Knowledge and Knower Structures in relation to Reproductive and Sexual Health in school curricula of Kenya and South Africa

by

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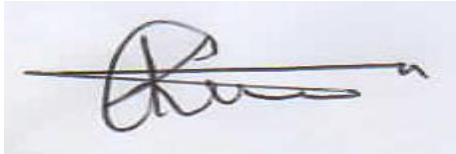December 2017

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DECLARATION

I, *Ezekiel Kiplimo Chemwor*, hereby declare that the *dissertation* for *Master of Education (Research)* is my own work and that it has not previously been submitted for assessment or completion of any postgraduate qualification to another University or for another qualification.

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ABSTRACT

This study investigates the Reproductive and Sexual Health (RSH) knowledge as recontextualised in the school curricula of Kenya and South Africa. It sets to provide a holistic view of RSH by bringing to the fore the underlying principles structuring the legitimation of RSH knowledge and knowing in both curricula. More importantly, it provides a deeper understanding of what RSH concepts have to be known and what kind of ideal learner is being projected in the two curricula. The study sets out to answer the following two research questions:

- How is knowledge related to RSH legitimated in the South African and Kenyan school curricula?

- How are knowers related to RSH legitimated in the South African and Kenyan school curricula?

Being located in the Official Recontextualisation Field of Bernstein's pedagogic device, this study uses Bernstein's knowledge structure approach and Legitimation Code Theory: Specialisation as theoretical framework. LCT: Specialisation codes provided a means of developing external languages of description or translation devices to build a requisite analytical framework for revealing the knowledge-knower structures legitimated in the two curricula.

The study employs a multi-site case study research design with RSH knowledge and knowers in school curriculum being the case, and Kenya and South Africa as the two sites in the case study. The purpose of looking at the curricula from both countries was not specifically to compare the contents of the curricula documents, but rather to enable broader consideration of the ways in which they position RSH knowledge.

The study found that RSH, as an interdisciplinary concept, is faced by a tension in its knowledge-knower structure across the curriculum levels. The biological component of the RSH concepts, has a hierarchical knowledge structure with a knowledge code that exhibited a purist insight as well as a horizontal knower structure that embodied a trained gaze, while the psychological component has a horizontal knowledge structure with a hierarchical knower structure that embodied a cultivated gaze.

Key words: Specialisation code; Gaze; Insights; Knowledge - Knower structures; Official Recontextualisation Field; Legitimation Code Theory; Reproductive and Sexual Health

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DEDICATION

I dedicate this dissertation to my mother Salome J. Chemwor who had to drop out of school in favour of her brother's education. Yet without formal education, she has been the driving force behind my academic endeavours. More importantly, she has been the pillar of my family before and after the demise of my father. I thank her for the love, dedication and support she keeps giving me, not forgetting the values, principles and lessons she has taught me over the years.

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ACRONYMS AND ABBREVIATIONS

AIDS   Acquired Immune Deficiency Syndrome

CAPS   Curriculum and Assessment Policy Statement

DBE   Department of Basic Education

DR   discursive relations

ER   epistemic relations

FET   Further Education and Training

GET   General Education and Training band

HIV   Human Immunodeficiency virus

IR   interactional relations

KNBS   Kenyan National Bureau of Statistics

LCT   Legitimation Code Theory

NACCK   National AIDS Control Council of Kenya

NASCOP   National AIDS and STI Control Programme

NCPD   National Council for Population and Development

OR   ontic relations

RSH   Reproductive and Sexual Health

SABC   South African Broadcasting Corporation

SR   social relations

STIs   Sexually Transmitted Infections

SubR   subjective relations

UAC   Uganda AIDS Commission

UNAIDS   Joint United Nations Programme on HIV and AIDS

UINCEF   United Nations Children Fund

UNESCO   United Nations Educational, Scientific and Cultural Organization

UNFPA   United Nations Population Fund

USA   United States of America

WHO   World Health Organization

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CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION

Reproductive and Sexual Health (RSH) is one of the most fundamental aspects of life. International consensus (see e.g. World Health Organization [WHO], 2006) affirms that adolescents [who are in the midst of a process of physical, cognitive, emotional, social and moral maturation] need and have the right to RSH information that would respond to their complex needs of adolescents – (United Nations Population Fund [UNFPA], 2014a). Schools play a critical role in building a foundation for RSH and an extensive body of research underscores the importance of comprehensive RSH education in school settings. Yet, RSH education is faced with numerous barriers in public schools (see e.g. Cohen, Beyers & Sears, 2012; McKay, Byers, Voyer, Humphreys, & Markham, 2014; Obare & Birungi, 2013). One of the primary challenges when it comes to youth and RSH education has been identified as a lack of effective curricula (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2009a).

A curriculum is in essence a framework for some type of learning or another, whereas learning (whether cognitive, skill based or dispositional) can be argued as "an epistemic or knowledge-producing activity" (Scott, 2014, p. 15). Knowledge is therefore central to the construction and realisation of the curriculum (Reiss & White, 2014; Scott, 2014). In the light of the recorded challenges with RSH curricula, it becomes necessary to determine what constitutes RSH knowledge, and how it is legitimated in school curricula (Scott, 2014). Macro concepts from Bernstein's pedagogic device and the specialisation

code of the Legitimation Code Theory (LCT) were used as theoretical framework to analyse how RSH knowledge has been conceptualised in school curricula and how the structure of RSH knowledge contributes to the development of a RSH ideal knower. A multi-site case study approach was employed in examining the primary and secondary school RSH curricula of South Africa and Kenya.

1.2   BACKGROUND TO THE STUDY

South Africa and Kenya experience similar challenges around social problems related to RSH. The high prevalence of HIV and AIDS among the youth and the high number of teenage pregnancies are a concern for both countries (Joint United Nations Programme on HIV and AIDS [UNAIDS], 2014). South Africa had the highest number of HIV infections in the world, with an estimated 6.3 million people (out of a population of about 56 million) living with HIV in 2013 (Masondo, 2015; UNAIDS, 2014). In the same year, there were 330 000 new infections while 200,000 South Africans died from AIDS-related illnesses. Kenya, on the other hand, has the fourth-largest HIV epidemic in the world with an estimated 1.6 million individuals (out of a population of 40 million) living with HIV in 2012, of which approximately 98 000 cases were new infections (National AIDS Control Council of Kenya [NACCK], 2014; UNAIDS, 2014). Young people, aged 15 – 24, account for over 40% of the population of new HIV infections in Kenya, which seems disproportionate (NACCK, 2014).

In terms of teenage pregnancies, South Africa is facing a crisis with more than 99 000 schoolgirls falling pregnant in 2013 – a rate of about 271 for every day of that year - with girls as young as 10 years (in Grade 3) falling pregnant (Masondo, 2015, South African Broadcasting Corporation [SABC], 2015). This is a dramatic increase from the 81 000 pupils who fell pregnant in 2012 and 68 000 in 2011 (Masondo, 2015). The SABC

reported of a certain school recording 77 cases of girls falling pregnant in a year and 15 girls falling pregnant in a certain primary school being reported in 2014 (SABC, 2015). The Kenya Population Situation Analysis report released in 2013, showed Kenya to be among the countries with a large number of adolescent pregnancies globally (National Council for Population and Development [NCPD], 2013). Also, according to a recent report by the Kenyan National Bureau of Statistics, 8% of the girls aged 15–19 years in the country had begun childbearing (Kenyan National Bureau of Statistics [KNBS], 2014). Kenya's high teenage pregnancy rate has resulted in a high number of girls abandoning their schooling early (Chege, 2013; Yara, 2014). The high number of teenage pregnancy cases has been blamed on a multitude of causes, such as low income, early marriage, peer pressure, inadequate sex education and alcohol and substance abuse (Chege, 2013; NACCK, 2014).

Policy-makers and RSH programme managers across sub-Saharan Africa acknowledge the significance of addressing the RSH needs of young people, especially between ages 10–24 years, in order to reduce the increasing number of teenage pregnancies and prevalence of sexually transmitted infections (STIs) including HIV in the region (Obare & Birungi, 2013; UNESCO, 2009b; UNFPA, 2014b). Despite the developments in the policies and educational programmes and interventions, effective RSH still remains a major challenge in the region because cultural values and religious beliefs play an important role in shaping young people's understanding of RSH issues (Obare & Birungi, 2013; UNESCO, 2009a).

Schools do not just respond to social challenges – they act as a leading force to social change (Scott, 2014). Education is argued to have the potential for making a large-scale impact in addressing the above challenges faced by the youth of Africa through

providing learners with access to knowledge that allows them to participate in society's debates and controversies, or so-called "powerful knowledge" (Wheelahan, 2010, p. 2). Education thus provides the society with a perfect tool to shape the thinking of the new generation and influence the socialisation processes that should help youths live a more fulfilling life (Postiglione & Lee, 2000). Although there is perhaps consensus on the idea that the key role of teaching and learning is communication of knowledge, most of the recent research in the field of RSH have problematized teacher knowledge and comfort, learner engagement, resources and parental control (relations to knowledge) (see e.g. Vanwesenbeeck, Westeneng, de Boer, Reinders & van Zorge, 2016). Very few have looked closely at the relations within knowledge in the curriculum (Maton, 2014). There is, therefore, a need to explore the most appropriate ways to structure and to present knowledge in national curricula (Higgins, Hayward, Livingston, & Wyse, 2016; Wyse, Hayward, Livingston, & Higgins, 2016).

1.3   A CALL TO FOCUS ON KNOWLEDGE IN THE CURRICULUM

An argument has been made to place 'knowledge as an object centre-stage in thinking about education" (Maton & Moore, 2010 p. 10). Maton and Moore (2010) argue for knowledge to be viewed from a social realist perspective, acknowledging the social nature of knowledge, as well as considering it as an objective reality. Viewing knowledge from this perspective allows it to be an object of study that has structure, emergent properties, tendencies and powers on its own; all of which can have consequences for learning (Wheelahan, 2010). Knowledge is furthermore the very basis of education as a social field of practice (Morgan, 2015; Scott, 2014).

Shifting the focus to the school curriculum; Young (2014) argues that it is important to recognise that knowledge is central to the realisation of a curriculum. Young

(2014) refers to curriculum as a structure that constrains not only the activities of those involved (primarily teachers and students), but also those who design curricula or attempt to achieve certain goals with them. Hence, curriculum does not only shape our actions but more importantly it also makes available the opportunity to gain knowledge (Livingston, Hayward, Higgins, & Wyse, 2015).

As argued by Scott (2014, p. 14), "a curriculum, which is a set of teaching and learning prescriptions, is in essence a knowledge-forming activity". The selection of knowledge (concepts and competences) is a social fact rather than a process related to the inner structure of the subject (Bernstein, 1990). Any knowledge-forming activity has a reason or set of reasons as to why the production of this form of knowledge is preferred in the curriculum (Shay & Peseta, 2016; Scott, 2014). Subsequently, a curriculum does not only imply a particular model of pedagogy, but also defines what counts as valid knowledge (Bernstein, 1996). By setting limits on what is possible to learn in schools, the curriculum legitimates and structures knowledge embodied in its constituent elements such as the subjects that are spread across levels (Biesta, 2014; Young, 2014). This view implies that curriculum writers assume the position of the arbiters of a particular knowledge's suitability for inclusion in a particular curriculum. This gatekeeping activity is even more important in the context of schooling as school curricula are government-led, with governments specifying what the curriculum should achieve (Biesta, 2014; Macknight, 2011).

With the focus on RSH knowledge in this study, Bernstein's concept of knowledge structures together with Karl Maton's Legitimation Code Theory (LCT) are employed as both a conceptual and theoretical framework, as well as an analytical framework.

Bernstein's knowledge structures typologises knowledge practices into hierarchical and horizontal discourses and knowledge into hierarchical and horizontal knowledge structures.

LCT is modelled around five 'dimensions', each one exploring a different organizing principle of social practices (Maton, 2014). The focus of this study is on the Specialisation dimension and specifically the concepts of specialisation codes (Maton, 2014; 2010). The domain of specialisation within LCT offers this study with a means for the description of the underlying principles that determine the nature of the RSH knowledge in the school curricula of South Africa and Kenya.

1.4   PURPOSE OF THE STUDY

This study aims to investigate how the knowledge associated with RSH is legitimated (Scott, 2014) as area of study in the school curricula of Kenya and South Africa by exploring the knowledge - knower structures (Maton, 2014), as well as curriculum structures in order to achieve a better understanding of the ways knowledge practices specialize RSH knowledge in school curricula.

Official curriculum documents are used as data sources to develop an understanding of the theoretical underpinnings of RSH knowledge in the school curricula of South Africa and Kenya. This understanding can assist in the alleviation of RSH issues such as HIV and AIDS and teenage pregnancies. Having a deeper understanding of the RSH knowledge practices in school curricula can also lead to finding ways that can make the subject more accessible to learners.

1.5   RESEARCH QUESTIONS

The following two research questions were formulated to enable the researcher to achieve the above stated research purpose:

How is knowledge related to RSH legitimated in the South African and Kenyan school curricula?

How are knowers related to RSH legitimated in the South African and Kenyan school curricula?

1.6   SIGNIFICANCE OF THE STUDY

The significance of RSH is multidimensional and should be approached from a number of different perspectives. For example, it could be approached from a teaching perspective (UNESCO, 2009a; 2009b), or as a health issue (WHO, 2006). Both of these might be valid means of investigating RSH. Using the argument that the key role of teaching and learning is the communication of knowledge, there is a need to make progress on what are the most appropriate ways to understand RSH knowledge, and to represent RSH knowledge in national curricula (Wyse, Hayward, Livingston & Higgins, 2014). In using Bernstein's concept of knowledge structure and LCT: Specialisation in framing RSH, my study brings a new perspective to the debate around RSH in school curricula by focusing on RSH knowledge itself.

1.7   DELIMITATION OF THE STUDY

This study is a small-scale study that focuses on the knowledge-knower structures as represented in the curricula of Kenya and South Africa. As the area of study, RSH, is addressed as part of vartious subjects in the context of schooling, the study examines portions of curricula documents from two countries, namely Kenya and South Africa.

1.8   CLARIFICATION OF TERMINOLOGY

The focus of the study is on sexual health and reproductive health of adolescents as represented in the formal school curricula of Kenya and South Africa. Adolescence is defined by WHO as the period between 10–19 years of age (United Nations Children Fund [UNICEF], 2011). This period is characterised by a rapid rate of physical growth associated with development of secondary sexual characteristics as a result of hormonal influence. The WHO (2006) furthermore formulated a working definition for sexual health as being

"… a state of physical, emotional, mental and social well-being in relation to sexuality. It is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled"

(WHO, 2006, p. 5).

Reproductive health has been defined as:

"a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes. Reproductive health therefore implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so. Implicit in this last condition are the rights of men and women to be informed and to have access to safe, effective, affordable and acceptable methods of family planning of their choice, as well as other methods of their choice for regulation of fertility which are not against the law, and the right of access to appropriate healthcare services that will enable women to go safely through pregnancy and childbirth and provide couples with the best chance of having a healthy infant

(UNFPA, 2014b, p. 59).

Good sexual and reproductive health is thus a state of complete physical, emotional, mental and social well-being in all matters relating to the reproductive system. To maintain one's sexual and reproductive health, people need access to accurate information and the safe, effective, affordable and acceptable contraception method of their choice. They must be informed and empowered to protect themselves from sexually transmitted infections (UNFPA, 2014a; 2014b; WHO, 2006).

The phrase 'reproductive and sexual health' are used interchangeably with the phrase 'sexual and reproductive health' in literature (see e.g. UNFPA, 2014b; WHO, 2006) and in this study.

1.9   CONTEXT OF THE STUDY

As the study examined curriculum documents of South Africa and Kenya, it is important to provide an overview of the educational systems in the two countries.

1.9.1   Kenya curriculum

The current education system, commonly known as 8-4-4, was launched in 1985. It is designed to offer eight years of primary education, four years of secondary education and four years of University education. Primary school serves learners between the ages of six and thirteen. Secondary school serves leaners between ages fourteen and seventeen. The main purpose of both primary and secondary education is to prepare learners to participate in the political, social and economic wellbeing of the country while preparing them to be global citizens. The eight primary school years are divided into eight levels: Standard One through to Standard Eight. The content of curriculum subjects to be taught and learnt are presented in a document known as a syllabus.

The subjects offered in the primary education phase are documented in two syllabi volumes (Volume I & Volume II), whereas the secondary education has been documented in four syllabi volumes. Volume I of the primary education phase present subject content for the following subjects: English, Kiswahili, Mother Tongue, Physical Education and Creative Arts. Volume II of the primary education phase contains Mathematics, Science, Social Studies, Christian Religious Education, Hindu Religious Education and Islamic Religious Education. In secondary education, Volume I contains: English, Kiswahili, Physical Education, Arabic, French and German; Volume II Mathematics, Biology, Chemistry and Physics; Volume III History and Government, Geography, Agriculture, Business Studies, Christian Religious Education, Islamic Religious Education and Hindu Religious Education; and Volume IV contains Art and Design, Computer Studies and Music. Life Skills Education was only introduced in 2008 and therefore has its own syllabus document. The rest of the syllabi volumes were last reviewed and published in 2002. The following subjects were identified as of importance for the purpose of this study: Science and Life Skills Education in primary education, as well as Biology and Life Skills Education in secondary education. Examining RSH concepts represented in the syllabus content of these subjects allowed relevant data to be generated for analysis in the study. The handbooks for Life Skills Education were also examined as they provided factual data in regard to the underlying principles for the structuring significance of RSH concepts in the curriculum.

1.9.2   South African curriculum

Education in South Africa consists of the General Education and Training band (GET), the Further Education and Training (FET) band, and Higher Education (HE). The GET and FET phases are governed by the Department of Basic Education, while HE is governed by the Department of Higher Education. The GET is further subdivided into 'phases' called the Foundation Phase (Grades R - 3), the Intermediate Phase (Grades 4 - 6), and the Senior Phase (Grades 7 - 9).

The school curriculum is referred to as National Curriculum and Assessment Policy Statement (CAPS). For each phase, the content of subjects, proposed activities and the assessment policies are combined in the official curriculum document known as National Curriculum and Assessment Policy Statement (CAPS). This curriculum aims to ensure that learners acquire and apply knowledge and skills in ways that are meaningful to their own lives.

The following subjects were identified as being of relevance to this study: Life Skills for Grades R – 3 (compulsory for all learners); Grades 4 - 6 (compulsory for all learners); Natural Sciences for Grades 7 – 9 (compulsory for all learners); Life Orientation Grades 7 – 9 (compulsory for all learners); Life Orientation Grades 10 -12 (compulsory for all learners) and Life Sciences Grades 10 – 12 (elective).

1.10   STRUCTURE AND ORGANIZATION OF THE DISSERTATION

This chapter has set the stage for the study by introducing the context of the study. The purpose and significance of the study have also been discussed. This chapter has also introduced the reader to the theoretical framework employed in the study.

Chapter Two introduces the reader to the theoretical framework of the study. The chapter outlines how code theory, as developed by Bernstein (2000) and Maton (2014) can

be used to develop explanatory accounts of knowledge practices in school curricula. Chapter Three explains in detail the research design and data collection processes, along with justifications for the methodology and methods adopted. Chapter Four presents the findings of the study. It answers the research questions which relates to how RSH knowledge and knowers are legitimated in the curricula of Kenya and South Africa. Chapter Five summarises the main findings of the study in the light of the analysis and interpretation of the curriculum documents related to the knowledge - knower structures of RSH in school curricula.

CHAPTER TWO

LITERATURE REVIEW

2.1   INTRODUCTION

This chapter discusses the RSH in the context of the school curriculum, after which it sheds light on the conceptual and theoretical framework used in this research. The first section on RSH in the school curriculum provides the context for the study alerting the reader to the controversies around the complex concept of RSH in the context of formal schooling. The second section introduces the conceptual and theoretical framework, consisting of concepts from curriculum theory, Bernstein's code theory, and LCT.

2.2   REPRODUCTIVE AND SEXUAL HEALTH IN THE SCHOOL CURRICULUM

The educational field of RSH is a complex, contested and interdisciplinary field characterised by a theory - practice tension (Bancroft, 1999; Guttmacher Institute, 2017; Her Zimbabwe, 2017). It is difficult to define the educational field of RSH in a schooling curriculum context as it is informed by several established disciplines, notably biological sciences (reproductive health), psychology and sociology (sexual health). It is as such an interdisciplinary study area (Bancroft, 1999).

2.2.1   Contentious issues surrounding RSH education

RSH education is considered a very delicate topic in most countries, especially where psychological, ethical, and socio-economic dimensions cannot be separated from

scientific and medical aspects (Pelège & Picod, 2006; Picod & Guigné, 2005). Kiragu (2007) established that most Kenyan parents find it difficult to talk to young people about issues relating to sexuality. Many parents fail to appreciate teenagers' right to appropriate sexual information (McLaughlin & Byers, 2001).

Several issues have been identified as contributing to parents' unease to address aspects of sexual health and reproductive health at home. Such uneasiness is mainly caused by traditional beliefs, cultural taboos, values, attitudes, fears and misinformation (James-Traore, Finger, Ruland, & Savariaud, 2004). Kiragu (2007) is of the view that parents think that by ignoring the topic, children will shy away from engaging in sexual misconduct. As such, at some point parents fail to discuss sexuality with their children in the belief that too much information is likely to lead to experimentation. Although some parents want to be engaged in educating children about sex and inculcating the expected moral standards in regard to sexual relationships, they face a dilemma on how to go about it. Some parents make use of myths and scare tactics to dispel early sexual experiences among the youths (Bastien, Kajula, & Muhwezi, 2011). Another issue contributing to parents' discomfort is their own lack of adequate information about reproductive health concepts such as puberty, anatomy, physiology, menstruation, masturbation, conception, contraception and reproductive health (James-Traore et al., 2004).

RSH education is not only a contentious issue for parents. Sexuality education has also been one of the most controversial and politicised aspects of the school curriculum (Bancroft, 1999; Picod & Guigné 2005; Trudell, 1993). The Kenyan Ministry of Education (2006, p. 45), in addressing the topic 'Youth sexuality' noted that "Sex is an overly sensitive subject". This viewpoint of the ministry reflects the hesitancy of adults in discussing sexuality issues with young people (Her Zimbabwe, 2017). Recent research in

Kenya indicates that provision of sexuality education has been ad hoc, sporadic and unsystematic leading to the discourse on sexuality being vague, silent or void of vocabulary (Guttmacher Institute, 2017; Her Zimbabwe, 2017). Kiragu (2007) asserts that in place of 'sexuality' education, softer terms such as moral education or family life education have been favoured. Noddings (1997) points out that teachers also experience aspects of RSH as contentious.

Teachers continually face difficult choices under circumstances where competing values are in tension with one another. Such tension is more pronounced in cases where a teacher's espoused epistemological and ethical commitments are not coexistent or compatible with the philosophy of the educational programmes to be implemented at any point in time (Atkins, 1997). It is very difficult for teachers to fully serve the interests of learners, parents and other stakeholders at the same time (Her Zimbabwe, 2017; Kiragu, 2007). Such irregularity in values and beliefs, leads to many teachers fearing a backlash from the community fuelling a high level of anxiety among teachers related to parental criticism (Darroch, Landry & Singh, 2000; Thomson & Scott, 1992; James-Traore et al., 2004). This can be attributed to the fact that although a comprehensive sexuality education programme in schools ought to have the confidence and backing of the parents, (seeing that many parents have left the burden of sexuality education to teachers), this is not often the case (Blake, 2002; Wight et al., 2002). Jones and Norton (2007) report that some cultural leaders argue against the inclusion of sexuality education in schools, postulating and that learners should obtain information about sexual matters upon marriage. Teachers would often give cursory attention to matters of RSH in concurrence with their own cultural beliefs, or out of fear of being seen as cultural rebels (Jones & Norton, 2007). It is therefore no surprise that the prevailing and predominant message to learners regarding

matters of RSH in most formal education sectors is to abstain from sexual intercourse until marriage (Guttmacher Institute, 2017; Schmidt, Wandersman & Hills, 2015).

It was furthermore established that in many countries, governing bodies pay little attention to monitoring the implementation of sexuality education in schools (Thomson & Scott, 1992).

2.2.2   The argument for RSH knowledge in the school curriculum

However, all is not lost. There is a growing awareness among governments, parents, teachers and education stakeholders (including reproductive health providers across the globe) that RSH knowledge is vital for the young people to be adequately informed about reproductive and sexual health matters (UNESCO, 2009a). The school curriculum holds great potential for facilitating reproductive and sexual health education as young people are exposed to those topics on a regular basis within the context of their peer groups (Kirby, 2011). Access to information via the schooling system may circumvent barriers to communication on sensitive subjects at a household-level as a result of parental unavailability or conservative cultural and generational values (Bastien et al., 2011).

Dailard (2001) reports that most parents in the United States of America (USA) felt that it is appropriate to provide learners with education about sexually transmitted infections (STIs) and making responsible choices based on individual values. Daliard (2001) states that between 75% and 90% of parents are in support of the view that RSH concepts such as access to contraceptives and other methods of preventing pregnancy should be dealt with in sexuality education. Schmidt et al. (2015) report that more than 90% of parents of middle and high school learners in the USA concur that sexuality education should be an integral part of the curriculum.

Miller (2001) asserts that both protagonists and antagonists of sexuality education have come to an understanding that, ideally, learners should receive sexuality information. Such a consensus comes from the realisation that neither silence nor scaring is effective in eliminating the risks associated with unwarranted sexual behaviour. Although the general misconception that sexuality education contributes to promiscuous sexual behaviour exists within the society, the benefits of sexuality education undoubtedly overshadow the negative consequences as a result of learners' ignorance, or adults' contorted and misleading messages about sex (Beyers, 2013; Di Mauro & Joffe, 2007). One of the major benefits of sexuality education is that it guides learners in making informed decisions, which empower them to avoid the consequences of risky sexual behaviour such as teenage pregnancy, STIs, HIV and AIDS (Kirby, Laris & Rolleri, 2006; UNESCO, 2009a, 2009b, 2014).

Studies have pointed out that lack of information or misinformation concerning sex increases the chances of sexual confusion and vulnerability among the youth (UNESCO, 2009a). In most cases, lack of information arouses curiosity and encourages more early experimentation – in many instances resulting in teenage pregnancies, sexually transmitted infections or AIDS (Kirby, Laris, & Rolleri, 2005). Gacoin (2014) considers acquisition of RSH knowledge as a pivotal component of strategies for the prevention of STIs, HIV and teenage pregnancies in young people, and as a means for youth empowerment in relation to cultivating positive sexual behaviours. UNESCO (2009a; 2009b) emphasise the need for learners to acquire knowledge and learn how to apply the knowledge and skills education has given them. In fact, sexuality education does not only empower learners to avoid negative outcomes associated with risky sexual behaviour but also capacitates them to acquire appropriate knowledge about and develop healthy attitudes towards sexuality (Francis, 2011). UNESCO (2009a) and Kiragu (2007) consider sexuality education to be

the requisite means to equip young people with the knowledge, skills, attitudes and values that will empower them to make responsible lifelong choices about their sexual and social relationships.

Studies have also shown that effective sexuality education has contributed to delayed first intercourse, as well as an increased use of STIs preventive measures and contraceptive methods such as use of condoms, thus empowering adolescents who have been sexually active with the appropriate awareness necessary to change their behaviour (Alford, Cheetham, & Hauser, 2005; The Sex Information and Education Council of Canada, 2017). Kiragu (2007) points out that, just as it is the case with parents, teachers too, need to know and understand fundamental information about physiology, psychosexual development, puberty, STIs, HIV and AIDS, sexual abuse, decision-making and contraception among others. RSH knowledge in the curriculum also provides teachers (as curriculum implementers) with a platform to acquire; debate and disseminate appropriate knowledge on human development, sexuality and related concepts (Gacoin, 2014; Schmidt, et al., 2015). The Kenya Ministry of Education, for example, while rolling out the RSH programme, indicated that adolescent learners who have access to RSH information are more likely to complete their schooling (Nyamori, 2015). Education therefore, in the process of fulfilling its role to address the societal needs, is also the ultimate avenue through which learners can access accurate and comprehensive RSH knowledge, and that enable them to develop the values and attitudes needed to empower themselves against risky sexual behaviour (Gacoin, 2014).

2.2.3   The theory-practice challenge

The Uganda AIDS Commission [UAC] (2004; 2002) reports on studies in Uganda that found that most youths have a high level of awareness of fundamental safe-sex and

contraceptive measures, particularly with the use of condoms (for example, that a condom is effective both in preventing diseases and as a contraceptive). However, the frequency of condom use and other contraceptive measures is tremendously low amongst sexually active adolescents (Neema & Bataringaya, 2000). There exists an apparent disconnect between RSH information and actual sexual practices (Hulton, Cullen & Khalokho, 2000). Hulton et al. (2000) further argue that this disconnect between knowledge and practice is very alarming as adolescents, particularly girls, constitute the group at highest risk for contracting HIV and AIDS and suffering severe, sometimes life-threatening, health and socioeconomic consequences of teenage pregnancy (UAC, 2002; 2004).

Studies in the past focussed strongly on either the teachers, the learners or the teaching material, attributing the failure to solve RSH issues to culturally based attitudes of teachers and parents (Alford et al., 2005). Studies that focused on the curriculum revealed that merely increasing the "youth's knowledge about sexual interactions and HIV and AIDS did not necessarily lead to the prevention of negative health outcomes" (Abel & Fitzgerald, 2006, p. 107). Walters and Hayes (2007) report that learners need more knowledge than biological knowledge around Human Reproduction and Sexual Health. Although HIV and AIDS awareness and information is important, without the necessary skills to establish healthy behaviour – such as informed decision-making, communication skills and critical thinking, the information is unlikely to be as effective as it could be (Abel & Fitzgerald, 2006).

This highlights the importance of learners receiving quality, comprehensive sexuality education with appropriate RSH concepts (UNESCO, 2009a). Content for comprehensive sexuality education in schools ought to be developmentally appropriate and focus on what learners should know and how they should apply this to their daily life

experiences (Schmidt et al., 2015). This implies that the RSH knowledge learners should acquire is meant to be transformative and emancipatory so as to empower learners to avoid and/or change risky sexual behaviour (Jones & Norton, 2007; Schmidt, et al., 2015).

2.3   CONCEPTUAL AND THEORETICAL FRAMEWORK OF THE STUDY

The specific focus of this study on RSH in the context of school curricula of Kenya and South Africa led to the inclusion of concepts related to curriculum, Bernstein's code theory and Legitimation Code Theory (LCT) as the pillars for the conceptual framework, of the study. Bernstein (2000) and Maton (2014) developed fine-grained theoretical and analytical tools that enable close-up study of curriculum, pedagogy and assessment. Bernstein's theory foregrounds knowledge as an object of study (Maton, 2009) by focusing on the structures of knowledge and the ways through which these structures are implicated in different kinds of social relations and practices (Wheelahan, 2010).

LCT operates under the premise that every practice, belief, or knowledge claim is about or oriented towards something and by someone, and sets up two specialisation codes; the epistemic relations (ER) to objects and social relations (SR) to subjects, authors and actors. Each relation may be more strongly (+) or weakly (-) emphasised in practices and beliefs, and these two strengths of relations together generate specialisation codes: knowledge code, knower code, elite code and relative code (Maton, 2014). LCT: Specialisation was therefore embraced to analyse the knowledge-knower structures of curriculum knowledge relating to Reproductive and Sexual Health because of its capacity to objectify knowledge and facilitate theoretical progression of curriculum texts. More explanation as to how Bernstein's pedagogic device and Maton's LCT: Specialisation has been used is provided in the sections to follow.

Central to the work of Bernstein and Maton are the concepts of codes and legitimation. Code "shapes who we are, who we think we can become and what we think we can do" (McLean, Abbas & Ashwin 2013, p. 265). Since education is about specialising and changing consciousness of individuals, code theory provides a grammar or language for analysing how consciousness can be differentially specialised by different social groups in educational practices (Muller & Hoadley, 2010). In this regard, Maton (2014) developed a conceptual framework called Legitimation Code Theory (LCT), which provides the means, not only to make knowledge in educational practices more visible, but also to identify underpinning organising principles (codes) of the practices and indicate how they are being legitimated. In this study, legitimation codes are applied as generative principles that determine how knowledge claims are justified and what is valued as a legitimate text. Drawing from both Bernstein and LCT, the researcher finds the capacity to see knowledge as being co-determined by social relations and epistemic relations (Maton, 2006; Moore, 2004; Wheelahan, 2010); and that learners need both social and epistemological access to knowledge (Wheelahan, 2014).

In the sections to follow, each of the contributing concepts to the conceptual framework will be discussed in more detail.

2.4   CURRICULUM

The term 'curriculum' in most cases is used to refer to the formal academic programme in a school - subjects taught and learnt. Hoadley (2012) argues that a curriculum can be defined by distinguishing between the degree to which they are narrow or broad in relation to their content (what is incorporated and what is omitted in any given statement). In this sense, it may also be used to mean a particular course of instruction or a syllabus. Van Zyl and Dummy (1979, as cited by Hoadley, 2012), referred to curriculum as

a course of study. That is, the whole study programme to be followed to reach a certain goal.

Toombs and Tierney (1993) define a curriculum as a collection of subjects. Based on their structuring and related requirements, the curriculum guides its users towards a pursuit of an aim within set boundaries - in other words, what is official and planned. On the other hand, Muller (2000) refers to curriculum first as the official or codified knowledge packed in the school syllabus and taught to learners. Young (1975, p. 9) calls this "the curriculum as fact". The definition of a curriculum as official and planned is used in this study.

Deng (2012) distinguishes between a curriculum and a syllabus. He regards the main difference as being that a curriculum is more general - an overview of the subjects or topics organized for learners to learn - whereas a syllabus is seen as a more detailed overview of a subject in a curriculum. For example, Hoadley (2012) states that a Mathematics curriculum may list the basics of algebra, geometry or trigonometry. Whereas, the syllabus will list topics to be covered, the concepts that learners are expected to understand by the end of each topic, and at times, the exercises or problems to be covered during the topic. Hence, it can be said that syllabus is a subset of a curriculum. Essentially, a syllabus is mostly seen as a descriptive outline and summary of topics (contents) that are to be covered in an education or training course.

2.4.1   Competence and Performance curricula

By conceptualising the various definitions of curriculum, as described above, a curriculum can be considered to be an organisation of knowledge in a particular order. Toombs and Tierney (1993) argue that knowledge organisation in a curriculum involves making decisions on what knowledge and skills to choose for the curriculum and in what

order to place them (the sequence). Knowledge organisation in the curriculum therefore involves deciding how the curriculum content fits together (Scott, 2014). Simply put the curriculum clearly sets out what learners ought to learn from one term to the next. Hence, a curriculum's main purpose is to provide guidance for the teachers and learners by providing a pathway for learning (Yates & Millar, 2013). For example, Hoadley (2012) states that the Curriculum and Assessment Policy Statement (CAPS) documents of South Africa indicate exactly at which levels (grades) certain topics will be taught and learnt.

Scott (2014) states that the organization of the knowledge in a curriculum results in emphasis being placed on either learner competence or learner performance. Using Bernstein's terminology, Hoadley (2012), describes two distinct types of knowledge emphasis in a curriculum, namely a competence model and a performance model. In a competence curriculum, knowledge is not imposed from the outside, but draws on the competencies the learners already have. Thus it encourages teaching and learning that directly relates to learners' own experiences and everyday knowledge, assisting learners in making use of their newly acquired learning in their daily lives. "Learning in this model tends to be organised around themes and projects, and to be based on experience" (Hoadley & Jansen, 2009, p. 175). The learners are more likely to have a considerable measure of control over: "what they learn (selection); when they learn it (sequence); how quickly they progress through the learning (pacing)" (Hoadley & Jansen, 2009, p. 175).

A performance curriculum, on the other hand, is characterised by a focus on generating high levels of understanding, often in particular subjects. The curriculum tends to be very specific on what content should be learnt (focussing on formal school knowledge rather than on everyday knowledge and experience) and in what order (Hoadley & Jansen, 2009). The performance curriculum also tends to be more vertically organised,

building knowledge and understanding in a specific sequence - compared to the competence curriculum (Bernstein, 2000; Hoadley, 2012). Greater complexity or depth of knowledge is often achieved over time (Maton, 2009). Subjects are clearly demarcated from each other providing learners with limited control over the selection, sequencing and pacing of their learning. Although learners may still be active, their activities tend to be directly related to the performance that will enable them to attain an external goal, usually clearly specified by the curriculum (Hoadley & Jansen, 2009; Bernstein, 2000; Hoadley, 2012).

2.4.2   Types of knowledge in the school curriculum: Everyday knowledge, school knowledge, specialised knowledge and powerful knowledge

When thinking about curriculum as an organisation of knowledge, the key would be the distinction between everyday knowledge, school knowledge and specialised knowledge (Firth, 2015). Blurring the distinction between everyday and school knowledge is supposed to make subject contents more accessible and learner centred by drawing on learners' own experiences and understanding, thus improving acquisition and application of the knowledge taught/learnt (Deng, 2012; Scott, 2014). Muller argues that:

"a central problematic of the curriculum concerns the relation between popular and erudite knowledge. It is brought into focus with the following question: how can or should the common-sense knowledge of experience and local culture, indeed of the everyday world, relate to the codified knowledge deemed worthy of inclusion and certification in the formal curriculum?"

(Muller, 2000 p. 13).

Using ideas of Gramsci (1971), Muller (2000) highlights the intrinsic variance and correlation between everyday knowledge and school knowledge. He asserts that the split between mental and manual activity has the effect of extracting passion from scientific

knowledge and reason from everyday knowledge (Muller, 2000). Table 2.1 represents the difference between everyday knowledge and school knowledge (Hoadley, 2012, p. 106).

Table 2.1: The difference between everyday knowledge and school knowledge (adapted from Hoadley, 2012, p. 105)

Everyday knowledge	School knowledge
Everyday knowledge is randomly learnt (learnt in unplanned way) from conversation overheard, from the television or radio, from watching parents, from punishments or praise and so on.	School knowledge is grouped into particular subject disciplines, for example, Mathematics, Science or Geography, which have their own language.
Everyday knowledge is unsystematic. It is picked up in bits and pieces.	School knowledge is taught systematically, with simpler concepts or tasks positioned first and more complex concepts or tasks building on the later.
Much everyday knowledge is oral. It is difficult to hold onto and repeat.	School knowledge is written, which gives it more continuity over time.
Everyday knowledge is practical and concrete. It belongs to and talks about a particular context.	School knowledge generalises, puts ideas together into concepts and becomes increasingly abstract. It makes statements that claim to be true for many different contexts.
Everyday knowledge is based on opinion. It is personal and local.	Disciplinary knowledge is based on evidence. It comes from a long tradition of research and debates about what counts as important knowledge.
The type of everyday knowledge that is acquired depends on family and community context and culture.	School knowledge depends on a national curriculum or another way of setting out and recording what is to be learnt.

The distinction between everyday knowledge and school knowledge focuses on the idea of knowledge being special, particularly with regard to school knowledge. Specialised knowledge refers to specific knowledge, skills and language that apply to a particular area of study (Wheelahan, 2010; Young, 2013) in that, specialised knowledge (also known as

formal knowledge) usually has special concepts and language that make it specific. Hoadley (2012) gives an example of when someone complains of having stomach pains. He might refer to it as a 'sore stomach'. The doctor on the other hand will use a different term. He will apply a specialised language to describe the problem, which is based on specialised knowledge. So the doctor might refer to the 'sore stomach' as 'gastroenteritis' or even 'appendicitis' (Hoadley, 2012). Another example is knowledge in Mathematics. In everyday terms, a learner may say, 'I have an apple, then someone gives me another apple, so I have two apples.' However, in terms of school knowledge, the learner is expected to say 'One plus one equals two.' In this case, the knowledge is made specialised through language ('plus' and 'equals') and concepts (addition) (Hoadley, 2012). Specialised knowledge is hence a more formal and abstract knowledge and implies a specialised way of thinking and speaking about things. It tends to be detached from the personal and the local (Hoadley, 2012; Wheelahan, 2010; Young, 2013)

As discussed earlier in this chapter, the principle goal of education should be to provide learners with access to knowledge that allows them to participate in societies' debates and controversies – so called "powerful knowledge" (Wheelahan, 2010, p. 2). Powerful knowledge refers to "what knowledge can do or what intellectual power it gives to those who have access to it" (Wheelahan, 2010, p. 9; Young, 2008, p. 14). Hoadley (2012) defines powerful knowledge as:

"… the specialist knowledge that you get at school or in other education institutions. It is specialist because you can't get it everywhere. It is powerful because it offers people the possibility of getting on, of imagining things as being different from how they are, of learning and understanding more about the world and life, and how it may be negotiated or changed"

(Hoadley, 2012 p. 95).

In the context of the social issues related to RSH experienced by African youth (e.g. unplanned pregnancies, HIV and AIDS, etc.), the provision of powerful knowledge related to RSH should become the principle goal of education (Francis, 2011).

There is also an increasing emphasis on interdisciplinary approaches to organising the curriculum. This has attracted the criticism of researchers. A weakening of traditional subject boundaries is for instance considered problematic (Young & Muller, 2010). For instance, Young and Muller (2010) warn against the problems around the "erosion of the distinction between academic knowledge and everyday knowledge, as well as a weakening of the relations between the knowledge in academic disciplines and what is taught in schools" (reported in Priestley & Sinnema, 2014, p. 55). Young and Muller (2010, p. 23) furthermore point to an attendant danger that, in the lack of specification of content, less experienced teachers will "fall behind without knowing it, or miss out conceptual steps that may be vital later on". They furthermore claim that denying young people access to the 'powerful knowledge' enshrined in disciplines is detrimental to their life chances - a theme echoed by Rata (2012). Specifying the specialist RSH knowledge needed by learners in a curriculum would provide the learners with access to powerful knowledge.

2.5   BERNSTEIN'S CODE THEORY

Bernstein's pedagogic device can be described as a collection of rules or procedures through which knowledge is converted into curricula (Singh, 2002). The pedagogic device "provides researchers with explicit criteria/rules to describe the macro and micro structuring of knowledge and in particular the generative relations of power and control constituting knowledge" (Singh, 2002, p. 571). Bernstein's theory foregrounds knowledge as an object of study (Maton, 2009) by focusing on the structures of knowledge and the ways through which these structures are implicated in different kinds of social relations and practices (Wheelahan, 2010). The next section, therefore addresses how the pedagogic device relates to this study.

2.5.1   Bernstein's pedagogic device

The purpose of a pedagogic device is to model the transformation of knowledge from its production to the reproduction of the knowledge, meaning the transformation of educational knowledge.

The pedagogic device comprises three fields of activity: the field of production where new knowledge is created (e.g. universities, research centres), field of recontextualisation (curriculum knowledge and development) and field of reproduction (pedagogic practices) (Bernstein, 1999). The usefulness of the pedagogic device in educational research lies in its ability to allow for the analysis of knowledge transformation from its site of production into curriculum and pedagogy. That is, it investigates how knowledge acquires its meaning and suitability for educational purposes (Luckett, 2009). Though not all three knowledge fields are applicable to my study, understanding the relationship between the fields of practice enables the reader to follow the choices made by the researcher in placing the study in the official recontextualisation field. I first start by giving brief descriptions of the three fields.

The first field of educational practice, the field of production, is the domain of the production of knowledge. This is where new knowledge and discourses are created and modified, typically by university researchers and academics. Knowledge discourses are hence produced in the field of production. The "distributive rules mark and distribute who may transmit what to whom and under what conditions" (Bernstein, 2000, p. 31), regulating relations between power, social groups, consciousness forms and their productions and reproductions. From the field of production, knowledge moves to the field of recontextualisation, where knowledge is selected and adapted to develop a pedagogic discourse (Bernstein, 1990, 2000; Maton & Moore, 2010). The pedagogic discourse

(curriculum knowledge and practice produced in the field of recontextualisation) involves "two analytically distinct elements: an instructional discourse (that carries specialised content and skills) and a regulative discourse that creates the social and moral order of the curriculum" (Luckett, 2009, p. 443). This results in two sub-fields in the field of recontextualisation, namely the official recontextualisation field (ORF) and the pedagogic recontextualisation field (PRF) (Bernstein, 2000).

> "The Official Recontextualisation Field includes the specialized departments and sub-agencies of the state and local educational authorities together with their research and system of inspectors … and the Pedagogic Recontextualisation Field is comprised of: university departments of education, together with their research; and specialized media of education, weeklies, journals and publishing houses together with their readers and advisers"

> (Bernstein, 1990, p. 192).

When knowledge is relocated from the field of production to the field of recontextualisation a discursive gap will always occur, providing a space that is usually filled by the curriculum developer's ideas around the purpose of education, the ideal moral and social order, staged notions of an ideal learner, and national education policies (Bernstein, 2000). These historically and culturally arbitrary ideas, or recontextualizing rules, shape how knowledge discourses reappear in the curriculum and how pedagogic subjects (learners) are constituted (Bernstein, 2000). "This is done by the selection of content, its sequencing, pacing and the establishment of evaluative criteria for judging the production of legitimate texts by pedagogic subjects" (Luckett, 2009, p. 443).

The third field is the field of reproduction of knowledge; ideally the field of pedagogy, where the field of recontextualisation undergoes further shifts as it is enacted in the classroom. Here, teachers participate in pedagogic and assessment practice and the evaluative rules regulate what amounts to a legitimate production (Bernstein, 1990, 2000).

"In other words, as new knowledge emerges, fields agree (or disagree) on concepts and ways of working with the knowledge; educators select aspects to include in a curriculum; and teachers shape what and how the concepts are taught. (Wolf, 2015, p. 36). It is important to note here that, in as much as the three fields interrelate in the structuring of knowledge each field maintains its own structure and logic that is not reducible to or by other fields (see Table 2.2) (Bernstein, 1999; Maton, 2014).

Table 2.2: The arena of the pedagogic device (adapted from Maton & Muller, 2007, p. 18)

Field of Practice	Form of regulation	Kinds of symbolic structure	Principle types	Typical sites
Production	distributive rules	knowledge structure	hierarchical & horizontal knowledge structures	research publications;
Recontextualisation • Official recontextualisation • Pedagogic recontextualisation	recontextualizing rules	curriculum	collection & integrated curricular codes	curriculum policy textbooks & learning materials
Reproduction	evaluative rules	pedagogy & evaluation	visible & invisible pedagogies	classrooms; examinations

2.5.2 Knowledge structures

The second concept of importance to the conceptual framework is that of knowledge structures (Bernstein, 1999, 2000). Bernstein (2000) conceptualises any form of new knowledge (discourse) as either everyday, common sense knowledge (having a horizontal discourse) or scholarly, professional or official knowledge (vertical discourse).

Horizontal discourse is characteristically "oral, local, tacit, context dependent and specific, multi-layered and specific and contradictory across but not within contexts" and is easily accessible because of common histories (Bernstein, 1999, p. 159), whereas, a vertical discourse, denotes a structure that is "coherent, explicit, systematically principled, structured and hierarchical" (Bernstein, 1999, p. 159). In vertical discourse, knowledge is presented as specialised, explicit and symbolic exhibiting regulative principles that consolidate it in accordance with time and space, develop it, evaluate and disseminate it to different groups and individuals (Bernstein, 1999; 2000). Vertical discourse refers to disciplinary knowledge.

The vertical discourse of disciplines can further be subdivided into "hierarchical knowledge structures and horizontal knowledge structures" (Bernstein, 1999, p. 160).

Hierarchical knowledge structures are explicit, coherent, systematically principled and hierarchical organizations of knowledge where new knowledge in the disciplinary field build on previous knowledge enabling powerful explanations to be constructed (Bernstein, 1999, 2000; Maton, 2014). This form of knowledge attempts to create very general theories (see e.g. most natural sciences disciplines). Illustratively, the knowledge structure can be represented as a pyramid with the theory at the top functioning as the most abstract. Here, knowledge formed could reach across an ever-expanding range of phenomena (Bernstein, 2000; Maton, 2014).

Horizontal knowledge structures encompass a "series of specialised languages with specialised modes of interrogation and specialised criteria for production and circulation of texts" (Bernstein, 1999, p. 159). Horizontal knowledge structures struggle to achieve verticality (Maton, 2010) and more often than not, each language has diverse and contradicting assumptions with its own criteria where a new language signals development

(Bernstein, 1999) (see e.g. subjects within the humanities and social sciences). It is more useful to represent the knowledge structures as complementaries along a continuum (see Figure 2.1), using "the size of triangles and L's to indicate the sense in which one or another triangle achieves hegemony in the social sciences, or becomes more fashionable in the humanities" (Martin, 2014, p. 3).
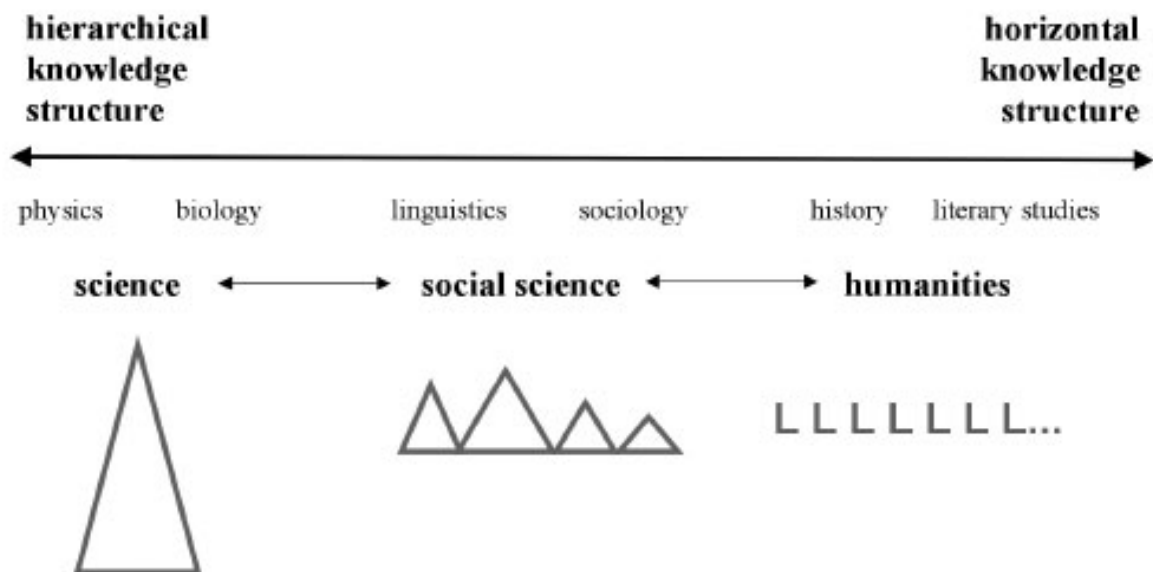
Figure 2.1: Vertical discourse as complementarities along a line (Martin, Maton & Matruglio, 2010, p. 438)

A key feature distinguishing the hierarchical knowledge structures of the natural sciences from the horizontal knowledge structures is how they develop (Maton & Moore, 2010). Horizontal knowledge structures develop via the introduction of a new language horizontally. There is little room for cumulative progress of knowledge building, as very often these theories do not share mutual assumptions (Maton, 2014). Maton calls the academic research here as **'segmented knowledge-building'** where new ideas and skills fail to build on previous knowledge (Maton, 2009). It is of importance to notice that horizontal knowledge structures can progress and grow vertically – they are not confined to only

segmental development (Maton, 2014). Hierarchical knowledge structures are different. They develop through "the integration and subsumption of previous knowledge" (Maton & Moore, 2010, p. 155). They exhibit a high capacity for verticality (Muller, 2007) or cumulative knowledge building (Maton & Moore, 2010).

Another key feature distinguishing the knowledge structures is "the strength of their 'grammar' or their capacity for generating unambiguous empirical referents" (Maton & Moore, 2010, p. 156). Within the knowledge structures each language may have a strong or weak grammars (powers). Strong grammars utilize an explicit language and empirical descriptions resulting in specific theories, tools and procedures to be mastered (Bernstein, 1999). When the language is not always clearly distinguishable and there is no consensus on what is considered legitimate knowledge (Bernstein, 1999), the discipline is considered having a weaker grammar. Maton (2009) gives an example of physics and sociology, where physics generates stronger grammar as compared to sociology's weaker grammar.

In addition, the acquirer will have to interact with those with the 'right' knowledge in order to learn what valued knowledge is (Bernstein, 1999). For a hierarchical knowledge structure to be achieved, a viewpoint ought to be gained as "… a hierarchical knowledge structure is the only pathway to truth" (Bernstein, 1999, p. 165). One has to achieve 'a gaze'; that is, a specific mode of acknowledging and discerning what amounts to accurate actuality (Bernstein, 1999). Achieving a viewpoint is more challenging in the social sciences as language could be weaker, the shape the gaze takes is frequently not very clearly described. These are illustrated in the structuring of knowledge figure below.
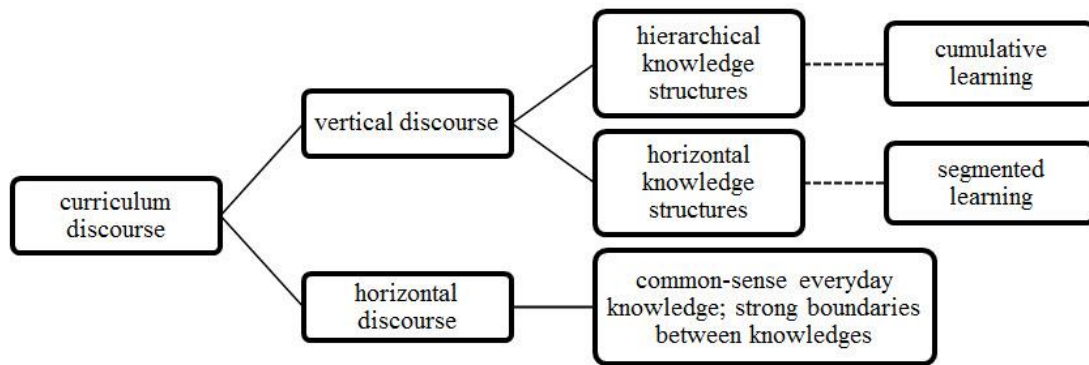
Figure 2.2: Structurings of knowledge (Maton, 2009, p. 46)

Bernstein's focus was the production of new knowledge in intellectual fields (Maton, 2009). His model does not address how these forms of development might be realised within a curriculum. The focus of this study is on the official school curricula in which RSH as a knowledge area is represented. To explore the structure of these curricula, one can, by extension, distinguish between horizontal curriculum structures and hierarchical curriculum structures (Maton, 2009).

2.5.3 Classification and framing

The concepts of classification and framing are used to analyse power and control in pedagogic settings (Bernstein, 1990, 1996). Classification focuses on the organization of knowledge and the extent to which a curricular category of knowledge can insulate itself from other categories of knowledge. It is the extent of demarcation from one discipline's content to another (Becher & Trowler, 2001). The concept of classification can be used to analyse the structuring and organisation of knowledge. Classification relates to the way in which knowledge is organised and the extent to which a category of knowledge is able to insulate itself from other categories of knowledge. Stronger boundaries are depicted with a plus sign (C+) and weaker boundaries with a minus sign (C-) (Bernstein, 2000, p. 6). In the

context of my study the boundaries that exist between the biological sciences curriculum and the Life Skills/Orientation curriculum will be investigated as RSH is addressed as part of both the biological sciences curricula and the Life Skills/Orientation curricula in Kenya and South Africa.

A code translates or represents specific meanings of social relations between and within social groups. These meanings emerge from the form of social relations and their control (Bernstein, 2000). Bernstein (1999) used two curriculum codes within the concept of classification to categorise curriculum: a curriculum with a strong classification (C+) is classified as a collection code and a curriculum with weak classification (C-) as an integrated code (Bernstein, 1999; Luckett, 2012). Within the modality of collection code, educational knowledge is emphasised with specialisation being built on the possession of knowledge. Curriculum regarded as integrated code is one where subject boundaries (though previously insulated) are blurred (Bernstein, 1999; Hoadley, 2012) and educational knowledge is weakened leading to educational identity being less certain (Maton, 2007). It is relevant to note that integration codes can be confined to a single subject or cross subjects (Bernstein, 1990; 1996). A collection code puts emphasis on fixed teacher and student roles in the curriculum while integrated code puts emphasis on achieved roles for students in the curriculum (Sadovnik, 1995). Of more essence is that the collection and integration codes modalities play a big role in shaping educational identity and consciousness in discrete ways (Hoadley, 2012; Maton, 2007).

While classification is concerned with boundaries between knowledges, framing refers to the pedagogic practices where knowledge is transmitted. Framing refers to the locus of control between transmitters and acquirers of knowledge and this is linked to the selection of knowledge, sequencing, pacing and evaluation as well as the social base

(categories of knowers. A stronger framing (F+) is indicative that the transmitter has control while a weaker framing (F-) suggests that the acquirer has stronger control (Bernstein, 2000, p. 12). Bernstein (1971) argues that framing makes reference to the context from where knowledge is communicated and received. In that, as there exists a boundary between what can or cannot be conveyed in pedagogical encounters, the strength of the boundary is determined by the frame (Bernstein, 1990; 1999). Bernstein (1999) states that it is more about how much agreement exists on the content being conveyed to students. A strong framing (F+) would thus imply that the teacher and learners have constrained dominance over what is conveyed. On the other hand, where weak framing (F-) exists, the teacher and learners have dominance in choosing which activities and how these activities are done in the classroom. When referring to subjects within a school curriculum, occurrences of strong framing would mean that learning is highly organised and sequenced whereas occurrences of weak framing would mean a loose organisation of subject matter. These concepts (classification and framing) create distinct code modalities of pedagogic practice (Bernstein, 1999; Maton, 2014).

Bernstein (1996) further proposed that, on the basis of variation in the classification and framing, two types of curricula come into play: open and closed curricula. In a closed curriculum, classification is strong which means that all subjects are taught in isolation from each other. Strong boundaries separate each of the subject areas. In an open curriculum classification is weak, the boundaries between subject areas are blurred, if they exist at all. Subjects are not isolated from each other.

These codes are important to educational research as they provide a language, which can be used to describe relationships, interactions and pedagogic practice. Furthermore, the concepts provide a language as a means of analysing and describing how

knowledge is relayed to and realized/acquired by the learner (Bernstein, 1990). In examining the knowledge structures exhibited by RSH concepts in the curricula of South Africa and Kenya, this study made use of classification. Classification made it possible to explore how RSH knowledge is hierarchically and horizontally structured within and across different subjects. Classification is thus of essence to my study as it enables the study to examine how the content (knowledge in the curriculum) becomes legitimatized and controlled.

However, Maton (2014, p. 91) suggests that Bernstein's framework explores knowers indirectly what he regards as an "epiphenomena of analysis of knowledge". This, he argues, makes it harder to see the basis of legitimacy in fields where knowledge is less explicit.

"Wherever knowledge is explicit (collection codes, hierarchical knowledge structures), Bernstein's analysis is explicit: the insight and identity of actors flow from this knowledge formation. Wherever knowledge is less explicit (integrated codes, horizontal knowledge structures), Bernstein's analysis also becomes less explicit"

(Maton, 2014, p. 91).

Maton gives an example of unclear basis of hierarchization in fields such as arts and humanities. He asks: "if they are not based on explicit structures of knowledge specialized to objects of study, then what are they based on?" (Maton, 2014, p. 91). To answer this question, Maton suggests a shift of perspective from viewing social fields as not only comprising formations of knowledge but also comprising formation of knowers (Maton, 2014). It therefore became necessary to find a more nuanced way of exploring the knowledge and knower structures of RSH concepts as recontextualised in the school curricula of South Africa and Kenya.

2.6   LEGITIMATION CODE THEORY (LCT)

LCT is a realist sociological framework that views knowledge as both socially produced and real, in the sense of having effects (Maton & Moore, 2010) and explores the effects of different forms of knowledge practices for a diversity of issues (Maton & Chen, 2017). LCT is also a fields approach; viewing social fields of practice (such as biology, education, etc.) as being relatively autonomous and "characterised by their own ways of working, own resources and forms of status" (Maton & Chen, 2017, p. 2). LCT understands knowledge claims and practices that define achievement of the actors in each social field as "languages of legitimation" and the underlying organizing principles of these languages as "legitimation codes" (Maton, 2010, p. 37). Languages of legitimation represent the practices of actors in an intellectual field as they engage in struggles over status and resources within their educational field (Maton, 2014). Those 'languages' that are recognised and valued by members in an intellectual field can be said to be legitimated (Maton, 2004). Legitimation codes are generating principles that determine how knowledge claims are justified and what is valued as a legitimate text. LCT foregrounds the relative nature of strengths of elements (as stronger or weaker) in relation with other elements, enabling a more dynamic view of the underlying principles of an intellectual field.

In other words, LCT offers conceptual tools that make it possible to analyse both knowledge and knowers within relational social fields of practice. This is made possible through the analysis of how knowledge and knowing are understood in educational practice and the manner in which these fields, such as academic disciplines, are organised (Maton & Moore, 2010).

2.6.1 Knower structures

As mentioned earlier in this chapter, Maton (2010, p. 161) argues that in fields where knowledge is less explicit, "the basis of the field becomes harder to see" as the basis of legitimation in such fields resides in the formation of knowers. He argues that in order to avoid "knower-blindness" (Maton, 2014, p. 87) researchers should not only focus on the knowledge structures of fields, but also on the knower structures. LCT expand Bernstein's hierarchical and horizontal knowledge structures, proposing that every knowledge structure has a knower structure on the grounds that in circumstances where knowledge is less explicit (with horizontal knowledge structures) an alternate premise for knowledge formation must be generated, which then is a knower structure (Maton, 2010).

Maton (2014, p. 92) further explains, the "knower structure focuses on the social relations between knowledge and its subject or author and the gaze of a legitimate knower". In other words, knowers are structured differently in fields with hierarchical knowledge structures than is the case in fields with horizontal knowledge structures. In essence, "hierarchical knowledge structures generally represent horizontal knower structures. On the other hand, horizontal knowledge structures, as exhibited by subjects that fall under 'humanities' do not only possess horizontal knowledge structures but also have hierarchical knower structures" (Maton, 2014, p. 92).

In hierarchical knower structures, knowers are systematically principled and hierarchically organized. This hierarchy develops when new knowers are integrated at lower levels and along an increasing range of diverse dispositions – a process called sociality (Maton, 2007, 2014). This can be represented as a triangle of knowers (though a field may have more than one ideal knower and triangle of knowers). In as much as hierarchical knower structures possess either strong grammars with explicit biological

and/or social basis of the ideal knower, they can likewise possess weak grammars with absolute biological/social bases of knowers (Maton, 2007). It is evident that the "situation of a hierarchical knower structure is the site or basis of its recontextualizing principle" (Maton, 2007, p. 8) or selection and adaptation of knowledge.

On the other hand, horizontal knower structures are described as a progression of knowers who are strongly bounded; each knower exhibiting a specialised mode of acting and being. Their habituses are not comparable and they have as their basis diverse social foundations and histories (Maton, 2007). For example, Maton argues that one's social profile (let us say a scientist) is considered irrelevant for a disciplinary (for example, scientific) insight. For horizontal knower structures, anyone can claim possession of legitimate knowledge provided that they follow disciplinary (for example, scientific) principles and procedures) insights. This means that, in regard to non-disciplinary (non-scientific) dispositions, actors (scientists) embody a segmented series of strongly bounded knowers (Maton, 2014). This can be visually represented as shown in Figure 2.3. Each segment represents a different set off dispositions (*habitus*).

| Kr1 | Kr2 | Kr3 | Kr4 |
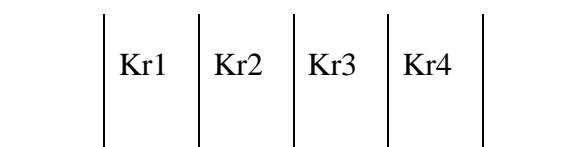
Figure 2.3: Horizontal knower structures (Maton, 2014)

In as much as the positioning of knowledge-knower structures pose a fundamental influence on a particular educational field in regard to how it develops - either through knowledge structures or knower structures, it became apparent, in this study, that a deeper analysis of the knower structures was necessary to examine the potential dispositions the curriculum expects learners to develop through the learning of RSH concepts. This is

because, even though the hierarchical knower structures possess either strong grammars with an explicit biological and/or social basis (gaze) of the ideal knower, they can likewise possess weak grammars with absolute biological/social bases of knowers (Maton, 2007). The concept of a gaze is discussed in a section to come.

The outcome of combining the knowledge structures and knower structures results in four modalities that can be referred to as a horizontal knowledge structure, horizontal knower structure, hierarchical knowledge structure and hierarchical knower structure. The positioning of these structures leads to a recognition of the extent to which knowledge or knowers are prioritised in a particular educational field. Knowledge-grammars are epistemic relations, while knower-grammars are social relations, which together form the specialisation codes. The principles underlying these forms can be analysed in terms of legitimation codes of specialisation where each form is generated by a different code modality.

2.6.2   Specialisation as one of the dimensions of LCT

LCT offers five dimensions that are used for the description and analysis of social phenomena: Autonomy, Density, Specialisation, Semantics and Temporality (Maton, 2000). Each dimension is a set of concepts centred on theorising a different form of legitimation code (Maton & Chen, 2017) such as specialisation codes, semantic codes, autonomy codes, temporal codes, etc. (see Table 2.3). All the dimensions of LCT can be set to different code modalities using Bernstein's classification and framing.

Table 2.3: The dimensions of LCT (adapted from www.legitimationcodetheory.com)

Dimension	Referents	Legitimation codes
Autonomy	External relations	Positional autonomy
		Relational autonomy
Density	Internal relations	Material density
		Moral density
semantics	Meaning	Semantic gravity
		Semantic density
Specialisation	Symbolic/social	Epistemic relations
		Social relations
Temporality	Time	Temporal position
		Temporal orientation

The various dimensions allow for fractal application, that is, they can be applied at any level of education, e.g. classroom, institution wide, or nationally (Maton, 2004). In this study the focus is on the dimension of Specialisation. Specialisation is concerned with the basis for differentiation in the intellectual field (RSH in a school curriculum in the case of this study). Specialisation establishes the way agents and discourse within a field are constructed as special, different or unique and thus deserving of distinction and status (Maton, 2004). "Specialisation relates to the bases for differentiating a field from other fields in terms of what one may legitimately pursue knowledge of and how this may be done (its epistemic relations, ER), as well as who may be considered to be a legitimate knower (its social relations, SR). The 'epistemic relation' refers to what is being studied (the 'object' of study) and the 'social relation' refers to who is studying it (the 'subject' of study)" (Maton 2000, p. 85). Maton sees them as two co-existing but diagnostically differentiable sets of relations - giving rise to specialisation codes (Maton, 2007).

"Specialisation can therefore be said to describe the legitimate ways of knowing and being that characterise a field. Together these relations consider intellectual fields as knowledge-knower structures" (Maton, 2000, p. 85). LCT contends that the power of classification and framing can be transformed in regard to "what can be legitimately described as", for example, RSH studies (epistemic relations) and "who can legitimately claim to be doing" RSH studies (social relations) in school curricula (Maton, 2000, p. 85).

LCT: Specialisation "conceives social fields of practice as knowledge-knower structures whose organising principles are conceptualised as specialisation codes that comprise epistemic relations and social relations" (Maton & Chen, 2017 p. 3). Individually, each of these relations may be more strongly (+) or weakly (-) emphasised or framed in beliefs and practices. These settings (+/-) represent relative strength (stronger/weaker) of each aspect along a continuum, rather than fixed binary positions (strong/weak). This means that while "there are always both knowledges and knowers" (Carvalho, Dong & Maton, 2009, p. 488), LCT: Specialisation considers which of these aspects is emphasised in knowledge claims and practices and is therefore dominant. The codes can be used both as a theoretical and analytical base to get at and describe the principles underlying the knowledge fields for my study located in the official recontextualisation field where the school curriculum is situated.

2.6.3 Knowledge-knowers structures and specialisation codes

The specialisation codes incorporate and extend on Bernstein's concepts of classification and framing discussed earlier. For example, ER+ condenses ER (C+, F +). By "varying independently the relative strengths of classification and framing for the social relation (SR) and the epistemic relation (ER)" (Maton, 2000, p. 86), four possible specialisation codes can be developed. The continua of strengths of the specialisation

codes can be visualised as the specialisation plane, a topological space with four principle modalities (see Figure 2.4). The codes in the top left quadrant of the specialisation plane are termed knowledge codes (ER+, SR-), which emphasise the possession of specialised knowledge, principles or procedures as the basis of achievement, downplaying the attributes of the actors. This can be described as prizing "possession of knowledge as the basis of specialisation" (Maton, 2007, p. 97).

Knower codes (ER-, SR+) emphasise knower dispositions and attitudes over specialist knowledge and skills, whether viewed as born (e.g. natural talent), cultivated (e.g. developing a 'taste'), trained or social (e.g. feminist standpoint theory) (Maton, 2007). Elite codes (ER+, SR+) (top right quadrant in specialisation plane) have their legitimacy based on being the right kind of knower and owning specialist knowledge (Maton, 2007). With relativist codes (ER-, SR-) (bottom left quadrant of the specialisation plane) legitimacy is determined by neither specialist knowledge nor specific knower dispositions. This means that there is no privileging of skill, technique, or procedure, nor are innate dispositions emphasised (Maton, 2006). In the four codes listed above what matters is: "what you know (knowledge codes), the kind of knower you are (knower codes), both (élite codes), or neither (relativist codes)" (Maton, 2006, p. 96).
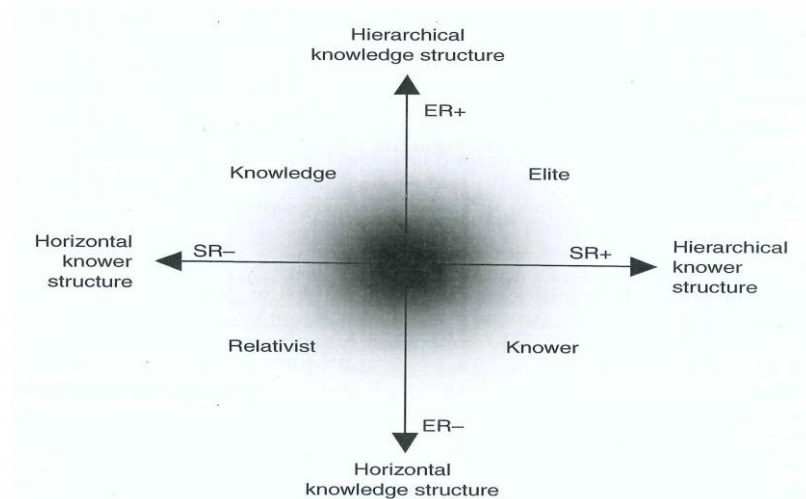
Figure 2.4: The specialisation plane for epistemic relations and social relations (Maton 2007, p. 96)

A specific code may dominate as the basis of achievement, but may not be transparent. There may be more than one code present as basis of achievement. "One can thus describe degrees of code clash and code match" (Maton & Chen, 2017, p. 4) e.g. between one curriculum and another. As well as matches and clashes, the dominant code may also change, such as between subject areas or stages of a curriculum (e.g. from a knower code in primary schooling to a knowledge code in secondary schooling). These code shifts effectively change the rules of the game. Such changes need not be categorical – one can also describe code drift or change within codes. ER- can become stronger or weaker while remaining relatively weak (ER-). Changes can also occur within a quadrant of the plane. We can use +/- with ↗/↘ to describe the drifting of codes e.g. ER-↗ means weaker ER that is strengthened but remains relatively weaker. One can also analyse processes of strengthening and weakening relations, creating code drift and code shift (Maton & Chen, 2017).

Specialisation codes of legitimation provide my study with an analytical tool for examining the knowledge and knowers structures embodied in the concepts of RSH

represented in the primary school and secondary school curricula of Kenya and South Africa. This will enable an understanding of what has to be known in RSH and who are privileged to know it. More importantly, it analyses how these two structures are related and the impact that relation has on RSH in a school-based curriculum. This will provide an understanding of the basis for status, distinctiveness and success in school-based RSH, which will enable a nuanced discussion by educators, academics and education stakeholders on learner success issues concerning RSH. The question that arises is concerned with differences within knowledge codes and within knower codes, rather than between them. This question highlights a further level of differences resulting in modalities of epistemic relations and social relations.

2.6.4   The 4-K model of Specialisation

Building on specialisation codes, Maton (2014) introduces the 4-K model as an analytical tool that can provide a deeper understanding of the organising principles in knowledge fields. The "4-K model allows for understanding of specialisation codes as being more than just dichotomous; through various relations with other concepts it generates a variety of potential modalities that shape intellectual fields in different ways" (Mkhize, 2015, p. 66). In doing this, the 4-K model brings forth the concepts of "insights, gazes and lenses as a means of looking deeper within the epistemic relations and social relations" of knowledge fields in order to understand their basis for cumulative knowledge building (Mkhize, 2015, p. 66). Of relevance to this study are the concepts of insights and gazes.

The 4-K model provides a means to further explore knowledge practices enabling knowledge to be conceptualised in multiple ways. For example, knowledge practices can be seen as being made up of social relations which would then be understood in terms of

interactional relations and subjective relations and thus enabling the understanding of knowers and their ways of knowing (Maton, 2014). Knowledge practices can also be seen as being made up of epistemic relations, which would then be understood in terms of discursive relations and ontic relations thus enabling the understanding of knowledge and what is known. Hence, the 4-K model of knowledge practices enables an enhanced understanding of knowing, knowers, knowledges, and the known in an intellectual field (in brief: 4-K) (see Figure 2.5).
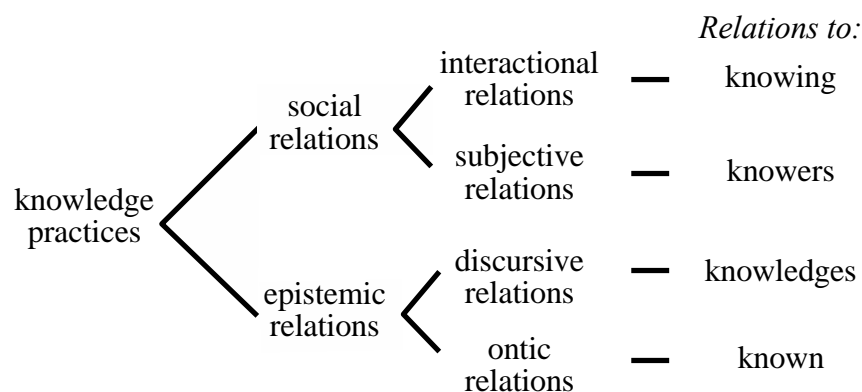
Figure 2.5: The 4-K model of knowledge practices (Maton, 2014, p. 193)

2.6.4.1 Epistemic relations - Insights

The 4-K model highlights that epistemic practices can analytically further be distinguished by ontic relations (OR) and discursive relations (DR). In simple terms, ontic relations (OR) looks at *what* and *how* knowledge practices relate to their objects of study or knowledge (Maton, 2014). They are concerned with the disciplinary knowledge, approaches and methods used to study a phenomenon, and the substantive areas of specialisation of that discipline. Maton further posits that discursive relations (DR) look at *what* and *how* knowledge practices relate to other practices that may not be based in their

field. This includes the use of various procedures, methods or approaches of teaching and learning. In other words, discursive relations denote the way in which a discipline interacts with other disciplines and related social structures (Maton, 2014). To put it simply, Maton suggests that knowledge practices have internal relations within its object of knowledge (OR), and external relations with practices in other fields (DR). See Figure 2.6 below for a visual representation of these relations.
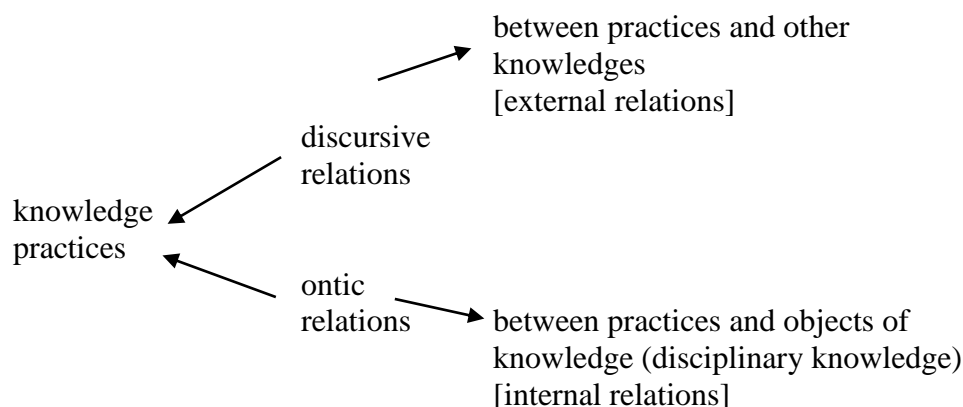
Figure 2.6: Epistemic relations of the 4-K model (adapted from Maton, 2014)

Ontic relations and discursive relations can be strongly (+) or weakly (-) classified and framed to determine the diverse impact they may have on knowledge practices (Maton, 2014). Strongly framed and classified ontic relations conceptualise the extent to which a discipline strictly defines its objects of study, whereas weakly classified and framed discursive relations conceptualise the flexibility that is allowed in determining legitimate procedures for constructing objects of study. The continua of strengths between ontic relations and discursive relations generate four modalities or insights: situational insight, doctrinal insight, purist insight and knower or no insight. These insights can be mapped on an epistemic plane, depicting how knowledge practices can be specialised (Maton, 2014) (see Figure 2.7).
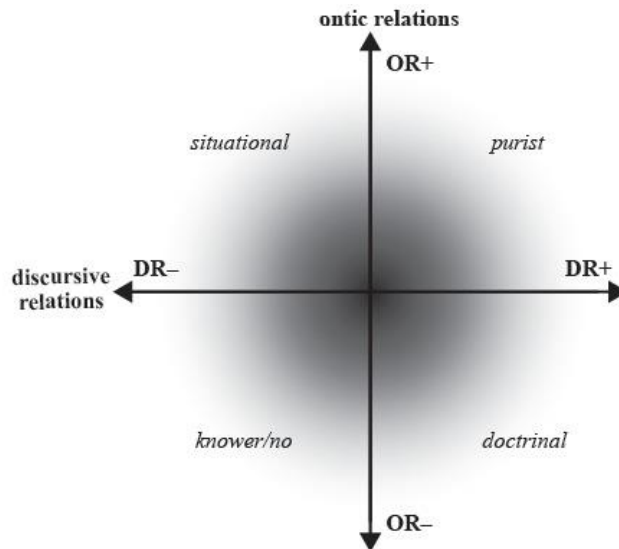
Figure 2.7: Epistemic plane - Insights (based on Maton, 2014, p. 177)

Knowledge practices characterised by situational insight have relatively strongly bound and controlled objects of study (OR+), but relatively weakly bound and controlled legitimate approaches (procedural pluralism) for developing problem situations (DR-) represented as (OR+, DR-) (Maton, 2014). Maton (2014, p. 178) explains that "situational insight can be called allegiance to a problem, not to an approach" where concepts from different approaches are reconstructed to help explain a phenomenon, encouraging interdisciplinary collaboration to more fully grasp an empirical phenomenon. In situational insight, the objects of study determine the basis for legitimacy for knowledge practices. Hence, what is of more importance in situational insight is the *what* being studied. There is relatively little or no emphasis placed on *how* it is being studied.

Where practices emphasise doctrinal insight, knowledge practices are considered to have relatively weakly bound and controlled objects of study (OR-) and relatively strongly bound and controlled approaches for conducting studies (DR+) represented as OR-, DR+ (Maton, 2014). In doctrinal insight, the basis for legitimation is *how* the object of

knowledge is being studied with relatively little emphasis (importance) placed on *what* object of knowledge is being studied. In the words of Maton (2014) "doctrinal insight can be called an allegiance to an approach, not a problem" (p. 177). The reductive co-option of concepts to demonstrate the superiority of one's own approach, results in maintaining purity at the expense of capturing complex reality characteristic of doctrinal insight. In the context of this study, a doctrinal insight would advocate the use of the scientific method as the legitimate approach to studying RSH as an area of study.

Practices based on purist insights tend to have relatively strongly bound and controlled objects of study (OR+), as well as relatively strongly bound and controlled approaches (DR+), represented as OR+, DR+ (Maton, 2014). Legitimacy in purist insight is based on both *what* is being studied as well as on *how* it is being studied (Maton, 2014). One must use a specific approach to study a specific phenomenon, for example, using the scientific method to study biological concepts of human reproduction and reproductive health.

Knowledge practices that have knower insight or no insight are relatively weakly bound and control both legitimate objects of study (OR-), as well as legitimate approaches (DR-). Knower insight is represented as OR-, DR- (Maton, 2014). In this insight, neither *what is being studied* nor *how it is studied* are emphasised. Hence, legitimacy "may flow from a knower code, that is attributes of an actor or be based on a relativist code where anything goes (ER-, SR-)" (Maton, 2014, p. 176).

Maton (2014) further explains that situational, doctrinal and purist insight represents modalities of stronger epistemic relations (ER+); whereas knower/no insight embodies weaker epistemic relations (ER-). As the modalities embrace a range of possible

positions within the epistemic place, a profile of epistemic insights legitimated over the schooling period of twelve years could be plotted.

2.6.4.2   Gazes and knower structures

In extending and deepening the notion of knower structures, Maton (2014) conceptualises gazes. A gaze is the ability to know (Maton, 2011) and gaze has to be acquired. Bernstein (2000, p. 164) describes a gaze as "a particular mode of recognizing and realising what counts as an authentic reality". Another way to thinking about a gaze is to perceive it "as an ear, taste, touch, feel, etc. that is needed to acquire the knowledge practices" (Maton, 2014, p. 95).

"All intellectual fields have gazes because they all have preferred ways of accessing knowledge that are used and created in them. A gaze is more visible in an intellectual field that has a knower code or an elite code, because in these fields the identity and attributes of the knower play a significant role in what constitutes legitimacy"

Maton, 2014, p. 95).

Maton extends the conceptualisation of a gaze by introducing different modes or kinds of gazes, "using knower structures with stronger and weaker knower-grammars as a means of analysing the different forms taken by this gaze" (see Figure 2.8) (p. 95). Knower structures possess knower-grammars that refer to "the strength of classification and framing of subjects and their dispositions" (Maton, 2014, p. 94).

Weaker knower-grammars   Stronger knower-grammars

$$\longleftarrow \qquad\qquad\qquad\qquad\qquad\qquad\qquad \longrightarrow$$

SR-   SR+

Trained gaze   Cultivated gaze   Social gaze   Born gaze

Figure 2.8: Gazes and knower-grammars (Maton, 2014, p. 95)

"The gazes constitute or are constituted by organising principles: subjective relations (SubR) and interactional relations (IR)" (Maton, 2014, p. 184). Subjective relations (SubR) refer to relations between knowledge practices and kinds of knowers who can claim legitimacy in an intellectual field based on their social categories, as is the case, for example, in standpoint theories of class or gender (Luckett, 2012). Interactional relations (IR) refer to relations between knowledge practices and ways of knowing, such as particular relationships with significant others (Luckett & Hunma, 2014). Interactional relations are normally associated with ways in which novices interact with knowers who have mastered the intellectual field so as to learn the appropriate ways of being or knowing in a field. To summarise: subjective relations relate practices and the "kinds of actors" engaged in them, where "who they are informs the knowing, action and knowledge claims of their practice"; while interactional relations relate practices (different ways of acting & producing) and the "ways of acting" involved, where and how they know informs the knowing, action & knowledge claims of their practice (Maton, 2014, p. 192).

The relations between kinds of knowers and ways of knowing can be mapped on a social plane to reveal the gaze that is legitimated. According to Maton (2014, p. 187), "the

gazes that constitute the social plane are the social, cultivated and born gazes that all represent stronger social relations, and the trained gaze representing weaker social relations" (see Figure 2.9).

In the social gaze, the actors' "insight is determined by their social category based on social class, race, gender and sexuality" (Maton, 2014, p. 95). "Legitimacy is based on knowers possessing a social gaze, where practices are relatively strongly bound and control the kinds of knowers who can claim legitimacy, but relatively weakly limit their ways of knowing (SubR+, IR-)" (Maton, 2014, p. 185). In the context of this study, the development of a social gaze will be when perceptions of class, race, gender and sexuality are used to guide learners' RSH practices and their decision-making around RSH.
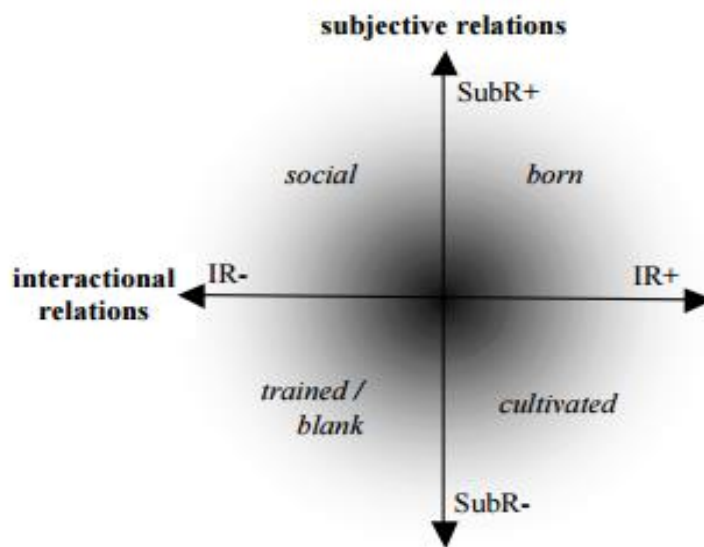
Figure 2.9: Social plane - gazes (Maton, 2014, p. 186)

In the cultivated gaze, "insight is held by socialised or educationally inculcated dispositions of the knower" (Maton, 2014, p. 95). "Practices that base legitimacy on the possession of a cultivated gaze are weakly bound and control legitimate categories of

knower, but strongly bound and control legitimate interactions with significant others (SubR-, IR+)" (Maton, 2014, pp. 185-6). In terms of this study, the insight that guides the learners' practice and which is embodied within their decision making around RSH, is based on inculcation into appreciation of a particular cultural norm of authority, as illustrated in Figure 2.9.

In the born gaze, "insight and legitimacy is determined by 'natural talent' and by genetic explanations of practice" (Maton, 2014, p. 95). "Practices that define legitimacy in terms of processing a born gaze are relatively strongly bound and control both legitimate kinds of knowers and legitimate ways of knowing (SubR+, IR+)" (Maton, 2014, p. 186). In terms of this study, the insight that guides the learners' decision making around RSH, is based on the learners exclusively possessing a natural ability to make good RSH decisions.

The trained gaze "legitimates its insight through prolonged training in specialised methods and procedures" (Maton, 2014, p. 95). "Practices that relatively weakly bind and control both legitimate kinds of knowers and legitimate ways of knowing (SubR-, IR-), are characterised by weaker social relations that, alongside different strengths of epistemic relations, may form part of either a knowledge code (ER+, SR-) … "underpinned by a trained gaze that emphasises the possession of specialist knowledge and skills, or a relativist code (ER-, SR-) that offers a blank gaze" (Maton, 2014, pp. 185-6). In terms of this study, the insight that guides the learners' practices and which are embodied within their decision making about RSH, is based on the learners' prolonged training in the formal principles, methodologies, and techniques of decision-making needed for RSH.

The "social relations between the knowledge claim and the knower may 'specialise' practices in terms of different gazes, such as 'who they are' (social categories) and 'how

they know' (cultivation), or kinds of knowers and ways of knowing" (Maton, 2014, p. 184).
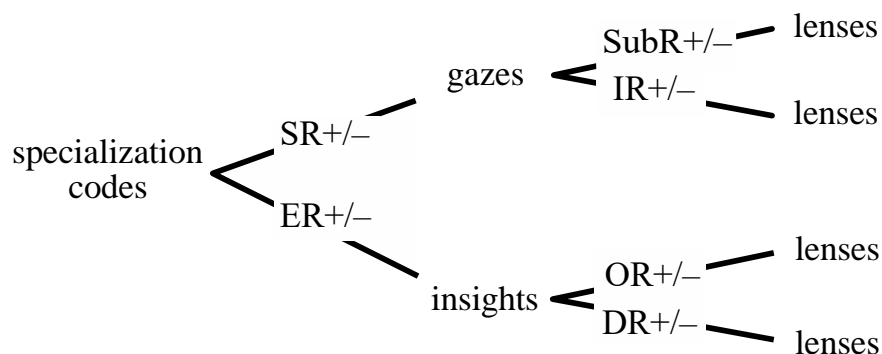
Figure 2.10: The 4-K model of Specialisation (Maton, 2014, p. 193)

Another perspective on the operationalization of the Language of Legitimation (Specialisation) is to plot the various levels of analytical modalities on the same Cartesian plane (see Figure 2.11). The compilation of the modalities is based on the argument that epistemic relations can analytically be further differentiated into ontic relations and discursive relations, resulting in four specialisation modalities of insight (purist, situational, doctrinal and knower) and that social relations can be differentiated into subjective relations and interactional relations, resulting in four specialisation modalities of gaze (born, cultivated, social and trained). Insights extend and deepen the notion of knowledge structures, while gazes extend and deepen the notion of knower structures (Maton, 2014).

The application of LCT: Specialisation thus allows researchers to analyse a curriculum to establish not only whether they foregrounded as the basis of achievement: skills, procedures, techniques and knowledge (epistemic relations), and/or dispositions of

learners, such as aptitude, attitudes and personal expression (social relations). It also allows the researcher to establish the insight and gaze privileged in the curriculum, addressing both knowledge-blindness (Bernstein, 2000) and knower-blindness (Maton, 2014).
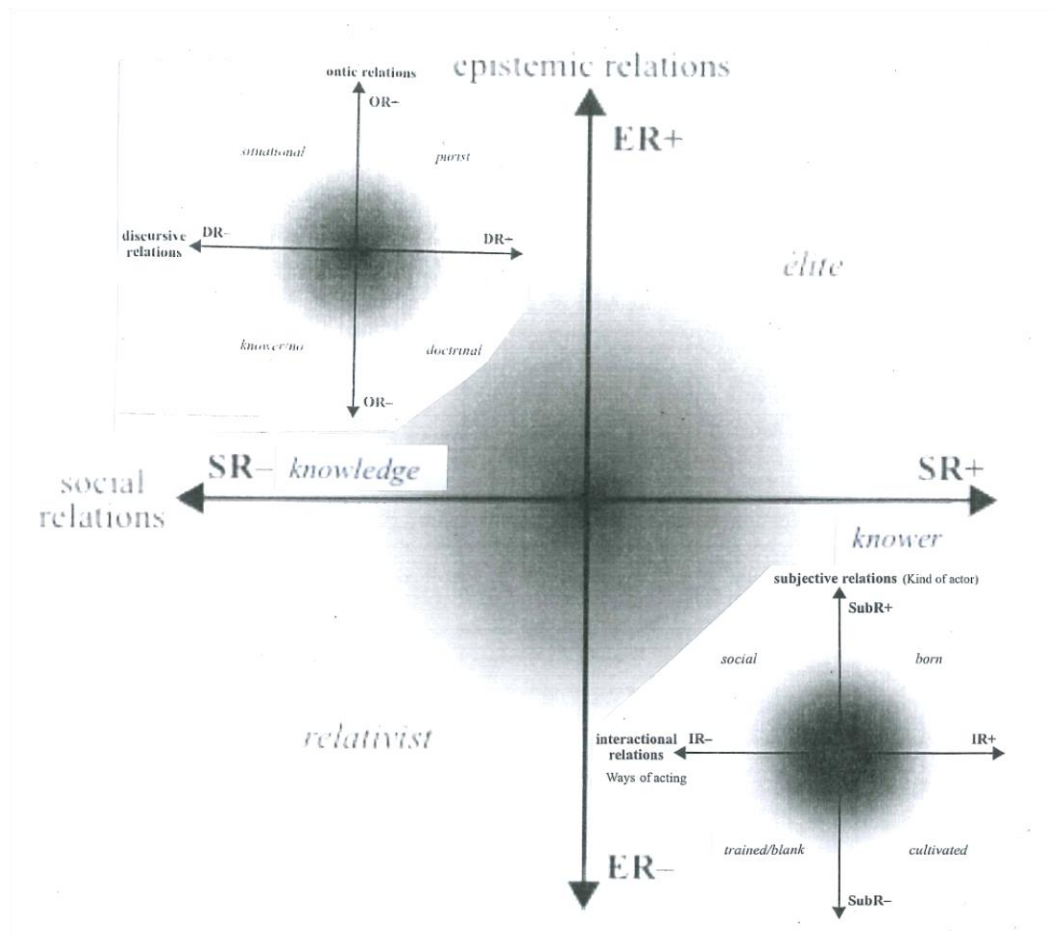
Figure 2.11: Operationalising the knowledge-knower structure in LCT to include insights and gazes

2.7   CHAPTER SUMMARY

LCT: Specialisation provides the language and tools needed to analyse the legitimate knowledge and knower structures of RSH in the school curricula of Kenya and South Africa. It allows researchers to get metaphorically speaking, 'under the surface' of appearances. It allows the researcher to generatively explore the organising principles underpinning a set of practices, revealing 'what could be'. To develop a 'new gaze' (Bourdieu & Warcquant, 1992), breaking with thinking in terms of separate entities in favour for a conceiving phenomenon as realizations of underlying organizing principles (Maton, 2015, in Maton, Hood & Shay, 2015).

This chapter discussed the conceptual and theoretical framework used in this study. It also discussed the Legitimation Code Theory, which is the substantive theory used in this study. It discussed the 4-K model, and specialisation codes, which are LCT principles used in this study to analyse and make sense of data.

CHAPTER THREE

RESEARCH METHDOLOGY AND DESIGN

3.1   INTRODUCTION

The purpose of this study is to examine the knowledge practices related to RSH as recontextualised in the school curricula of Kenya and South Africa respectively, with the aim to gain insight into the legitimate ways of knowing and being required in the curricula. All the research methods or strategies that were used are aligned to LCT, the analytical framework used in this study and discussed in Chapter Two. The data were collected at two sites (Kenya and South Africa), which formed the two cases that this study considers in some depth and detail. This study thus employed a multi-site, descriptive case study research design for reasons that will be further discussed in the sections to follow.

The chapter is divided into four parts. The first part provides an account of the multi-site case study design used in the study. The second is about data generation and selection and outlines the generation of the data from the official school policy documents. The third part relates to data analysis, which was achieved through developing external languages of description. The final part discusses strategies used to enhance research quality.

3.2   MULTI-SITE CASE STUDY APPROACH

As described earlier, the purpose of this study was to investigate the knowledge practices related to RSH as recontextualised in the school curricula of Kenya and South

Africa. The choice to use a multi-site case study design was guided by the purpose of the study (Cohen, Manion & Morrison, 2011).

A case study is an approach that gives researchers an opportunity to explore a bounded system (Creswell & Poth, 2017) or case by means of comprehensive, in-depth data collection (Ragin & Becker, 1992), focussing on phenomena that occur in a real-life context (for example, the school-based curriculum or syllabus). Choosing a case study research design allowed me "to explore a general problem or issue" (RSH) "within a limited and focused setting" (the school curricula) (Rule & John, 2011, p. 7), while "appreciating the complexity of organisational phenomena" (Yin, 2003, p. xv). As such, a case study methodology enabled me to conduct the study in such a manner that the complexity of RSH in the educational field (in school curricula) is sufficiently reflected. Seeing knowledge structures are difficult as they are mostly hidden (Howard & Maton, 2011), but more so if they are hidden in more than one disciplinary field as is the case with RSH. RSH is addressed in the Biology or Life Sciences, as well as in the Life Skills or Life Orientation curricula of the two countries.

Because the case study methodology allows for the prior development of theoretical propositions to direct the data collection and analysis (Yin, 2003), it is useful in supporting and expanding on previously developed theories. In this study the LCT specialisation codes are used as analytical framework to examine knowledge practices related to RSH in the school-based curricula of Kenya and South Africa. The rationale for the choice of case study as research methodology is therefore supported by the research paradigm (the interpretive paradigm) and by the theoretical framework (LCT: Specialisation). The theoretical framework (LCT) of my study helped to focus attention on the type of data generated, as well as enabling the development of a framework for organising the case

study (as will be explained in the next paragraphs). The sections to follow show how the study has followed a case study design.

A multi-site case study design was used in seeking answers to the research questions formulated. The choice regarding the specific case study design was guided by the purpose of the study (Cohen et al., 2011). The multi-site case study design enabled me to investigate a well-defined, existing phenomenon (RSH in school curricula), which is typical to two or more real-world or naturalistic locales, (Kenya and South Africa) (Yin, 2003). Typically, the research design in a multi-site case study is similar through all sites. That is, the same unit(s) of analysis (in the case of this study, RSH knowledge structures in school curricula) is investigated in light of similar key research questions. Furthermore, the same data collection, analysis, and reporting approaches are engaged across the sites (Yin, 2003).

The multi-site case study is not employed for the purpose of comparing the RSH curricula of the two countries. The purpose for utilizing two sites in Africa (given their similar social contexts concerning the prevalence of HIV and AIDS and teenage pregnancies described in Chapter One) is to 'see' and analyse the knowledge and knower structures associated with RSH in African contexts in order to gain a deeper understanding of the phenomenon. Moreover, a multi-site case study has the potential to enable researchers to understand, amongst others, a policy through multiple representations of that phenomenon. Wider understandings about a phenomenon can materialize by revealing the effects, implications, or experiences of a phenomenon in more than one setting (Yin, 2003).

The rationale for using a case study approach in this study was therefore based on the need to provide depth understanding of how knowledge and knowers are legitimated in

a well-contained, identifiable context (RSH in the school curricula of Kenya and South Africa).

3.3 DATA SELECTION AND GENERATION

The focus of this study is on the RSH knowledge and knower structures in the school curricula of Kenya and South Africa, respectively. The data sources are thus the relevant curriculum policy documents of the two countries where concepts of RSH would be documented.

The documents can be classified as primary official documents, in other words, documents that were produced by governments as official documents, and that are readily available in the public domain (Bryman, 2012; Scott, 1990). The curriculum policy documents satisfy Scott's criteria for evaluating the quality of documentary sources, namely authenticity, authorship, clarity and representativeness (Scott, 1990). The policy documents are considered authentic as they are produced by the agents of the state (curriculum writers) and can be considered to provide the perspectives of agents as to the legitimate ways of knowing and being expected from learners in the school system. The policy documents are, furthermore, credible documents in that the researcher, prior to the analysis of the documents, did no moderation of their content. The policy documents can also be considered to be representative of the perspectives of state agents on the official legitimate ways of knowing and being related to sexual health in the respective two countries (Kenya and South Africa).

The documents are however not without their challenges. RSH is an interdisciplinary knowledge area that consists of concepts traditionally associated with biology in the context of school curricula (reproductive health concepts), as well as concepts associated with life skills (sexual health concepts). These concepts (comprising

RSH) are addressed in multiple documents in the school curricula and need to be extracted from the relevant documents. The terminology concerning the curriculum also differs in the two countries and care had to be taken to identify the corresponding curriculum policy documents in which the concepts are mentioned; staying true to limiting the study in the Official Recontextualisation Field, without venturing into the Pedagogical Recontextualisation Field) (see Table 3.1 for a list of the documents analysed). In other words, the documentary *data corpus* for this research consisted of the Life Orientation/Life Skills, General Science and Biology or Life Science curriculum or syllabi statements of Kenya and South Africa.

Table 3.1: Names of curriculum documents analysed

Kenya	South Africa
Life Skills Standard 1-8 (primary education)	Life Skills (FP) Grades R-3
Life Skills Form 1-4 (secondary education)	Life Skills (IP) Grades 4–6
Science Standard 1-8 (primary education)	Life Orientation (SP) Grades 7-9
Biology Form 1-4 (secondary education)	Life Orientation (FET) Grades 10–12
Primary Life Skills Education Teacher's Handbook	Natural Sciences & Technology (IP) Grades 4–6
Secondary Life Skills Education Teacher's Handbook	Natural Sciences (SP) Grades 7-9
	Life Sciences (FET) Grades 10–12

A further challenge associated with the use of official documents is that all of these secondary source documents were produced for purposes other than this research, so specific "data extracts" or "chunks of data" (Braun & Clarke, 2006, p. 79) were mined for analysis. As pointed out earlier, RSH is constituted in two subject areas in the schooling system: Life Skills/Orientation and Biology. The strength of LCT concepts is that they can

be used to analyse diverse objects of study (different curriculum policy documents), allowing them to be related together (Maton & Chen, 2017). In other words, from the *data corpus* a *data set* was extracted with the specific purpose of this study in mind – exploring knowledge and knowers related to RSH in the school curricula of Kenya and South Africa.

3.4   DATA ANALYSIS

Analysing documents is essentially a coding operation with coding being "the process of transferring raw data into a standardised form" (Rubin & Babbie, 2001, p. 309). The essence is to identify substantive statements – statements that really say something. The aim of data analysis is to treat the evidence fairly and, as such, to produce compelling analytical conclusions (Creswell & Miller, 1997).

The data set generated as a result of the extraction of relevant RSH text from the official curriculum policies were organised into four sets – each with either a focus on the biological aspect of RSH, or the psychological/social aspect of RSH. The first data set consists of a set for Kenya consisting of the Science (primary school) and Biology (secondary school) syllabi; the second set consists of the South African CAPSs for Natural Sciences (Grades 4-9) and Life Sciences (Grades 10-12); the third data set focused on the Kenyan primary and secondary school syllabi for Life Skills, with the fourth data set comprising of the South African CAPS for Life Skills (Grades 4-6) and Life Orientation (Grades 7 – 12). The curriculum texts were "broken down into individual units of meaning (passages conveying a single coherent meaning) and each unit was coded using the translation devices developed specifically for this study (Maton, 2009, p. 48).

In order to answer the research question on how knowledge and knowers are legitimated in the school curricula, the data sets described above were analysed on three levels. In the first level of analysis, the objective was to determine where the hierarchy of

RSH knowledge and knowers is located. Both the knowledge structures and knower structures were analysed to establish the location of verticality in RSH in the school curricula. For the second level of analysis, the focus was on establishing the knowledge-knower structures and associated specialisation codes legitimatised in the data sets. For the third level of analysis, a more nuanced analysis of both the epistemic relations and social relations were done to describe the Insights and the Gazes respectively legitimated in the curriculum policy documents.

In the sub-sections to follow, the development of the translation devices using an external language of description for each of the levels of analysis will be discussed.

3.4.1   Developing external languages of description and translation devices

Although LCT provides conceptual tools that make it possible to analyse both knowledge and knower structures within relational social fields of practice (Biology and Psychology in the case of this study), tension exists in that the analysis of data can become determined by theory and may largely become a description of data in terms of conceptual theories. As warned by Maton and Chen (2016, p. 33), "Immersion in data is not enough". The researcher should relate data to concepts of greater context-independence and condensation, namely epistemic relations and social relations, and hence specialisation codes. Empirical descriptions (i.e. data) need to be re-described or turned into research devices so that their underlying principles can be conceptualised in relation to the theoretical framework. The re-description of the data makes it possible for the researcher to refine the theory (Maton, 2000). A key task in LCT is, therefore to establish the empirical realisations of concepts within each curriculum policy document and to make this explicit in the form of the external language of description (Bernstein, 2000) or translation device (Maton & Chen, 2016) that is specific to the context of this study.

Bernstein (2000) uses the phrase "internal languages of description" to refer to languages of theories and concepts (e.g. LCT theory) and distinguishes them from "external languages of description", which are languages that describe something beyond theory and are related to external, often empirical, referents (Bernstein, 2000). The external language of description is constituted by propositions and models derived from the internal language of description and as such is seen to enact the internal language of description (Bernstein, 2000). The external language of description is a means of translating between concepts and data. In other words, the "external language of description represents the basis for translating theoretical concepts into empirical descriptions, and empirical descriptions into theoretical concepts" (Maton, 2014, p. 137). Therefore, in order to bridge the 'discursive gap' between the abstract, dense theoretical concepts of Bernstein and Maton used in this study (the internal language of description) and the empirical data, it was necessary to develop external languages of description, i.e. translation devices, (Bernstein, 2000; Chen & Maton, 2014) relevant to the analysis of the RSH text represented in the school curricula of Kenya and South Africa. A translation device is a means for translating between the higher order concept, for example specialisation codes (epistemic relations and social relations) and RSH knowledge in a school curriculum.

Translation devices typically outline the setting of a concept (e.g. stronger or weaker social relations), indicators of those settings in the study and empirical examples matching those indicators (Maton & Doran, 2016). Creating such language is furthermore fluid, subjective and in short, is a matter of gaze (Maton & Chen, 2016, p. 33).

It should be emphasised that external languages of description are customised translation devices between a specific concept and specific data about a specific object of study (Maton & Chen, 2016). The use of a translation device in the analytical process

makes the means of analysis publically visible to and reproducible by other researchers. From an understanding of the theory it should be evident whether the analysis is consistent with the data and whether the conclusions are borne out by the evidence. It is, furthermore important to mention that I, by no means, claim the analytical strategy to be the only way to enact the concepts in empirical research.

3.4.2   Enacting Specialisation codes in this study

The research questions ask how knowledge and knowers are legitimated in the RSH curricula of Kenya and South Africa. This is an LCT: Specialisation question and requires developing an external language of description between the theoretical concepts of epistemic and social relations and the empirical data as presented in RSH curricula documentation.

To recap, LCT: Specialisation codes constitute an internal language of description for this study – that is, a conceptual language for the interpretation of organising principles in knowledge practices. This enables the systematic exploration of empirical data that can then be interpreted in terms of specialisation codes. In other words, specialisation codes of legitimation do not constitute distinctive and a priori determined kinds of texts or practices of knowledge (Maton, 2010; Maton & Chen, 2016). They need to be explored in their realisation in the particular texts and practices relevant to each study. A struggle was not to confuse the process of coding as used during the analytical process (a research method) and the codes (e.g. specialisation codes) as used in the analytical framework.

In the case of this study, the aim was to first describe how epistemic relations and social relations are realized in the study (Table 3.2), and secondly to describe how relatively stronger and relatively weaker forms of those relations are realised for each subject area (e.g. Life Skills; Life Orientation; Biology; Life Science). Table 3.2 describes

how epistemic relations, as a degree of emphasis on content knowledge, are realized in this study, and how social relations as a degree of emphasis on learners' personal experiences are realized.

Table 3.2: An external language of description for epistemic relations and social relations in this study

Concept	Degree of emphasis on:
Epistemic relations Concept manifests as emphasis on content knowledge	Specialized knowledge associated with a biological discipline, e.g. propositional knowledge (definitions and explanations) and procedural knowledge (application of knowledge through using skills, processes and procedures)
Social relations Concept manifests as emphasis on personal experience and knowledge	Learner's personal knowledge and experience around RSH concepts and decisions related to RSH (e.g. draw a personal timeline to locate puberty)

Table 3.3 offers an example of the translation device that has an external language of description that focuses specifically on specialisation for RSH in school curricula. It contains the indicators for whether data exhibits stronger or weaker relations and quotes from the data as examples. It includes separate sections for epistemic relations and for social relations. The sections of the translation device are structured such that when read from left to right theory is translated into data showing how concepts are enacted in this particular study, and when read from right to left it translates data into theory showing how data can be conceptualised as exemplifying strengths of epistemic relations and social relations (Maton & Chen, 2016).

Epistemic relations are relations between practices and their objects of focus (Maton, 2014). It is standard practice to use a simple dichotomous characterisation of

epistemic relations: relatively stronger epistemic relations (ER+) for specialised knowledge and procedures that are strongly bounded (+C) and framed (+F), and relatively weaker epistemic relations (ER-) for less specialised knowledge that has less clear boundaries (-C) and is weakly framed (-F). It this study I refer to these as epistemic (conceptual) knowledge (relatively strong; ER+) and non-epistemic (contextual) knowledge (relatively weak; ER-) respectively (Table 3.3 and Table 3.4). By assuming that all practice and procedures are themselves a form of knowledge and that practices and procedures are underpinned, either tacitly or overtly, by some form of principled or contextual knowledge, the subcategories were identified.

Table 3.3: Translation device for epistemic relations in this study

EPISTEMIC RELATIONS (ER)		
Theoretical Concept	**External language of description**	**Empirical data from curriculum documents**
Epistemic (conceptual) knowledge	**Disciplinary knowledge is valued or legitimated** ER+	**Principled knowledge – learners need to know/understand:** Ovulation; ejaculation; Fertilisation; Gestation **Procedural knowledge – learners need to:** Identify tissues and different structures in prepared microscope slides of an ovary, testes & section through penis.
Non-epistemic (contextual) knowledge	**Academic practices & everyday knowledge are valued** ER-	**Academic practice – learners need to:** Technical practices: access information about responsible sexual behaviour. Discussion practices: Discuss and write about personal changes experienced during puberty. **Procedural knowledge – learners need to:** Care for and support people infected by HIV by providing love, care, adequate nutrition, hygiene & medical care.

The translation devices were used to code the data sets line-by-line, allowing me to gain a nuanced representation of the specialisation codes of the four data sets. An extract of such coding is provided in Tables 3.3 and 3.4, while the full codes data sets are included in the Appendices.

Table 3.4: Translation device for social relations in this study

	SOCIAL RELATIONS (SR)		
Theoretical Concept	**External language of description**		**Empirical data from curriculum documents**
Personal knowledge and experience	How meanings are negotiated in the curriculum is valued	**SR+**	The learner should be able to demonstrate a clear understanding of self with regard to adolescent changes. Analyse the impact of physical and emotional changes in yourself. Draw a personal time-line and locate puberty.
	Who you are is downplayed as basis of legitimacy.	**SR-**	Discuss myths about menstruation and sex. Effect of HIV on an individual, family and nation. Control measures for HIV and AIDS such as: creating public awareness on HIV/AIDS; campaigns through various media; mass education; voluntary counselling.

Table 3.5: An extract of the coded data using the translation device for epistemic relations and social relations in this study

STANDARD 8 (KIE, 2002a)				
Unit	**Topic**	**Specific Objective**	**Content**	**Code**
Human body	Reproduction in human beings	By the end of the topic, the learner should be able to: -explain fertilization in human beings. -discuss the development of the foetus	Fertilization	ER+
			Foetal development • zygote • embryo • foetus Hint: Include the functions of placenta, umbilical cord and amniotic fluid.	ER+
			Process of birth (p. 75)	ER+
Health Education	Sexually transmitted infections Control of HIV and AIDS	By the end of this topic, the learner should be able to: -explain the meaning of sexually transmitted infection; -give examples of sexually transmitted infections; -describe cause and prevention of some sexually transmitted infections; - identify control measures for HIV and AIDS	Meaning of sexually transmitted infections (STI's)	ER+
			STI's, cause signs, symptoms and prevention of: Syphilis; Gonorrhoea; Cancroid Hint: Details of causative organism not required Control measures for HIV and AIDS such as:	ER+
			• creating public awareness on HIV/AIDS • campaigns through various media • mass education • Voluntary Counselling and testing (p. 75)	SR-

The codes generated during the line-by-line analysis of the data sets were collated in a table to establish the relative strength of the epistemic relations and the social relations (knowledge-knower structure) for the particular data set (see Table 3.6).

Table 3.6: Collated epistemic relations and social relations codes for the first data set (Science & Biology: Kenya).

	ER+	ER-	SR+	SR-
Science	15	0	0	5
Biology	6	0	0	1

3.4.3   Enacting epistemic relations - insights in this study

As described in Chapter Two, epistemic relations can analytically be distinguished by ontic relations (OR) and discursive relations (DR) and that these relations can be strongly (+) or weakly (-) classified and framed (Maton, 2014). Ontic relations can be enacted by describing how strongly or weakly the discipline bound and control what is being studied (disciplinary knowledge, approaches and methods). In other words, what and how knowledge practices relate to objects of study. Discursive relations are concerned with the flexibility that is allowed in determining legitimate procedures for constructing objects of study (knowledge). The emphasis is on how the discipline is studied and in the context of this study the scientific method would be privileged. Weakly classified and framed discursive relations can be conceptualised as procedural pluralism.

The translation device for ontic relations and discursive relations (see Table 3.7) provided an initial explication of varying strengths of ontic relations and discursive relations. The levels represent gradations upon a continuum rather than absolute fixed points. The text in the data sets were qualitatively analysed using the translation device.

Table 3.7: Translation device for ontic relations and discursive relations in this study

ONTIC RELATIONS (OR)			
Theoretical Concept	**External language of description**		**Empirical data from curriculum documents**
Disciplinary knowledge	What is studied (disciplinary knowledge, approaches and methods) is valued. Discipline strictly defines objects of study.	OR+	The main task of teaching is to build a framework of knowledge for learners and to help them make connections between the ideas and concepts in their minds – this is different to learners just knowing facts. When learners do an activity, questions and discussion must follow and relate to previously acquired knowledge and experience, and connections must be made (DBE, 2011e p. 10).
	What is being studied is of less value. Disciplinary knowledge is of little explanatory value.	OR-	Learners should digest the information and then respond to application questions based on informed decision-making and problem-solving. They may be expected to interpret quotations from the source, to analyse comments and possibly make suggestions (DBE, 2011d p. 28).
DISCURSIVE RELATIONS (DR)			
Knowledge and its object of study	Disciplinary knowledge approaches are basis of legitimacy.	DR+	The process of acquiring a deep understanding of science is about more than just knowing a lot of facts. The scope of knowledge that learners should acquire includes knowledge of the process skills related to carrying out investigations (DBE, 2011f p. 13).
	Legitimate approaches are relatively weakly bound and controlled	DR-	The focus of Life Orientation is the development of self-in-society. It promotes self-motivation and teaches learners how to apply goal-setting, problem-solving and decision-making strategies. (DBE, 2011e p. 6)

3.4.4   Enacting social relations – gazes in this study

Gazes extend and deepen the notion of knower structures and are concerned with the preferred way of accessing knowledge of a discipline (Maton, 2014). Gazes furthermore are constituted by organising principles, namely subjective relations (SubR) and interactional relations (IR). An external language of description was developed to enact these organising principles in the context of this study (RSH in school curricula). The external language of description was captured in a translation device (Table 3.8) that allows researchers to qualitatively analyse data with the aim of illuminating the privileged gaze of RSH in school curricula. Similarly, to the investigation of the epistemic relations to determine the insights foregrounded in RSH, the translation device developed to investigate the modalities of social relations in RSH provided an initial explication of varying strengths of subjective relations and interactional relations. The levels represent gradations upon a continuum rather than absolute fixed points. The text in the data sets were qualitatively analysed using the translation device.

Table 3.8: Translation device for subjective relations and interactional relations in this study

SUBJECTIVE RELATIONS (SubR+/-) Kinds of knowers		
Theoretical Concept	**External language of description**	**Empirical data from curriculum documents**
Knowledge claims	SubR+ Knowers who can claim legitimacy are relatively strongly bounded and controlled.	Based on standpoint theories of class or gender (no data)
	SubR- Knowers who can claim legitimacy are relatively weakly bounded and controlled.	Concept: sexuality - Understanding one's sexuality: personal feelings that impact on sexuality; Problem-solving skills: identity formation and development

INTERACTIONAL RELATIONS (IR+/-) Ways of knowing and acting		
Theoretical Concept	**External language of description**	**Empirical data from curriculum documents**
Knowledge claims	IR+ Relatively strongly bound and control legitimate ways of knowing.	Observe and describe prepared microscope slides or micrographs or ultrasound pictures of embryonic development.
	IR- Relatively weakly bound and control legitimate ways of knowing.	No example in the data

3.5 RESEARCH QUALITY

Pratt (2008) argues that question-driven research should be evaluated on the basis of the clarity with which the assumptions, methods, findings and research questions tie together. In addition to this call for alignment and coherence, the quality of case study research is argued to depend lesser on ideas of the sample, validity and reliability and more on the conception, construction and conduct of the study (McKeown & Thomas, 2013). As Stake (1995, p. 245) so aptly explained: "The purpose of case study research is not to

represent the world, but to represent the case. … The utility of case research to practitioners and policy makers is in its extension of experience".

This requires from the researcher to address two aspects of the research process in the quest for research rigour: (i) designing the research in such a manner as to use the most appropriate procedures for answering the research questions (Teddlie & Tashakkori, 2009), and (ii) ensuring that the interpretations made on the basis of the obtained results are credible (Tashakkori & Teddlie, 2003). This led to a process of continual 'thinking out loud' about the safeguards and contradictions in the research process (Cho & Trent, 2006). These safeguards are discussed in more detail in the sub-sections to follow.

3.5.1   Strategies for improving validity and reliability

Internal validity in qualitative research has been viewed as the establishment of authentic research findings (Denzin & Lincoln, 2005). Validity is resultantly concerned with accuracy and, as such, requires alignment of the data generation methods, the data and the theoretical frameworks (Kirk & Miller, 1986). By paying careful attention to the documentation of the research process, the credibility and trustworthiness of the study were strengthened (Yin, 2003). A clear chain of evidence was established throughout the research report that allowed the researcher to reconstruct the research process from the formulation of the research questions to the final conclusion for the reader (Yin, 2003). A further technique used to ensure the internal validity or trustworthiness of the data was the use of a clear theoretical framework derived from literature as the analytical framework for the analysis of the curriculum policy documents (Yin, 2003). This allowed the researcher to establish theoretical triangulation (Eisenhardt, 1989).

Case studies do not claim generalizability (external validity), but the use of thick descriptions (Geertz, 1973) allows for user-generalizability where the readers are able to

determine which aspects might be applicable to their own context. The use of a multi-site case study as research strategy enabled the provision of thick descriptions.

Reliability, or the ability to act consistently, honestly, openly, to collect accurate data and to analyse the data neutrally (Leedy & Ormrod, 2001, Pine, 2009), is one of the notions that contributes to the trustworthiness of research (Pine, 2009). The use of a coding scheme for the analysis of the curriculum documents ensured the consistent, open and neutral analysis of the documents. When viewed from this perspective, reliability becomes an aspect of how consistent the results obtained from the data are. The following strategies were used to achieve consistency: the documents were archived, coded and are available for external auditing (see Appendices); and a detailed account is provided of the theoretical framework and concepts that guided my selection and analysis of the data.

The concern around the consistency of the results obtained is addressed through the development and use of translation devices for the three levels of analysis that are congruent with the context of this study.

3.6   CHAPTER SUMMARY

The study aimed to explore the legitimation of knowledge and knowers related to RSH in the curricula of Kenya and South Africa. This chapter described the philosophical underpinnings of the study, followed by a justification for the use of a multi-site case study methodology that include a detailed discussion of the data generation and analysis of the text extracted from the relevant curriculum policy documents. Lastly, the actions taken to ensure research rigour were discussed.

In chapter four, I present the case of knowledge and knowers related to RSH in the school curricula of two African countries. The purpose of the chapter is to provide a rich

description of the legitimised RSH knowledge and knowers in the curriculum policy documents of the two sites. A description is provided of where hierarchy is situated in the curricula, followed by a description of the knowledge-knower structures and the dominant specialisation codes of RSH in the four data sets. The chapter is ended with a description of the specialisation profile over the schooling period for the countries, the epistemic Insights legitimated, as well as the social gazes legitimated in the school curricula.

CHAPTER FOUR

KNOWLEDGE AND KNOWERS IN THE RSH CURRICULA

4.1   INTRODUCTION

This chapter presents and interprets the data that was generated for this research in order to respond to the two research questions this study seeks to answer: How is knowledge related to RSH legitimated in the Kenyan and South African school curricula? and How are knowers related to RSH legitimated in the Kenyan and South African school curricula? It draws on data sets generated from the official curriculum documents from Kenya and South Africa.

As discussed in chapter three, this chapter will focus on the four data sets (Life Skills and Orientation for Kenya and South Africa; Natural Sciences and Biology for Kenya and South Africa). Topics within the curriculum documents that focus on RSH concepts were analysed and interpreted using translation devices developed from the specialisation dimension of LCT to provide a visual representation of what the data uncovered. The concept of knowledge structures (hierarchical and horizontal) was also applied in analysing the data to ascertain how RSH concepts are structured in the curriculum.

4.2   KNOWLEDGE STRUCTURES AND KNOWER STRUCTURES OF RSH

Using Bernstein's (1999) definition of a vertical discourse, school curricula can be considered a vertical discourse that can either exhibit a horizontal knowledge structure or a hierarchical knowledge structure. As Bernstein's focus was the production of new

knowledge in intellectual fields, one can, by extension, distinguish between hierarchical and horizontal curriculum structures according to whether a unit of study builds upon the knowledge imparted in previous units through integration and subsumption or through segmental aggregation (Maton, 2009). Bernstein's (1999) differentiation between horizontal and hierarchical knowledge structures allows a better understanding of the relations between reproductive health education (biology education) and sexual health education (life skills/orientation education) forming the integrated study area of RSH.

Following the argument made by Maton that there is always a hierarchy somewhere in a vertical structure, I set out to ask where the hierarchy resides in RSH school curricula. Does the hierarchy reside in the knowledge structures or the knower structures? To answer this question, RSH concepts represented in the four main data sets (the science curricula of Kenya and South Africa and the Life skills/Orientation curricula of Kenya and South Africa respectively) were analysed to determine the verticality of the knowledge structure and knower structures of RSH.

Curriculum texts and phrases that signal the integration and subsumption of new knowledge into existing knowledge with areas of specialisation creating sub-disciplinary specialisations were taken to represent a hierarchical knowledge structure. Curriculum texts and phrases that signal new knowledge or areas of specialisation with a different worldview (a fresh perspective, a new set of connections) being accumulated to the existing knowledge were taken to represent a horizontal knowledge structure.

In the sections to follow, the knowledge and curriculum structure of each of the four main data sets of documents (as described in chapter three) are presented.

4.2.1   Kenya: Knowledge and curriculum structure in Science and Biology curricula

An analysis of the extracted data from the Science and Biology curriculum policy documents (see Appendix A) in Kenya reveals that specialised knowledge from one Standard has been used as the foundation on which the knowledge to be taught in subsequent years is based. In the Science syllabus, specialised knowledge that focuses on reproductive health are found under the topic "Human Body", while aspects of HIV and AIDS are covered in the "Health Education" section of the syllabus. The two topics are treated as two separate, distinguishable 'languages'. The objectives set for the Human Body topic focus solely on the human reproductive system (Standards 6 & 8), while the Health Education topic focuses solely on aspects of HIV and AIDS, with no reference to reproductive aspects (see Appendix A). The development of two languages, which are relatively strongly bound, is indicative of a horizontal curriculum structure. The two languages in themselves, however, exhibit a hierarchical curriculum structure as illustrated below.

The biological concepts of RSH in the Kenyan curricula exhibit a hierarchical knowledge structure that promotes vertical integration of knowledge, typical of hierarchical knowledge structures. For example, in Science Standard 6 under the topic "Reproductive system" the RSH concepts "parts of the reproductive system" and "functions of some parts of the reproductive system" (KIE, 2002a, p. 66) provide the foundation for the topic "Reproduction in Human beings" taught in Standard 8 that focuses on the concepts "fertilization in human beings" and "the development of the foetus" (KIE, 2002a p. 75). The concept of reproduction is again revisited in Form 3 where the focus is on reproduction in both plants and animals with human reproduction being studied as an

example of sexual reproduction in mammals (KIE, 2002b, p. 89). This indicates progression towards presenting the concepts around reproduction in an increasingly more abstract manner progressing from reproductive concepts with particular reference to humans (Topic: Human body- Reproduction in humans), towards humans as representing a mammal species (Topic: Reproduction in plants and animals – Sexual reproduction in animals (named mammal – human)). This is typical of a hierarchical curriculum structure.

The discourse in the Science syllabus is strongly classified with the language used distinctively associated with the discipline of biology as is typical for hierarchical knowledge structures. See for example the specific disciplinary nature of the discourse used in the content for Standard 6:

"Parts of the reproductive system: female (ovary, oviduct, uterus, vagina); male (testis, urethra, penis)"

(KIE, 2002a, p. 66).

The RSH knowledge in the Biology syllabus exhibits a hierarchical curriculum. Although only concepts related to reproductive knowledge and sexually transmitted diseases are addressed in Form 3 (KIE, 2002b, p. 89), they build on, and extend the same concepts introduced in the primary science curriculum. It can be concluded that the science curriculum in the primary school exhibits a knowledge structure that could be placed in the middle of the continuum between hierarchical and horizontal knowledge structures (see Figure 2.1), while the biology curriculum policy documents of Kenya exhibits a hierarchical knowledge structure in which specialised knowledge is specified, supported by a hierarchical curriculum structure in which RSH knowledge in later years are coherently and systematically integrated into the prior knowledge focused on in earlier years.

4.2.2   South Africa: Knowledge and curriculum structure in Natural Sciences and Life Sciences curriculum policy documents

The aims and objectives of the subjects as described in the pre-ambles of the various curriculum documents were also analysed to establish the type of knowledge structure the official documents exhibit. The statements of intent in the foreword of the *Natural Sciences* Grades 7 – 9 CAPS states that:

"Natural Sciences at the Senior Phase level lays the basis of further studies in more specific Science disciplines, such as Life Sciences, Physical Sciences, Earth Sciences or Agricultural Sciences"

(DBE, 2011d, p. 8).

"The main task of teaching is to build a framework of knowledge for learners and to help them make connections between the ideas and concepts in their minds – this is different to learners just knowing facts. When learners do an activity, questions and discussion must follow and relate to previously acquired knowledge and experience, and connections must be made"

(DBE, 2011e, p. 8).

The accumulation of knowledge where new concepts build on previous knowledge in the disciplinary field is evident from the pre-amble of the CAPS: Life Sciences.

"The first section in Grade 10, called "Subject Orientation", is designed to prepare learners for the FET phase, and is intended to: - connect what learners learned in the GET (Natural Sciences) with what they will be learning in the FET (Life Sciences). The Life Sciences subject builds on knowledge and skills acquired from the Life Sciences knowledge areas in GET"

(DBE, 2011d, p. 11).

The integration of new concepts and experiences into previously acquired knowledge, combined with the expectation that connections must be made, illustrate the hierarchical nature of the knowledge structure, as well as the curriculum structure of the biological component of RSH.

To establish the curriculum structure, the development of the concept RSH in the Natural Sciences and Life Sciences curricula was plotted from Grades 3 - 12 (encompassing the Foundation Phase, Intermediate Phase, Senior Phase and Further Education & Training Phase of the South African education system) to establish the curriculum structure of the biological component of RSH (see Appendix B). It is evident in the sequence of reproductive health concepts over the twelve years of schooling that new disciplinary knowledge (concepts, ideas) uses the existing knowledge as building blocks onto which to build the knowledge irrespective of when or where that knowledge was developed, as is typical in hierarchical curriculum structures where a unit of study builds upon the knowledge imparted in previous units through integration and subsumption (Maton, 2007).

For example, in Grade 7, under the topic "Human Reproduction" the "purpose of reproduction" and "puberty" (DBE, 2011d, p. 20) is addressed. The same concepts are re-visited in Grade 9, but extended to include a discussion on the reproductive system, the purpose of reproduction, puberty, reproductive organs, and stages of reproduction (DBE, 2011d, pp. 59-60). In Grade 12, the topic Human Reproduction is revisited (building on Grade 9), but extended, as evident in the description of the content:

"The structure of male and female reproductive systems; (link to Grade 7 and 9); The unique human characteristics of some aspects of reproduction (link with Grade 9): - puberty: main changes; gametogenesis: relate briefly to meiosis (no individual names of stages); menstrual cycle: emphasis on hormonal control; fertilisation and development of zygote to blastocyst; gestation (mention briefly); implantation and development: the role of placenta"

(DBE, 2011f, p. 56).

The discourse of the curricula is strongly classified and distinct to the discipline of biology, which is typical of hierarchical knowledge structures.

"Reproductive organs:
• the male reproductive organs include the penis, sperm duct (vas deferens), testes (produces sperm cells), scrotum, urethra
• the female reproductive organs include the vagina, uterus, ovaries (contain egg cells/ ova), oviducts (Fallopian tubes)"

(DBE, 2011f, p. 56).

It can be concluded that the reproductive health concepts in the Natural Sciences and Life Sciences curricula of South Africa exhibit hierarchical knowledge structures with specialized disciplinary knowledges, a strongly classified discourse, as well as a hierarchical curriculum structure with the integration of new knowledge into the existing knowledge base.

4.2.3   Kenya: Knowledge and curriculum structure in Life Skills curricula

The Life Skills (Standard 1-8), as well as the Life Skills (Form 1-4) curricula consist of various units (self-awareness; self-esteem; coping with emotions; coping with stress; interpersonal relationships; empathy; effective communication; assertiveness; conflict resolution and negotiation; skills of effective decision making). Some of the units contain RSH related concepts. An extraction of the relevant RSH concepts can be found in Appendix C. Various topics (e.g. changes during adolescence) are covered in Standards 5 and 6, and in Form 1 and 3, indicating a measure of a hierarchical curriculum structure. The aspects discussed in these topics are however evidence of segmented knowledge building (Maton, 2009) where a new idea or concept is added on to the topic in a horizontal fashion, typical of a horizontal knowledge structure.

The Life Skills curricula furthermore exhibit a weaker grammar with language that is not clearly distinguishing a specific disciplinary discourse and there is no real consensus

on what is considered legitimate knowledge. The weaker grammar is illustrated by the following objectives for Standard 6:

"By the end of the topic, the learner should be able to explore changes associated with adolescence at his/her level; identify common causes of conflicts during adolescence; ..."

<div align="right">(KIE, 2008a, p. 6).</div>

It can be concluded that the Life Skills (Standard 1-8 & Form 1-4) curricula exhibits a horizontal knowledge structure with weak grammars.

4.2.4 South Africa: Knowledge and curriculum structure in Life Skills and Life Orientation curriculum policy documents

The Life Skills (Grades 4-6) curriculum has been divided up into three units: Personal and Social Well-being (PSW); Physical Education; Creative arts. Aspects of RSH are found in the PSW unit. The PSW unit is again sub-divided into various sub-units, of which "Development of the self" and "Health and environmental responsibility" are of relevance to this study (see Appendix D for extract of relevant concepts). The Life Orientation curricula (Grades 7-9 & Grades 10-12) have similarly worded units, namely Development of self in society; Social and environmental responsibility; Democracy and human rights; and Careers and career choices, of which "Development of the self in society" is of relevance to RSH education.

Careful scrutiny of the extracted content for Grades 4 - 9 reveal that the focus in the "Development of self" unit is placed on the social and emotional development of the learner, but that no mention is made of HIV and AIDS under this sub-unit. Under the sub-unit "Health and environmental responsibility" reference is almost exclusively made to aspects of HIV and AIDS: Grade 4: Basic HIV and AIDS facts including blood

management; Grade 5: Dealing with the HIV and AIDS stigma; Grade 6: Myths and realities about HIV and AIDS; Grade 7: Common diseases: HIV and AIDS; Grade 8: Informed responsible decision-making about health and safety related to HIV and AIDS; and Grade 9: Volunteerism – assigning those affected and infected by HIV and AIDS. This indicates the development of two parallel 'languages' in the two sub-units: 'Development of self' and 'Health and environmental responsibility', which is an indication that the Life Skills (Grade 4-6) and Life Orientation (Grade 7-9) curricula exhibit a knowledge structure and consequently a curriculum structure (similar to the science curriculum of Kenya) that could be placed in the middle of the continuum between hierarchical and horizontal knowledge structures (see Figure 2.1). The Life Orientation (Grade 10-12) curriculum, however, exhibits a horizontal knowledge structure with weakly bounded language.

To summarize, RSH is an integrated, interdisciplinary area of study constituted by a variety of concepts that are found in more than one of the school curriculum statements. Each of these sets of curriculum statements revealed a different knowledge structure and associated curriculum structure (see Table 4.1 for a summary of the knowledge structures present in the various data sets), while they collectively contribute to RSH in school curricula.

Table 4.1: Summary of RSH knowledge structures in school curricula

Hierarchical knowledge structure	⟷	Horizontal knowledge structure
Biology (Kenya)	Science (Kenya)	Life Skills (Standard 1-8) (Kenya)
Natural Sciences (SA)	Life Skills (Gr 4-6) (SA)	Life Skills (Form 1-4) (Kenya
Life Sciences (SA)	Life Orientation (Gr 7-9)(SA)	Life Orientation (Gr 7-9) (SA)

4.3   SPECIALISATION IN RSH

To briefly recap, Specialisation refers to the underlying principles of the discipline that shape the terms for recognition, legitimacy, and success in that discipline (Maton, 2014). The underlying principle could be a focus on the object of the knowledge – the principled knowledge and procedures related to understanding, reproducing, and creating knowledge in the discipline, and this would represent a knowledge code. Or it could rather be a focus on developing the subject of the knowledge – the attitudes, dispositions, and personal characteristics of the knowers – and this would represent a knower code (see Maton, 2007).

4.3.1   Kenya: Knowledge-knower structures and specialisation codes for Science and Biology curricula

Focussing on the epistemic relations in the Science (primary school) and Biology (secondary school) curricula reveals the legitimation of specialist knowledge, skills and competencies learners need to understand how the body functions. This represents stronger epistemic relations (ER+). For example, in the Science Standard 6 syllabus, under the unit "Reproductive system: Physical changes during adolescence", the following objectives have been stated:

"… identify some parts of the reproductive system: female (ovary, oviduct, uterus, vagina); male (testis, urethra, penis); state functions of some parts of the reproductive system; describe physical changes during adolescence"

(KIE, 2002a, p. 66).

In Standard 8, under the topic *"Reproduction in human beings"*, the objectives stated were:

"The learner should be able to: explain fertilization in human beings; discuss the development of the foetus including the concepts of Fertilization; Foetal development; zygote; embryo; foetus"

In the Biology curriculum, Form 3, under the topic "Reproduction in plants and animals", the following objectives were stated:

"The learner should be able to:
- *relate structure of human reproduction system to functions;*
- *describe the role of hormones in human reproduction;*
- *identify the symptoms and explain the method of transmission and prevention of sexually transmitted infections (STIs)"*

It is evident from the above statements from both the Kenyan Science and Biology curricula that the learning of content knowledge is legitimated as the basis of achievement. The strong emphasis on content knowledge as basis of achievement, points towards stronger epistemic relations (ER+) and the foregrounding of knowledge. In other words, what is emphasized is a mastery of specialised knowledge and skills.

When focusing on the social relations, it is evident that the personal experiences and knowledge of the learners are downplayed in the Science and Biology curricula. When reference is made to the social relations in the curricula, the individual dispositions of learners are downplayed in favour of general social aspects that could apply to any learner in the classroom, or any person outside of the classroom context indicating weaker social relations (SR-). For example, in the Standard 7 syllabus learners are expected to:

"… state the importance of HIV testing; State the effects of HIV and AIDS infection on an individual, family and nation"

Mapping the relative strengths and weaknesses of the epistemic relations and social relations, or the knowledge-knower structure of RSH in the biological orientated curricula, on a Cartesian plane, reveals the basis of legitimation, namely the specialisation code for RSH in the biological curricula. It can, therefore, be argued that the organising principle of

RSH concepts in Science and Biology subject is a knowledge code (see Figure 4.1). An educational field that has a knowledge code is characterised by having stronger epistemic relations and weaker social relations.
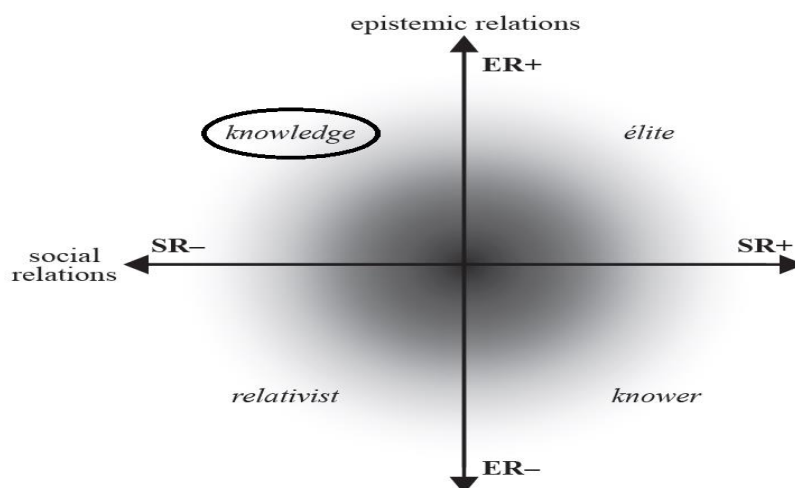
Figure 4.1: Specialisation code for RSH represented in the Science and Biology curricula (Kenya)

The question arises whether the nature of the two knowledge codes are the same. A finer grained line-by-line analysis of the Science and Biology data set, using the translation device developed for this study (see Chapter Three, Table 3.3 for the translation device and Appendix A for the coded data) reveals the relative strength of the RSH epistemic relations and the social relations in the two Kenyan curricula (Table 4.2).

Table 4.2: Collated epistemic relations and social relations codes for Science and Biology curricula (Kenya).

	ER+	ER-	SR+	SR-
Science	15	0	0	5
Biology	6	0	0	1

It is evident from Table 4.2 that; the nature of the knowledge codes is not the same for the two curricula. The RSH social relations, though downplayed when compared to the epistemic relations, are stronger in the case of the Science curriculum than in the case of the Biology curriculum. The RSH knower is less emphasised in the Biology curriculum than in the Science curriculum with only one reference to social relations (SR-) in the Biology data set and six references to epistemic relations being emphasised (ER+), while the Science curriculum had fifteen references to stronger epistemic relations (ER+) and five references to weaker social relations (SR-). A shift in the position of the knowledge code in the plane can therefore be observed from the primary school Science curriculum to the secondary school Biology curriculum in terms of the emphasis being placed on social relations (SR-). More emphasis is placed on disciplinary knowledge and procedures in the secondary school, than in the primary school.

4.3.2   South Africa: Knowledge-knower structure and specialisation codes for Natural Sciences and Life Sciences curricula

In this section, the second data set, the knowledge-knower structure and specialsation code for Natural Sciences (Grade 4-9) and Life Sciences (Grade 10-12) are discussed. In Natural Sciences Grade 7, RSH concepts were represented within the topic "Sexual Health" focusing on "Human Reproduction". The following disicplinary knowledge were identified:

"…*the main purpose of reproduction is for the sperm (male sex cell) and egg (female sex cell) to combine, develop and produce a baby; puberty is the stage in the human life cycle when sexual organs mature for reproduction; humans also experience drastic physical and emotional changes during this stage; the male reproductive organs include the penis and the testes (produces sperm cells); the female reproductive organs include the vagina, uterus, ovaries (contain egg cells/ ova); fertilisation is a process when the sperm fuses with the egg; the uterus develops a thick layer of blood in preparation for a fertilised egg"*

(DBE, 2011e, p. 20).

The acquisition of knowledge is emphasised indicating relatively stronger epistemic relations (ER+). In terms of social relations, the the following recommendation has been captured in the curriculum, emphasising the dispositions learners are expected to develop in relation to sexual health and as such social relations are stronger (SR+):

*"**Note:** It is important that learners understand that early sexual activity can have serious consequences. Learners need to know enough about this topic to be able to make informed decisions and responsible choices"*

<div align="right">(DBE, 2011e, p. 20).</div>

The learner's understanding and behavioural outcomes have been highlighted as the basis of achievement in the Natural Sciences curriculum. The curriculum is thus aiming at cultivating in the learner a conscious mind of the consequences of sexual activity (SR+). The curriculum authors furthermore suggest the following activities to achieve the conscious mind aimed for:

*"**drawing** a personal time line and locating puberty; **discussing** and writing about the changes experienced during puberty; **discussing and writing** about responsible sexual behaviour; **discussing** myths about menstruation and sex"*

<div align="right">(DBE, 2011e, p. 20).</div>

It is thus evident that although the curriculum forgrounds achievement through disciplinary knowledge, it also emphasise learners' personal dispositions indicating stronger social relations (SR+) with the emphasis on a personal time line. At the same time, weaker social relations (SR-) is evident as "discussing and writing about the changes experienced during puberty" underplay the development of individual dispositions in the learners. Similarly the task to debate and discuss issues emphasises learners' educational dispositions linked to life experiences within the community. This context is codified as displaying weaker social relations (SR-).

*"… **debating and discussing** issues such as abortion, infertility, surrogacy, contraception, population control"*

(DBE, 2011e, p. 59-60).

A further example where the curriculum places emphasis on both epistemic relations and social relations is found in Natural Sciences Grade 9, under the topic "Systems in the human body". The curriculum revisits the disciplinary concepts related to the reproductive system dealt with in Grade 7, but supplements it with a weaker focus on social relations (SR-) by suggesting that learners should produce a poster advocating healthy life style choices.

"…reproductive system:… health issues include infertility, foetal alcohol syndrome, STDs". The suggested activity for the learner is *"producing a poster advocating healthy life style choices"*

(DBE, 2011e, p. 59-60).

The activity that requires learners to produce a poster advocating healthy lifestyle choices was coded as relatively weak epistemic relations as there is no 'truth' communicated, but rather a more personal choice is allowed for the learners (ER-). The focus on reproductive health issues has foregrounded again the specialised content knowledge, thus stronger epistemic relations (ER+).
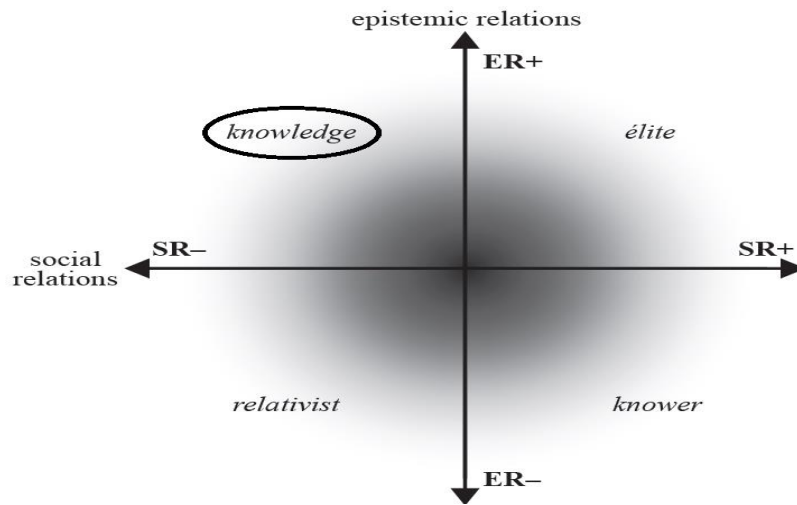
Figure 4.2: Knowledge – knower structures and specialisation codes for South African Natural Sciences and Life Sciences curricula

A fine-grained line-by-line analysis of the Natural Science and Life Science curricula was done, similar to the analysis described in Section 4.3.1 to illuminate the knowledge-knower structure of these curricula. The results of the analysis have been compiled in Table 4.3. The knowledge structures of both Natural Sciences and Life Sciences reveal stronger epistemic relations as the basis for legitimation in RSH. Specialised knowledge, procedures and approaches are legitimated as the basis for achievement in the Natural Science curriculum.

Table 4.3: Summary of epistemic relations and social relations (knowledge-knower structure) for the Natural Sciences and Life Sciences curricula

	ER+	ER-	SR+	SR-
Natural Sciences	21	3	1	7
Life Sciences	9	0	0	2

In conclusion it can be said that both the Natural Sciences and Life Sciences curricula of South Africa exhibit a knowledge code as basis for legitimation.

4.3.3   Kenya: Knowledge-Knower structures and legitimation codes for Life Skills (Standard 1 – 8 & Form 1 - 4) curricula

The Life Skills data set for Kenya consists of two documents: Life Skills (Standards 1–8) and Life Skills (Forms 1–4). These two documents are discussed in turn. The **Life Skills (Standard 1- 8)** curriculum considers learners' lives, or everyday experiences beyond educational contexts, as relevant to learning, suggesting personal experience was considered significant (SR+). Other forms of educational knowledge and learners' everyday practice have been considered more relevant to the learning of the subject content than the learning of specialised disciplinary knowledge. This represents stronger social relations (SR+) and weaker epistemic relations (ER-).

"... discuss factors that may influence his/her self-esteem"

(KIE, 2008a, p. 36).

*"... explain physical and emotional changes taking place in **his or her body** during adolescence*"

(KIE, 2008a, p. 48) (emphasis added by researcher).

The explanation required from the learners is geared towards making the learner understand self, exhibiting weaker epistemic relations (ER-). The curriculum also emphasized learners' personal attributes or characteristics (in terms of the dispositions or attitudes) as knowers depicting relatively strong social relations (SR+). For example, under the topic "Self-Esteem" the curriculum sets the following objectives for the learner to achieve:

"The learner should appreciate body changes during puberty"

(KIE, 2008a, p. 37).

This is an example of what Maton (2010) refers to as a knower grammar; in that, instead of precise and replicable descriptions of what is required, it presents the focus of the curriculum as the cultivation of values, principles and dispositions that form the basis of a hierarchical knower structure (c.f. Section 4.2 of this chapter). Stronger social relations (SR+) was further evident in both the Life Skills curriculum, and the Teacher's Handbook for Primary Life Skills Education as illustrated by the following excerpts:

"Physical and emotional changes during adolescence; challenges associated with physical and emotional changes during adolescence which include *self-esteem, coping with emotions, pressure to get involved in risky sexual behaviour that may lead to STIs HIV infection and teenage pregnancy and early* and *forced marriages"*

(KIE, 2008a, p. 48).

"Life Skills Education: gives emphasis to the development of skills and attitudes besides acquisition of knowledge; Empowers both the teacher and the learner to translate attitude, knowledge, skills and values into actions"

(KIE, 2008c, p. 2).

The above context additionally demonstrates that the curriculum requires from learners to relate educational knowledge to their own real-life experiences by placing emphasis on learners acquiring and developing the right kind of personal attributes and attitudes, suggesting the kind of knower it considered legitimate. In this case, an ideal learner is one who shows a willingness to explore the challenges associated with adolescence, avoid risky behaviour and seek help, as well as to participate and share his experiences in classroom discussions.

In addition, Life Skills Education Syllabus Standard 6, under the topic "Assertiveness" presents the following objectives:

"... the learner should be able to: explore changes associated with adolescence at his/her level; explain the importance of assertiveness in dealing with the challenges associated with adolescence; demonstrate ability to deal with challenges associated with adolescence assertively"

(KIE, 2008a, pp. 52-3).

The basis for legitimation in the Life Skills (Grade 1-8) is thus a knower code (ER-, SR+), with an emphasis on developing the nature of learners through engagement with the subject matter at hand.

In the **Life Skills (Form 1–4)** curriculum, the data analysed reveals that the Life Skills Education syllabus also exhibited relatively stronger social relations (SR+) while acquisition of disciplinary knowledge was downplayed – depicting relatively weaker epistemic relations (ER-). Throughout the data, the focus was on the attitudes and values that the learners had to acquire for successful learning as well as on what learners needed to do with this knowledge in terms of the dispositions or attitudes.

The Teacher's Handbook for the Secondary Life Skills Education syllabus in the secondary school curriculum emphasises the role of teaching and learning Life Skills Education in regard to developing the learner's dispositions and attitudes:

"Life Skills Education is the study of abilities for adaptive and positive behaviour change that enable individuals to deal effectively with demands and challenges of everyday life. Teaching of Life Skills is aimed at equipping the learner with psychosocial competencies which would help him/her make informed decisions, solve problems, think creatively and critically, communicate effectively, build healthy relationships, empathise with others and manage his/her life in a healthy productive manner"

(KIE, 2008d, p. 13).

Knowledge in RSH is not valued for its own sake but is valued in regard to how those who have acquired this knowledge (knowers) are competent in the acquisition of sound moral values. In addition, data showed that the curriculum developers (which include government, relevant agencies and stakeholders) included RSH concepts that will capacitate learners to develop abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life. In other

words, help learners to grow up into self-disciplined, self-reliant and integrated citizens (SR+).

"The teaching of Life Skills Education must, therefore, be aimed at equipping the learner with psychosocial competencies that would help him/her make informed decisions, solve problems, think creatively and critically… and manage his/her life in a healthy and productive manner"

(KIE, 2008b, p. ii).

The above statement illustrates that the curriculum foregrounds the acquisition and development of educational and personal dispositions, values and attitudes as basis for achievement. These educational and personal dispositions, values and attitudes are relevant when dealing with issues that are likely to distract the adolescent's learning and when they need to overcome life challenges. It could thus be said that the curriculum sought to lay a foundation for learners to continue building their life-long learning skills (SR+). In support of this argument, a general objective of Life Skills (Form 1-4) states:

"… by the end of this course, the learner should be able to: develop skills that enable him/her make informed and appropriate decisions in life; develop and apply life skills to enhance positive behaviour formation and change"

(KIE, 2008b, p. viii).

"… the learner should be able to; Demonstrate a clear understanding of self with regard to adolescent changes; Analyse the impact of physical and emotional changes in his/her self; … Demonstrate psychological competence in coping with the challenges associated with the changes in adolescent"

(KIE, 2002d, p. 56).

It is clear from the above statements that the curriculum places emphasis on attitudes and values that learners ought to acquire and develop (SR+) in order to be a legitimate knower. Less emphasis is placed on the acquisition of content knowledge, which suggests weaker epistemic relations (ER-). The knowledge content presented in the context stated above is intentionally meant for the learner to relate to personal experiences and develop attitudes (*psychological competencies)* (ER-).

It can be concluded that both Life Skills (Standard 1-8) and Life skills (Form 1-4) exhibit a knower code (ER-, SR+) as basis for legitimation (see Figure 4.3 for a representation of the knower code on a specialisation plane).
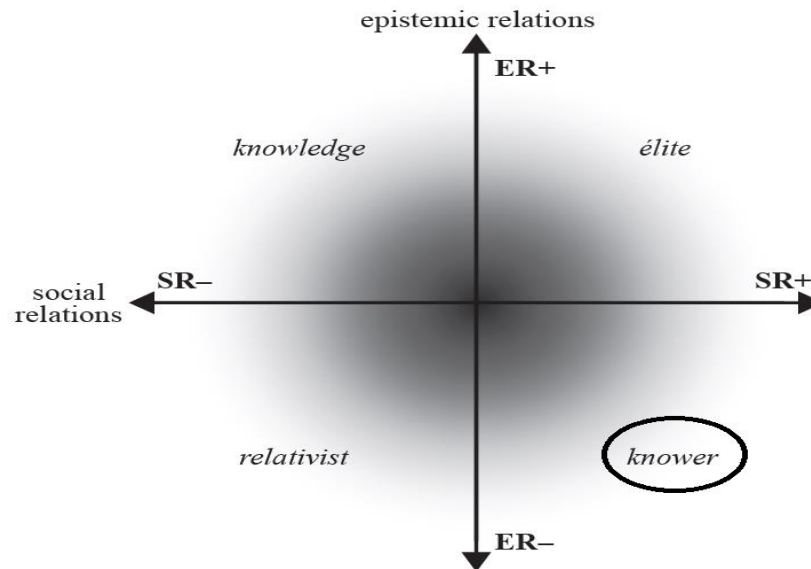
Figure 4.3: Knowledge – knower structures and specialisation codes for Kenya Life Skills (Standard 1-8 & Form 1-4) curricula

A more fine-grained line-by-line analysis of the data set was done using the translation device developed for this study (see Table 3.3) and the results of the coding are represented in Table 4.4 (see Appendix C for the coded data). It is evident from the data that both Life Skills curricula have similar knowledge-knower structures based on the relative emphasis placed in the curricula on developing the RSH knower.

Table 4.4: Summary of epistemic relations and social relations for the Life Skills (Standard 1-8) and Life Skills (Form 1-4) curricula

	ER+	ER-	SR+	SR-
Life Skills (Standard 1-8)	0	21	13	0
Life Skills (Form 1-4)	0	25	16	0

In conclusion it can be said that both the Life Skills (Standard 1 - 8) and Life Skills (Form 1 - 4) curricula have a knower code as basis for legitimation emphasising weaker epistemic relations (ER-), while privileging stronger social relations (SR+).

4.3.4   South Africa: Knowledge-knower structure and legitimation codes for Life Skills (Grade 4-6) and Life Orientation (Grade 7-12)

The Life Skills/Orientation data set for South Africa consists of three documents: Life Skills Intermediate Phase (IP) (Grade 4-6), Life Orientation Senior Phase (Grade 7-9) and Life Orientation Further Education and training Phase (Grade 10–12). The knowledge-knower structures in these three sets of data will be described focussing on both the epistemic relations and social relations in each Phase.

The IP Life Skills curriculum privileges non-specialist, or everyday knowledge, (represented as ER-) needed to allow individual learners to make informed decisions about their personal RSH situation, privileging a particular type of knower (SR+). The knowledge-knower structure for IP Life Skills can be illustrated by the data extracted from Grade 4 and Grade 6 curriculum, where the focus is on acquiring everyday knowledge on a health condition (ER-) before the focus shifts to a personal viewpoint where the learner should personalise the knowledge gained: (SR+).

"HIV and AIDS education: Basic facts including blood management. Basic explanation of HIV and AIDS; Transmission of HIV through blood; How HIV is not transmitted; How to protect oneself against infection through blood"

<div align="right">(DBE, 2011b, p. 18).</div>

"Positive self-esteem: Body image. Understanding and respecting body changes; Other influences on body image (media and society); Acceptance of self"

<div align="right">(DBE, 2011b, p. 23).</div>

Similarly, the data from the Grade 6 curriculum first focuses on acquiring the relevant non-specialist knowledge around body image needed to assist the learner to develop the attribute of self-acceptance (SR+). The basis of legitimation in the IP Life Skills curriculum can be said to be a knower code with weaker epistemic relations and stronger social relations (ER-, SR+).

The Senior Phase Life Orientation curriculum privileges educational dispositions learners need to cultivate and integrate with their personal experiences. Personal attributes such as identity formation and development, respect for self and others, appreciation and acceptance of the self and others are some of attributes foregrounded in the curriculum. Emphasising the development of personal attributes represents stronger social relations (SR+) and weaker epistemic relations (ER-). Evidence to support this deduction can be found in the content for all three grades of the curriculum. In Grade 7 the focus is on respect, appreciation and acceptance as attributes, while the focus on care for people receives attention in Grade 8:

"Respect for own and others' body changes and emotions; Appreciation and acceptance of the self and others"
"Problem-solving skills: identity formation and development"
"Caring for people living with HIV and AIDS"

<div align="right">(DBE, 2011c, pp. 12,16,18).</div>

The following objectives were furthermore stated for Grade 8 Life Orientation:

"Understanding one's sexuality: personal feelings that impact on sexuality; Influence of friends and peers on one's sexuality; Family and community norms that impact on sexuality; Cultural values that impact on sexuality; Social pressures including media that impact on sexuality"

(DBE, 2011c, p. 16).

"Informed, responsible decision-making about health and safety: HIV and AIDS; Management with medication, diet, healthy living and positive attitude; Prevention and safety issues relating to HIV and AIDS ..."

(DBE, 2011c, p. 18).

The content presented in the above stated aspects are intended to enlighten the learners towards understanding their own sexuality and how factors such as friends and peers, family and community norms, cultural values and social pressure influence and impact on their sexuality. The curriculum presents educational dispositions the learner is expected to cultivate and integrate with personal experiences. Furthermore, by considering development of personal attributes such as identity formation and development, the curriculum makes clear sense of the kind of knower it considers legitimate, in that, the ideal knower projected by the curriculum possesses problem solving skills, understanding of the impact of external factors such as society, cultural values, and media on sexuality, and the ability to make informed decisions. The emphasis, therefore, is on specific dispositions of knowers representing a stronger social relation (SR+) and general everyday knowledge representing weaker epistemic relations (ER-).

Grade 9 CAPS: Life Orientation furthermore outlines the following content to be addressed:

"Sexual behaviour and sexual health: Risk factors leading to unhealthy sexual behaviour; Unwanted results of unhealthy sexual behaviour: teenage pregnancy, sexually transmitted infections (STIs), HIV and AIDS, low self-image and emotional scars; Factors that influence personal behaviour including family, friends, peers and community norms; Strategies to deal with unhealthy sexual behaviour: abstinence and change of behaviour; Protective factors, where to find help and support: community structures that offer protection or resilience against high risk"

(DBE, 2011c, p. 20).

It is evident that the curriculum intent is to integrate educational dispositions and socially endowed dispositions the learner experienced thus far. By focusing on risk factors that could lead to unhealthy sexual behaviour and unwanted outcomes of unhealthy sexual behaviour such as teenage pregnancy, sexually transmitted infections (STIs), HIV and AIDS, the curriculum emphasises the inculcation of dispositions needed to deal with unhealthy sexual behaviour. It can thus be said that knower dispositions are foregrounded as the basis of achievement of the kind of an ideal knower the curriculum seeks to realize. Hence, it can be codified as representing strong social relations (SR+). The Life Orientation (Grade 6-9) curriculum thus has as basis for Specialisation, a knower code (ER-,SR+).

In the sections to follow, I will now discuss the basis for Specialisation of the Life Orientation (Grade 10 – 12) curriculum. The Grade 10 curriculum focuses on aspects such as:

"Strategies to enhance self-awareness, self-esteem and self-development: factors influencing self-awareness and self-esteem including media"

(DBE, 2011d, p. 12).

It is evident from the statement above that the curriculum intends to inculcate in the learner a progressive attitude towards self as a background for instilling affirmative RSH ideas and habits, (SR+). In this topic, RSH study area concepts linked to the above aspects have been integrated in the aspects presented below:

"Definition of concepts: power, power relations, masculinity, femininity and gender; Differences between a man and a woman: reproduction and roles in the community; Influence of gender inequality on relationships and general well-being: sexual abuse, teenage pregnancy, STIs including HIV and AIDS"

(DBE, 2011d, p. 10).

Furthermore, the aspects identified above lay emphasis on educational knower dispositions such reproduction roles and general well-being depicting stronger social

relations (SR+). More evidence can be found in the statement below related to the same topic:

"Changes associated with development towards adulthood: adolescence to adulthood; Physical changes: hormonal, increased growth rates, bodily proportions, secondary sex/gender characteristics, changes in the body (menstruation, ovulation and seed formation) and skin problems; Emotional changes: maturing personality, depth and control of emotions, feelings of insecurity, changing needs, interests, feelings, beliefs, values and sexual interest; Social changes: relationship with family, interaction with social groups, need for acceptance by and dependence on peer group, moving into the workforce and increased responsibilities"

(DBE, 2011d, p. 15).

Little concern has been placed on specialised disciplinary knowledge. The definitions of concepts in the above context would generally be taken to mean acquisition of knowledge but the knowledge is of an everyday kind, hence depicting weaker epistemic relations (ER-). The curriculum, however reveal stronger social relations (SR+), as illustrated by the following learning objective in Grade 10 Life Orientation curriculum:

"Values and strategies to make responsible decisions regarding sexuality and lifestyle choices to optimise personal potential; Behaviour that could lead to sexual intercourse and teenage pregnancy, sexual abuse and rape; Values such as respect for self and others, abstinence, self-control, right to privacy, right to protect oneself, right to say 'No' and taking responsibility for own actions; Skills such as self-awareness, critical thinking, decision-making, problem-solving, assertiveness, negotiations, communication, refusal, goal-setting and information gathering relating to sexuality and lifestyle choices; Where to find help regarding sexuality and lifestyle choices"

(DBE, 2011d, p. 15).

Building on aspects presented in CAPS Life Orientation Grade 10, CAPS Life Orientation Grade 11 outlines the following content in the curriculum:

"Gender roles and their effects on health and well-being: self, ... abuse of power towards an individual (physical abuse), in family (incest), cultural (different mourning periods for males and females), social (domestic violence and sexual violence/rape) and work settings (sexual harassment)- Negative effects on health and well-being"

(DBE, 2011d, p. 20).

To summarise, the codification of the RSH disciplinary concepts within CAPS Life Orientation Grade 10 – 12 identified knower code (ER-, SR+) as basis for Specialisation in Life Orientation curricula (see Figure 4.4 for the social plane of RSH knowledge).
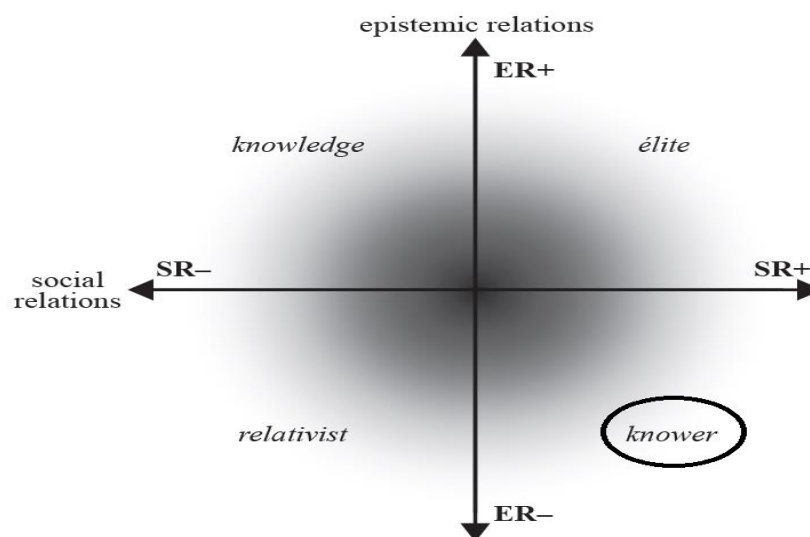
Figure 4.4: Knowledge – knower structure and specialisation codes for South Africa Life Skills and Life Orientation curricula

A more fine-grained analysis of the Life Orientation data set for South Africa enabled me to illuminate the knowledge-knower structure for each of the two curricula in the data set. The results of the line-by-line coding of the data set, using the translation device described in Chapter Three, are presented in Table 4.5. From the table it is evident that both curricula exhibit a knower code as basis for legitimation, but that the nature of the epistemic relations and social relations within the knower codes are not the same. The FET Life Orientation curriculum differs from the IP and SP curricula in that it seems to place more emphasis on knowledge as basis for legitimation, being a combination of specialised disciplinary knowledge (ER+) and non-specialised everyday knowledge (ER-), with no evidence of emphasising any social relations.

Table 4.5: Summary of epistemic relations and social relations for the Life Orientation (Grade-9 & Grade 10-12) curricula

	ER+	ER-	SR+	SR-
Life Orientation (IP - Grade 4-6)	0	19	3	0
Life Orientation (SP - Grade 7-9)	0	16	8	0
Life Orientation (FET - Grade 10-12)	3	9	0	0

4.3.5 Collective RSH Knowledge-knower structures and specialisation codes

All the codes for the data sets were collated in Table 4.6 to present a collective perspective on the knowledge-knower structures of the data sets, as well as the specialisation codes for each data set.

Table 4.6: Collective RSH Knowledge-knower structures and specialisation codes

Knowledge code	(ER+,SR-)	Knower code	(ER-,SR+)
Science (Kenya)	(15, 5)	Life Skills (prim.)	(21, 13)
Natural Sciences (SA)	(19, 6)	Life Skills (sec.)	(25, 16)
Biology (Kenya)	(6, 1)	Life Orientation (IP)	(19, 3)
Life Sciences (SA)	(9, 2)	Life Orientation (SP)	(16, 8)
		Life Orientation (FET)	(6, 0)

The position of the knower code in the RSH field was then plotted on a collective specialisation plane to establish possible code drifts or code clashes. See figure 4.5 for the collective specialisation plane.
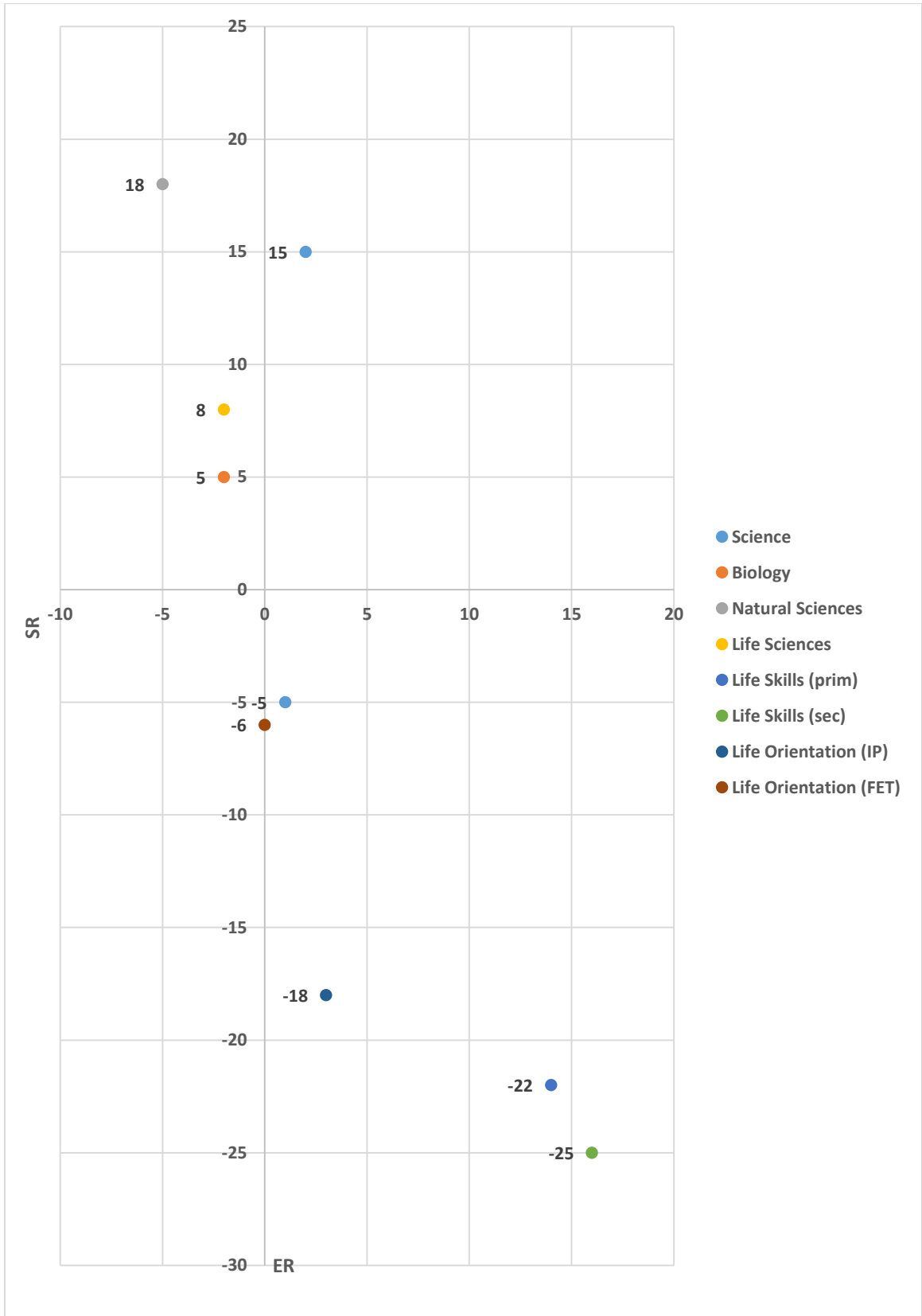
Figure 4.5: Collective specialisation plane for RSH in school curricula

From Figure 4.5 it can be deducted that the four biological curriculum sets exhibit stronger epistemic relations and weaker social relations, indicating a knowledge code as basis for legitimation (ER+,SR-). It is however interesting to see that the relatively weaker social relations exhibited by both the general science modules in the primary school (Science – Kenya and Natural Sciences – South Africa), are being weakened in the disciplinary oriented secondary school modules (Biology – Kenya and Life Sciences – South Africa). There is less focus on social relations in the secondary school curricula than in the primary school curricula. This shift in the dominant specialisation codes can be illustrated as SR-⬇, meaning relatively weak social relations are being weakened.

4.4   RSH EPISTEMIC RELATIONS AND INSIGHTS

The question that arises concerns differences within knowledge codes, and within knower codes, rather than between them. This question highlights a further level of differentiation: modalities of epistemic relations or insights. These insights reveal the complexity of epistemic relations. As described in Chapter Two, epistemic practices may be specialised by both *what* they relate to and *how* they so relate (ontic relations), or by relations to the objects of their focus and to other possible practices (discursive relations) (Maton, 2014, pp. 175-6). "This allows one to analytically distinguish ontic relations between practices and that part of the world towards which they are oriented, and discursive relations between practices and other practices" (Maton, 2014, p. 175). Ontic relations are concerned with the degree to which a discipline emphasises studying its disciplinary knowledge that sets it apart from other disciplines, that is, its content knowledge.

The biological science data sets (Science and Biology (Kenya) and Natural Sciences and Life Science (South Africa) and revealed a knowledge code. The main

purpose of an intellectual field with a knowledge code is to develop specialised knowledge. One feature of the knowledge code is that, when inducting learners to their educational field, knowledge code disciplines concentrate on ensuring that learners have mastered the procedures, knowledge and skills unique to the discipline in question (Maton, 2014).

The biological sciences curricula demonstrate relatively strongly bound and controlled ontic relations (OR+), depicting clearly defined objects of study (knowledge) in RSH concepts, as well as relatively strongly bound and controlled methods and procedures for studying objects of study in the specific subjects (OR+).

The biology subjects of both Kenya and South Africa emphasise the acquisition of biological concepts related to human reproductive systems and health. For example, in CAPS: Natural Science Grade 6 under the topic "Sexual reproduction", the following disciplinary content has been specified in relation to human reproduction:

"the main purpose of reproduction is for the sperm (male sex cell) and egg (female sex cell) to combine, develop and produce a baby; fertilisation is a process when the sperm fuses with the egg"

(DBE, 2011e, p. 20).

In the Science syllabus (Kenya), the topic "Reproduction in human being" has the following objectives formulated:

"The learner should be able to state functions of some parts of the reproductive system; describe physical changes during adolescence"

(KIE, 2002a, p. 66).

"By the end of this topic, the learner should be able to: (a) explain fertilization in human beings; (b) discuss the development of the foetus"

(KIE, 2002a, p. 75).

A clear emphasis is placed on *what* learners have to understand about to RSH concepts and theoretical knowledge. This knowledge forms the basis on which they build

the understanding of the disciplinary procedures and processes that they also have to learn. In the end, this disciplinary knowledge capacitates the learners to cultivate skills they ought to have developed on completion of their academic level.

The emphasis of subject content knowledge is also apparent in the manner in which the curriculum set lesson aims to be achieved. "Specific Aim 1" of the South African CAPS: Natural Sciences "relates to knowing the subject content ('theory')"

"Specific Aim 1 involves knowing, understanding, and making meaning of sciences, thereby enabling learners to make many connections between the ideas and concepts. Making such connections makes it possible for learners to apply their knowledge in new and unfamiliar contexts"

(DBE, 2011f, p. 13).

In terms of clearly defined methods and procedures, the biological science curriculum documents of South Africa emphasised the mastery of specific science principles and procedures to be used when solving problems in the real world. These principles and procedures are specific to the discipline of science. For example, in CAPS: Natural Sciences, it is clearly stated that:

*"**Science** is a systematic way of looking for explanations and connecting the ideas we have. In Science certain methods of inquiry and investigation are generally used. These methods lend themselves to replication and a systematic approach to scientific inquiry that attempts at objectivity. The methods include formulating hypotheses, and designing and carrying out experiments to test the hypotheses. Repeated investigations are undertaken, and the methods and results are carefully examined and debated before they are accepted as valid"*

(DBE, 2011e, p. 8).

Such emphasis on the learner to acquire and relate the knowledge to his cognitive or intellectual abilities and development indicate the importance and legitimacy the subject places on its content knowledge.

Having examined ontic relations, I now discuss the discursive relations that emerged from the data. Evidence further showed that learners are taught RSH concepts through science principles and procedures as they are expected to be able to apply and use of the principles and procedures in different situations that they might encounter in real life situations. This is typical of stronger discursive relations (DR+) where a common language enables cohesion and continuity of concepts, allowing for cumulative knowledge.

"Careful selection of content, and use of a variety of approaches to teaching and learning Science, should promote understanding of: the contribution of Science to social justice and societal development; the need for using scientific knowledge responsibly in the interest of ourselves, of society and the environment"

(DBE, 2011e, p. 8).

This focus was also evident in the reasons stated for the teaching of Life Sciences. Some of the reasons stated in the curriculum were:

*"to provide useful knowledge and skills that are needed in everyday life … **use** information in a new way; and **apply** knowledge to new and unfamiliar contexts"*

(DBE, 2011f, pp. 8,14).

As it is almost impossible to teach learners all the problem situations that they are likely to encounter, the data stressed that it is important for learners to understand the principles and procedures of the discipline due to the nature and the complexity of the social world in order to use that knowledge to deal with any problem situation; as indicated below:

"In order to assess these competencies (cognitive skills), teachers should use the following verbs in the tasks or assessments that they set: demonstrate, interpret, predict, compare, differentiate, illustrate, solve and select as well as any other appropriate verbs that assess a learner's ability to apply knowledge"

(DBE, 2011f, p. 14).

The above stated context thus suggests that there is an "appropriate" way to respond to scenarios that learners are given. It clearly delineates how learners are expected

to respond to each learning situation and step in the process, substantiating their responses by drawing from the relevant RSH knowledge, skills and information they have acquired. The data further point to Science as a subject with relatively strongly bound and controlled ontic relations. For example:

"The learner should be able to state functions of some parts of the reproductive system; describe physical changes during adolescence "

<div align="right">(KIE, 2002a, p. 66).</div>

Such emphasis on the learner to acquire and relate the knowledge to his personal growth and development processes indicates the importance and legitimacy the subject places on its content knowledge. What is further evident is that the curriculum makes it clear that learners would only "derive maximum benefit" from the RSH concepts to be learnt if they are able to apply the theoretical knowledge to real life situations. In that, the curriculum further states that;

"The learning of Science enables the learners to understand the world around them. Through Science children acquire knowledge, skills and attitudes, which enable them, realize that problems can be solved. The subject enhances self-development and also provide ways of finding out information, testing ideas and developing a creative mind"

<div align="right">(KIE, 2002a, p. 47).</div>

In Biology, the context below demonstrates how the curriculum confers its legitimacy to '*what*' and '*how*' teachers and learners must use specific approaches to study specific phenomenon. That is:

"The content has been carefully reorganized to ensure that the required concepts and skills are realized. Sufficient practical activities have been suggested"

<div align="right">(KIE, 2002b, p. 79).</div>

In summary, the biological science curricula analysed can thus be said to strongly classify and frame their discursive relations (DR+). The curricula have clear guidelines and regulations about which principles, procedures and processes are to be used when studying

their subject matter (RSH in the context of this study). The knowledge frameworks make it clear that two school curricula (Kenya and South Africa) focus on both "know what" (propositional knowledge) and "know how" (skills) (Luckett and Hunma, 2014). This is aptly illustrated by an objective in the Biology curriculum of Kenya which emphasised the acquisition and application of knowledge for personal gain and that of significant others.

"Learners should be able to apply the knowledge gained to improve and maintain the health of the individual, family and community"

*(*KIE, 2002b, p. 80).

It can therefore be concluded that the Natural Science and Life Sciences curricula in South Africa, as well as the Science and Biology curricula in Kenya have a prevalence for a purist insight characterised by strongly classified and framed ontic relations and discursive relations. Luckett and Hunma (2014) summarise the purist insight well when they state that learners legitimate their performance through acquisition of accurate knowledge by accumulating relevant facts and demonstrating suitable reasoning processes.

Cumulative knowledge building in purist insight occurs through disciplines having commitment to the problem as well as the approach (Maton, 2014). With the commitment to the problem (its stronger ontic relations) it supports cumulative knowledge building through legitimating its object of study. Accordingly, the nature of the problems that the discipline is confronted with gives the common ground to knowers to persistently engage with these problem situations and as they engage with them in different ways cumulative learning building happens.
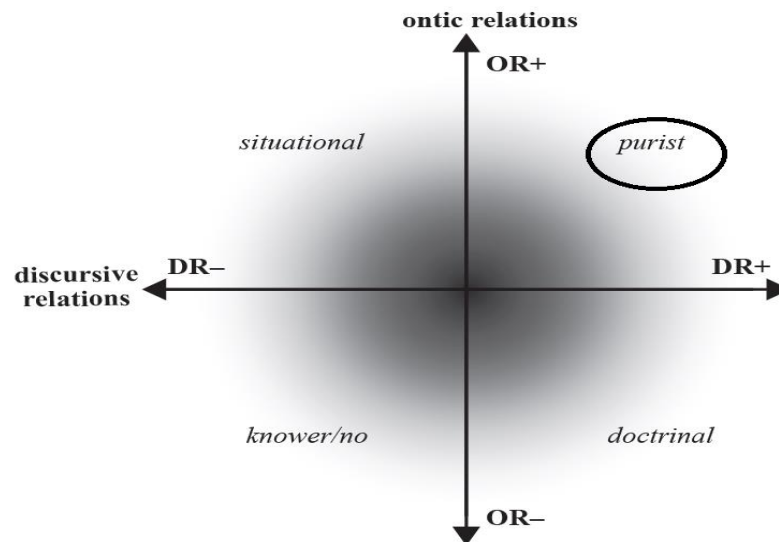
Figure 4.6: Epistemic plane for biological component of RSH curricula

For further analysis of the kind of knower prescribed by the two curricula, I now turn to describing the gazes the data presented.

4.5   RSH GAZE

All educational fields have gazes since they all have preferred ways of accessing knowledge that is used and created in them. A gaze is, however, more visible in educational fields that have a knower code or an elite code as the basis for legitimation because the identity and attributes of the knower play a significant role in what constitutes legitimacy. Analytically the social relations can be differentiated into subjective relations (SubR) and interactional relations (IR). To recap: social relations relate practices and "kinds of actors" (SubR) and the "ways of acting" (IR), and its relative strengths and weaknesses can be mapped on a social plane to reveal the privileged gazes (Maton, 2014, p. 192).

4.5.1 The gaze privileged within Life Skills (Kenya) and Life Orientation (South Africa)

The Life Skills/Orientation component of RSH has a knower code in which theoretical knowledge, necessary to gain the understanding of disciplinary knowledge remains implicit. The basis for legitimacy in the RSH area of study within Life Orientation and Life Skills subjects is a knower whose identity is neither prescribed nor made explicit (SubR+), but who knows how to carry out the desired practices (IR+), - namely how to make informed decisions, solve problems, think critically around challenges faced in terms of reproductive and sexual health, and engage critically with other learners or significant knowers through communicating effectively and building healthy relationships typical of a knower code with a cultivated gaze (Figure 4.7).
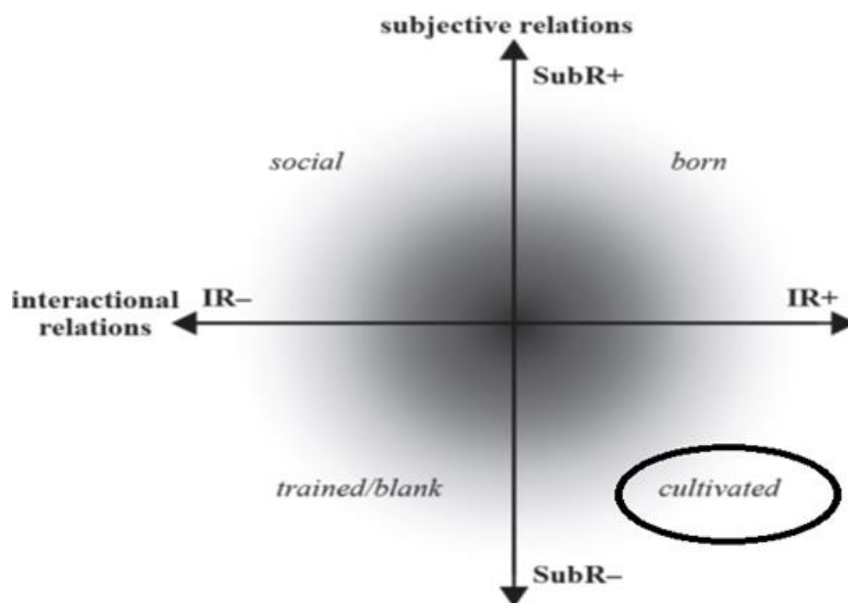
Figure 4.7: Social plane – cultivated gaze - for Life Skills and Life Orientation

Based on the extracted data, the Life Skills/Orientation subjects require learners to acquire various skills like critical thinking, communication skills, interpersonal skills and problem-solving skills. The curriculum thus seeks to create learning opportunities, which enable the learning and acquisition of these skills to occur. The same skills e.g. assertiveness, conflict resolution, decision-making skills, etc. are re-visited every year, signalling that acquisition of these skills happens over time. In a cultivated gaze prolonged immersion in a range of contexts under the guidance of a master shape the knowers' dispositions. These ways of knowing define the appropriate procedures of enquiry. It can thus be argued that the Life Skills/Orientation component of RSH requires learners to be knowers with a cultivated gaze that involves the cultivation of their educational dispositions, values and attitudes legitimizing the object of study. Knowers originating from a range of different social backgrounds may share a cultivated gaze.

The strength of the Life Skills/Orientation sub-discipline of RSH lies within the stronger sociality (hierarchical growth) and stronger social relations associated with a cultivated gaze being legitimated. Hierarchical growth of knowers can thus occur as somewhat weaker social relations are acquired by long immersion that cultivates the legitimate dispositions of the knower. Learners are being socialised into the legitimate, cultivated gaze.

4.5.2   The gaze privileged within the biological component of RSH

It has been established earlier that the Science set of curriculum policy documents are characterised by weaker social relations (Sections 4.3.1 & 4.3.2) that form part of a knowledge code (ER+, SR-) that are underpinned by an emphasis on the possession of specialist knowledge and skills. The biological component of RSH has relatively strongly bound and controlled ontic relations, that is, it has clearly defined objects of study, that is,

reproductive biological concepts. It also has relatively strongly bound and controlled methods and procedures for studying its objects of study.

For example, the curriculum expects the learner to engage critically with the subject content knowledge through specific procedures to, for example, build and maintain an argument using the knowledge claims (facts) and incorporating the ideas and interpretations by significant others, represented by the extract:

*"**drawing** a personal time line and locating puberty; **discussing** and writing about the changes experienced during puberty; **discussing** myths about menstruation and sex"*

(DBE, 2011e, p. 20).

Biology also emphasises acquisition and possession of specialist knowledge as the basis of legitimate knower. For example, one of the objectives stated for the topic "Reproduction in plants and animals" is to: "describe the role of hormones in human reproduction*"* (KIE, 2002b, p. 89). This illustrates that the knower is legitimated by acquisition and possession of specialist knowledge. It can be concluded that the science component of RSH weakly bounds and controls legitimate kinds of knowers and legitimate kinds of knowing (SubR-, IR-). The basis for the legitimation of knowers relies mainly on acquisition and possession of specialist knowledge (ER+, SR-), underpinned by a trained gaze that emphasises the possession of specialist knowledge and skills.

To conclude, weaker knower grammars, where the source of the privileged gaze is less the knower than the knowledge they possess, leads to a trained gaze where specialised principles or procedures are legitimated. Overall, my analysis suggests that Natural Science and Life Sciences display a knowledge code with a trained gaze that privileges the possession of specialist knowledge. In total, the basis for the legitimation of knowers in Natural Science and Life Sciences relies mainly on the acquisition and possession of

specialist principles or procedures, where the source of the privileged gaze is less the knower than the knowledge they possess.
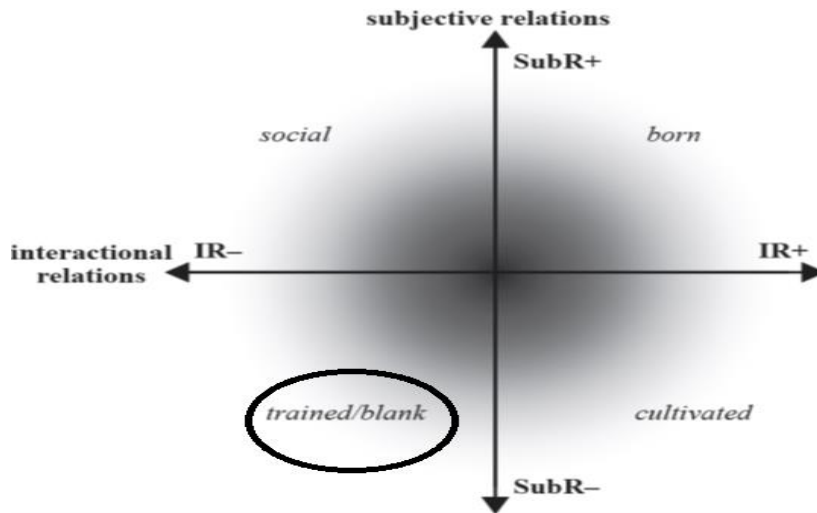
Figure 4.8: Social plane – cultivated gaze - for Science and Biology component

To conclude, there is a clash in the kind of gaze legitimated by the two sub-disciplines of RSH in the school curriculum. The biological component of RSH legitimates a trained gaze, while the social component of RSH legitimates a cultivated gaze. The two sub-disciplines are focussing on two different preferred ways of accessing knowledge. The two types of gazes are on the same end of the subjective relations continuum (SubR-), but on two opposite sides of the interactional relations (IR) continuum (see Figures 4.7 and 4.8). Interactional relations are associated with ways in which novices interact with knowers who have mastered the intellectual field in their quest to learning the "ways of acting" involved (Maton, 2014, p. 192). The biology component expects the learners to be trained in specialised methods and procedures (IR-), while the life skills component legitimates a knower that achieves (makes good RSH related decisions) based on interactions with significant others (IR+). This may constrain cumulative learning of RSH in the schooling context of the two African countries.

4.6 CHAPTER SUMMARY

This chapter presented and discussed the findings of the document analysis conducted on the data corpus of official curriculum policy documents in which aspects of the concept RSH are incorporated. The field of RSH in a school curriculum has been analysed by focusing on the knowledge structures, knower structures and curriculum structures of RSH embedded in the curricula of Kenya and South Africa. This is followed by a more nuanced analysis revealing the knowledge-knower structures and their specialisation codes that serves as basis for RSH legitimation, and the associated epistemic insights and social gazes privileged. In Chapter Five, the study will be concluded and recommendations for further study presented.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

In this chapter, I deliberate on the findings in order to draw conclusions and briefly foreground some of the study's implications for knowledge practice, and recommendations for future research that stem from the study. The purpose of this study was to investigate how the knowledge and knower associated with RSH, is legitimated in the Kenya and South Africa primary and secondary education curricula, by exploring the knowledge and the knowledge-knower structures (Bernstein, 2000; Maton, 2014). By focusing on knowledge and the knowledge-knower structures of RSH, the study aimed at providing a deeper understanding of the structuring significance of the RSH concepts in developing an ideal learner – in other words, how the curriculum provides learners access to powerful knowledge (Young, 2014; Wheelahan, 2010). The study sought to respond to the following two research questions:

- How is knowledge related to RSH legitimated in the South African and Kenyan school curricula?

- How are knowers related to RSH legitimated in the South African and Kenyan school curricula?

Using the case study methodology, the curricula of Kenya and South Africa were considered to provide two sites for a multi-site case study with RSH in school curricula as the case. The study is located in the Official Recontextualisation Field and as such the

official curriculum policy documents served as data sources. The curricula of the following subjects formed part of the data corpus: Natural Sciences, Life Sciences, Life Skills and Life Orientation (South Africa case), as well as Science, Biology and Life Skills Education and Life Skills (Kenya case). Relevant data was generated by extracting chunks of data concerning aspects of RSH from the original documents to serve as the data sets for this study.

Knowledge and knowers were considered as the object of study (Maton & Moore, 2010) and therefore, Bernstein's knowledge structure approach together with LCT's specialisation dimension provided this study with a relevant conceptual and theoretical framework, as well as analytical framework (Bernstein, 2000; Maton, 2014).

5.2 SUMMARY OF FINDINGS

I present a summary of findings in two sections based on the two questions of the study.

5.2.1 Research question one

How is knowledge related to RSH legitimated in the South African and Kenyan school curricula?

This question aimed to examine how RSH knowledge has been structured in the curricula of South Africa and Kenya based on Bernstein's knowledge structure approach. The findings are summarised under the following two sections.

5.2.1.1 Hierarchical knowledge structure

The RSH concepts in Science subject in the primary school curriculum exhibited a knowledge structure that could be placed in the middle of the continuum between hierarchical and horizontal knowledge structures (see Figure 2.1). Whereas the RSH

concepts in the Biology subject in the secondary school curriculum exhibited vertical integration of knowledge typical of hierarchical knowledge structure. The RSH concepts in both Science and Biology subjects are supported by a hierarchical curriculum structure in which RSH knowledge in later years is coherently and systematically integrated into the prior knowledge focused on in earlier years.

In South Africa it was also found that in the CAPS for Natural Sciences and Life Sciences, the RSH concepts exhibited a hierarchical knowledge structure depicting a hierarchical curriculum structure with the integration of new knowledge into the existing knowledge base. RSH concepts had been split and spread across Grades as is the case with hierarchical knowledge structures. In both the Kenyan and South African cases, the RSH concepts/knowledge predominantly constituted of specialist knowledge with some instances of everyday knowledge added and had been presented systematically with increasing complexity.

5.2.1.2 Horizontal knowledge structure

In examining how the RSH knowledge had been structured in the South African and Kenyan curricula, data analysed also showed that in the Kenyan case, the RSH concepts within the primary school and secondary school Life Skills education evidenced segmented knowledge building where a new idea or concept is added on to the topic in a horizontal fashion, typical of a horizontal knowledge structure. Furthermore, there were evidence of weaker grammars with language that could not clearly distinguish a specific disciplinary discourse thus there can be no real consensus on what Life Skills Education subjects consider as its legitimate knowledge.

In the South African case, the Life Skills (Grade 4-6) and Life Orientation (Grade 7-9) curricula exhibited a knowledge structure and subsequently a curriculum structure that

could be placed in the middle of the continuum between hierarchical and horizontal knowledge structures (see Figure 2.1). However, the Life Orientation (Grade 10-12) curriculum exhibited a horizontal knowledge structure with weakly bounded language.

The risk associated with presenting knowledge that is structured in a horizontal fashion is that the development of segmental knowledges tied to specific contexts which remains meaningful largely within that context. That is, learners may not be able to transfer the knowledge acquired to different contexts except in contexts where features and social relations are similar to the initial context. This means that RSH knowledge acquired in these subjects may not empower learners to apply the knowledge acquired for a myriad of sexuality challenges cropping up daily in the fast changing society.

5.2.2   Research question two

How are knowers related to RSH legitimated in the South African and Kenyan school curricula?

This question aimed to examine the knowledge-knower structure of RSH in the curricula of Kenya and South Africa using LCT: Specialisation as an analytic tool. The findings are summarised under the following two sections.

5.2.2.1 Knowledge code

Subjects which foreground acquisition of knowledge and that put less emphasis on the development of learners' dispositions, fall within the knowledge code. That is, they exhibit stronger epistemic relations (ER+) and weaker social relations (SR-). It was found that the Science and Biology (Kenya) and Natural Sciences and Life sciences (South Africa) foregrounded knowledge acquisition rather than the development of dispositions among learners. The basis of legitimacy was therefore premised on a learner being able to

acquire the specialist knowledge of RSH concepts rather than on the development of personal educational dispositions. In short, these subjects are underpinned by emphasis being placed on acquisition of specialist knowledge, procedures and skills with learner dispositions being downplayed.

Purist insight within Science and Biology and Natural Science and Life Sciences

The Science and Biology (Kenya) and the Natural Science and Life Sciences (South Africa) curricula were found to be characterised by clearly defined objects of study depicting strongly classified and framed ontic relations, and clearly defined principles and procedures depicting strong discursive relations. The subjects thus exhibited a purist insight (OR+, DR+). The basis of achievement in Science and Biology (Kenya) as well as Natural Sciences and Life Sciences (South Africa) was thus found to be dependent upon the use of specific approaches to study the RSH concepts (specific phenomenon). The basis of achievement is, therefore, laid on the learner acquiring both a legitimate body of knowledge concerning RSH and a legitimate approach in studying RSH.

5.2.2.2 Knower code

Knower codes are exhibited by subjects which place less emphasis on acquisition of specialist knowledge and procedures and more on development of dispositions, aptitudes and attitudes. In other words, there are weaker epistemic relations (ER-) and stronger social relations (SR+). It was found that Life Skills Education (Kenya) and Life Skills and Life Orientation (South Africa) exhibited knower codes. That is, the RSH concepts foregrounded learners' developing dispositions and attitudes and downplayed the acquisition of knowledge and skills. In brief, the intentions of the RSH curriculum gave greater prominence to the learner than the knowledge under study.

Cultivated gaze within Life Skills Education (Kenya) and Life Skills and Life Orientation (South Africa)

It was found that RSH concepts within Life Skills Education and Life Skills and Life Orientation subjects incline learners towards developing educational dispositions, values and attitudes legitimizing the object of study. These subjects therefore inclined knowers towards embodying a cultivated gaze (SubR-, IR+); exhibited within the hierarchical knower structure which seeks to integrate learners into the field through the cultivation of knowers into legitimate dispositions In this case, an ideal knower is based on accumulation of dispositions and ascends to higher legitimacy in a vertical progression through the different grades in the education system. Check figure 4.9. This means that, for cumulative knowledge to occur in Life Skills Education (Kenya) and Life Skills and Life Orientation (South Africa), the re-formation of learners' dispositions depends on the degree to which these subjects inculcate the cultivated gaze among the learners.

Gaze

Cultivation

◄─── Expanding range of dispositions ───►
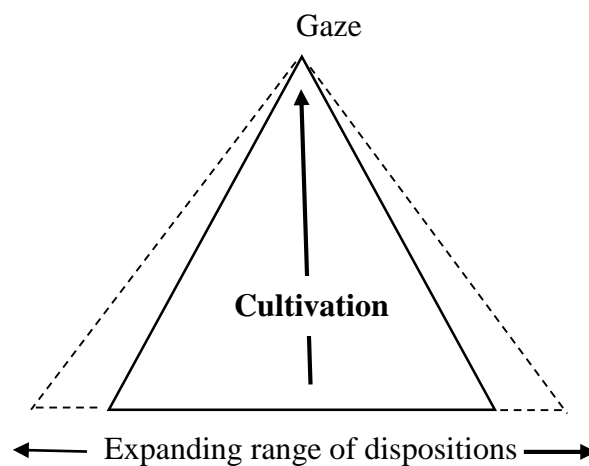
Figure 4.9: Growth of hierarchical knower structure with a cultivated gaze

Trained gaze within Science and Biology (Kenya) and Natural Sciences and Life Sciences (South Africa)

Science and Biology and Natural Science and Life Sciences weakly bound and control their legitimate knowers and legitimate knowing. The basis for the legitimation of knowers relied upon acquisition and possession of specialist knowledge (ER+, SR-), which underpinned a trained gaze (SubR-, IR-).

In summary, Science and Biology (Kenya) and Natural Sciences and Life Sciences (South Africa) are described as having a hierarchical knowledge structure with a knowledge code that exhibited a purist insight as well as a horizontal knower structure that embodied a trained gaze. Life Skills Education (Kenya) and Life Skills and Life Orientation (South Africa) subjects are described as having a horizontal knowledge structure and a hierarchical knower structure that embodied a cultivated gaze.

5.3   CONCLUSION

The main aim in this study was to address the almost total lack of research evidence on RSH knowledge-knower structure in the school curriculum. By focusing on and the curriculum knowledge as represented in the curricula of Kenya and South Africa, this study has conceptualised the structuring significance of RSH knowledge for knowledge acquisition and knower development. LCT's specialisation framework provided this study with the understanding that knowledge comprises both sociological and epistemological forms of power, hence empowering this study to further argue that the social power and knowledge are intertwined, but remain irreducible to one another.

5.3.1   The knowledge structure and curriculum structure

In Life Orientation, subject content stands in an open relation to each other. They are weakly classified. What is to be learnt in a subject are integrated concepts drawn from everyday life or the learner's own experiences to form a theme. For example, a theme like 'Self-esteem' involves concepts such as body parts, skin colour and height.

In Natural Sciences and Life Sciences, the subject content was found to be hierarchically structured. Selected concepts were found to be structured in stages and placed incrementally from one grade to the next grade. Knowledge in early grades were presented to provide foundational basis for the knowledges in the following grades – thus promoting cumulative knowledge building among learners. For example, learners in Grade 7 are introduced to the topic 'human reproduction' which addresses subject content such as the purpose of reproduction. The purpose of the subject content presented in the above topic is to provide a foundation to the Grade 9 focus on the topic 'human reproduction' through three broad concepts; purpose and puberty, reproductive organs and stages of reproduction. The study also found RSH knowledge content to be strongly classified.

To explain features that are not visible from the viewpoint of 'knowledge structure', my study analysed the data further in employing LCT: Specialisation to represent the 'knowledge-knower structure' as summarised below.

5.3.2   Knowledge-knower structures

Following LCT: Specialisation revelation that in every knowledge structure there exists a knower structure, this section presents knowledge-knower structures in two sections. Firstly, the knower within the knowledge code exhibited by Science and Biology as well as Natural Sciences and Life Sciences is presented. Secondly, the knower as exhibited by the Life Skills Education and Life Skills and Life Orientation subjects.

5.3.2.1   Knowledge-knower structures in Science and Biology (Kenya) and Natural Sciences and Life Sciences (South Africa)

In this study Science and Biology (Kenya) subjects are exhibiting a knowledge code. The subjects were found to foreground acquisition of specialist knowledge. In other words, acquiring knowledge (epistemological power) was emphasised more than the learner developing personal dispositions (sociological power). The curriculum expected learners to acquire an understanding of the biological processes of human reproduction through conceptualisation of the specialised knowledge and scientific terminologies and procedures relating to Science and Biology such as fertilisation, ovary and sperm. Though there was evidence in the data indicating that learners should be taken through matters regarding sexuality to develop attitudes and values that lead to positive sexual behaviour, it was not the primary purpose of the curricula in these subjects. The basis of legitimacy, therefore, was found to lie more on the learner acquiring disciplinary knowledge and less on developing dispositions and attitudes to avoid and mitigate risks involved with engaging in sexual activity at a young age.

Natural Sciences and Life Sciences (South Africa) subjects were also described as exhibiting a knowledge code. The basis for legitimacy in these subjects was found to lie in the learner acquiring specialist knowledge. In other words, acquiring knowledge (epistemological power) was emphasised more than the learner developing personal dispositions (sociological power). For example, in Natural Sciences under the topic of 'human reproduction', the curriculum presents learners with definite specialist knowledge through concepts such as 'reproductive organs' where learners are expected to acquire and use special terms like 'sperm cells' and 'egg cells/ova'. The subject legitimacy is therefore placed on the learner acquiring disciplinary knowledge. Though there was evidence from data analysed to show that some regard had been placed for the learner to develop

dispositions and attitudes, it was also not found to be the basis of legitimacy in the subjects.

5.3.2.2 Knowledge-knower structures within Life Skills Education (Kenya) and Life Skills and Life Orientation (South Africa)

In the Kenyan case, data analysed showed that RSH concepts presented in Life Skills Education were predominantly drawn from everyday knowledge and learners' everyday experiences. Such a motive may impact negatively on learners' development as the curriculum does not seem to make any systematic attempt to extend learners' knowledge or present concepts at a higher level to create a deeper understanding of matters relating to sexuality. There was insignificant evidence in the data to show that the RSH concepts presented would help learners' thinking move from the everyday to more formal or higher level thinking. Apart from the curriculum content presented being rooted in everyday knowledge derived from learners' experiences, the RSH concepts were presented repeated across primary and secondary school levels. The lack of developing everyday concepts into more abstract concepts poses a risk as the curriculum grants learners little chance to arrive at new concepts on the basis of their experiences. Such a situation is likely to make learners link concepts by the associations they will make spontaneously in their minds.

In the South African case, the data analysed showed that RSH concepts presented in Life Skills and Life Orientation, had an overwhelming predominance of everyday knowledge, such as respect for own and others' body changes and emotions, influence of friends and peers on one's sexuality, just to mention a few, so there were few incidences of systematic building up of knowledge. For example, concepts on sexual behaviour and sexual health presented in Grade 9 can be linked to concepts on understanding one's

sexuality: personal feelings that impact on sexuality presented in Grade 8. In other words, in as much as the curriculum content was rooted in the everyday, its hierarchical knower structure stance had been conceptualised to enable learners develop a systematic understanding of the subject content. The focus on the everyday and the learners' own personal experience and opinion can be taken to likely result in solid conceptual development of the knowledge content and learners' personal and educational dispositions. For example, in Life Orientation Grade 7, the curriculum, in presenting content on changes in boys and girls, integrates what can be considered scientific knowledge – changes during puberty and everyday knowledge – into gender constructs. The curriculum is thus seen to have created room for everyday knowledge by deriving appropriate content and concepts from learners' real-life situations and illustrating its application by drawing from experiences of learners in a measure indicating an aspect of contrived realism.

At this point it is important to state that, an imminent danger of using everyday knowledge at the expense of conceptual development lies with how teachers will handle their teaching. If teachers fail to move learners beyond everyday knowledge, a situation may arise where learners are unlikely to cultivate the ability to order or understand their world differently, are unlikely to involve critical thinking in dealing with more advanced concepts, to learn increasingly complex knowledge and skills or to apply the theoretical knowledge gained to real life contexts. In short, a curriculum that is overcrowded with everyday knowledge will be of little help to learners in developing specialised ways of knowing. The end result is likely to be a failure to gain access to the forms of knowledge intended to enable higher levels of learning. This could be one reason why the number of cases reported in the literature, among youths in Kenya succumbing to life challenges such as teenage pregnancies, STIs, HIV and AIDS continues to rise.

The data analysed also showed that the South Africa curriculum, as well as the Kenya curriculum, in regard to RSH concepts, embodied strong classification. That is, South Africa's CAPS and Kenya's Syllabus both placed emphasis on the specific content to be learnt. The learning areas were clearly demarcated with clear specifications of what is to be learnt. The RSH curriculum content presented thus can be said to suggest an integration of positive aspects associated with both the performance model and integrated model of curriculum development.

This study, therefore, concludes that acquisition of specialist knowledge, regarded as 'powerful knowledge', with regard to RSH plays a significant role in empowering learners with an intellectual ability necessary to handle life challenges and avoid risks associated with sexuality. Furthermore, emphasis on learners developing fundamental educational and personal dispositions, attitudes and values are indispensable in enabling learners develop into the 'ideal learner' projected in the curriculum; one who is able to face and avoid dangers associated with negative sexual behaviour such as teenage pregnancies, STIs, HIV and AIDS.

This study can therefore state that, within its contexts, it can be concluded that, the continued increase in teenage pregnancies and high prevalence of STIs, HIV and AIDS infections does not lie within the knowledge-knower structures in the two curricula. Though knowledge in the two curricula, especially in Kenya needs to be further improved and expanded, what is availed in the school curricula of Kenya and South Africa is enough to help learners acquire and understand issues related to sexuality. It is my assumption, therefore, that there are more other factors contributing to learners not acquiring the right knowledge and developing positive attitudes, values and dispositions necessary for an individual to avoid engaging in risky sexual behaviour.

5.4   LIMITATIONS OF THE STUDY

This study only focused on the analysis of curriculum texts concerning within RSH concepts (topics) in a selected number of curricula of Kenya and South Africa. The unit of analysis within the selected texts was a sentence. Furthermore, the analysis focused on the selected subjects and ignored other subjects in which RSH concepts (especially on HIV and AIDS) have been integrated in their content. It is, therefore, possible that the findings are not representative of the overall curriculum. In each case, a more detailed analysis of texts and more inclusive sample of subjects would increase the reliability of the findings.

5.5   IMPLICATIONS FOR CURRICULUM DEVELOPERS, POLICY MAKERS AND EDUCATION STAKEHOLDERS

This study finding suggest that:

- RSH knowledge should not be taken for granted and treated as if it were merely a transfer of information on sexuality and risks of associated with poor sexual behaviour, but it should be seen as a relay whose form has consequences for what is relayed; cultivating the ideal learner as inscribed in the writings of the curriculum. In short, educational knowledge is not merely a reflection of power relations, but comprises more or less epistemologically powerful claims to truth.

- The two countries, South Africa and Kenya, should strive towards developing a comprehensive sexuality education curriculum. Currently, it was observed that the RSH concepts presented in the school curricula of South Africa and Kenya, have been integrated in most subjects (which is a positive gesture in combating negative sexual behaviour), but it also can be considered as a disguised way of presenting sexuality education; which could be taken as the 'giving of life' to

the cultural myth that imparting young people with more information on sexuality could arouse their curiosity to engage in negative sexual behaviour. This could be seen as disregarding the most important aspect of knowledge acquisition – providing learners with powerful knowledge.

5.6   RECOMMENDATIONS FOR FURTHER RESEARCH

There exist more questions around the knowledge structures and knower structures related to RSH in school curriculum, than were asked in this study. The focus of this study was on the curriculum documents located in the Official Recontextualisation Field and as such it did not take into account the Pedagogical Recontextualisation Field where the curriculum knowledge is pedagogized (Bernstein, 2000) into teaching and learning material, nor does it take into account the reproduction field where RSH knowledge and knowers are enacted in the classrooms. An analysis of the knowledge structures and knower structures in the various educational fields would be valuable. LCT's dimension of Semantics could also provide a more comprehensive analysis of official curriculum texts.

5.7   CONTRIBUTION TO THEORY

Much of the studies that have used LCT are located within higher education and have looked at broader knowledge fields. In my study, LCT has been applied in examining knowledge-knower structures as developed by a particular knowledge concept across identified subjects within the curriculum in an area where very few studies have been carried out using LCT, namely school curricula in both primary and secondary school. There are few studies that have looked at how RSH knowledge concepts within a curriculum or subject have been structured. Most have looked at knowledge–knower structures within the curriculum or subject at their broad capacities.

5.8   CONCLUSION

It remains the ultimate goal of any curriculum to present learners with powerful knowledge. It is important to note that educational knowledge contributes immensely to shaping the behaviour of learners and the kinds of decisions they make concerning challenges faced in life.

RSH is a multi-disciplinary study area that integrates concepts from two foundational disciplines: biology and psychology. It was established that not every aspect of the concept RSH has the same specialisation code or legitimates the same criteria for achievement. Understanding the complex nuances of RSH in a school curriculum is therefore related to the code underlying specific knowledge practices in the foundational disciplines (biology and psychology) rather than to the subjects per se.

The application of the LCT opened up nuanced insights into salient distinctions between the kind of knowledge legitimated (overcoming knowledge-blindness) and the kind of knower privileged (overcoming knower-blindness). In other words, what has to be known, or knowledges, and who are privileged to know it, the knowers, in the respective RSH curricula.

REFERENCES

Abel, G., & Fitzgerald, L. (2006). When you come to it you feel like a dork asking a guy to put a condom on: Is sex education addressing young people's understandings of risk?, *Sex Education: Sexuality, Society and Learning*, *6*(02), 105-119. doi: 10.1080/14681810600578750

Alford, S., Cheetham, N., & Hauser, D. (2005). *Science & success in developing countries: Holistic programs that work to prevent teen pregnancy, HIV & Sexually Transmitted Infections*. Washington, DC: Advocates for Young People.

Atkins, E. (1997). Predicaments in curriculum deliberation. In N. C. Burbules, & D. T. Hansen (Eds.), *Teaching and its predicaments* (pp. 95-122). Oxford: Westview Press.

Bancroft, J. (1999). Sexual Science in the 21st Century: Where Are We Going? A Personal Note. *Journal of Sex Research*, *36*(3), 226-229.

Bastien, S., Kajula, L. J., & Muhwezi, W. W. (2011). A review of studies of parent-child communication about sexuality and HIV/AIDS in sub-Saharan Africa. *Reproductive Health, 8*(1), 25-41. doi:10.1186/1742-4755-8-25

Becher, T., & Trowler, P. R. (2001). *Academic Tribes and Territories. Intellectual enquiry and the culture of disciplines* (2nd ed.). Buckingham: The Society for Research into Higher Education & Open University Press.

Bernstein, B. (1990). *The structuring of pedagogic discourse.* London: Routledge.

Bernstein, B. (1996). *Pedagogy, symbolic control and identity: Theory research, critique.* London: Taylor and Francis.

Bernstein, B. (1999). Vertical and horizontal discourse: an essay. *British Journal of Sociology of Education, 20,* 157-173.

Bernstein, B. (2000). *Pedagogy, symbolic control and identity: theory, research, critique.* Lanham: Bowman and Littlefield.

Beyers, C. (2013). Sexuality educators: Taking a stand by participating in research. *South African Journal of Education*; *33*(4), 1-14.

Bhaskar, R. (2008). *Dialectic: The pulse of freedom.* London: Routledge.

Biesta, G. (2014). Pragmatising the curriculum: bringing knowledge back into the curriculum conversation, but via pragmatism. *The Curriculum Journal, 25*(1), 29-49. doi: 10.1080/09585176.2013.874954

Blake, S. (2002). *Sex and relationship education; a step-by-step guide for teachers.* London: David Fulton.

Blanche, M. T., Blanche, M. J. T., Durrheim, K., & Painter, D. (Eds.). (2006). *Research in practice: Applied methods for the social sciences*. Cape Town: Juta and Company Ltd.

Bourdieu, P., & Warcquant, L. J. D. (1992). *An invitation to reflexive sociology*. Chicago: The University of Chicago Press. Retrieved from http://www.public.iastate.edu/

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. Retrieved on 10 April, 2016 from http://dx.doi.org/ 10.1191/1478088706qp063oa

Bryman, A. (2012). *Social research methods* (4th ed.). New York: Oxford University Press.

Carvalho, L., Dong, A., & Maton, K. (2009). Legitimating design: A sociology of knowledge account of the field. *Design Studies*, *30*(5), 483-502.

Chege, N. (2013, July 19). Teenage pregnancy cases shock experts. *The Daily Nation*. Retrieved from http://www.nation.co.ke

Cho, J., & Trent, A. (2006). Validity in qualitative research revisited. *Qualitative Research Journal, 6*(3), 319-340.

Cohen, J. N., Byers, E. S., & Sears, H. A. (2012). Factors affecting Canadian teachers' willingness to teach sexual health education. *Sex Education*, *12*(3), 299-316. doi: 10.1080/14681811.2011

Cohen, L., Manion. L., & Morrison, K. (2013). *Research methods in education* (8th ed.). New York: Routledge.

Creswell, J. W., & Miller, G. A. (1997). Research methodologies and the doctoral process. *New Directions for Higher Education*, (99), 33-46.

Creswell, J. W., & Poth, C. N. (2017). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: Sage.

Crotty, M. (1989). *The foundations of social research*. London: Sage.

Dailard, C. (2001). Recent findings from the add health survey: Teens and sexual activity. *The Guttmacher Report on Public Policy*, *4*(4), 1-3.

Darroch, J. E., Landry, D. J., & Singh, S. (2000). Changing emphasis in sexuality education in U.S. public secondary schools, 1988-1999. *Family Planning Perspectives*, *32*(5), 204-211.

Deng, Z. (2012). School subjects and academic disciplines: The differences. In A. Luke, K. Weir, A. Woods, & M. Moroney (Eds.), *Curriculum, Syllabus Design and Equity: A Primer and Model* (pp. 40-53). New York: Routledge

Denzin, N. K., & Lincoln, Y. S. (2005). *The Sage handbook of qualitative research*. Thousand Oaks, CA: Sage

Department of Basic Education [DBE]. (2011a). *English life skills curriculum and assessment policy statement. Foundation phase grades R-3*. Pretoria: Government Printing Works.

Department of Basic Education [DBE]. (2011b). *Life skills curriculum and assessment policy statement. Intermediate phase grades 4-6.* Pretoria: Government Printing Works.

Department of Basic Education [DBE] (2011c). *Life orientation curriculum and assessment policy statement. Senior phase grades 7-9*. Pretoria: Government Printing Works.

Department of Basic Education [DBE]. (2011d). *Life orientation curriculum and assessment policy statement. Further education and training phase grades 10-12*. Pretoria: Government Printing Works.

Department of Basic Education [DBE]. (2011e). *Natural sciences curriculum and assessment policy statement. Senior phase grades 7-9.* Pretoria: Government Printing Works.

Department of Basic Education [DBE]. (2011f). *Life sciences curriculum and assessment policy statement. Further education and training phase grades 10-12*. Pretoria: Government Printing Works.

Di Mauro, D. & Joffe, C. (2007). The religious right and the reshaping of sexual policy: An examination of reproductive rights and sexuality education. *Sexuality Research & Social Policy*, *1*(4)*,* 67-92. Retrieved from http://download.springer.

Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, *14*(4), 532-550.

Firth, R. (2015). Knowledge and the future school: curriculum and social justice. By Michael Young and David Lambert, with Carolyn Roberts and Martin Roberts. *British Journal of Educational Studies, 63*(3), 425-427. doi: 10.1080/00071005.2015.1072338

Francis, D. A. (2011). Sexuality education in South Africa: Wedged within a triad of contradictory values. *African Journal of Psychology*, *21*(2), 319-324. Retrieved from https://www.academia.edu/

Gacoin, A. (2014). Teaching empowerment? Power and agency in sexuality education discourses in the context of HIV prevention programmes in South Africa. *South African Review of Sociology*, *45*(3), 53-73.

Geertz, C. (1973). Thick Description: Toward an Interpretative Theory of Culture. In *The Interpretation of Cultures: Selected essays*. New York: Basic Books.

Greene. J. C. (2006). Toward a methodology of mixed methods social inquiry. *Mid-South Educational Research Association, 13*(1), 93-98.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research,* (pp. 105-117). Thousand Oaks, CA: Sage.

Guttmacher Institute. (2017, April 19). *New Study Shows Sexuality Education Programs in Kenyan Schools Are Failing Students, Falling Short of International Standards. Young Kenyans Misinformed About Sex and Sexuality*. Retrieved from https://www.guttmacher.org/

Her Zimbabwe. (2017, May). *Unravelling the Complexity of Sex Education in Kenya*. Retrieved from http://herzimbabwe.co.zw/2017/05/sex-education-in-kenya/

Higgins, S., Hayward, L., Livingston, K., & Wyse, D. (2016). Knowledge and the curriculum: a recurring issue. *The Curriculum Journal, 27*(4), 427-429. doi: 10.1080/09585176.2016.1244330

Hoadley, U. (2012). Curriculum: Organising knowledge for the classroom (3rd ed.). Cape Town: Oxford University Press.

Howard, S., & Maton, K. (2011). Theorising knowledge practices: a missing piece of the educational technology puzzle. *Research in Learning Technology*, *19*(3), 191-206.

Hulton, L. A., Cullen, R., & Khalokho, S. W. (2000). Perceptions of the risks of sexual activity and their consequences among Ugandan adolescents. *Studies in Family Planning*, *31*(1), 35–46.

James-Traore, T. A., Finger, W., Ruland, C. D., & Savariaud, A. (2004). *Teacher training: Essential for school-based reproductive health and HIV/AIDS education focus on Sub-Saharan Africa*. Arlington, VA: Family Health International, Young People Net Program.

Joint United Nations Programme on HIV and AIDS. (2014). *The gap report*. Geneva, Switzerland: Author. Retrieved on 10 April, 2016 from http://www.unaids.org/

Jones, S., & Norton, B. (2007). On the limits of sexual health literacy: Insights from Ugandan schoolgirls. *Diaspora, Indigenous, and Minority Education*, *1*(4), 285-305, doi: 10.1080/15595690701563998

Kenya Institute of Education [KIE]. (2002a). *Primary education syllabus*. Volume two. Nairobi: Author.

Kenya Institute of Education [KIE]. (2002b). *Secondary education syllabus*. Volume two. Nairobi: Author.

Kenya Institute of Education [KIE]. (2008a). *Primary life skills education syllabus*. Nairobi: Author Kenya Institute of Education. (2008b). Secondary life skills education syllabus. Nairobi: Author.

Kenya Institute of Education [KIE]. (2008b). S*econdary life skills education syllabus*. Nairobi: Author Kenya Institute of Education. (2008b). Secondary life skills education syllabus. Nairobi: Author.

Kenya Institute of Education [KIE]. (2008c). *Primary life skills education teacher's handbook*. Nairobi: Kenya Institute of Curriculum Development.

Kenya Institute of Education [KIE]. (2008d). *Secondary life skills education teacher's handbook*. Nairobi: Kenya Institute of Curriculum Development.

Kenyan National Bureau of Statistics [KNBS]. (2014). *Demographic and Health Survey. Key Indicators 2014*. Nairobi: Author. Retrieved from www.knbs.or.ke.

Kiragu, S. W. (2007). Exploring sexuality education and the burdened teacher: a participatory approach in a rural primary school in Kenya. *Pastoral Care in Education*, *25*(3), 5-15.

Kirby, D. (2011). *Sex education: Access and impact on sexual behaviour of young people*. New York: United Nations. Retrieved from http://www.un.org/

Kirby, D., Laris, B. A., & Rolleri, L. (2005). *Impact of sex and HIV education programs on sexual behaviours of youth in developing and developed countries* (Youth Research Working Paper No. 2). Washington DC: Family Health International. Retrieved from http://www.ibe.unesco.org/

Kirby, D., Laris, B. A., & Rolleri, L. (2006). *Sex and HIV education programs for youth: Their impact on important characteristics*. Washington DC: Family Health International. Retrieved from http://recapp.etr.org/.

Kirk, J., & Miller, M. C. (1986). *Reliability and Validity in Qualitative Research*. London: Sage.

Leedy, P. D., & Ormrod, J. E. (2001). *Practical research: Planning and design (7th ed.)*. Thousand Oaks, CA: Sage.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Thousand Oaks, CA: Sage.

Livingston, K., Hayward L., Higgins, S., & Wyse, D. (2015). Multiple influences on curriculum decisions in a supercomplex world. *The Curriculum Journal, 26*(4), 515-517. doi: 10.1080/09585176.2015.1095015

Luckett, K. (2009). The relationship between knowledge structure and curriculum: A case study in sociology. *Studies in Higher Education, 34*(4), 441-453. doi:10.1080/03075070902772018

Luckett, K. (2012). Disciplinarity in question: Comparing knowledge and knower codes in sociology. *Research Papers in Education, 27*(1), 19-40. doi:10.1080/02671521003592655

Luckett, K., & Hunma, A. (2014). Making gazes explicit: Facilitating epistemic access in the Humanities. *Higher Education*, *67*(2), 183-198.

Macknight, V. (2011). Ideal knowing: logics of knowledge in primary school curricula. *British Journal of Sociology of Education, 32*(5), 717-728. doi:10.1080/01425692.2011.596368

Manicas, P. T. (2006). *A realist philosophy of social science: Explanation and understanding*. Cambridge: Cambridge University Press.

Martin, J R 2014 Evolving systemic functional linguistics: Beyond the clause. *Functional Linguistics, 1*(3), 1-24. doi:10.1186/2196-419X-1-3. Available: http://www.functionallinguistics.com/content/1/1/3

Martin, J., Maton, K., & Matruglio, E. (2010). Historical cosmologies: Epistemology and axiology in Australian secondary school history discourse. *Revista Signos, 43*(74), 433–463.

Masondo, S. (2015, September 6). Teen pregnancies hit 99 000 a year. *News 24*. Retrieved from http://www.news24.com/SouthAfrica

Maton, K. (2000). Languages of legitimation: The structuring significance for intellectual fields of strategic knowledge claims. *British Journal of Sociology of Education, 21*(2), 147-167.

Maton, K. (2004). The wrong kind of knower: Education, expansion and the epistemic device. In J. Muller, B. Davies & A. Morais (Eds.), *Reading Bernstein, Researching Bernstein*, (pp. 218-231). London: Routledge.

Maton, K. (2006). On knowledge structures and knower structures. In R. Moore, M. Arnot, J. Beck & H. Daniels (Eds.), *Knowledge, power and educational reform: Applying the sociology of Basil Bernstein,* (pp. 44–59). London: Routledge.

Maton, K. (2007). Knowledge-knower structures in intellectual and educational fields. In F. Christie, & J. R. Martin (Eds.), *Language, knowledge and pedagogy,* (pp. 87-108). London, England: Continuum.

Maton, K. (2009). Cumulative and segmented learning: exploring the role of curriculum structures in knowledge-building. *British Journal of Sociology of Education, 30*(1), 43–57.

Maton, K. (2014). *Knowledge and knowers. Towards a realist sociology of education*. Abingdon: Routledge.

Maton, K. & Chen, R. T-H. (in press, 2017). Specialization from Legitimation Code Theory: How the basis of achievement shapes student success, In J.R. Martin, K. Maton, Pin Wang & Zhenhua Wang (Eds.), *Understanding Academic Discourse, Systemic functional linguistics and Legitimation Code Theory*. Shanghai, Shanghai Jiao Tong University Press. Retrieved from http://ermgnza.legitimationcodetheory.com/pdf/2016Maton_Chen.pdf

Maton, K., & Chen, R. T-H. (2016). LCT in qualitative research: Creating a translation device for studying constructivist pedagogy. In K. Maton, S. Hood and S. Shay (Eds.), *Knowledge-building: Educational studies in Legitimation Code Theory*, (pp. 27-48). London: Routledge.

Maton, K., & Doran, Y. J. (2017). Semantic Density: A translation device for revealing complexity of knowledge practices in discourse, part 1 – wording. *Onomázein. Special Issue: Systemic Functional Linguistics and Legitimation Code Theory,* 46-76.

Maton, K., & Moore, R. (2010). *Social realism, knowledge and the sociology of education: Coalitions of the mind*. London: Continuum.

Maton, K., & Muller J. (2007). Knowledge-Knower Structures in Intellectual and Educational Fields. In Christie, F. And Martin, J. (Eds.) *Language, Knowledge and Pedagogy: Functional Linguistics and Sociological perspectives,* (pp. 14–33). London, Continuum.

McKay, A., Byers, E. S., Voyer, S. D., Humphreys, T. P., & Markham, C. (2014). Ontario parents' opinions and attitudes towards sexual health education in the schools. *The Canadian Journal of Human Sexuality, 23*(3), 159-166.

McKeown, B., & Thomas, D. B. (2013). *Qualitative Methodology*. Thousand Oaks, CA: Sage.

McLaughlin, C., & Byers, R. (2001). *Personal and Social development for all*. Glasgow: Bell & Bain Ltd.

McLean, M., Abbas, A., & Ashwin, P. (2013). The use and value of Bernstein's work in studying (in)equalities in undergraduate social science education. *British Journal of Sociology of Education, 34*(2), 262–280.

Merriam, S. B. (1998). *Qualitative research and case study applications in education. Revised and expanded from Case Study Research in Education.* San Francisco, CA: Jossey-Bass.

Miller, S. (2001). *Christian family life education: A guide for teaching about adolescent sexuality and reproductive health*. New York. Margaret Sanger Center International.

Ministry of Education. (2006). *Primary science teachers' guide for standard eight*. Nairobi: Kenya Literature Bureau.

Moore, R. (2004). *Education and Society: Issues and Explanations in the Sociology of Education.* Cambridge: Polity.

Morgan, J. (2015). Michael Young and the politics of the school curriculum. *British Journal of Educational Studies, 63*(1), 5-22. doi: 10.1080/00071005.2014.983044

Mkhize, Mkhize, T. (2015) *An Analysis of the Certificate of the Theory of Accounting Knowledge and Knower Structures: A case study of professional knowledge*. Unpublisahed thesis: Rhodes University, South Africa.

Muller, J. (2000). *Reclaiming knowledge: Social theory, curriculum and education policy*. London: Routledge.

Muller, J., & Hoadley, U. (2010). Pedagogy and moral order. In P. Singh & A. Sadovnik (Eds.), *Knowledge, Knowers and pedagogic modes: Building on the sociology of Basil Bernstein,* (pp. 64-79). New York: Peter Lang.

National AIDS Control Council of Kenya. (2014). *Kenya AIDS Response Progress Report 2014. Progress towards Zero*. Nairobi: Author. Retrieved from http://files.unaids.org/

National Council for Population and Development. (2013). *Kenya population situation analysis*. Nairobi: Author. Retrieved from http://admin.theiguides.org/.

Neema, S., & Bataringaya, D. (2000). *Adolescent Sexual and Reproductive Health in Uganda: A synthesis of research evidence*. New York and Washington: The Alan Guttmacher Institute. Retrieved from https://www.guttmacher.org/

Noddings, N. (1997). Must we motivate?. In N. C. Burbules, & D. T. Hansen (Eds.), *Teaching and Its Predicaments,* (pp. 29–44). Oxford: Westview Press.

Nyamori, B. (2015, September 3). Ministry gives nod on sex education in Kenya schools to reduce teenage pregnancies. *The Standard*. Retrieved from http://www.standardmedia.co.ke/

Obare, F., & Birungi, H. (2013). Policy Scripts and Students' Realities Regarding Sexuality Education in Secondary Schools in Kenya. *Sex Education: Sexuality, Society and Learning*, *13*(6), 615-629.

Pelège, P., & Picod. C. (2006). *Educate About Sexuality. A Societal Issue*. Paris: Dunod.

Picod, C., & Guigné. C. (2005). *Sex Education in High School*. Grenoble: CRDP.

Pine, G. J. (2009). *Teacher action research: Building knowledge democracies*. Thousand Oaks, CA: Sage.

Postiglione, G. A., & Lee, W. (2000). *Schooling in Hong Kong. Organization, teaching and social context*. Aberdeen: Hong Kong University Press.

Pratt, M. (2008). Fitting oval pegs into round holes: Tensions in evaluating and publishing qualitative research in top-tier North American Journals. *Organisational Research Methods, 4*(7), 481-509.

Priestley, M., & Sinnema, C. (2014). Downgraded curriculum? An analysis of knowledge in new curricula in Scotland and New Zealand. *Curriculum Journal*, 25 (1), pp. 50-75.

Ragin, C. C., & Becker, H. S. (Eds.). (1992). *What is a case?: exploring the foundations of social inquiry*. Cambridge: Cambridge University Press.

Rata, E. (2012*).* The politics of knowledge in education. *British Educational Research Journal*, (38), 103–124. DOI:10.1080/01411926.2011.615388

Reiss, M. J., & White, J. (2014). An aims-based curriculum illustrated by the teaching of science in schools. *The Curriculum Journal, 25*(1), 76–89.

Rubin, A., & Babbie, E. (2001). *Research methods for social work* (4th ed.). Belmont, CA: Wadsworth/Thomson Learning.

Rule, P., & John, V. (2011). *Your guide to case study research*. Pretoria: Van Schaik.

Sadovnik, A. R. (Ed.). (1995). *Knowledge and pedagogy: The sociology of Basil Bernstein*. Santa Barbara, CA: Greenwood Publishing Group.

Sayer, A. (2000). *Realism and social science*. London: Sage.

Schmidt, S. C., Wandersman, A., & Hills, K. J. (2015). Evidence-based sexuality education programs in schools: Do they align with the national sexuality education standards?. *American Journal of Sexuality Education*, *10*(2), 177-195. doi: 10.1080/15546128.2015.1025937

Scott, D. (2014). Knowledge and the curriculum. *The Curriculum Journal, 25*(1), 14-28.

Scott, J. (1990). *A Matter of Record, Documentary Sources in Social Research*. Cambridge: Polity Press.

Shay, S., & Peseta, T. (2016). A socially just curriculum reform agenda. *Teaching in Higher Education, 21*(4), 361-366. doi: 10.1080/13562517.2016.1159057

Singh, P. (2002). Pedagogising knowledge: Bernstein's theory of the pedagogic device. *British Journal of Sociology of Education, 23*(4), 571-582.

South African Broadcasting Corporation. (2015, March 25). *20 000 learners fell pregnant in 2014*. Retrieved from http://www.sabc.co.za

Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.

Tashakkori, A. & Teddlie, C. (2003). *Handbook of mixed methods in social & behavioral research*. Thousand Oaks, CA: Sage.

Teddlie, C., & Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences*. Thousand Oaks, CA: Sage.

The Sex Information and Education Council of Canada. (2017). Sexual health issue brief sexual health at midlife and beyond: Information for sexual health educators. Toronto: Author. Retrieved from www.sieccan.org

Thomson, R., & Scott, L. (1992). *An enquiry into sexuality education; Report of a survey into local education and authority support and monitoring of school sexuality education*. London: National Children's Bureau.

Toombs, W. E., & Tierney, W. G. (1993). Curriculum definitions and reference points. *Journal of Curriculum and Supervision*, *8*, 175-175.

Trudell, B. N. (1993). *Doing sexuality education; Gender, politics and schooling*. London: Routledge.

Uganda AIDS Commission. (2002). *Combating HIV/AIDS in Uganda report*. Retrieved from www.aidsuganda.org/aids/html

Uganda AIDS Commission. (2004). *The revised national strategic framework for HIV/AIDS activities in Uganda, 2003/04–2005/06*. Kampala: Ministry of Health. Retrieved from http://library.health.go.ug/

United Nations Children's Fund. (2011). *The state of the world's children 2011*. New York: Author. Retrieved from https://www.unicef.org/

United Nations Educational, Scientific and Cultural Organization [UNESCO]. (2009a). *International technical guidance on sexuality education: An evidence-informed approach for schools, teachers and health educators* (Vol. 1: The rationale for sexuality education). Paris: Author. Retrieved from http://unesdoc.unesco.org/

United Nations Educational, Scientific and Cultural Organization [UNESCO]. (2009b). *International technical guidance on sexuality education: An evidence-informed*

approach for schools, teachers and health educators (Vol. 2: Topics and learning objectives). Paris: Author. Retrieved from http://unesdoc.unesco.org/

United Nations Educational, Scientific and Cultural Organization [UNESCO]. (2014). *Comprehensive sexuality education. The challenges and opportunities of scaling up*. Paris: Author. Retrieved from http://unesdoc.unesco.org/

United Nations Population Fund [UNFPA]. (2014a). *Programme of action of the international conference on population and development*. New York: Author. Retrieved from https://www.unfpa.org/

United Nations Population Fund [UNFPA]. (2014b). *UNFPA operational guidance for comprehensive sexuality education: A focus on human rights and gender*. Retrieved from http://www.unfpa.org/

Vanwesenbeeck, I., Westeneng, J., de Boer, T., Reinders, J., & van Zorge, R. (2016). Lessons learned from a decade implementing comprehensive sexuality education in resource poor settings: The World starts with me. *Sex Education*, *16*(5), 471-486.

Walters. A. S., & Hayes D. M. (2007). Teaching About Sexuality. *American Journal of Sexuality Education*, *2*(2), 27-49. doi: 10.1300/J455v02n02_03.

Wheelahan, L. (2010). *Why knowledge matters in the curriculum. A social realist argument*. New York: Routledge.

Wight, D., Raab, G., Henderson, M., Abraham, C., Buston, K., Hart, G., & Scott, S. (2002). The limits of teacher delivered sex and relationships education: Interim behavioural outcomes from a randomised trial. *British Medical Journal*, *73*(51), 325-435.

Wolff, K. (2015). *Negotiating disciplinary boundaries in engeineering problem-solving practice.* Unpublished Doctoral thesis, University of Cape Town, South Africa. Available from www.karlmaton.com/pdf/2015Wolff_PhD.pdf?cv=1

World Health Organization. (2006). *Defining sexual health*. (Report of a technical consultation on sexual health 28–31 January 2002). Geneva: Author. Retrieved from http://www.who.int/

Wyse, D., Hayward, L., Livingston, K., & Higgins, S. (2016). Knowledge across the curriculum. *The Curriculum Journal, 27*(3), 295-297. doi:10.1080/09585176.2016.1207417

Yara, S. (2014, October). Teenage pregnancies in Kenya: I knew nothing about contraception and I was very much in love. *CEASEFIRE*. Retrieved from https://ceasefiremagazine.co.uk/teenage-pregnancies-kenya-i-knew-contraception-love/

Yates, L., & Victoria Millar, V. (2016). Powerful knowledge curriculum theories and the case of physics. *The Curriculum Journal, 27*(3), 298-312. doi: 10.1080/09585176.2016.1174141

Yin, R. K. (2003). *Case study research* (3rd ed.). Applied Social Research Methods Series (Vol. 5). Thousand Oaks, CA: Sage.

Young, M. (2008). From constructivism to realism in the sociology of the curriculum. *Review of Research in Education, 32*(1), 1-28.

Young, M. F. (1975). Curriculum change: limits and possibilities. *Educational studies*, *1*(2), 129-138.

Young, M. F. (2003). Durkheim, Vygotsky and the curriculum of the future. *London Review of Education*, *1*(2), 99-117.

Young, M. F. (2013). Overcoming the crisis in curriculum theory: a knowledge based approach. *Journal of Curriculum Studies, 45*(2), 101-118.

Young, M. F. (2014). What is a curriculum and what can it do?. *Curriculum Journal, 25*(1), 7-13. doi:10.1080/09585176.2014.902526

Young, M. F., & Muller, J. (2010). Three educational scenarios for the future: lessons from the sociology of knowledge. *European Journal of Education*, *45*(1), 11-27. doi:10.1111/j.1465-3435.2009.01413.x

APPENDICES

APPENDIX A: SCIENCE AND BIOLOGY CURRICULA (KENYA)

SCIENCE – KENYA: CODED DATA SET

CLASS	STANDARD 4			
UNIT	**TOPIC**	**SPECIFIC OBJECTIVE**	**CONTENT**	**Code**
Health education	Meaning and cause of HIV and AIDS	By the end of the topic, the learner should be able to: -state the meaning of HIV and AIDS -explain the cause of HIV and AIDS	Meaning of HIV and AIDS. Cause of HIV and AIDS. (p. 58)	ER + ER +
CLASS	**STANDARD 5**			
UNIT	**TOPIC**	**SPECIFIC OBJECTIVE**	**CONTENT**	
Health education	Modes of transmission of HIV. Stages of HIV infection	By the end of the topic, the learner should be able to: -identify the mode of transmission of HIV -name the stages of development of HIV	Modes of transmission of HIV. Stages of HIV infection (p. 62)	ER + ER +
CLASS	**STANDARD 6**			
UNIT	**TOPIC**	**SPECIFIC OBJECTIVE**	**CONTENT**	
Human body	Reproductive system. Physical changes during adolescence.	By the end of the topic, the learner should be able to: -identify some parts of the reproductive system -state functions of some parts of the reproductive system -describe physical changes during adolescence	Parts of the reproductive system • female (ovary, oviduct, uterus, vagina) • male (testis, urethra, penis) Functions of some parts of the reproductive system Changes during adolescence • physical changes (male and female) (p. 66)	ER+ ER + ER +
Health Education	HIV testing	State the importance of HIV testing. State the effects of HIV and AIDS infection on an	Importance of HIV testing. Effect of HIV on an individual, family and nation. (p. 66)	SR- SR-

		individual, family and nation.		
CLASS		**STANDARD 7**		
UNIT	**TOPIC**	**SPECIFIC OBJECTIVE**	**CONTENT**	
HEALTH EDUCATION	Myths and misconception on HIV and AIDS

Care and support of those infected by HIV. | By the end of the topic, the learner should be able to:
- dispel myths and misconceptions about HIV and AIDS
- care and support for people infected by HIV. | Myths and misconceptions about HIV and AIDS.
Care and support of people infected by HIV such as:
• love and care
• adequate nutrition
• hygiene
• medical care (p. 70) | SR-
ER+
SR- |
| **CLASS** | | **STANDARD 8** | | |
| **UNIT** | **TOPIC** | **SPECIFIC OBJECTIVE** | **CONTENT** | |
| Human body | Reproduction in human beings | By the end of the topic, the learner should be able to:
-explain fertilization in human beings.
-discuss the development of the foetus | Fertilization
Foetal development
• zygote
• embryo
• foetus
Hint: Include the functions of placenta, umbilical cord and amniotic fluid.
Process of birth (p. 75) | ER+
ER+

ER+ |
| Health Education | Sexually transmitted infections
Control of HIV and AIDS | By the end of this topic, the learner should be able to:
-explain the meaning of sexually transmitted infection;
-give examples of sexually transmitted infections;
-describe cause and prevention of some sexually transmitted;
- identify control measures for HIV and AIDS | Meaning of sexually transmitted infections (STI's)

STI's, cause signs, symptoms and prevention of:
• Syphilis
• Gonorrhoea
• Cancroid
Hint: Details of causative organism not required
Control measures for HIV and AIDS such as:
• creating public awareness on HIV/AIDS
• campaigns through various media
• mass education
• Voluntary Counselling and testing (p. 75) | ER+

ER+

SR- |

BIOLOGY (KENYA): CODED DATA SET

TOPIC	CONTENT	CODE
	FORM 3	
Reproduction in plants and animals. Sexual reproduction in animals	- Structure of the reproductive system of a named mammal (human).	ER +
	- Functions of the parts of reproductive system.	ER +
	- Fertilization, implantation and the role of the placenta.	ER +
	- Gestation period.	ER +
	- Role of hormones in reproduction in humans (secondary sexual characteristics, menstrual cycle).	ER +
Sexually transmitted infections (STIs)	- Gonorrhoea	ER +
	- Herpes simplex	
	- Syphilis, Trichonomiasis, Hepatitis, Candidiasis.	SR-
	- HIV/AIDS – emphasize preventive measures especially change of behaviour.	

NATURAL SCIENCES (GRADE 7–9) & LIFE SCIENCES (GRADE 10-12)

The following table indicates the data gathered from Senior Phase CAPS document for

Natural Sciences. The RSH concepts were extracted from Grade 7 and Grade 9 subject

content. There was no relevant data relating to RSH concepts in Grade 8.

Natural Sciences		
Grade 7		
Concepts	**Examples of empirical data**	**Code**
• Sexual Reproduction -- Human Reproduction	• the main purpose of reproduction is for the sperm (male sex cell) and egg (female sex cell) to combine, develop and produce a baby	ER +
	• puberty is the stage in the human life cycle when sexual organs mature for reproduction	ER +
	• **drawing** a personal time line and locating puberty	SR+
	• **discussing** and writing about the changes experienced during puberty	SR-
	• **discussing and writing** about responsible sexual behaviour	SR-
	• **discussing** myths about menstruation and sex (DBE, 2011e, p. 20).	SR-
GRADE 9		
Concepts	**Examples of empirical data**	**Code**
Systems in the human body	• **Reproductive system:** produces sex cells for the purpose of continuation of the species	ER +
	-- the main processes include growth, cell division, maturation, copulation, ejaculation, ovulation, menstruation, fertilisation, implantation	ER +
	-- the main components include testes, ovaries, uterus	ER +
	-- health issues include infertility, foetal alcohol syndrome, STDs	ER-
	Producing a poster advocating healthy life style choices (DBE, 2011e p. 59-60)	SR-
• Human reproduction - Purpose and puberty - Reproductive organs - Stages of	**Purpose and puberty**	
	• the main purpose of reproduction is for the gametes (male and female sex cells) to combine for the continuation of the species	ER +
	• puberty is the stage in the human life cycle when sexual organs mature for reproduction. This process is initiated when the pituitary gland releases hormones into the blood stream, triggering the testes and ovaries to release sex hormones	ER +

reproduction	(testosterone and oestrogen)	
	• testosterone (from the testes) and oestrogen (from the ovaries) cause secondary sexual characteristics such as menstruation, breast development, pubic hair, facial hair, deepening of the male voice	ER +
	Reproductive organs	ER +
	• the male reproductive organs include the penis, sperm duct (*vas deferens*), testes (produces sperm cells), scrotum, urethra	
	• the female reproductive organs include the vagina, uterus, ovaries (contain egg cells/ ova), oviducts (Fallopian tubes)	ER +
	Stages of reproduction	
	• once a month, one of the ovaries releases a ripe egg in a process called *ovulation*	ER +
	• in preparation for a fertilised egg, the uterus develops a thick layer of blood• if fertilisation does not take place, menstruation occurs	ER +
	• menstruation is the breakdown of the thick layer of blood in the uterus, which is released through the vagina	ER +
	• the menstrual cycle is usually a 28-day cycle	ER +
	• during copulation, the erect penis is inserted into the vagina and semen is released *(ejaculation)*	ER +
	• fertilisation is the fusion of the sperm and egg, producing a zygote	ER +
	• if fertilisation takes place, the fertilised egg is implanted in the blood layer in the uterus, and pregnancy results	ER +
	• the developing embryo/foetus is attached to the uterus wall by the placenta which plays a vital role in feeding and removing waste from the foetus	ER +
	• the stage of pregnancy in humans *(gestation)* is about 40 weeks	ER +
	• pregnancy can be prevented by using contraceptives such as condoms to prevent the sperm reaching the egg	ER +
	• condoms also prevent the transmission of HIV/AIDS and other STDs (sexually transmitted diseases), if used effectively	SR-
	• **labelling** diagrams and **explaining** processes involved in reproduction	ER-
	• **drawing** flow charts to show the sequence of the stages in reproduction	ER-
	• **researching and writing** about the effects of alcohol, smoking and drug abuse on the foetus *[Relate this to the role of the placenta]*	ER-
	• **debating and discussing** issues such as abortion, infertility, surrogacy, contraception, population control	SR-
	(DBE, 2011e, p. 59-60)	

LIFE SCIENCES GRADE 10 – 12

Concepts	Grade 12	
	Examples of empirical data	**Code**
Human Reproduction	The structure of male and female reproductive systems; (link to Grade 7 and 9);	ER +
	The unique human characteristics of some aspects of reproduction (link with Grade 9):	ER +
	- puberty: main changes;	ER +
	- gametogenesis: relate briefly to meiosis (no individual names of stages);	ER +
	- menstrual cycle: emphasis on hormonal control;	ER +
	- fertilisation and development of zygote to blastocyst;	ER +
	- gestation (mention briefly);	ER +
	- implantation and development: the role of placenta	
	(DBE, 2011f, p. 56)	
	Prepared microscope slides of an ovary, testes and a section through a penis. Identify tissues and different structures;	ER +
	Observe and describe prepared microscope slides or micrographs or ultrasound pictures of embryonic development;	ER +
	If possible, observe stages of pregnancy by watching DVDs of the development of an embryo and the birth process;	SR-
	Observe contraceptive devices	SR-
	(DBE, 2011f, p. 56)	

KENYA PRIMARY SCHOOL LIFE SKILLS SYLLABUS

CLASS	STANDARD FIVE		Codes
Topic	**Specific objective** By the end of the topic, the learner should be able to:	**Content**	**Codes**
Self-Esteem (KIE, 2008a, pp. 36-7)	a) Discuss factors that may influence his/her self-esteem. b) Appreciate body changes during puberty.	a) Factors that influence his/her self-esteem: physical body changes during adolescence; Body changes during puberty: -physical; -emotional/psychological b)Appreciate body changes during puberty.	SR+ SR+ SR+ SR+
CLASS	**STANDARD SIX**		
Topic	**Specific objective** By the end of the topic, the learner should be able to:	**Content**	**Codes**
Self-Awareness (KIE, 2008a, pp. 48)	a) Explain physical and emotional changes taking place in **his or her** body during adolescence; b) Explore the challenges associated with physical and emotional changes during adolescence	a) Physical and emotional changes taking place in his or her body during adolescence; b) Challenges associated with physical and emotional changes during adolescence -self-esteem -coping with emotions -pressure to get involved in risky sexual behaviour that may lead to STIs HIV infection and teenage pregnancy; -early and forced marriages.	SR+ ER- ER- ER- ER-
Assertiveness (KIE, 2008a, pp. 52-3)	a) Explore changes associated with adolescence **at his/her level;** b) Explain the importance of assertiveness in dealing with the challenges associated with adolescence; -Demonstrate ability to deal with challenges	a) Changes associated with: -Physiological changes; -Emotional changes; -Identity crisis. b) Importance of assertiveness in dealing with the challenges associated with adolescence: -Protection from manipulation. -Personal involvement in managing psychological challenges. -Personal feelings, ideas, values are clarified. -Enhances firmness and calmness in a dialogue.	SR+ SR+ SR+ ER- ER- ER- ER-

Topic	Specific objective	Content	Codes
	associated with adolescence assertively.		SR+
Peer Pressure (KIE, 2008a, pp. 53-4)	a) Explore harmful activities associated with peer pressure; b) Discuss ways of overcoming peer pressure.	Harmful activities associated with peer pressure: -Irresponsible sexual behaviour -Early marriages. Ways of overcoming peer pressure: -Development and application of assertive skills; -Sticking to one's positive values; -Gathering and sharing information on the subject matter at hand; -Associating with the right company; -Avoiding tempting and risky social environment; -Seeking guidance and counselling.	ER- ER- ER- ER- ER- ER- ER- ER
Conflict resolution and negotiation (KIE, 2008a, pp. 54-5)	a) State common causes of conflicts during adolescence. b) Identify effects of unresolved conflicts during adolescence.	Common causes of conflicts during adolescence: -Interpersonal conflicts e.g. social identity crisis; -Desire for independence; -Autonomy and peer pressure versus parent value system. Effects of unresolved conflicts during adolescence: -Getting involved in risky situations such as sexual activities, early marriages…	 ER- ER- ER- ER-

CLASS	STANDARD 7		
Topic	**Specific objective** By the end of the topic, the learner should be able to:	**Content**	**Codes**

Skills of effective decision making (KIE, 2008a, pp. 65-6)	a) Identify risky situations at **his/her level**;
	 b) Assess **personal** risk and vulnerability;
	
	 c) State the skills used in decision making process in relation to risk taking behaviour;
	
	 -**Demonstrate** ability to make informed choices that reduce their risk of engaging in harmful behaviour.
		Risky situations: Premarital sex
		
		 Personal risk and vulnerability assessment: 'Am I at risk' assessment tools.
		 Skills used in decision making process in relation to risk:
		     Taking behaviour; Self-awareness;
		     Self-esteem; Critical and creative
		     thinking; Negotiation and
		     persuasion
			SR+
			
			 SR+
			
			 ER-
			
			 SR+

CLASS	STANDARD EIGHT		
Topic	**SPECIFIC OBJECTIVE** By the end of the topic, the learner should be able to:	**CONTENT**	**Codes**
Self-awareness (KIE, 2008a, p. 67)	a) discuss cultural practices that may hinder attainment of personal goals.	Cultural practices that may hinder achievement of personal goals: -teenage pregnancy; -early marriages;	SR+

Life Skills Education Form 1 – 4

FORM ONE			
Topic	**Specific objective** By the end of the topic, the learner should be able to:	**Content**	**Codes**
Self-Awareness: Changes that take place during adolescence (KIE, 2008b, p. 4)	a) Explain the meaning of adolescence. b) Explore the changes that occur during adolescence for both boys and girls. c) Appreciate adolescence changes that may have taken place at a personal level.	Meaning of adolescence. Changes that occur during adolescence: : Physical : Psychological : Hormonal : Social	ER- ER- ER- ER- ER-
Self-Awareness: Myths and misconceptions associated with changes during adolescence. (KIE, 2008b, p. 4)	a) Explain the meaning of both myths and misconceptions. b) Discuss and analyse myth and misconceptions associated with changes during adolescence.	Meaning of myths and misconceptions. Myths and misconceptions associated with changes during adolescence.	ER- ER-
Self-Esteem: Effects of low and high self-esteem (KIE, 2008b, pp. 6 – 7)	a) Analyse effects of myths and misconceptions associated with adolescence and self-esteem.	Effects of low self-esteem: Vulnerability to risky behaviour such as involvement in irresponsible sexual behaviour… Effects of myths and misconceptions associated with adolescence on self-esteem.	ER- ER-
Non-Violent Conflict Resolution:	a) Explore situations that may lead to conflicts.	Situations that may lead to conflict: -Contracting HIV	ER-

Situations that may lead to conflict (KIE, 2008b, p. 25)		-Teenage pregnancy -Abortion	ER- ER-
Situations that require decision making (KIE, 2008b, p. 29)	a) Explore situations that require decision-making.	Situations that require decision making: -Youth sexuality -Risky situations -Harmful cultural practices	ER- ER- ER-

FORM TWO			
Topic	**Specific objective** By the end of the topic, the learner should be able to:	**Content**	**Codes**
Friendship formation and maintenance: Peer influence and peer pressure (KIE, 2008b, p. 41)	a) Explain the meaning of the terms peer influence and peer pressure. b) Differentiate between peer influence and peer pressure. c) Explore unhealthy behaviours associated with peer pressure	a) Meaning of peer influence & peer pressure. b) Differentiate between peer influence and peer pressure. c) Unhealthy behaviour associated with peer pressure: - premarital sex	ER- ER- ER-
Assertiveness: Situations that call for assertiveness (KIE, 2008b, p. 42)	a) Explore situations that call for assertiveness in **his/her life.** b) Practice on assertiveness based on sample situations cards.	Situations that call for assertiveness: - sexual harassment. - Peer pressure - harmful cultural practices.	 SR+ SR+ SR+ SR+

FORM 3			
Topic	**Specific objective** By the end of the topic, the learner should be able to:	**Content**	**Codes**
Self-Awareness: Understanding self (KIE, 2008b, p. 56)	a) Demonstrate a clear understanding **of self** with regard to adolescent changes; b) Analyse the impact of physical and emotional changes in **his/her self;** c) List the challenges associated with the physical and emotional changes in adolescent; d) Demonstrate psychological competence in coping with the challenges associated with	a) Physical and emotional changes during adolescence. b) Impact of physical and emotional changes in adolescence - Social - Psychological/emotional - Physical - Spiritual c) Challenges associated with the physical and emotional changes in adolescence. d) Necessary psychological competencies in coping with the challenges with the changes in	SR+ SR+ SR+ SR+ SR+ ER- SR+

	the changes in adolescent.	adolescence.	
Self-worth (KIE, 2008b, p. 57-8)	a) Critically analyse the relationship between self-worth and risk taking behaviour	a) Relationship between self-worth and risk taking behaviour: - Premarital sex - early marriage	ER- ER-
Growth and development challenges during adolescence in relationship to self-esteem (KIE, 2008b, p. 58-9)	a) Name the changes in adolescence and their relationship with self-esteem. b) Identify and analyse physical and emotional challenges during adolescence that may affect his/her self-esteem. c) Practice and apply ways of enhancing self-worth.	a) Changes in adolescence and their relationship with self-esteem. - Physical - Emotional - Social. b) Physical and emotional challenges during adolescence that may hinder his/her self-esteem. c) Skills and values that enhance ability to cope with these challenges: Honesty; Respect; Self-awareness; Good interpersonal relationship; Guidance and counselling	ER- ER- ER- SR+ ER- SR+
Values to uphold while managing growth and development challenges in adolescence. (KIE, 2008b, p. 59)	a) Carry out a self –evaluation sheet exercise on the values he/she should uphold while he/she is dealing with development challenges in adolescence.	a) Self-evaluation sheet exercise on values: Chastity; Integrity; Responsibility; Honesty	SR+
Effective Decision Making Skills: Creative thinking and critical thinking (KIE, 2008b, p. 74)	a) Demonstrate the ability to apply creative thinking skill while dealing with challenging circumstances. b) Demonstrate ability to apply critical thinking in analysing problems.	a) Creative thinking skill while dealing with challenging circumstances: - forced and early marriages - forced/coerced sex Critical thinking in analysing problems and their causes	SR+ SR+ SR+

CODING OF LIFE SKILLS GRADE 4 – 6 AND LIFE ORIENTATION (GRADE 7-12) DATA GENERATED FROM THE CURRICULA OF SOUTH AFRICA – LCT (SPECIALISATION)

Grade 4		
Topic	**Examples of empirical data**	**Code**
Development of the self (DBE, 2011b, p. 15)	Respect for own and others' bodies: privacy, bodily integrity • How to respect and care for own body; • How to respect others' bodies; • Reasons for respecting own and others' bodies	ER- ER- ER-
Health and environmental responsibility (DBE, 2011b, p. 18)	HIV and AIDS education: basic facts including blood management • Basic explanation of HIV and AIDS • Transmission of HIV through blood • How HIV is not transmitted • How to protect oneself against infection through blood	ER- ER- ER- ER-

Grade 5		
Topic	**Examples of empirical data**	**Code**
Development of the self (DBE, 2011b, p. 19)	Relationships with peers, older people and strangers: • Safe and unsafe relationships • Bad and good relationships • Benefits of good and safe relationships	ER- ER- ER-
Health and environmental responsibility (DBE, 2011b, p. 22)	HIV and AIDS education • Dealing with stigma • Stigma about HIV and AIDS • How to change attitudes towards people infected with HIV and AIDS	ER- ER- ER-

Grade 6		
Topic	**Examples of empirical data**	**Code**
Development of the self (DBE, 2011b, p. 23)	Positive self-esteem: body image • Understanding and respecting body changes • Other influences on body image: media and society • Acceptance of the self	ER- ER- SR+
Health and environmental responsibility (DBE, 2011b, p. 26)	HIV and AIDS education: myths and realities about HIV and AIDS including risks and perceptions about HIV and AIDS • Caring for people with AIDS	ER-
Social responsibility (DBE, 2011b, p. 25)	Gender stereotyping, sexism & abuse: definition of concepts • Effects of gender stereotyping and sexism on personal and social relationships • Effects of gender-based abuse on personal and social relationships	ER- ER- ER-

	• Dealing with stereotyping, sexism and abuse	

LIFE ORIENTATION GRADE 7 - 9

Epistemic relations and Social relations with emphasis on curriculum Grade 7

Grade 7		
Topic	**Examples of empirical data**	**Code**
Development of the self in society: self-image (DBE, 2011c, p. 12)	Changes in boys and girls: puberty and gender constructs • Physical and emotional changes • Understanding the changes and how these impact on relationships • Respect for own and others' body changes and emotions • Appreciation and acceptance of the self and others Peer pressure: effects of peer pressure • How peer pressure may influence an individual unhealthy sexual behaviour • -- Appropriate responses to pressure: assertiveness and coping skills	ER- ER- SR+ SR+ ER- ER-
Health, social and environmental responsibility (DBE, 2011c, p.15)	Common diseases: HIV and AIDS -- Strategies for living with HIV and AIDS Causes of diseases -- Treatment options, care & support	ER- ER-

Grade 8		
Topic	**Examples of empirical data**	**Code**
Development of the self in society (DBE, 2011c, p.16)	Concept: sexuality • Understanding one's sexuality: personal feelings that impact on sexuality • Influence of friends and peers on one's sexuality • Family and community norms that impact on sexuality • Cultural values that impact on sexuality • Social pressures including media that impact on sexuality • Problem-solving skills: identity formation and development	SR+ SR+ SR+ SR+ SR+ SR+
Health and environmental responsibility (DBE, 2011c, p.18)	Informed, responsible decision-making about health and safety: HIV and AIDS • Management with medication, diet, healthy living and positive attitude • Prevention and safety issues relating to HIV and AIDS • -- Caring for people living with HIV and AIDS	ER- ER- ER-

Grade 9		
Topic	**Examples of empirical data**	**Code**
Development of the self in society (DBE, 2011c, p. 20)	Sexual behaviour and sexual health: Risk factors leading to unhealthy sexual behaviour • Unwanted results of unhealthy sexual behaviour: teenage pregnancy, sexually transmitted infections (STIs), HIV and AIDS, low self-image and emotional scars • Factors that influence personal behaviour including family, friends, peers and community norms • Strategies to deal with unhealthy sexual behaviour: abstinence and change of behaviour • Protective factors, where to find help and support: community structures that offer protection or resilience against high risk behaviour • Adverse consequences and implications of teenage pregnancy for teenage parent(s) and the children born to teenagers	ER- ER- ER- ER- ER-
Health and environmental responsibility (DBE, 2011c, p. 22)	Volunteerism -- different types of volunteer activities: assisting those affected & infected by HIV and AIDS	ER-

LIFE ORIENTATION GRADE 10 - 12

Grade 10		
Topic	**Examples of empirical data**	**Code**
Development of the self in society (DBE, 2011d, pp. 12,15)	Definition of concepts: power, power relations, masculinity, femininity and gender; Differences between a man and a woman: reproduction and roles in the community; Influence of gender inequality on relationships and general well-being: sexual abuse, teenage pregnancy, STIs including HIV and AIDS	ER- ER- ER-
	Changes associated with development towards adulthood: adolescence to adulthood Physical changes: hormonal, increased growth rates, bodily proportions, secondary sex/gender characteristics, changes in the body (menstruation, ovulation and seed formation) and skin problems; Emotional changes: maturing personality, depth and control of emotions, feelings of insecurity, changing needs, interests, feelings, beliefs, values and sexual interest; Social changes: relationship with family, interaction with social groups, need for acceptance by and dependence on peer group, moving into the workforce and increased	ER- ER- ER-

	responsibilities	
Development of the self in society (DBE, 2011d, p. 15)	Values and strategies to make responsible decisions regarding sexuality and lifestyle choices to optimise personal potential;	ER-
	Behaviour that could lead to sexual intercourse and teenage pregnancy, sexual abuse and rape;	ER-
	Values such as respect for self and others, abstinence, self-control, right to privacy, right to protect oneself, right to say 'No' and taking responsibility for own actions;	ER-
	Skills such as self-awareness, critical thinking, decision-making, problem-solving, assertiveness, negotiations, communication, refusal, goal-setting and information gathering relating to sexuality and lifestyle choices;	ER-
	Where to find help regarding sexuality and lifestyle choices (DBE, 2011d, p. 15)	ER-
	Risky behaviour and situations: sexual behaviour, risk of pregnancy, teenage suicides, hygiene and dietary behaviour, sexually-transmitted infections (STIs), HIV & AIDS and peer pressure (DBE, 2011d, p. 19)	ER-
	Gender roles and their effects on health and well-being: self, … abuse of power towards an individual (physical abuse), in family (incest), cultural (different mourning periods for males and females), social (domestic violence and sexual violence/rape) and work settings (sexual harassment)-	ER-
	Negative effects on health and well-being (DBE, 2011d, p. 20).	ER-