to know their reproductive rights one would say, to know the danger of STDs and drugs and alcohol abuse so to say. This is a subject that is exposing us to know because it is not only in Namibia these topics are taught. In other countries these topics are taught and I do not have any problem. I feel more comfortable telling the learners, teaching the learners the truth. And I realise that after teaching this topic, there is a reduction in teenage pregnancy and stuff. Thank you.

Me: I see this is becoming interesting. Hmmm. Let's assume that learners do not really understand a concept very well. Would you switch to the local language?

T1: Eeh, not as such, eeh, you know much of the explanations like... words like ovulations, words like hormones are not quite available in our vernacular, but what one has to do is to make simple explanation that are ... learners will be able to understand simple because these are practical activities that are happening within their body. When one knows or when one experience these changes, like when they were young they did not know or they did not have feeling like sexual feelings but now as they reach a certain stage of growing up, they start having these, eeh falling in love feelings, image become very important. A man want to have a girlfriend and a girl want to have a man and so forth. I think is not much of a problem in term of teaching it in our language. I mean we cannot teach much in our vernacular because some of these words are not there at all, but in English they understand and I guarantee you that they understand because it is also not well clearly explained, but it is in Grade 5, Grade 6, Grade 7 and Grade 8, the little part of it, then it is more broader in Grade 10 where I am teaching. But the fact remains that these kids they are exposed to these things, medias are there exposing them, hospital are there in case there is a topic that I do not know how to explain in more details, I use to call in the health workers those are from hospitals to come and at least make more elaboration and it goes quite well indeed.

Me: Ok, thank you for that one. Eeehmm, we are always faced with challenges in teaching. Aaah, what challenges do you face as a Life Science teacher and specifically... eeehm we should be very specific to the teaching of human reproduction?

T1: The challenges are there, the challenges are quite there. One challenge that one will say that hampers learners to grasp what they are taught is shyness. Aaah shyness is one of them. Learners feel uncomfortable when such topic is taught. Another factor is eeeh one will say is mockeries other learners they mock others in terms of when their reproductive organs is displayed on the board you find that boys they may kind of feel like laughing and girls feel kind of uncomfortable but general eeeh, eeh that topic one... you also know as an experienced teacher I think you taught it before, eeh it is a quite sensitive topic so to say but as I already have alluded that some of these learners may become doctors and nurses and stuff aaaah probably they are going to be midwives, somebody who specialised in what is it? Attending to women that are giving birth, it is quite a good thing, but the challenge that I have listed those are the few challenges. And also parental,... home you know when parents go through these learners 'text book or books ,they feel like their kids are taught things that are of not their level at all, because I say we link different beliefs to, to, to what we are going through. The current situation, but as I said we are living in a global world. What others countries are doing, Namibia should also do. Therefore we are leaving out the olden day beliefs and we are catching up with the modern lifestyle that we need to make sure that as human beings you know your personalities, particularly you must also know sex organs and how it operates.

Me: Aaahm, ok. Now, given the challenges that you have just shared with me, what do you do as a teacher to ensure that effective teaching and learning takes place?

T1: The first thing that one has to do is to make a very simple straight forward introduction. Eeeh whereby you tell them that the topics that follows or the sub topics that you are to focus right now it is focusing on ourselves, ourselves and you allow them to list what are the body organs that are responsible for reproduction? In other words, for them to know that wow! to be a father of a child, this is your body parts that is responsible for it. And you have to be strict in your classroom situation that as we approach to this topic, we need to follow and we need to ask question where it is necessary to ask, you need to listen attentively , you need to respect each other in term of the gender now in class. You need to see to it that the learning is taking place in such a way that all the learners are participating, are asking questions, are following and are making their own notes on that specific topic. I think with approaches from that angles, minor problems will be there but they will not really contribute to learner not grasping what intended eeh basic competencies is all about.

Me: Ok, that was the last question for this interview.

T1: Ok

Me: And I should use this opportunity to thank you for your time. I will transcribe the interview, in other words, I will put what we have discussed in black and white. And if I see that there is perhaps something that we missed out, I may approach you again.

T1: yah, yah

Me: And again, I will give you the transcript for you to read through and confirm that what I wrote is what we discussed here.

T1: I see.

Me: Yah, with that, thank you once more.

T1: You are welcome, and all the best with your study.

Me: Thank you.

Interview Transcript 2 (G2)

Me: Yah! Aaahmm. Good afternoon sir?

T2: Afternoon meme? How are you?

Me: I am fine. My name is Fenni Silas. I am a student at Rhodes University doing Masters in Science Education. First of all I would like to thank you for making time for the interview and for us to use time wisely, I would like to hear from you if I can record the interview. This will help me to take few notes and listen to the tape record later. Do you have any problem with that?

T2: No, I do not have any problem.

Me: Ok, just to remind you of the research topic again, I am trying to understand Grade 10 Life Science teachers' perceptions and experiences of teaching human reproduction topics. When we talk about perceptions, we mean views and experiences simply refer to what a teacher has picked up or has learnt you know throughout the teaching of human reproduction.

T2: Ok.

Me: First of all, for how long have you been teaching Life Science Grade 10?

T2: 3 years.

Me: Ok, Let's reflect to the time you were a learner. Could you please tell me what your experiences were of being taught Life Science at school? By this I mean how did your Life Science teacher teach human reproduction?

T2: Yaah. Thank you very much mee Fenni for the question. Well, eehhm... I recall very well from the time when I was in Grade 10, my teacher was Mr (name mentioned). When he was teaching us that topic you know I found it very difficult to understand most of the things because that time well... teachers did not use teaching aids. We just looked at the drawings in the book. Yah, but comparing to what we are doing know, we have you know some of the artificial teaching aids that make learners understand better than the time we were in school right.

Me: Ok.

T2: Yaaah.

Me: But how were your teacher's explanations?

T2: How...?

Me: I mean, did your teacher explain in a way that you understand the content even if there were no teaching aids?

T2: Yaaah... He use to tell us that when we were talking about human reproduction, we refer to the way people give birth to get babies something like that...that is what I am recalling.

Me: Was he free to explain?

T2: He was not really free. I even learnt that may be he was thinking that he was teaching us things that were supposed to be taught to adult people you know and not really supposed to be given to young people like us, because he use to give us piece of information here and there.

Me: Now, let's talk about you as a teacher. What are your views on this topic of human reproduction?

T2: Yah! You know let me not say I am doing it well, but comparing to my experience from my English teacher, in Grade 10-12. So I think I am doing it better than them because I freely explain eeh...each concept in the topic without shy because now I know the importance of teaching it. And then secondly, you know my teaching is fully supported by the available teaching aids at school. And when I am comparing the situation with those days when I was at school, the learners I am dealing with how, are so free, may be just because I explained this clearly to them that human reproduction is a very important chapter that is why someone has to understand him/herself. We are not talking about any other person we are talking about ourselves.

Me: Ok! Talking about the importance, why do you think human reproduction is important to include in the Life Science syllabus or to teach to learners?

T2: Come again?

Me: Why do you think this topic important to teach to learners?

T2: Mmhh... Yah! You know when we are looking at the current situation, we are in a developing country whereby children of that age you know we are talking about learners in the current situation you are talking about people who are 15,16,17,18 you know up to 20 years neh. And these people you know need to understand human reproduction mostly because we want to... we want to avoid these things of teenage pregnancy and we want to educate people you know how to handle pregnancy, how to handle themselves after pregnancy and we also...because there is also important things like HIV/AIDS you know which is a problem to our economy nowadays. I find out that it is a very important topic because one has to be aware of those things; teenage pregnancy, eeh... HIV/AIDS including all the STIs how to handle pregnancy, how to handle babies after delivery and so on.

Me: In your view, what factors influence the teaching of human reproduction?

T2: The what?

Me: Do you think there is anything that may influence that topic to be taught well or not well? Especially in schools neh?

T2: Yah, here and there we need to include practical explanations. When I am talking about practical explanations let's just talk about you know there is this part of STIs/STDs neh. I am suggesting that maybe those topics we need to get time to go to the hospital where the real situation is happening/ where sick people are and also where we can find things such as ARVs, you know for learners to see when a person is HIV positive, he/she looks like this, not just to look at pictures in the book. That is not really productive...

Me: Alright, but talking about topics like... maybe teaching learners about the reproductive system for example or menstrual cycle or how a woman fall pregnant ... eehhm. Do you think there is any factor that may affect the way such topics are taught?

T2: Repeat again that mom.

Me: Let's give an example of a teacher teaching learners the structure of the human reproductive systems itself, the organs and their functions or maybe the teacher is teaching learners how menstruation takes place or is talking about fertilisation or conception there. What factors may influence the teaching of such topics?

T2: Hmmm! You know there are some of the things that can influence the teaching negatively so to say. You know, some of the information especially in our books... they are not really clear, when we are talking about fertilization it is not really clear. The information we have in our books is like fertilization takes place on each person you see? People are different, is it? We are supposed to have the information that ok on people of this characteristics and so on, fertilization takes place this way... Yah! People are not really the same. When it comes to things like aaaah, what can I say?

Me: Ok. You are from a culture that does not really allow parents or elders to talk to children about things related to sex or human reproduction. How does that affect the way you teach?

T2: Yah! In my case it is not really a problem. Hah! Although I realise that most of the learners they are really influenced by culture, because sometimes when you are explaining these things depending on the syllabus' basic competencies, you might find some of the learners you know... thinking that things you are talking about are prohibited and you are just talking openly like that. They are even thinking that you are insulting them although you are being guided by the syllabus.

Me: So, on the learners' side you can see that there is a bit of culture coming out?

T2: Mmhhh.

Me: Ok, now do parents say anything about this topic being taught in schools?

T2: Yah! Like if I can remember, it was in 2012 when I was teaching this topic. I..., I..., I got one parent you know I mean I was approached by one parent saying: "Oh our kids are being taught those things of reproduction whatever... how to make babies, how to handle pregnancy and so on... Are you guys eeh, eeh, eeh, not promoting teenage pregnancy? Because now kids know everything about sexual activities and so on. Are you not promoting sexual activities

among learners? And heh now I am thinking maybe heh we should also include these things in the literacy programs so that so that some of our parents can also see the importance of this teaching, I mean in schools.

Me: Ok, now I think that is one of the challenges. Apart from parents complaining, what other challenges do you face?

T2: Apart from that challenge, aahmm may be we can... let me say we are facing the challenge of you know ignorance. Ignorance is also a challenge.

Me: Ignorance on which side? Who is ignorant?

T2: Eeh! Learners.

Me: mmmh.

T2: Yah, because heh! No matter how hard you try to explain according to the basic competencies in the syllabus, you might find specifically eeh in the examination, you might find this topic you know learners most of the time they do not do well. And you can see learners themselves they are ignorant, in other words they do not want to put more efforts on learning what is supposed to be learnt, you the teachers work hard and nothing happens.

Me: Ok and how do you deal with such challenges?

T2: Iyah! You know eeh. I have tried and still trying to encourage and motivate you know... Let's start with the parents especially the one who approached me. She gave me a clear picture that most that of the parents you know act like that particular parent who approached me. In the first place I try to... you know just bring the syllabus to the parent then I tried to show her the basic competencies and here and there explained learners' need to understand this topic because today we are calling them children or we are calling them learners, but tomorrow we are calling them adult people or parents who will be able to teach their own people in the community the importance of this topic. Now learners are ignorant. I try to tell them that they will be teachers, you will be lecturers, you will be nurses, how will you give people information about human reproduction, if you do not want to learn this at school? And on the other side, from the age of 16, 18 upwards you will get babies. How will you go through the process if you do not learn this in school? And we have these things of HIV/AIDS, STI and so on, how will you handle the situation if you do not want to learn while you are in school? In short I have tried to, you know motivate with relevant information so that at least our people understand.

Me: Ok, and does that seem to help?

T2: Yah, yah! Because on the side of parents, I have learnt that our parents need information because from our explanations to that particular parent, she came to understand why the topic is important. She gave encouragement to learners to take the topic seriously. Coming to the learners, from my encouragement and different motivations you know I even take note of some of them, if they know the lesson is for Life Science the call me if I am late. They say: "Sir it is your lesson, we are doing an important lesson so come we want to enjoy".

Me: Ehee! Is there anything else you would like to share with me or add?

T2: Not really. Maybe... just you know a suggestion on that topic. You see I realise that the..., the..., the curriculum or to say the layout of that topic the syllabus is supposed to be extended to start early...because mostly we start that topic in Grade 7 eh...from Grade 7 up to Grade 12. Yah! It is very important for that topic you know to be you know start even in Grade 5 so that when learners come to Grade 7 they have a clue.

Me: alright Sir! Eeh! We have come to the end of our interview. I would like to thank you very much for your time. I will write down your responses to the questions and I will give them back to you to go through, if I see that there is something that I did not capture very well or anything missing, I will come back to you.

T2: Ok.

Me: Otherwise thank you very much once more.

T2: Welcome.

Interview Transcript 3 (G3)

Me: Good afternoon mam?

T3: Afternoon Ms.

Me: How are you?

T3: I am good thanks. How are you Ms?

Me: I am fine. Aaah first of all I would like to thank you for making time for this interview. My name is Fenni Silas, a student at Rhodes University. I am studying towards Masters in Education specializing in Science.

T3: Alright

Me: Just to remind you of what the interview will focus on, I am trying to understand the Grade 10 Life Science teachers' perceptions or views and experiences of teaching human reproduction topics.

T3: Mmmh.

Me: Aaah with your permission, we will record the interview, so that we can take abit of a shorter time. It will also make it easy for me to capture everything we discussed when I will transcribe. It will take us 20 minutes or so.

T3: Ok.

Me: And I would like to assure you that this the, the information I am collecting is for study purpose only that is why there will be no teachers name mentioned.

T3: Ok.

Me: Your confidentiality will be considered throughout.

T3: Alright

Me: Ok, so to start, I would like to find out for how long have you been teaching Life Science Grade 10?

T3: Eight years.

Me: You taught it for eight years and let's reflect. When you were a child at school, did you do Life Science?

T3: I did.

Me: Ok. If you can remember how you teacher taught it?

T3: Yah, is it the particular topic or just in general?

Me: Let's talk about how the teacher taught human reproduction topics.

T3: Oooo! Ok. In Grade 10 my teacher was male and he was not really comfortable going in detail because in Grade 10 we only did animal reproduction. In Grade 12 Biology, we did aaaahm human reproduction and the teacher mostly... most of the time was really open and discussed everything properly without hiding some stuff, but I say they were not really explained as we expected. We noticed that the teacher was somehow reluctant to teach some of the things that are looked at as the taboo in the society.

Me: So the society in which you came from had an influence on how the teachers taught?

T3: Yees.

Me: How does the society view the inclusion of human reproduction in the, in the syllabus?

T3: Most of our elders have this thing of there are things that you have to say around children. So like mentioning the reproductive organs is something that is not allowed. Especially if you have to talk to a person of the opposite sex. So it is something that they look at like no, is not appropriate. I am a woman and you are talking about a manhood for example, they think is something that should not be done.

Me: Ok, thank you. What reasons are there for one not to talk to children about things related to sex?

T3: Hmmm. The elders think it will also encourage them to try out sexual intercourse itself and will also start mentioning such organs in public.

Me: Aaahmm, you as a teacher now, what are your views on the inclusion of the topic of human reproduction In the Life Science syllabus?

T3: Aaahm, I would say since I came in a different era, this is the 21st century, learners or kids need to know what is going on inside them or In their environment if for example a person is now coming from adolescent to puberty, a person needs to know; what exactly is going on inside me cos there are some feelings that develop and we would not want a learner to think maybe I am going crazy or something is not normal. If they are taught, it will help them to prepare for life and prepare for what is coming.

Me: Mmmh, so in other words, this topic is important to teach to the learners?

T3: Very important.

Me: Ok. Eehm, aaahm, now having been a teacher for a quite a number of years, teaching learners eehm the subject Life Science and then you have to teach them.... what exactly take place in their bodies? Talking about human reproduction which you earlier indicated that is a taboo topic. What are your experiences of teaching such a topic?

T3: Aaaahm, I have noticed that there are a lot of misconceptions. Aahm, like for example, there already things that they have heard. Just like I said parents are not free to tell learners exactly what is happening and some of the parents since they do not exactly know also. Just like you find for example things like menstrual cycle, you find a kid saying: “no it is because an egg is broken, thus why the person is bleeding”. So some of those misconceptions are the things that is really difficult to take them out of the learner because they have been there for a very, very long time.

Me: mmmh.

T3: That is one. The other one is learners are not sometimes especially ladies are shy when you are talking about ladies stuff. They would want it to be taught only to them alone. They do not feel

comfortable when you are talking about them in the midst of the boys being in the classroom and thus they do not even feel comfortable asking questions, not as much as the boys are.

Me: So girls would prefer to be taught alone?

T3: Yah.

Me: A girl's class haha.

T3: Simply, they do not want boys to know about their stuff.

Me: Ok, and the boys?

T3: Ah, the boys are not really a problem, they do not mind, you can talk about almost anything, they do not mind even the girls hearing about it.

Me: And how is their participation? How do they participate during these lessons on human reproduction?

T3: Wuh, I am telling you even the quietest of all quiet that time they participate, they would want to know. Girls they are only, there are only parts where they feel abit sensitive, but throughout the whole topic that is the time that you get most of the, the, learners participate the most. They would want to know more and they laugh a lot, then because to them they are kind of like really you are saying things that they feel like you do not have to say that but they do participate.

Me: Ok. Aaahmm, but do you....Did you in any case aaaah hear of a parent complaining about their children being taught of topics on human reproduction?

T3: Not the parent, may be because learners also they do not feel comfortable talking to their parents, but I had a case of a learner having gone to the principal to report that they are being taught insults.

Me: Seriously?

T3: Yaah. The kid go to the principal just to say: "That teacher now is teaching us insults in the classroom" and they felt kind of offended, but it was just once.

Me: That happened once only?

T3: Yaah.

Me: How did you help the learner realize that this is.....such a topic is just as important as anything else? How was it handled?

T3: First of all, the principal called me in and I had to call in that child. Before we went to the syllabus, I told the kid the importance of knowing the environment and him or herself I told them like is just as important as knowing the kind of food that you eat, what our body is made of you know that you have intestines and how they work. Any other part of the body is equally important. You do not have to look at one as being a no go zone and the other one you can talk about open. So that helped. You know is like is not about violating a person's privacy it is just about us understanding what we are made of and how we function.

Me: Ok. That's quite good. Aaaahmm, ok, in your view what do you think influences the teaching of human reproduction? What factors may have an influence on the way the teacher teaches human reproduction?

T3: Ahmmmm! That's abit challenging but I think the influence depends on a lot of things most of the time just like I have mentioned earlier, we need to know what exactly happen. Why at the beginning we talk about just a sperm and an egg and all of a sudden is a baby, what exactly happen? That is the driving force, we would want to know how does it arrive from one stage to another stage, so it is it is actually influenced by nature. We see this things in nature, we... you find a person was just normal all of a sudden the person is pregnant, what exactly happened? And we teach all those things and because some of those things learners are not told at home so we take that opportunity for them to know when they reach that stage at least they know what is going on and what happened.

Me: Ok. Eehm, ok, Its.....I know you have eehm mentioned that this topic of human reproduction is not something learners hear at home. Now what do you think will be the challenges a teacher will face eeh teaching learners something that is approved at home hehehe so to say?

T3: Hehehe. It is not an easy thing mostly aaahm especially like I'm female and when I am teaching is like I have to undress myself in front of the learners. That's one of the things that comes to mind like may be this learners they are just imagining me naked now, in front them so, those are some of the things that come to mind and especially now that you are teaching to different sex, different ages, people from different backgrounds it, it has a lot of impact also in the teacher so you somehow feel uncomfortable at first though, but the moment you go in, it flows.

Me: I see. Aaahm. So inside you now as a teacher would you see your cultural beliefs also have an influence on the way you teach?

T3: Somehow, somehow. You know, something is.....it is not just comfortable, I mean it is just like I said, you feel like you are undressing yourself in front of a group of kids. You think all that and you are afraid that people they probably just imagining me now. It is something that will make one feel uncomfortable somehow.

Me: Yaah. So the culture is coming out strong?

T3: Yah, very strong.

Me: Ou, ok. And now what do you do at least tojust to ensure that... ok despite the challenges that one faces. How do you try to ensure that these challenges do not really get in a way of providing quality teaching and learning to the learners? How do you make sure that this does not really impede the effective teaching of such topics?

T3: Ok, aahm, sometimes what I actually do is I get learners expectations first of all. Now when you hear of the topic of human reproduction, what comes to mind? what would you want to know? And the moment they give you all that it will give you a picture of how much they would want to know and how big... I mean..... what do?i mean what exactly how much do you have to teach to them cos the moment they say we want to know about this and this and this and this, why does this happen and this does not happen like that? then that gives you at least a clue and since they give you that you would want to satisfy them, you would want to answer their questions, you wont want them to go out with their doubts. So everything that shouldn't come on the way including the society and the beliefs, you

should just give to the learners what they need to know and as long as you are teaching the syllabus; within the scope of the syllabus.

Me: OK. Aaahm! And lastly now, is there anything else that you would like to share regarding the teaching of human reproduction?

T3: Aaaaeeem. I think I said everything else. May be is just that it is a very important topic and one gets to learn a lot and, and even though we are teachers, we also learn some of the stuffs from the kids. Aaahm, you will get to learn some aaaahm a lot of things. I remember when we introduced this topic, I do not remember in which part exactly, there was a time a learner told be about genital mutilation and they call them circumcision of women and I have never heard of it, so you get to learn from them some of the stuffs. A lot of things come up and they will also prompt you to do a lot of research.

Me: Mhhhm. Ooh, that is now the kind of questions they ask?

T3: Yah! The kind of questions they ask, there is some of the things just bring up. Like now we heard this and because of that it will really make you want to know more.

Me: Did you experience any cultural beliefs or this?.....we have myths. Do they bring a lot of myths that may be confusing?

T3: Not really, but some do. Like things like for example no you do not have to sleep with a person of the opposite sex, you can fall pregnant or so. Hehehe, they bring a lot of things like that and every group come with their different ideology and different myths so...yah.

Me: I see. Ok, now that brings us to the end of our interview I would like to thank you once more for your time and like I indicated at the beginning of the interview, I am going to transcribe (to write down everything we have discussed), and then I will bring it to you to read through and confirm whether I have captured what you have just said. And, and should also, as I go through my transcript, should I see that there is something that I have skipped, I will come back to you.

T3: Alright

Me: Thank you once more.

Interview Transcript 4 (G4)

Me: Good afternoon mom?

T4: Good afternoon mom, How are you?

Me: I am fine. And you?

T4: Vey fine.

Me: Ok, first of all let me thank you for making time for this interview.

T4: Alright

Me: Aaaahm. First of all let me introduce myself. I am Fenni Silas. I am a Masters of Education student at Rhodes University specializing in Science. My research topic is understanding Grade 10 Life Science teachers' perceptions and experiences of teaching human reproduction topics. Perceptions are merely views and experience in this context refers to what the teacher picked up in the process of teaching this topic year after year. With your permission, we will record the interview. That will also help to be able to capture everything that we will say here. Do you have any problem with us recording the interview?

T4: No problem.

Me: Another thing is, I will assure you that the information I am collecting is for study purpose only, thus no teacher's name will be mentioned.

T4: Ok.

Me: Alright. Yah! The first thing that I would like to know from you is: for how long have you been teaching Grade 10 Life Science?

T4: 2 years

Me: Ok, eeehmm. If we can reflect, the time that you were a learner, did you do Life Science?

T4: Yes, I did.

Me: And how did your Life Science teacher teach human reproduction? If you can remember.

T4: I can remember very well. It was well covered, it was a 'she'. And yah, that time Grade 10, hehehe human reproduction or human biology that time oh! Yah, I think what I can remember it was well taught especially that menstruating cycle and whenever the teacher is explaining, the boys will always tease us the girls and so and so.

Me: Mhhmm. Was the teacher free and able to make you understand?

T4: Very free, very free, she is Oshiwambo Speaking so and we are all Oshiwambo speaking in the class sometimes she explains more in Oshiwambo even.

Me: Ooh! So she did not have a problem code switching?

T4: No she did not. Especially when.....in most of the cases, may be sometimes boys would ask things, even obvious things and then sometimes she just shift to Oshiwambo, explain it and yah!

Me: Ok. Eeehmm, aaahmm, now, you as a teacher now, how do you view the teaching of this topic? Or let's put it this way: how do you or what are your views on the inclusion of human reproduction in the Life Science syllabus?

T4: Ok. Human reproduction.....ok, according to my view human reproduction is quite a very important topic in our everyday life. And I think ok like that to be part of Biology or Life Science and very important that learners should be taught on this chapter of human reproduction, because this is part of their lives. They need to know what really happens and so forth.

Me: Ok. So, in other words, you are saying it is very important that learners are taught human reproduction?

T4: Yes,

Me: Aaaahm. What did you experience?... in other words what have you picked up when you taught the subject, I mean when you taught this topic of human reproduction? Anything that you picked up from your learners?

T4: No! Yes, I did they in fact they know a lot on this chapter of human reproduction. Especially boys, even girls, but the problem with girls they do not say out things, but they know, they know a lot, quite a lot. Is just sometimes the information they know, there are certain misconception, but by looking at it most of the information they know it.

Me: Mmmmh.

T4: Mmmh, but sometimes in class you find boys they are free to express themselves, girls they are sometimes shy. It is only some girls who are really fine open to express themselves in human reproduction.

Me: Mhhhm, but when you say they, they know a lot, may be you can elaborate abit?

T4: Ok. Let me elaborate. For example, that chapter of aahm that..... what do I say know? That, that topic on the sexual intercourse part and the birth process, sometimes they will even ask things that you are not even aware of; the things they hear in their communities and so on.

Me: That includes, eeh may be a lot of beliefs or?

T4: Yah! beliefs as well.

Me: Eeh, do parents complain for example that their kids are being taught human reproduction?

T4: At this point I am not aware of that and I haven't heard it. It is like they don't....Yah, I am not really quite sure if they complain. I haven't heard of it.

Me: Ok. There was no case of that nature reported?

T4: No. there was no case of that nature.

Me: And, now how does it feel? You as a teacher you are Oshiwambo speaking. Ok? And you know our culture does not really aaahm, recommend that elders discuss things related to human reproduction for example, so openly with children or learners, but now with that culture, you are a teacher who is coming from such a culture, how does that affect the way you teach?

T4: Ok. Eeh, the whole cultural thing. I think that one nowadays, we do not really have to consider that maybe in old days yes, but nowadays it is becoming more important so, I do not really consider those cultural beliefs if I have to teach the learners.

Me: So, it is not an issue in your case?

T4: Aaah, it is not an issue.

Me: O! Alright! Mmmh. So which means any topic in human reproduction it does not really make you feel like uuh! It's me talking about this in front of the learners?

T4: No, no, no. Sometimes even they are asking questions, for example, hehehe I am a lady, they are asking about females women and stuff, those things I do not really have a problem I just explain to them.

Me: Eeeeh, Now apart from culture.... yah we have mentioned culture that can have an influence, what other factors do you think can have an influence on the way a teacher teach this topic on human reproduction?

T4: Ok, I think apart from culture, religion is also somehow playing a role there or affecting....because some learners they are having different.... They are from, what do I say now? Different religions so whenever you are explaining you find some learners, you are asking questions, they do not really respond and so and so. So! I think religion kind of influence to a certain extent, but those things you do not really pick up because some learners you are talking to them, they are just quiet and sometimes you do not really know what the problem is and so on.

Me: Eeh, but do the learners complain? For example outside the class?

T4: No they do not complain. They just sit there quiet, the open ones they laugh and all those sort of funny things. They make fun of it and so and so- Ms, "Can we do a practical on this" and so on. Yah!

Me: Mhhmm. Ok, now. What challenges do you face when teaching this topics on human production?

T4: Ok. May be the challenges could be when you are teaching, sometimes you do not really get it.... Whether they understand it or not. Because some learners they are just quiet, they are scared. Because other learners might even think they are asking because they want to know more or may be they are doing it or they want to go practice, whatever thing they are asking so it is quite difficult for you to know whether the learners have understood the topic or not, because they are often shy. It is only the boys, but only some who are open to ask questions on this topic, but girls they do not ask. Whether they understand or not. That one you can't tell. So it is quite a challenge.

Me: And, and apart from that? Any other challenge?

T4: Challenges? No, I think that is the only one.

Me: And now, you have this group that is active and it is willing to participate, this one is the opposite. What do you do to ensure that effective teaching takes place, so to accommodate both groups?

T4: No, sometimes you like sort of like give group works. Sometimes I give group work. For example that part where it says aaahm secondary characteristics of boys and girls, so what I do I put them in groups, boys I'm giving them to do the characteristics for the girls while girls they do the characteristics for the boys. Now after that they have to present their... the work that they have done in a group. Now, for example one group I can ask two learners to go in front and present those things. Cos sometimes I give home works when they come to school, I have to check everybody's work because some learners are not really free to talk in class but if you give them homework to do something to write down, they write down the correct answers themselves, but they are just not really open to discuss or to say those things in class.

Me: Ok, Just a follow- up question, when you group them and you ask them to present, eehm, how do you select the presenter?

T4: Ok, how do I select the presenter? Sometimes I would ask them can...anybody can present, and sometimes you will find everybody will be like, no I will not, and I do it myself and if I see that then I will just choose those learners who do not participate actually especially when it comes to that chapter.

Me: Ok. And how do they perform in tests and exams particularly with regard to this topic?

T4: Not very well but yah! May be how do I rate it? If I have to rate it over 100 maybe I can say 70%. Now the other 30% percent, I can say because of the misconceptions sometimes they explain things according to the things they hear in their communities and so, and so which makes everything not to be right.

Me: And are these misconception cleared during revision and so forth?

T4: Mmmh.

Me: Is there anything else perhaps that you would like to share with me regarding the teaching of human reproduction?

T4: Nothing I can say, the whole.... It is quite interesting even to me as a teacher because when you are teaching this chapter it is things that you know eh? Most of the things you know them already, they are happening in everyday life, you see things and so, and so-so. This chapter is fine. I enjoy teaching it and boys especially they also enjoy only girls that are sometimes shy and they are not really willing to participate. But then it is quite important teachers should not feel like, no because of culture, learners are coming from different backgrounds and so and so, things should not be discussed openly with them. No, I think everything should just be.... It is part of the syllabus so learners suppose to learn those things. They just have to be taught regardless of different cultural background, religion and so on.

Me: Yah! What do you think makes girls more shy than boy?

T4: I think the physical characteristics of boys and girls when they are becoming teenagers. I think there is also something there. Like they....i cannot remember very well, but there is a hormone or something that causes them to be shy, they are usually shy. Just part of their...they are still growing and then that is the stage where usually girls are shy compared to boys. It could also be the way they are brought up because Grade 10, for example Grade 10 they are just 15 years old at home some parents they haven't discuss those things with learners.

Me: Yah! That was the last question for this interview, let me thank you once more for your time. I am going to transcribe everything that we discussed, and then if I pick up that perhaps there is something I left out, I may come back to you. If you do not have any problem with that?

T4: No, it will be fine.

Me: I will also give you the transcript to see if I have captured everything we have discussed.

T4: Ok.

Me: Thank you very much.

T4: Welcome