EDUCATORS' REFLECTIONS OF THE SWAZILAND JUNIOR SECONDARY INTEGRATED CONSUMER SCIENCE CURRICULUM: TOWARDS DEVELOPMENT OF A UNIQUE CONTENT AREA

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SUPERVISOR'S STATEMENT

This dissertation has been submitted with my approval.

Prof Simon Bheki Khoza

May 2018

DECLARATION

COLLEGE OF HUMANITIES

I, …**Dumisa Celumusa Mabuza**……., declare that

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2. This thesis has not been submitted for any degree or examination at any other university.

3. This thesis does not contain other persons' data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.

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Signed

16/08/2018

……

DEDICATION

I dedicate this piece of work to the Lord God Almighty. I give Him all the glory, praise and honour for His grace and gift of life. There is nothing before Him.

ACKNOWLEDGMENTS

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Dumisa C. Mabuza

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ABSTRACT

The purpose of the research study is to explore educators' reflections on the Swaziland Junior Secondary Integrated Consumer Sciences curriculum with the intention of improving it, particularly its subject matter. The study was necessitated by a common understanding and observation that Consumer Sciences educators are locked in a battle in which they are implementing a curriculum that does not spiral up from primary phrase through secondary phase (JC) to senior phase. The curriculum is supposedly integrated, yet in fact, the curriculum is fully dictated by curriculum and examination bodies, thus leaving the educators without a voice. Interestingly, reflection is the best system of learning that can transform educators, assisting them to overcome emerging challenges and to investigate the past, present, and the future. The study, therefore, pursues educators' reflections, with the intention of empowering educators to take action to improve the curriculum. This action research, grounded on a critical paradigm, was used to address the following research questions: a) what are educators' reflections on the Junior Secondary Integrated Consumer Sciences curriculum? b) Why do educators reflect in particular ways? and c) What lessons may be learnt from the educators' reflections which could improve the curriculum?

This study, through an extensive literature review, concluded that, for educators to be effective in any curriculum issue, three forms of reflection (own, public, and certified) must be employed as the lens through which to review the curriculum. In the case of the Consumer Sciences educators, their own reflections, in particular, had to be developed for the educators to be able to balance influences from both certified reflections and public reflections. This may be achieved only once educators understand their identity; thereafter they may begin to reflect. This study was conducted through face-to-face interviews, observations, reflective activity, and focus-group discussions. The data was analysed using a framework analysis. Literature review led to the development of a Microscopic Curriculum framework framed by Van den Akker's curriculum spider web, useful in analysing and interpreting data.

The findings of the study reveal that Consumer Sciences educators' rationale for teaching is greatly informed by demands of the discipline internationally, as per their training and a need from the public to impart hands-on skills to learners. This became evident in teachers' drive to foster learning outcomes as outlined by the curriculum policy document. Even though the educators could not differentiate between aims and objectives, skills, and knowledge, and

lacked conceptualization of other curriculum concepts, the action research was effective in their emancipation. Furthermore, contents in Consumer Sciences are dominated by influences from both certified reflections (knowledge, information, concepts, and theories) and public reflections (skills, practical competences). Educators are being controlled by these forces, thus lack clarity and a rationale for inclusion of certain content. Educators believe that some content does not adequately represent the focus of the discipline in this modern age, recommending removal of certain content, while supplementing other. Also, the assessment in Consumer Sciences is controlled by both certified reflections (assessment of learning) and public reflections (assessment for learning). It therefore lacked self-assessment and peer-assessment on the part of both students and teachers. Intervention through action research empowered educators to take action in reviewing the curriculum, so that it reflected the interests and needs of the learner, clarifying how assessment *as* learning can improve their teaching.

The findings of this study indicate that educators reflected on challenges while organising and financing the teaching of Consumer Sciences. First, insufficient time is allotted to the teaching of the subject. Time allocated does not cover content. Time is also lost during the second term and during everyday subject change-over. Educators therefore teach on Saturdays and holidays to make up such lost time. Secondly, hardware resources such as computers, sewing machines and stoves are inadequate, compelling educators to teach learners in groups while sharing these resources. Educators demonstrated willingness to use computers and software to aid teaching, yet facilities do not allow for such technology, thus compelling teachers to exploit the traditional face-to-face learning environments. Lastly, financial resources are not professionally managed by the school principals and the heads of Consumer Sciences departments. The study findings compared with those found in the literature eventually gave birth to a Tri-Star curriculum theory. It has been observed that action research has been effective in developing the own reflections of educators, empowering them to challenge the curriculum issues that were oppressing them. It is therefore recommended that research that actively engages educators apropos of their scope of work be used frequently. Action research should be used in teaching Consumer Sciences. The National Curriculum Centre (NCC) should remove certain content, as per recommendation of the focus groups in this study.

CHAPTER 1

THE RESEARCH FOUNDATION

1.1 Introduction

This chapter provides a synopsis and overview of the whole research work, highlighting key issues in each of the eight chapters. While such synopsis outlines the reviewed literature, methodologies and research findings; I first contextualized the resaech problem for Swaziland Consumer Science curriculum and the education system at large. This chapter therefore presents an exploration of the background information that is aligned and focused on the purpose of the study and clearly explaining personal experiences that mandated the research.

1.2 Candidate Statement

This short letter narrates my focus as an individual, a teacher, and a member of the Swazi citizenry that has inspired me, possibly influencing the direction of this study. As an educator, through experience and practise, I have noted the personal feelings experienced by an educator teaching a curriculum content that does not benefit the learner. This is because a teacher draws happiness from seeing the usefulness of her work through career opportunities and competence developed by the learners. This calls for a responsive curriculum; however, it all begins with the educators who are designers, implementers, and evaluators of the curriculum. It therefore causes alarm in Consumer Sciences educators aware of our mandate to observe clearly our practice and its impact on the lives of those we claim to be teaching. A reflection exercise became necessary for each educator to pause and ask some critical questions, such as, “What are we teaching? Why are we teaching this? What is the rationale for teaching this? Anyone educated in Consumer Sciences, according to the seven new proposed directions for the discipline, must be able to make a living through theoretical and practical skills gained during the course of study, whether high school or at tertiary level. It is, however, surprising that most graduate learners fail even to establish a backyard garden, sew clothes to dress themselves and their families, and prepare a healthy food or practise healthy eating habits. This is an anomaly: some Swazis are overfed, whilst others are underfed. There are some clear examples of poor eating habits. In my capacity as a high school Consumer Science, Fashion & Fabrics, and Food & Nutrition teacher, I believe that the accomplishing of practical skills is derived from hands-on experience through imparting knowledge. It is of great concern that our graduates of Consumer Sciences fail to use such skills to make a living. Teachers may need to revise either

their attitude; or the curricula and syllabi, which have loopholes. Although Consumer Sciences is also studied at the Senior Secondary Phase (as Food & Nutrition and Fashion & Fabrics), the Integrated J C Consumer Sciences curriculum has become a good starting point for reflection.

1.3 Contextual View of Consumer Sciences in Swaziland

People do not always succeed in changing, even though they may spend a great deal of time trying to do so. They may believe they are taking a new approach; however, old habits die hard. Sometimes educators do not realise that they have the power to cause change and that they are major mechanisms to fruitful implementation of a curriculum (Shen, 2008; Mokua, 2010). For example, owing to the integrated nature of the Consumer Sciences curriculum at secondary schools, numerous attempts have been made to bring change to the way it is taught (Leepile, 2011). This has involved omitting some topics in particular years. Some teachers who have taught the curriculum for many years view such a move as a gross error, undermining the basic philosophy of Consumer Sciences. The Consumer Sciences curriculum, even globally, has suffered much restructuring and change in scope and orientation from its inception (Pendergast, 1999; Bernard, 2010). Such attempts have all along been consistent with the changes in name of the discipline from Cookery, Needlework, Home Science, Home Economics, Home Ecology, Consumer Studies, Consumer Sciences and Family and Consumer Sciences. These changes in scope and names are mostly brought about by change in focus from the initial desire to develop a science subject for females in the family post-industrialization (McGregor, 2011). Since women were seen to be in the kitchen, Consumer Sciences pioneers focused on changing the household work to apply scientific and modern techniques, explaining why this subject has so often enjoyed the words ‘family ‘or ‘home’ in the title (Thomas, 1986; Nickols & Kay, 2015). However, industrialization has changed focus to producing and processing food and other basic household products on a large scale, further teaching Consumer Sciences in schools and tertiary institutions (McGregor, Baranovsky, Eghan, Engberg, Harman, Mitstifer, & Smith, 2004). These factors have significantly influenced the Consumer Sciences curriculum. South African and Swaziland Consumer Sciences curriculum have also been shaped by these factors.

Consumer Sciences, as a subject, originated in the United States of America. South Africa and Swaziland adopted it from European colonisers who happened to be the farmers’ wives (Mberengwa & Johnson, 2004; McGregor, 2014). The curriculum, however, lagged behind, concentrating mostly on household work (pre-industrialization curriculum). Two main factors

therefore shaped the curriculum in Swaziland: the societal need for Consumer Sciences services, and external influence from the colonisers. The Swazi nation, even though they practised subsistence farming and raised domestic cattle and chicken, had eating habits that were not good, to the point that school-going children were malnourished (Booth, 2004). This called for the introduction of Consumer Sciences as 'Cookery', concentrating on food preparation and health. The external influence, on the other hand, interested the colonists who wished to train Swazi women on household work. Swazi women were encouraged to improve their skills in home-making as they were working for the Europeans as house cleaners and cooks (Myeni, 1992). They therefore needed skills in cooking Western foods for their employers. A combination of the nutritional needs of the society, household skills needed by the colonisers, and other related contents in the discipline, gave birth to the then integrated Consumer Sciences.

Curriculum reforms in Swaziland have come, but the curriculum has remained the same, regardless of changes in the family structure, education, and advancements in technology and industrialization. Even though most curriculum reforms concentrate on the assessment programmes (Ndwandwe & Dlamini, 2013), the major influence was the last National Curriculum Development Plan from 1973 to 1977 that advocated for a reorientation of the secondary school curriculum from academic to technical and general education. According to UNESCO (2010), the project was initiated after a general awareness that there was a need for curriculum reform. This was a World Bank project focused on building junior secondary schools with facilities for technical education. With the exception of development studies, commercial subjects and elementary technology, Consumer Sciences was one target, as its content involved more hands-on application; thus a new integrated syllabus was developed to replace the Needlework and Cookery syllabi under the guidance of the UNESCO expert in the subject. However, neither the reflections of educators nor learners was considered in this programme.

Accordingly, departments and the Ministry of Education need to continuously engage stakeholders in processes on transforming education to better address the issues of all students (Hénard & Roseveare, 2012; Boss, 2017). Such transformation is so complicated that it takes time and involves an all-encompassing consultation, research activities, considered decision-making, and comprehensive planning (Isaacs, 2011; Caldwell & Spinks, 2013). This has not

been conducted over the past two decades in Swaziland, particularly with the Consumer Sciences' curriculum which is integrated and too fragmented. For a considerable length of time, numerous critical and constructive publications in Consumer Sciences, including Bubolz and Sontag (1993), have lamented that the profession is too fragmented, that there are too many specializations which are too removed from any common Consumer Sciences' philosophical core. This fragmentation makes the integrated curriculum overly complicated; and eventually, Consumer Scientists may lack content of their own. Currently, it is drawn from disciplines of practical art and applied sciences. Consequently, the curriculum for Junior Certificate (JC) in Swaziland covers a range of diverse content areas such as food cookery, nutrition, clothing & textiles, home management, laundry, and health and hygiene.

1.4 Rationale for Conducting Study

I am a teacher educator for Consumer Sciences education at the University of Swaziland and I have taught the Consumer Sciences curriculum at high school. I have developed a keen interest in the curriculum content, pondering its suitability in the current era, its beneficiaries and practitioners. The issue of gender relevance of the curriculum and gender stereotype will always be associated with Consumer Sciences unless the curriculum content and teaching approaches be reviewed. According to Myeni (1992), Consumer Sciences in Swaziland was first practised at Mahamba Primary school where a group of girls was trained in domestic science and needlework. The mission for the pioneers at that time was to improve nutrition to emancipate homemakers, enabling them to produce their own household products. This was 1936: men, who were considered breadwinners, could be employed as manual labourers and as government service-providers. As decades passed, the goals of Consumer Sciences had to change for it to remain relevant; however, the curriculum has remained the same. Thus learners may be saddled with an obsolete curriculum, which has not kept abreast of changing times and advancements in content knowledge.

Nevertheless, educators seem to have challenges with the curriculum, ranging from content knowledge, and delivery modes, to its usefulness. This became evident in the Mabuza (2014) study, while assessing the practices of Consumer Sciences teachers. The researcher found that teachers, having studied the same curriculum from primary school to university level, were still not competent to teach it. I therefore take a personal interest in reviewing the curriculum in light of the philosophy and mission statement of the profession with regard to the context of

Swaziland. Having experience as a Consumer Sciences teacher at Timphisini High School, I have noticed the urge and attempts by educators to replace the traditional curriculum with one that incorporates modern concepts. However, all these attempts remain at the level of arguments during or at workshops and professional meetings hosted by the Swaziland Association of Consumer Sciences. The Consumer Sciences' educators find the curriculum constraining and outmoded. Teachers have no ability to initiate and implement change in curriculum content and modes of delivery. Even though the workshops aim at equipping and developing the educators, they do not help teachers master the curriculum, simply stressing the need to adhere to the demands of the examiner. As a result, after the workshops, teachers find it difficult to reflect positively on the aims and outcome of the exercise. Rather, workshops are seen as official reprimands to teachers for poor performance. Adoption and incorporation of any change or innovation in the curriculum demands the reflections of all stakeholders who are the teachers, the students, the National Curriculum Centre, the Ministry of Education to the inspectorate, and the tertiary institutions (Khoza, 2016b). Most scholars (Bauer, 1991; Heflich & Iran-Nejad, 1995; Lyons, 1998; Munby & Russell, 1989; Shaffer, 2003) take their cue from Dewey (1933), who stresses the importance of teacher reflections. The task of a teacher has shifted significantly from mere content delivery and classroom management to curriculum development, implementation, and innovation. As indicated by Fomunyam (2014), an instructor's reflection is an essential tool to assist educators in conquering difficulties and in examining the present, past, and future. Thus, teachers become proficient in discovering new ways of doing things. However, no previous study has used reflections to assist teachers to comprehend the integrated curriculum.

Furthermore, reflection is the system of learning by experience in order to comprehend and grow or mature practice (Jasper, 2003). Boud, Keogh and Walker (2013), therefore, define teacher reflection as general term for logical and affective actions in which people review their experiences so as to inform new understanding. This suggests that there must be a range of approaches to implementing reflective practice. Accordingly, Schon (1983) explored what he refers to as 'reflection-in-action' to describe an analysis in the present tense, that is, during the performance of a task, and 'reflection-on-action' as the analysis of the past (Levina, 2005; Yanow & Tsoukas, 2009), namely, after the experience. Killion and Todnem (1991), while categorising reflection, supported Schon's two forms of reflection 'on/in' action, but advanced the school of thought by adding a third direction 'reflection-for-action' (p.15), an idea that

Maxwell (2013) believes is less well known (p.88). This reflection direction demands that participants review what has been done, and identify systematic ways of succeeding in future.

In addition, Dewey (1933) opines that practitioners, while reflecting, must be controlled by two attributes − 'open-mindedness' and 'whole-heartedness'. The first is about reflection-on-action, or challenging those values on which our practice is grounded, while being 'open' to other possibilities. Whole-heartedness, for Dewey, is about being energetic and enthusiastic, maintaining a positive mind which admits that there is always something new to be learned in every practice. The works of Dewey (1933), Schon (1983), Killion, and Todnem (1991) suggest that Consumer Sciences educators' reflections may be informed by three worlds that most scholars have used to interpret teacher reflections. These three worlds are 'own', 'public' and 'certified' reflections. The own reflection, critical reflection (Van Manen, 1977) or personal reasons/everyday experience (Khoza, 2015b), or student(Berkvens, van den Akker, & Brugman, 2014) indicate educators' own judgment or justification for practices in the Integrated Consumer Sciences curriculum. It involves subjective activities and personal meanings that drive the educators' actions within the environment of teaching Consumer Sciences. The public reflections or societal (Van Manen, 1977) or horizontal (Khoza, 2015b) are a collective influence from friends and collogues that somehow finds its way to the educators' practice. Lastly, the certified reflections or discipline/vertical (Khoza, 2015b) or subject (Van Manen, 1977) represent the world of experts in the form of research work, tested methods, and what the international community understands about the Consumer Sciences curriculum. Having considered the certified/professional world, educators may need to reflect on the nature of the Consumer Sciences being integrated. Levina (2005) sees coordinated educational modules as ones in which students extensively investigate learning in different subjects identified with specific parts of their circumstances; where aptitudes and information are produced and connected in excess of one region of study. However, this curriculum is not structured in such a way that teachers can deal with it as a unified subject. Educators are locked in a battle in which they are implementing a curriculum that is supposedly integrated or competence-based, or at least serving the demands of the public/society, yet in the practical sense, the curriculum document is performance-based.

Moreover, the Ministry of Education, through the examination council [a government company], supplies a curriculum that upholds international standards (certified); therefore the

educators are not developing. This suggests that the educators may not influence any change until they reflect on their practice. Fomunyam (2014) commends reflections for helping educators in interrogating the past and present teaching, and in empowering the participants to question their practice. Meanwhile there are conflicting demands, Khoza (2016b) advises that, if the public and the certified worlds are at odds, we need to empower or develop the own world. This suggests that, once educators understand themselves and their interests, they can negotiate a marriage between the two, so that the marriage may give birth to a new curriculum that serves the needs of the Swazi population, while remaining on a par with international standards.

Essentially, Montgomery and Prawitz (2011), while investigating Consumer Sciences educators' impressions of self-rule and factors impacting such recognitions, articulated that Consumer Sciences instructors should settle on choices with regard to educational modules' improvement and usage. Danielson (2011) avers that it is the commitment of educators to settle on complex instructive choices and actualise those choices in line with their own proficient judgment. Therefore, if teachers are fully responsible for the curriculum content they teach, Montgomery and Prawitz (2011) argue that, since Consumer Sciences is concerned with quality of life that constantly presents new challenges, teachers' daily experiences and reflections on their practices must establish the structure of our curriculum. Curriculum goals and content cannot be separated as goals pronouncing 'what content needs be taught?' The study pursues educators' reflections with intention to empower educators to take action to improve the curriculum that seems not to spiral up from primary school through secondary to high school. For example, the curriculum demands the same skills [of describing and attaching fasteners] to be developed from the learners at primary phase, secondary phase and senior secondary phase. Most components of the Consumer Sciences curriculum, therefore, need a teacher who understands his/her identity, before reflection may begin. A study of this nature gives educators a platform on which to reflect. Having viewed the importance of reflection, self-awareness (Osterman & Kottkamp, 1993), emancipation (Finlay, 2008; Lee, 2005), and enlightenment (O'Hanlon, 1994), there is a need to study the Consumer Sciences educators' reflections on the Junior Secondary Consumer Sciences curriculum, in an attempt to improve it: this study may prove beneficial to the stakeholders.

This investigation may possibly be duplicated and may fill in as a model for other subjects, in which educators work with comparative socio-economics and face similar difficulties. Discoveries of the examination will profit teachers, students, other researchers, and the Consumer Sciences inspectors. Most teachers and students are forced to adhere to a curriculum too lengthy and lacking identity. The Swaziland JC Consumer Sciences' curriculum is too full, too broad, covering all aspects of home management, food and nutrition, health and hygiene, and child development. A viable school educational module, according to Mansilla and Jackson (2011), must concentrate on the capabilities that will best prepare students for employment prospects. Therefore less should be included, yet more diligently taught. Educators will therefore have greater adaptability and flexibility to improve the teaching and learning material with the specific end goal of customising learning in their classrooms. The current curriculum lacks specificity, offering a more generalised, and common-sense approach. Another quality issue in the Consumer Sciences curriculum is its relevance to the needs of Swazi people. Dlamini (2010) noted that the Domestic Science and Needlework curricula were imposed on Swazis by British colonisers, whose main objective was to improve nutrition in the rural areas of Swaziland. Internationally, Consumer Sciences has broad and general goals; each level of study has specific objectives associated with it. These sets of objectives may vary from place to place depending on the needs of the students and conditions in their locality. According to Mabuza (2014), in elementary schools, the objectives were to develop basic skills in domestic and household work. For secondary school students, Consumer Sciences was designed to prepare the students for home-making and family life, preparing them for employment in occupations involving Consumer Sciences knowledge and skill. Moreover, at post-secondary level, the curriculum was geared towards preparing students for occupations of a technical nature. Similarly, Swaziland needed to develop her own goals and objectives for each level, lest the objectives remain relevant only pre-industrialization, in which the Morrill Act's philosophy of melding science and agriculture advocated developing farmer's wives to achieve better quality household work.

Interestingly, Consumer Sciences pioneers Brown and Paolucci (1979) note that, once Consumer Sciences teachers reflect upon action, they can then act professionally with knowledge, considering what is good and appropriate for that teacher's situation. Educators may, therefore, learn from their reflections and be empowered to institute changes for the benefit of the students and the discipline. In addition, the study will enlighten teachers on their

role in curriculum development, which, however, may have been passed into the National Curriculum Centre's hands. Together with educators, the study may, therefore, help determine a unique content area in Consumer Sciences that leads to achievement of the set objectives of the subject. Junior Consumer Sciences examination papers range from Paper I to Paper III together with the assessment and moderation of bespoke garments sewn by students. This number of papers compared with other subjects has cost implications: setting papers and marking of exam scripts. The Exams Council has been challenged to cut back on these papers; however, it has been difficult to do so, owing to the wide content area that needs to be covered, jeopardizing the validity of those exam papers.

1.5 Problem Statement

Consumer Sciences, traditionally known as a field for women, is faced with so many obstacles in its curriculum development and innovations. There have been attempts to replace the traditional curriculum with one that incorporated modern concepts. However, all these attempts are just arguments during or on workshops and professional meeting hosted by the Swaziland Association of Consumer Sciences. Adoption and incorporation in the curriculum demands involvement of all stakeholders who are the teachers, the students, the National Curriculum Centre, the ministry of education through the inspectorate and the tertiary institutions. The Swaziland JC Consumer Sciences curriculum is rather too lengthy, too broad and all covering home management, food and nutrition, health & hygiene and child development. A good school curriculum according Mansilla & Jackson (2011) must focused on the competencies that will best prepare students for their futures and based on a curriculum that prescribes fewer but more important outcomes. At the same time, teachers will have more flexibility and freedom to innovate in order to personalize learning in their classrooms. However, this curriculum due to its integrated nature seems to lack specificity and may contain some mundane and common sense.

Secondly, the curriculum content offered at elementary school, secondery school; and high schools in Swaziland is just the same in terms of scope. Mthetwa (1992) outlined curriculum objectives for each level. However, on practice the objectives seem to be the same. One important aspect of curriculum objectives is to write them as learner outcomes, thus the question would be; what learner outcome or product are we expecting from this curriculum? Although Consumer Sciences was traditionally designed to equip young women and girls with necessary skills to cook for their husbands and that of home making, an increasing number of boys enroll in

Consumer Sciences. This change demands curriculum designers and all other stakeholders particularly educators to reflect on the curriculum in terms of its ability to deliver our mission through changing times.

While some Home Economists such as McGregor advocates that Consumer Sciences be reintegrated with its sub-disciplines, to facilitate defragmentation, the integrated curriculum needs to be reviewed and assessed to define clearly the leaner outcomes that are attainable and that empower and emancipate individuals and families in the 21th century. Lastly, Consumer Sciences is one practical oriented subject chiseled from John Dewey's theory of pragmatism. Consumer science, formally known as Consumer Sciences aimed at utilizing scientific approaches to emancipate families and individuals to be able to produce themselves the basic needs of the family i.e. food, clothing and shelter. McGregor (2009) in her New Seven Proposed Directions in Consumer Sciences observed that as consumer scientists have believed (philosophy) that their responsibility was to empower individuals and families achieve quality living, which would lead them to developing themselves, and eventually their communities, etc. To this end, to achieve this responsibility we need to, as enjoined by Horn and East (1982), to reflect on our practices and thus be able to anticipate the strategies that will make our services to be well-matched with the changes in the environment.

1.6 Impact of Consumer Sciences on Swaziland

Consumer Sciences education has a critical place in the instructive framework and life of Swaziland today. There is no other academic discipline that incorporates in its curriculum as many pertinent life skills that will help students succeed in their chosen career paths (Nsibande, 2007). This makes Consumer Sciences an essential calling anxious to advance and secure the prosperity of people, families, and groups under the auspices of training on Food and Nutrition, Public Health, Textiles & Clothing and Family Finance. One crucial feature in Swaziland is proper nutrition and disease prevention (Booth, 2004; Keregero & Mdluli, 2001). Whilst Swazi children are often malnourished, blighted by kwashiorkor and marasmus, most women are overweight, if not obese. Consumer scientists still have a vital role to play in teaching how poor nutrition (over-consumption and under-consumption of food) can lead to health risks and other eating disorders. It has become a general excuse for overweight people to accept their body weight as hereditary or to associate it with myths. There is therefore a gap in what the practitioners claim to be doing, and their practice.

Furthermore, consumer scientists in Swaziland have collaborated with Non-Governmental Organisations (NGOs) such as World Vision in addressing healthy eating habits in families and communities. Specific areas of collaboration/cooperation include nutrition and HIV/AIDS, childhood and breastfeeding, organic vegetable growing and consumption, and prevention and control of childhood diseases. Our philosophy, as consumer scientists, is that, if individuals and families can grow their own food, and prepare healthy meals, deaths may be minimised. The human body can build and maintain self-defence mechanisms only if food constituents are supplied in correct proportions (Dlamini, 1968; IFHE, 2016; McSweeney, 2014). Therefore, there is a need to discern information on the relationship between food and the human body – nutrition. This includes advocating for the compulsory institution of feeding schemes in all schools in Swaziland. This urgency arose after a nutritionist, through the senior Consumer Sciences inspector, concurred that pupils, particularly in rural areas, show signs of malnutrition, raising alarm. In addition, a majority of those schools did not perform well in their external examinations compared with those with access to feeding schemes (Mantyi-Ncube, 2012).

Moreover, the textiles and clothing construction, is another traditional core area in Consumer Sciences/Home Economics prior to the integration process (Zwane, Richards & Edmond, 2002). Again, consumer scientists have the mandate of making families productive and independent. In this era of high unemployment in Swaziland, consumer scientists must equip scholars with the necessary skills to clothe themselves and others, and be self-employed through garment construction and tailoring (Dlamini & Mantyi-Ncube, 2014; Dlamini, 2014). It is difficult to find a single subject taught in schools today that incorporates as many topics of interest as Consumer Sciences, helping students to become more well-rounded individuals. Perhaps one of the most enjoyable parts of Consumer Sciences education is the ability for students/individuals to create their own clothes. Consumer Sciences education should enable students/individuals to dress themselves and family members. Having alluded to the scope of Consumer Sciences practice in Swaziland, the JC curriculum features all these aspects leading to fragmentation of the curriculum. While all these areas in Consumer Sciences are important, educators must reflect on the curriculum as it pertains to teaching time, content, assessment, and the general goal of teaching the subject.

1.7 Purpose, Objectives and Research Questions

The purpose behind the examination quandary is to investigate educators' reflections on Swaziland's Junior Secondary Integrated Consumer Sciences curriculum. A research purpose statement answers 'why' this study is conducted (Newman & Covrig, 2013) thus ensuring that any reader grasps the problem under investigation (Maxwell & Loomis, 2003). This suggests that the statement interprets the research topic; additionally, it may be illustrated plainly as a particular research target. The objectives of this investigation are:

1. To explore educators' reflections on the Junior Secondary Integrated Consumer Sciences curriculum.
2. To understand the reasons why educators reflect on/in/for the Junior Secondary Integrated Consumer Sciences in a particular way..
3. To understand the lessons learnt with by educators' reflections, for the purpose of improving the curriculum.

Whilst the research objectives are drawn from the statement of research purpose, research questions hypothesize the direct queries and problems the research intends to solve (Noddings, 2007; Babbie, 2013). Therefore, the study addresses these research questions:

1. What are the educators' reflections on the Junior Secondary Integrated Consumer Sciences curriculum?
2. Why do educators reflect on/in/for the Junior Secondary Integrated Consumer Sciences in a particular way?
3. What lesson is learnt by the educators' reflections on the purpose of improving the curriculum?

1.8 The Structure of the Dissertation

This research work, through extensive literature review in Chapters 2 and 3, conceptualised educator reflections. These reflections are categorised into own, public, and certified reflections, influencing the curriculum from the point of view of personal interests, societal interests, and discipline interests, respectively. These three modes of reflection have been useful in discussing the ten curriculum concepts that framed the study. Each curriculum concept was viewed under the lens of own, public, and certified reflections, in order to establish a working framework for judging research findings.

Chapter 4 outlined three curriculum theories from Ralph Tyler's objective approach, Lawrence Stenhouse's process approach, and Paulo Freire's critical approach; supporting the certified, public, and own reflections, respectively. These theories were explored after establishing through literature that a good curriculum must strike a balance on the three sources of influence. A Microscopic Curriculum Framework was therefore developed to frame the study. This framework was powered by basic functions of a compound microscope in which the specimen (curriculum concepts) might be scrutinised under the light. The Microscopic Curriculum Framework was therefore presented as a microscopic figure; and a table illustrating the propositions of each curriculum concept describes each reflection. These propositions were used in analysing and discussing data generated.

Data-generation methods and designs for this study are detailed in Chapter 5, illustrating the research paradigm, research design, sampling procedures, data generation and data analyses methods employed. This research is a qualitative research approach grounded on the critical paradigm laying down rules and regulations that established and defined the boundaries, and guided me on how to act within those boundaries in order to be successful. This paradigm became critical for this study on a two-fold basis; one being that Consumer Sciences is a social science. Literature has proved that a critical paradigm provides a powerful and influential framework for social sciences in extending the interpretivist mandate to understand the society; however, critiquing it and taking action. Secondly, the critical paradigm liberates participants from historical and structural social phenomena. Moreover, apart from enlightening the Consumer Sciences educators and challenging them to take action, the critical paradigm has been used extensively by Consumer Sciences curriculum studies (McGregor and Murnane 2010). Such an exploration is better achieved by employing a self-reflective enquiry, an action research, for the educators to be actively involved in reflecting on their practices with the aim of improving their teaching time in Consumer Sciences.

Purposive and convenience sampling procedures were used to generate data. The sample size consisted of nine (9) educators from the Manzini and Hhohho regions of Swaziland. Ethical concerns were observed according to the Rand Afrikaans University 2002 guidelines for ethical concerns. Participants were therefore informed of all their rights. Their real names were concealed. They were referred to as Educators 1 to 9. For triangulation purposes, three data-

generation methods (one-to-one semi-structured interviews, reflection activity, and observation) were used.

To establish trustworthiness of the qualitative research data, data was first gathered from multiple sources for the purpose of enhancing its genuineness (Creswell 2013). A voice recorder was used to verify that data gathered was consistent across the sources of data, for triangulation purposes, that is, providing a detailed research method, offering a rich description of the settings and context of the Consumer Sciences educators interviewed, to improve its transferability. For dependability, we outlined the processes of reporting data in detail, thus enabling future researchers to repeat this study. The same results would not necessarily be gained. Direct quotations were noted, for readers to access authenticity of findings. An assistant researcher was used to collect comparable data. This ensured that the study's findings are the outcome of the reflections and ideas of the educators, with no characteristics and preferences of one's own, thus enhancing confirmability. Lastly, the credibility of the research instruments was strengthened through use of a panel of educationists and through peer scrutiny. A review was given on whether the interview questions really reflected and presented the construct and content that solved research questions through the phases of action research.

The action research had two phases. Each method was therefore administered twice, that is, once in each phase, to enhance data analysis. The framework analysis was used and is commended with regard to thorough organisation of data, retaining a link to data, thematic analysis, case analysis, and combining examples and explanations. Themes generated from the literature organised the data, and the findings are presented thematically, using direct quotations to express the voices of educators (Creswell 2013). Data from these sources become tedious to capture, transcribe, and analyse, however, the Framework Analysis, through its five stages, made the process transparent, and drew a clear description and interconnection between its stages of analysis (Ritchie & Lewis, 2003, Braun & Clark, 2006) before presentation of findings in Chapter 6.

Chapters 6 and 7 present and discuss data through interpretations of the literature reviewed. These chapters present findings under ten themes, with each theme representing a different curriculum concept as per the theory by Thijs and van den Akker (2009). The Microscopic Curriculum Framework has been used to isolate and interpret each theme; and such discussions

lead to a summary and development of a Tri-Star curriculum theory that diagrammatically describes the Consumer Sciences curriculum with regard to the prescripts of literature.

1.9 Location of the Study

This study was conducted in two of the four regions of Swaziland: Manzini and Hhohho regions. These regions were selected purposely, because educators from these regions have had much exposure to different school locations such as urban, rural, and semi-urban. They can, therefore, offer a fair representation of the population of Swaziland. In addition, schools in these regions are closer in proximity than those in other regions, particularly, the Shiselweni region. For ease of data generation, interviews and focus groups, this location was convenient with regard to distance in between the educators' schools. The study focuses on the reflections of educators who are qualified teachers in Consumer Sciences, all having received training at the University of Swaziland.

1.10 Chapter Summary

This chapter illustrated first the researcher's personal situation, and the reason for the developing of a keen interest in embarking on the study. Factors include looking towards the future of Consumer Sciences in Swaziland from the perspective of teaching experience. Such experience has offered the opportunity of reflecting on the consistency of the discipline mandate and practice. This chapter narrates the overview of Consumer Sciences in Swaziland, giving a brief history of what has shaped the curriculum from the colonial times to the present. This overview highlights some gaps in practise and implementation of the curriculum, thus suggesting that educator reflection is a necessary starting point in trying to improve the curriculum. This has led to providing the rationale for the study, citing specific challenges such as repetition of content in the curriculum subject matter. Finally, a synopsis of the study chapter has been documented.

CHAPTER 2

UNDERSTANDING REFLECTIONS AND CURRICULUM CONTENT

2.1 Introduction

This chapter presents a deep insight and detailed exposition of the significance of reflection and its importance in using it professionally in curriculum. Moreover, to frame the study, this chapter catergorise reflections into ‘own’, ‘public’and ‘certified’reflections that is further presented as the main and comprehensive set of reflections necessary to guide educators. The chapter thus prtray a gradual development of the research themes as framed by these reflection. Finaly, exploaration of how each reflection influences the teaching of Consumer Sciences in Swaziland and internationally has been detailed.

2.2 The Concept of Reflections

This section outlines relevance and importance of reflections in the understanding of educators from John Dewey to current researchers who continuously use reflection to solve problems for educators and/or schools. This section, reflecting widely, draws classifications and categories made from as early as that of Dewey (1933), through Schon (1983) and Schon (1987), to 2017, highlighting the importance of viewing reflections as several separate units while conceptualising and understanding them.

Reflections play a paramount role in teaching (Mpungose, 2016) and in the implementation and critical analysis of an integrated curriculum. Leitch and Day (2000) disclose that reflections give meaning to thinking processes and contemplative self-examination, yet, at the same time, are associated more with understanding the ‘how’ rather than the ‘what’ concerns. Similarly, QMU (2017), Lonergan (2016) and Bernier (2017) emphasise the importance of reflections in interrogating the ‘how’ questions in studying human experiences. QMU (2017) further emphasises this use of reflection by demonstrating how it has been used to interrogate the thoughts of students so that they finally reflect on their actions. While reflections seem to answer the ‘how’ and ‘what’ questions, Lonergan (2016) and Bernier (2017) argue that the ‘what’ and ‘how’ questions lead to the ‘why’ question, this being the one that helps us to examine any experience in depth, and start to theorise about key aspects. Bernier (2017) further clarified that the ‘what’ is normally used to begin the reflections process; and that switching certain key words on the ‘what’ question can actually help to discover the ‘how’. Bernier (2017) used the three questions when working with educators around the USA on integrating global

issues and sustainability into the curriculum. The studies above, therefore, indicate that the 'what', 'how' and 'why' questions are critical for a reflection experience. However, reflections should first be defined for them to be used effectively.

Several researchers (Christine, 1994; Finlay, 2008; Heflich & Iran-Nejad, 1995; Jasper, 2003) in educational studies have defined reflections in many ways, all centred on Dewey's (1933) earlier definition. Dewey (1933, p. 6) characterises reflection as a conduct which includes "dynamic constant and cautious thought of any conviction or practices in the light of the grounds that back it and the further results to which it leads". This definition is somewhat complicated and lengthy if the key words are not considered and clarified. The definition refers to reflections as a behaviour that leads to consequences; thus teachers should practise being careful and persistent in this activity. A reflective educator, according to this definition, is one who ponders at some time and critically inspects his or her own practices, eventually learning by experience how to perform better in future. This is supported by Schon's (1983) cycle of appreciation, action, and re-appreciation, in which critical reflection is emphasised.

Furthermore, a new glossary of terms apropos of scholarly reflection adds the term 'critical reflection'. Brookfield (1990) asserts that critical reflection occurs when we examine and challenge the validity of our presuppositions, and evaluate the correctness of our knowledge, understanding, and beliefs, given our present contexts. Similarly, Richards (1995) defines critical reflection, however, he cannot divorce it from 'reflection', "reflection or critical reflection alludes to an action or process in which an ordeal is reviewed, considered, and assessed, more often than not in connection to a more extensive reason" (p. 1). Reflection has been defined by many scholars in various ways. In addition, critical reflection has been used widely in educational researches, most of them adhering to Brookfield's definition. Some do not attempt to define the term. Several scholars (White, Fook & Gardner, 2006, p. 7; Fook & Gardner, 2012, p. 31; Chiu, 2006, p. 184) prefer to use the term 'critical reflection' or 'reflection' interchangeably. Researchers who use the word 'reflection' alone usually express the idea of critical reflection in their definitions. There is, therefore, no evidence that 'critical reflection' differs from 'reflection'. It is then worth considering the term 'teacher reflections' or critical reflection as a general word for logical and affective actions in which people review their experiences through reflections to inform fresh knowledge (Boud et al., 2013). This viewpoint equates reflection to a good pedagogical practice that is crucial in teaching.

Moreover, reflection is not a new phenomenon in education circles; it is located in the old tradition of experiential learning, in which experiential learning theorists such as Dewey, Lewen, and Piaget maintain that learning is mostly likely to be effective and cause change in learner behaviour if it begins with experience, more specifically a problematic one (Osterman & Kottkamp, 1993). Theorists such as Dewey and Piaget showed an interest in learning occurring as a result of reflections. While these studies demonstrate the use of reflection in learning, educators also learn daily from their practise. Without learning, there will be no improvement or change in professional practise. In that light, Çimer, Çimer and Vekli (2013) assert that the concept of reflection has recently been used extensively in teacher education programmes to help teachers learn, clarify and evaluate their own teaching practices and eventually consider improving them:

> "Therefore, reflection has become the part of teacher education programs, and such terms as 'reflective teaching', 'reflective practise', 'reflective thinking', 'the teacher as decision-maker' 'the teacher as researcher' and 'the teacher as reflective practitioner' are now widely used in a variety of educational contexts" (Çimer et al., 2013, p. 133).

This suggests that an educator must be a reflective practitioner. Although reflective teachers have been criticised for slowing down learning, Moon (2005) argues that reflection helps students to feel that they own their knowledge, understanding it because they have been part of its creation. Similarly, when teachers' reflections are considered in curriculum development, they tend to own such, and are able to develop new ways and strategies for instruction delivery. The term, 'reflective teacher' was defined by Schon in his book "*The reflective practitioner, how experts think in real life*" referring to someone who has developed "the ability to ponder activity to take part in a procedure of non-stop learning" (Schon, 1983, p. 102). This conception of a reflective practitioner was supported by Bolton (2010) and Bain (2014), noting that such a person pays critical attention to practical values and theories that drive action, while reflecting on past performance. Following the fact that anybody can learn from an experience or from other people's mistakes, everybody ought to be a reflective practitioner. Reflection is essential for all teachers to continue being effective (Day, 2001). These studies indicate that a reflective educator is a teacher who, at regular intervals, looks back on work performed, or what they are doing, critically reflecting on how they may improve in future. Reflective practise, therefore,

must be an educator's routine engagement, otherwise, his or her teaching will become stale and ineffective.

On the other hand, Harvard and Hodkinson (1994) note that this term reflection has been overrated and overused in the teacher-education community so that it has become a slogan, if not a national anthem. The researchers observed that there are several definitions of reflection, globally. Harvard and Hodkinson (1994) opine that educational researchers and educators are suffering a great deal of confusion about what is meant by the term reflection, in that everyone has his own version of teacher reflections. However, Harvard and Hodkinson's (1994) basis for argument was the American perspective. The researchers believed that scholars in the USA had tried to clarify concepts of reflective teacher education as early as 1985. Most writers take their definition of reflection from the works of Dewey and Schon. However, Harvard and Hodkinson (1994) also endorsed Dewey's (1933) and Schons's (1983) concept of reflection, in which they discussed ideas about a reflective practitioner, stating that teaching was a deliberative practice, and that reflection was an emancipatory action.

From Harvard and Hodkinson's (1994) argument, it may be gleaned that social sciences is very rich in concept description and context. The natural sciences concept defines reflection as the sending back of light through a medium (Avison, 1989). Authors of natural sciences have discovered that the process/activities of reflecting may be either good or bad, successful or unsuccessful. (Avison, 1989) referred to bad reflection as diffuse reflections in which light is reflected in random directions; thus an image cannot be formed. Therefore, on one hand, if the practice of a teacher is unpredictable, and inconsistent, diffuse reflection will result. On the other hand, specular reflection results when light is reflected in a parallel pattern. This normally takes place on a flat, reflective surface. For a reflection to take place, regardless of the nature, there must be a medium or context through which the practitioner critically views his or her practice; the reflection is observed as a consequence of the action or practice. Reflections have been widely used in teacher practices; for manageable reflections, it is suggested that own, public and certified reflections become the relevant categories for this study.

2.3 Own Reflections

Any educator has developed own reflections or own ways of viewing or defining the environment around him or her. Own reflections form the routine or habitual subjective

activities shaped by the educators' environment, family and culture (Khoza, 2016a). Professionals of all stripes have developed thought or action that normally has no rationale, or is conducted by the professional without conscious focusing on the action. Reflection has to start with consideration of own feelings, interpreting them in order to learn from them (Atkins & Murphy, 1994; Boud et al., 2013). In addition, Gibbs (1988), in his reflective cycle, advocates for understanding of own feelings and for the personal background of the practitioner to be first described. Consumer Sciences educators have personal goals, reservations and concerns with regard to the Integrated Consumer Sciences curriculum. This encompasses the personal reasons for teaching this curriculum, which may be owing to love of the subject, desperation for employment, inter alia.

Furthermore, the own reflections constitute a world of self-understanding that is driven by lenses calibrated by own experiences and the immediate surroundings. The practitioner in this world is informed by subconscious thoughts (Khoza, 2015a) in which educators scrutinise, regardless of whether what they know may in one way be partial. This method of recognising is most likely to prompt changed mindsets, as instructors receive information on whose requirements are being met by their learning and convictions (Marbina, Church & Tayler, 2010). These studies reveal that own reflection is subjected to subjective judgements of self; as such, it may be clouded by personal emotions that vary from individual to individual. Akbari (2007), on the subject of teacher reflections, argues that the emotional make-up of a teacher must be taken into account to prevent a situation in which teachers only give an account of the negative sides of their teaching or profession. This is possible because subjects are not always independent of their personal viewpoint; this may be harmful to the person's mental well-being.

Moreover, own reflections are mostly inherited from families, religious groups, and through own experience. Larrivee (2008) explored how becoming a critically reflective teacher may transform teaching practice, considering self-reflection, or profound inspection of own beliefs. These personal beliefs, according to Larrivee, must be traced to the way in which they are formulated; and that the essential practices for developing own reflection should be explained. This article defines processes fundamental to reflective practise. These own reflections are teacher beliefs that are unchallenged. This was additionally bolstered by Larrivee (2008) while presuming that unless educators build up the act of critical reflection, they remain caught in unexamined judgments, understandings, suspicions, and desires. "Approaching teaching as a

reflective practitioner involves fusing personal beliefs and values into a professional identity" (p. 293).

In addition, Van Manen (1977) asserts that own-reflection educators are concerned with outer variables from the classroom teaching practice that can illuminate their appearance. These elements include social and personal issues, for example, value, sexual orientation, and freedom. This means that educators informed by own reflection need to reflect on understanding the power and relationship in teaching, together with suppositions and teaching practices, for them to be successful. Ten years later, Zeichner and Liston (1987) pointed out that educators, in own reflection, must use critical measures which encourage reflection on ethical and moral facets of teaching. These studies indicated that ethical and moral facets of teaching are crucial as a personal component in educator reflection. This is useful and applicable to the enacting and implementing of any type of curriculum.

The ethical, moral and personal qualities of an educator, therefore, answer the question of 'why' one teaches a particular aspect of the curriculum, explaining the passion educators develop for their teaching. Bredmar (2013), in his empirical life-world phenomenological analysis of teachers' experiences of enjoyment of work as a subtle atmosphere, studied the personal qualities of a teacher to understand the atmosphere that shapes a teacher's profession and enjoyment at work. The study reveals that a thoughtful consideration of teachers' emotional dimensions can create new expressions and concepts to relate regarding the complexity of teachers' working lives. Similarly, Keller et al. (2014) emphasise self-reflection on the personal qualities such as emotions and beliefs as a first move clearly explaining why he concludes that "emotions are an integral part of teachers' lives" (p. 1). The findings by Bredmar (2013) and Keller et al. (2014) demonstrate the importance of probing teachers' personal experiences to gain understanding of crucial dimensions of their profession. It may be concluded, therefore, that own reflection explains better the personal feeling and enjoyment educators derive from teaching their subject. It is therefore appropriate for the research questions on why educators in Consumer Sciences reflect in a particular way.

2.4 Own Reflections on Curriculum

The focus of the Consumer Sciences programmes has been on the household (family) ecosystem. This involves developing research and education programmes which demand an

analysis of the everyday operations of a household (family). In this light, Young (2014) pronounces that the curriculum focuses on the family as an ecosystem and the improvement of the individual's interaction with the environment. From its definition and philosophy statement, consumer scientists would not argue for long without placing the emphasis on self-development, self-awareness and self-actualization as the ultimate goal for the discipline. That is also enshrined in its philosophy and mission statement.

The philosophy of Consumer Sciences concedes that the curriculum must develop a person as an individual, so that the immediate environment may be enjoyed. Once the individual becomes content with the good Consumer Sciences brings, the family will also be emancipated. Gamedze (2012) studied reasons for high school students selecting Consumer Sciences, discovering that students are not clear of the career paths in the subject: they simply enjoyed it. Similarly, Paolucci (1976) also notes that, although consumer scientists must develop expertise to provide the family with food, clothing, shelter, nurture and affection, it is of paramount importance that the self—goals, values, and living conditions of the individual, be maintained. These studies indicate that the curriculum must first develop the practitioner's own life. This is true in the sense that, to enlighten one's family and society, as enshrined in the mission statement, the self must first be liberated. Belief systems and own goals and values can influence professional practice. An educator needs to first understand her own interests and goals and consider prospects of self-development, before developing learners along these lines.

Moreover, even in apparently routine or habitual work, there is a large amount of interaction with people around us (Wenger, 2000). These educators act in their individual classrooms, schools and societies; however, there are public/societal influences that shape their behaviour, forming a community of practise (Cox, 2004).

2.5 Public Reflections

Consumer Sciences educators' judgment may be influenced by their peers, friends, and mentors from the time the decision is made to become a teacher. The association of Consumer Sciences in the USA published a newsletter lamenting that, in several articles, editorials, and radio discussions, people such as medical doctors, entrepreneurs, dieticians, and others are asking: "Where is Home Economics" (AAFCS, 2016). This call has motivated teachers to join the profession. The AAFCS further noted that there is a public outcry stemming from the public

being faced with perennial practical problems of lack of food, shelter and clothing. This means that practitioners are anxious to find out what these problems mean to the public. This way of thinking is concerned with understanding events rather than trying to control them, and often involves reforming thinking as professionals try to gain new insights (Marbina, Church & Tayler, 2010).

In addition, Van Manen (1977) and Zeichner and Liston (1987) are of the opinion that public reflection educators are more concerned with the principles that guide their teaching practices. This means that educators are concerned with the attainment of aims and objectives. Similarly, Khoza (2015a) posited that the public-reflection factor is concerned with an outcome-based curriculum in which the major concern is the competences that the curriculum must develop in the learners. In this regard, public reflection is powered by the integrated curriculum. Such educators are more concerned with developing or changing learner behaviour through set goals and objectives. This, therefore, demands that the objectives be pre-set, and that they serve as guides for teaching. Such thinking conforms to Ralph Tyler's rationale that learning outcomes must be listed along with corresponding goals and objectives.

Furthermore, the curriculum of Consumer Sciences from its inception in Swaziland was influenced by societal needs, for example, malnutrition, and the preparation of young girls to cook for the European colonists. This saw such content being incorporated. Mberengwa and Johnson (2004), when studying curriculum change in Consumer Sciences education at Gweru Teachers' College, noted that this curriculum in Zimbabwe and in most African countries, was introduced by the colonists, owing to public need for household/domestic work and in the realm of agriculture. Smith (2008) observes the same in most Nigerian counties. This assent that Consumer Sciences in Africa had a strong Western influence has been an open discussion in scholarly articles and conferences. However, other countries in Asia bear the same testimony. In China, for example, McGregor (2008) observes that Consumer Sciences was introduced in 1914 by Western missionaries who were then trained in the USA after the country's long out-dated system ended. McGregor (2008) further asserts that China's curriculum was then shaped by the public need at that time. As evidence of this, China cancelled all Consumer Sciences programmes nearly 40 years after their introduction, there no longer being a need for them, thanks to China's modernization process. Also, over the last decades, Swaziland has suffered

the HIV/AIDS pandemic; thus the curriculum had to respond to that societal need by incorporating topics on its prevention and treatment.

2.6 Public Reflections on Curriculum

Another way of viewing the Consumer Sciences is consideration of the outcomes or behaviour to be developed by the curriculum. The focus of the tools of consumer scientists is on the competencies which facilitate the translation of the content orientation to the delivery of human services (Bivens et al., 2006). Consumer scientists in Botswana were needed in order to develop healthy habits in the communities and teach such (Mungazi, 1990). Likewise, Mberengwa and Johnson (2004) who studied the rationale for Consumer Sciences in Zimbabwe note that, during the late 1970s, skills acquired in Consumer Sciences were needed in order to improve the health and living conditions of the individual and the community. These studies clearly indicated that the curriculum was informed by public reflections that demanded some learning outcome to be developed for the public of that time.

Similarly, in 1936 in Swaziland, the Consumer Sciences curriculum was introduced as part of the national curriculum. At that time, there was a great need to teach Swazis, particularly on issues of nutrition. The then medical department noted that one of the most effective ways of educating the native population on nutritional matters would be by encouraging better eating habits through the schools. The introduction of nutrition and cookery lessons (now called Consumer Sciences) was seen as one means of combating malnutrition in Swaziland. The United States, after cancelling most Consumer Sciences programmes in their curriculum, now have schools rebuilding classes after a public call started by Ruth Graham “Bring back Home Economics” (Martinko, 2013). The concern here is that almost a third of the under-19 year-old Americans are now overweight or obese. Martinko (2013) further laments that the new generation of yong adults of the twenty-first century has grown up with working parents who are too busy to prepare healthy, homemade meals. The children lack proper understanding of good nutrition. The study demonstrates the public power to bring about change, particularly in issues of curriculum.

However, the curriculum today is composed of learning areas, themes, and topics prepared and pre-organised by the National Curriculum Centre. These learning areas are dictated by what everybody else in the international community doing, forming the certified aspect of the

curriculum is. This is to suggest that the teaching and learning process may be informed by certified reflections.

2.7 Certified Reflections

Finally, the technical world, according to Van Manen (1977), is ranked higher in his hierarchical model of reflection development. The technical aspect, certified reflection, presents the activities that have been proved to be effective and on which the practitioner may depend. In the certified world of educators, teaching defines the discipline or profession by placing more emphasis on a technology-integrated curriculum and the curriculum itself, as influenced by performance/collection/vertical curriculum (Khoza, 2015a). Furthermore, immediately after independence in 1991, the Armenian government aligned her national curriculum using state standards and the international standards of the EU (Terzian, 2016). The EU standards imported certified educational standards into the Armenian secondary curriculum. This information from the studies above reveals certified reflections as the highest level of reflection using scientific methods that may be proven and replicated. This act of upholding international standards or certified reflections awarded the Armenian curriculum substantial assistance and approval by international organisations.

Practitioners informed by the certified rationale base their assertions on written articles in which evidence may be provided to support their stand. Hobart and Frankel (2001) assert that a person informed by certified reflections is proficient in communication information, facts, knowledge and their ideas in writing. Consumer Sciences as an assortment of information is made out of the realities, learning, and the global guidelines that detect the content to be taught. This is revealed by McGregor (2012), that the provision of services in Consumer Sciences must involve rigorous, responsible, intellectual activity. This is to suggest that the professionals in the field should continually engage in scholarly activity that assesses the existing knowledge. These studies depict a certified reflection person as one who is articulate, and who possesses technical know-how.

2.8 Certified Reflections on Curriculum

The content in the Integrated Consumer Sciences curriculum comprises nutrition, life sciences, clothing, textiles, and home management. The certified viewpoint or international standards demands benchmarking of other Consumer Sciences content areas in developing the

curriculum. This includes merely asking questions like: 1) What subject matter should be included? 2) What teaching strategies have proven to be effective in Consumer Sciences, or 3) What assessment techniques does research recommend? Each consumer scientist or educator usually commits to an area of expertise, interest in particular clients, and preferences for the settings in which their services are delivered. Elliott and Norris (2012) note that students need skills not merely for the home and classroom, but for the job market. In support, Jeffrey and Grimsditch (2009), while restructuring the Qatar K-12 curriculum emphasised that the curriculum ought to conform to international standards and be benchmarked for its graduates to compete on the job market. The findings of these studies do not only point to professionalism in the curriculum, but to teacher competence in imparting practical skills to secondary school students so that they may obtain employment in industry or other formal sectors of the economy.

Having outlined the personal interest embedded in the philosophy, and the call for competence needed by society, East (1980) observes that they [the older generation] may soon be out-dated as "these new Consumer Scientists are less modest, meek, and gentle than the rest of us. They are confident, at the same time; these new professionals realize that they have to know their stuff (content)". Therefore, Vaines (1979) articulates that the focus should be on information, techniques, and content knowledge. Thomas and Smith (1994) open a dialogue for an ideal person educated in Consumer Sciences. The practitioner should develop knowledge and understanding of the perennial practical problems of the family (provision of food, shelter, and clothing) and be able to draw upon the knowledge base of Consumer Sciences in resolving these problems.

Although researchers such as Vaines (1979) and East (1980) suggest that the Consumer Sciences curriculum must take the form of themes and topics that will build the ideal person educated in Consumer Sciences, none specify exactly the content that should be covered. Also, content should be contextualized (Bevir & Rhodes, 2015) lest it become obsolete or irrelevant to the society; educators may not find it meaningful, with learners losing interest. It is through educators' reflections that decisions may be made on the needs of their society. Educators need not simply accept the status quo, but should think critically about the subject matter (Weil & Kincheloe, 2004). Educators need to reflect on the curriculum which, however, has concepts that best describe it, rather than viewing the curriculum as a single unit. It will be more

meaningful to reflect on these units/concepts separately, so that none is given more attention than the others, nor will one be overlooked. These studies suggest that certified reflection practitioners do ponder and think critically about the subject matter. This further suggests that reflection is a form of thinking.

2.9 Reflection as a Form of Enquiry

Reflection is a critical-thinking process that requires a professional to apply himself wholly, through imagination, to current experience, past and possible future predictions, and consequences of today's actions. The educator Dewey believes that reflection may lead to learning; however, he urges that an experience alone cannot lead to learning but that learning can be educative or mis-educative. That said, an experience will only be educative when reflection is applied and creative thinking creates new meaning and thus enables the practitioner to take informed action. Similarly, other scholars such as Sinclair (2007) associate reflection with purposeful thinking or a form of enquiry and problem resolution. This is in line with Dewey's thinking that reflection moves people away from routine thinking. He thus proposes that practitioners think the problem through.

Dewey's assertion suggests that educators must develop the skill of own, public, and certified reflections, otherwise they will fall prey to dispersed assumptions and baseless judgment. This is noted by Larrivee (2008, p. 23) that "unless educators build up the act of critical reflection, they remain caught in unexplained judgment, translations, suppositions and desires". Considering educators as intelligent specialists includes melding own convictions (own reflection) into an expert character (certified reflection). However, it may be noted that Larrivee is inspired by own reflections and those certified, ignoring the public domain by claiming that practitioners' personal beliefs and values can directly influence their professional actions. Having considered reflection as a form of inquiry, or deep thinking, Schon (1983) argues that the public reflection or after-the-event thinking (reflection-on-action), together with reflection–in-action, considered to be thinking while doing, are the two forms of thinking necessary for one to interrogate his/her actions. It has been common practice that scholars (Munby, 2012; Draper & Harrison, 2010; Giaimo-Ballard & Hyatt, 2012), in support of Schon's work, advocate for the thinking-in-action, and thinking-after-the-event, not knowing that they are coming from the public and certified worlds. As earlier noted by Larrivee, on the importance of own reflection, Killion and Todnem (1991) extended Schon's initial model of reflection to

incorporate own reflections by including the impression of reflection-for-action. This sort of reflection consolidates reflection-on-action and reflection-in-action to guide future thoughts.

The above researchers, therefore, view reflection as a form of inquiry through which educators may question their actions, the content which they teach, and all the influences on those actions (Killen, 2007). This is to suggest that successful educators are those who at times during the course of action, or even after the action, ponder carefully what they are doing or what they have done. These three domains of thinking facilitate methodological thinking capabilities (Kolmos, 1996; Thomas, 2008). Kolmos (1996) came to this conclusion when comparing project-organised learning and problem-based learning at a theoretical and a practical level. This brought to light a new way of viewing reflection not as merely thinking that anybody can do, but as a methodical thinking. This methodical thinking is a process that demands a professional to subject the mind to reflection as a thinking process that details the extent to which reflection contributes to teacher development.

2.10 Role of Reflections in Teacher Development

This sets out the primary purpose of this examination, which is concerned with the emancipation of Consumer Sciences educators to take action, or how educators may be transformed by reflections. Kolb, Kolb, Passarelli and Sharma (2014) noted that the usefulness of reflection is bolstered by three noteworthy parts of an experience, namely, grasping the experience, changing knowledge, and settling confounding parts of new or old experiences. In this way, reflection becomes a form of learning, in which even practitioners continue to learn by their experiences while reflecting. The first level is when the teacher grasps an experience (depending on her ability to receive) that is also being influenced by the culture of learning that classifies the teacher as a scholar. This domain or first level of teacher development is categorised as own reflections; however, the teacher will then have public influence when looking back on what she has or has not become, being transformed at a personal level of experience. Finally, certified reflections involve combining the two levels, that is, grasping an experience and transforming it. This level demands that own and public interests, conflicts and experiences are resolved using certified standards. Researchers (Frick, Carl & Beets, 2010; Helyer, 2015; Lew & Schmidt, 2011; Costa & Kallick, 2008) have demonstrated in various studies the way in which reflections have helped learners develop and improve both in class participation and academic performance. These three thresholds of development through

experience suggest that teachers need to balance all three reflections so as to develop through learning with experiences.

These thresholds of development suggest that educators learn throughout the stages because reflection can happen even after a move has been executed in that the results of the strategy build up another experience that should be considered. Learning occurs because a reflection gives new information or affirms known information, and thus educators cannot remain the same after a reflection. Schon's reflection-in-action (public reflection) supports this by presuming that reflection can occur during the course of action when an educator delivers a lesson for the day. When instilling discipline educators can interrogate themselves: what is it that I am teaching? Why am I teaching this lesson? This form of self-inquiry is very useful for educators; reflections can help them change their ways to improve their teaching; thus self-development may occur.

Similarly, after the teaching events, both the retired and practising teachers can use a lens to reflect on past events. Along these lines, Schon stated that reflection can occur even after an event, that is, reflection-on-action; this is the reflection that is used in the military. The US military see this kind of learning with feedback as an after-action-review (AAR); the Israel military dubbed it an after-event-review (AER). This reflection requires that practitioners, collectively, or per collected individual experiences, provide an explanation of either successful or failed events that have occurred (Johnson, 2015). This public voice or reflection is fully dependent on what others have to say about the experience. However, eventually, each practitioner or soldier in this case, learns and develops from the experiences of others, even those who did not participate in the combat. This may also apply to inexperienced or amateur educators learning from the experiences of seasoned or even retired educators.

Furthermore, reflections have been used widely in the area of teacher development and in teaching and learning (Zeichner & Liu, 2010), in which most researchers praise reflective activity (Jasper, 2003; Johns, 2009; Bowers, 2015) as an eye-opener to teachers, prompting them to take action. This highlights some of the studies in which reflection was pivotal in uncovering new information. Studies of this nature make one confident that reflections can develop educators. Reflection can help educators to see themselves, their surroundings, and international demands, using a new pair of lenses. Moreover, researchers (Finlay, 2008; Jasper,

2003; Levina, 2005), from the writings of Schon in 1983, have failed to divorce reflection from critical thinking. Reflection, being a form of inquiry, this kind of systematic thinking has the ability to develop critical-thinking skills among educators. Khoza (2015a) conducted an interpretive case study with the aim of understanding student educators' reflections. His investigation demonstrated that reflection energises on-going self-reflection, verbal reflection, and written reflection, and thus promotes critical thinking. Again, Openjuru (2004), in his comparative study of the "FAL and REFLECT" adult literacy facilitators' training process in Uganda concluded that reflection was very useful in developing adult trainees in such a way that it enabled them to critically reflect on their own lives. Abby (2001) added that they then take progressive action, and finally acquire literacy skills as a strategic tool for accessing and making use of information. While noticing that both methodologies have numerous areas which ought to be enhanced for better preparation of the facilitators' literacy, Openjuru maintains that reflecting is pivotal to the accomplishment of a preparation programme and performance of the trainees.

Additionally, Sparks and Keiler (2003) explored the rationale for teachers leaving the teaching profession. The study cited participating teachers and teachers who have resigned complaining that the teaching profession was boring, in that the same content had to be repeated year after year. Teaching, to them, had become a routine activity and a mundane exercise. Using only Schon's reflection-on-action and reflection-in-action, these educators lack certified reflection in which they should move from considering their own interests or development and influences or pressure from their students and the public. Killen (2007), in his teaching strategies for OBE, discovered that when educators reflect-on-action, their present conditions and their future intents, that the certified reflections can assist in removing routine from their teaching, enabling reflection. This, therefore, allows teachers to bring something new to their classroom environments. To them every cohort presents a new challenge to be solved by the results or outcome of their reflection after action in previous group or years.

Lastly, another scholar who ignored the certified reflections is Mabaso (2014), who also used Schön's reflection-in-action and reflection-on-action to follow how these ACE Technology instructors and educators created their comprehension of the procedure in their educational practice. The outcomes show that using appearance in and on activity, ACE Technology speakers' and educators' comprehension of the outline procedure widened and changed.

Although Killen (2007) advocated for integration of certified reflections to complete the teacher development process, studies reviewed above clearly suggest that both own reflection to develop self with influence from experience and experienced practitioners in the field (public reflection) are necessary for teacher development. In addition, it is clear that teacher development occurs through reflection, however, in a learning structure; thus reflection is found to be facilitating learning.

2.11 Reflection Facilitates Learning

Great teaching is that which leads to improved learning (Coe, Aloisi, Higgins & Major, 2014). This is why student progress is considered the yardstick for assessing the quality of teaching. Learners can benefit from educator reflection in that learner performance is greatly improved when educators reflect on their practice. Learners are at the receiving end of all teaching and teacher practices. All reflective activities by the educators are focused on developing the teacher to better equip the learners with new ways. Galane (2016) studied subject advisors' reflections on the supervision of Grade 3 Mathematics CAPS implementation in Mpumalanga province, South Africa. The researcher found that reflections managed to capacitate educators to improve learning performance; thus educators were able to identify gaps and transform their practice. This is because reflection promotes educator comprehension of their own training, subsequently building up the fundamental aptitudes and information to achieve the best results for youngsters' learning.

Similarly, McNaughton (2012) pointed to those experts who frequently think about what they do, why they do it, and how this new learning may be utilised to enhance their training, accomplishing the best results for youngsters. Also, when educators continuously think about power barriers between them and their learners, they manage to create opportunities for learners that promote learning and development. "Children learn the most when educators reflect on their own values and consider how their views of children and childhood impact on their practise" (Marbina, Church & Tayler, 2010, p. 10). These studies suggest that reflections capacitate educators to understand the power barriers in the instructing and learning process involving themselves and the learners. Capacitated educators are then able to create new opportunities without barriers; consequently, learning is improved.

Improved learning is a product of effective teaching (Hightower et al., 2011; Darling-Hammond, 2010). Finally, Çimer et al. (2013) in their quest: "How does reflection support teachers to develop into effective teachers?" found that reflection enabled teachers to develop professionally, subsequently becoming effective teachers. The researchers concluded that there are other factors needed to mould an effective teacher. However, reflection and reflective skills ought to be integrated in both pre-benefit and in-benefit educator instruction courses to grow successful instructors. Correspondingly, Baird, Fensham, Gunstone and White (1991) once put reflection to the test for a situation examining whether agreeable reflection could enhance instructing and learning of science. This examination additionally utilised both pre-service and in-service segments. The discoveries highlighted improvement in the quality of teacher practise, the techniques of demonstration, and the learning instruments that encouraged positive change. The authors concluded by championing both own and certified reflections in development of effective teachers that facilitate learning. "Central to these findings is the importance of each of the two types of reflection for fostering personal and professional development" (p. 163).

Furthermore, educational leaders such as school principals can also sharpen their leadership skills reflecting on past, present, and predicted future experiences. "Leadership is second to classroom direction among school-related variables that add to what students realize at school" (Leithwood, Louis, Anderson & Wahlstrom, 2004, p. 7). The argument hinges on whether leaders are born with leadership traits or whether leadership is developed through experience. Experience does make leaders, but experience without reflection does not lead to learning and change. Chan (2010) studied the role of reflection-on-experience on leadership development and discovered that reflection triggers produced significantly higher levels of implicit leadership theories under both low and high leadership-experience conditions. In the arena of education, Naido (2013) examined principals' encounters and reflections in support of the advanced Certificate in Education which is a school initiative programme. The principals were undivided in pronouncing the positive effect of the programme on their professional practice. Similarly, Wayne (2016), while exploring school managers' reflections on their experiences of managing CAPS in the city of Bloemfontein, noted that, through reflection, these school managers were able to identify their strengths and weaknesses. They were therefore encouraged to be committed and dedicated to their jobs. These studies suggest that public reflections garnered through experiences from the community of practice with other leaders positively

influence professional practice. Although the studies by Naido (2013), Wayne (2016) and Chan (2010) do not explicitly link the development in leadership skills, Robinson, Lloyd and Rowe (2008) and Moffitt (2007) assert that good principal leadership skills have a positive impact on student attainment, thus facilitating learning.

Lastly, reflection was tested to see whether the reflection documents may be used as a complement in the evaluation process to provide evidence of fulfilment of the national programme learning outcomes on the national evaluation of engineering education in Sweden. Kindgren, Nilsson and Wiklund (2012) concluded that reflection provided evidence of the students' perceptions of the programme, and fulfilment of the goals. Their conclusion, together with the works viewed above, suggests that the effectiveness of learning depends largely on the practice of educators. Such educators should shape up their leadership skills through public reflections. The learner or the learning process is the receiving end at which successful acquisition of skills in leadership positively influence professionalism that facilitates learning. Such studies, therefore, conclude that, for learning to be facilitated through leadership, certified reflection must be driven by public reflections. An additional view of the application of the three forms of reflection in curriculum is using Bradley's levels of reflection.

2.12 Bradley's Three Lenses for Reflections

Cartwright (2002) identified some criteria for assessing levels of reflection. The three levels of reflection were generally utilised as a guide for measuring students' reflections. However, this idea has been expanded to all practitioners, where reflection has been proven to be effective in bringing about change in practice. These levels were first defined by Van Manen (1977) as reflectivity levels. Each level denotes a specific focus: level (1) practical/technical; level (2) social/political; and level (3) moral/ethical. While both Bradley and Van Manen describe the same bodies of reflection, labelling them 'levels', there is no clear justification why Bradley switched Van Manen's level one with level three. This may explain why other writers ignore the hierarchy of these three levels. Calderhead and Gates (2003), while conceptualising reflection as used in most teacher development studies and processes, found that the concept 'reflection' did not carry the same meaning and was not consistent amongst theoreticians, researchers, and teacher trainers. Calderhead and Gates's (2003) main problem was that the conceptualization of reflection in a hierarchical manner seems to devalue the practical. Carroll (2010, p. 25) also qualified Bradley's order when using Van Manen's terminology, affirming

that “we move from ‘reflection-in-action’ then ‘reflection-on-action’ and finally ‘reflection-for-action’”.

2.12.1 Primary level

Level one of Bradley’s reflections levels describes a series of behaviour associated with reflective practitioners who describe a phenomenon according to his or her own viewpoint. This level of reflection pushes for own reflection in which the specialist tends to centre on one facet of the current circumstances. Despite the fact that he or she may cite cases of watched practices or attributes of the setting, he does not give or show comprehension of purposes for his or her perception. Perceptions and affirmations are regularly conventional or unassimilated repetition of what has been heard in class, from associates and family. At this level Masuku, Tsikati and Dlamini (2015) assert that educators are concerned about the worth of knowledge being useful to learners without alterations of personal bias. This ‘critical reflection’, according to Van Manen (1977) is a non-defensive position in which educators remain open-minded to moral and moral contemplations on educational processes. Lastly, more often, this person uses unsupported own beliefs and culture as the standard of measurement of every aspect of life, duly supporting such as evidence. Although some may acknowledge differences of perspective, this does not adequately differentiate for ease of identification. For this reason, the Leeward Community Service, LCC (2017) likened this level to a “mirror” offering a clear reflection of self, in which the educator asks questions such as: Who am I? What are my values? What have I learned about myself through this experience? and, How have I challenged myself, my ideals, my philosophies and conception of life? At this level, a practitioner regularly utters unassimilated habitual statements and thus it is greatly influenced by own reflections.

2.12.2 Secondary level

The second level of reflection by Bradley calls for the need to interpret evidence using other events in similar environments. As with the first level, this level utilises both unsupported personal belief and evidence but it further begins to differentiate them and create linkages to other viewpoints. Therefore, observations are fairly thorough although they may not be put in a broader context. However, it allows critiques, but fails to see the broader system in which the aspect is embedded, as well as other factors that may hinder change. This level therefore pushes for the public reflections as it perceives legitimate differences of viewpoint. The educator at this stage develops concerns with clarifying assumptions and the underlying competing pedagogical goals. These assumptions are further assessed, together with educational

consequences of teaching actions, concerned with behaviour. Van Manen (1977) described the level as the hermeneutic-phenomenological paradigm in which the educator describes learning experiences as the behaviour of both the teacher and the student in relation to set goals. Similarly, Welch (1999), in his ABCs of reflections, described this level as 'behavioural reflections'. In similar manner, LCC (2017) likened this level to the 'microscope' that makes a small experience looks large. Key questions on this level were further identified: What transpired? Describe your practice. What might you change about this circumstance in the event that you were in control? What have you found out about this movement, the general population, and the group?

2.12.3 Triennial level

This is the highest level of reflection in which practitioners now view things from multiple perspectives. This, therefore, requires elevation from level one (that is personalised, habitual with no rationale and evidence) to level two, (in which one perspective is used, but from borrowed literature with its original meanings and contexts). Teachers in this area can watch multiple aspects of the situation, integrating them into the setting. They can, in this manner, draw proper conclusions based on certified evidence with reasoning that may be repeated and predicted.

Activities must be situational, supported by evidence, with future consequences detailed. Van Manen's (1977) technical rationality implies that the educator is only concerned with application of technical educational knowledge. This is the level at which the settings of the class, the school, and the society are not practically linked to the problem but felt at cognitive level. Welch (1999) called it "the cognitive reflections" or the "empirical-analytical paradigm" by Van Manen (1977), who classifies this as the lowest level of reflection. This suggests that the educator displays awareness and understanding of multiple aspects of the subject, and shows understanding that his or her actions may be contextually dependent.

Studies reviewed in this section present common understanding of the characteristics of practitioners on each level. However, other studies (LCC, 2017; Cartwright, 2002; Calderhead & Gates, 2003) disagreed with Van Manen's (1977) hierarchy of the levels. The differences in viewpoints suggest that Van Manen (1977) is informed by the own reflections, considering critical reflections as the highest level of reflection. On the other hand, Bradley and others

recommend reflecting from own, public, then certified perspectives, thus they are informed by the certified body of reflection. This confusion has led to Calderhead and Gates (2003) ignoring both hierarchies and reverting to Dewey's idea of open-mindedness, responsibility, and wholeheartedness. Calderhead and Gates (2003), in their conclusion, demonstrated unhappiness that Van Manen seemed to devalue the practical, not knowing that he is influenced greatly by own reflections. They further recommended that 'practical/technical' be changed to 'pedagogical/ curricular'. While Bradley's levels of reflection demonstrate the use of the own, public and certified reflections on educator practices, reflective learning also embraces the three forms of reflection.

2.13 Different Kinds of Reflective Learning (Loops of Learning)

Single, double and triple-loop learning requires a reflection process that enables one to identify a mismatch. The ability to be self-observant and reflective becomes a crucial condition for single, double and triple-loop learning. The ability to reflect cannot be minimised at either of the three levels. Cope (2003) argued that a practitioner need not only have reflection but critical reflection in developing a double-loop learning. It is common for researchers in non-educational organisations to consider only single and double-loop learning because learning a new skill involves both single and double-loop learning. However, for the purposes of educational reflections, this section discusses the single, double, and triple-loop learning.

Chris Argyris and Donald Schon's work in 1974 on organisational learning called attention to individuals having mental maps concerning acceptable behavior under specific circumstances. From their assertions, it may be deduced that these mental maps guide actions more readily that the theories they support. It then becomes safe to say there is a split between action and theory. To completely acknowledge the hypothesis being used we require a model of the procedures included. To this end, in fully investigating Argyris and Schon's (1974) hypothesis, three components should be highlighted, in that they recognise double-loops, that is, those governing variables, action strategies, and consequences. Governing factors are those measurements that individuals are endeavouring to keep within satisfactory points of confinement. Action strategies are the means used by individuals to keep their governing values within the satisfactory range. Consequences signify what occurs as a result of an activity. This suggests that consequences may either be planned or unintended; this can impact the individual or others.

Additionally, the researchers attest that maps are extremely valuable in practitioner's actions compared to what they clearly promote. It is then presumed that there is a division between hypothesis and activity. Argyris and Schon (1974) proposed that there are two of these theories of action at play; theory-in-practice and the espoused theory. Theory-in-practice, practically speaking, is derived from a considerable number of speculations on what professionals and supervisors do in conveying our activities to others (Smith, 2001). The espoused theory speaks to the words we use to express what we do or what we need others to realise that we do. Recognising the two theories helps while investigating inquiries around proficient and professional practice.

2.13.1 Single-loop learning (Following the rules)

Single-loop learning has been likened to a "thermostat that learns when it is too hot or too cold and turns the heat on or off or alters the furnace" (Cartwright, 2002, p. 10). The thermostat (practitioner) only takes corrective action after receiving information about a mismatch in outcomes. Single-loop learning exists whenever objectives, values, and techniques are underestimated, but rules are followed. The emphasis is on techniques that are more efficient, therefore reflection at this level focuses on making the strategy more effective without questioning the set rules. Since single-loop operation is one mode, the system has a limited type of reaction with little or no learning occurring. Practitioners who use this loop learn little from their reflections, but act on automatic and in a robotic manner (own reflection) that needs no deeper insight. This operation is, however, common in organisations in which individuals build up inflexible systems, strategies, and methods; afterwards investing their energy identifying and revising deviations from the standards.This suggests that educators operating in a single loop never learn new information or ways of doing their work better outside the training they received at the teacher-training institution. They ought to learn from their daily reflections on the curriculum, however, their judgement is subjected to the scale of 'what is acceptable'. Therefore, single-loop reflections are embedded in own reflections, in which set rules and strategies are put into action to solve daily problems.

2.13.2 Double-loop learning (Changing the rules)

The double–loop reflection was developed to help institutions to transform (learning); and has been used extensively in organisations and educational institutions. It is a product of Argyris and Schön's action-science framework; and it is a useful theory in explaining learning through

reflection (Robinson, 2014). Argyris and Schon (1974) grounded this model on the social-constructionist viewpoint that assumes that there are real and pertinent differences between what public says and what it does. Argyris here suggests that public reflections, although subjected to creativity, cannot be verified, as they are not usually documented or tried and certified. Again, action may be trusted as opposed to utterances. Educators normally say something but do something else. Double-loop involves reflecting on and changing the objectives, and questioning the assumptions about the objectives. Consumer Sciences educators are workshopped every year on how best they can deliver the curriculum. Double-loop suggests that educators influenced by public reflections may be open to learning new techniques and methods (i.e., single-loop learning), however, they may become defensive if questioned about the assumptions that bring about their practices (double-loop learning).

In double-loop learning, individuals from the association can think about whether the set guidelines themselves should be adjusted. This sort of learning includes all the more "realizing totally new possibilities", inventiveness and basic reasoning (Blackmore, 2007). This learning often helps participants understand why a particular solution works better than others to solve a problem or achieve a goal. Double-loop learning, therefore, involves questioning the role of the framing and learning systems which underlie actual goals and strategies. It is therefore critical to the success of any curriculum, since it enables educators to modify the underlying norms, policies, and objectives. It allows practitioners to reflect, and draws experiences from the errors detected, and from the environment. In this way, double loop reflection pushes for public reflection.

2.13.3 Triple-loop learning (Learning about learning)

Triple-loop learning is the most prominent of reflections that cannot be expressly ascribed to being crafted by Argyris and Schön although some scholars believe it was inspired by them. Argyris and Schon (1974) emphasised that a third type of learning 'deutero learning*'* is a possibility of 'learning about learning' or 'learning to learn'. This concept denotes a third order of organisational learning (Tosey, Visser & Saunders, 2012). These researchers studied extensively the conceptualization of this concept, showing clearly how it appeared and how it was associated with the works of Argyris and Schön. Their rationale was that there are so many definitions of the concept, and these definitions have not previously been debated.

Barbat, Boigey and Jehan (2011) conducted a study to illustrate how the triple loop assists new learning strategies and encourages multifaceted problem-solving to increase performance. The study concluded by associating triple loop with production of new knowledge and learning in human beings. This suggests improvement of cognitive processes for comprehending new foundations and thus qualifying triple loop as the highest order of learning. Other scholars (Foster & Torbert, 2005; Blackmore, 2007) have embraced the idea that triple loop is a complex level of reflection that leads to methodological processes of learning. It is a discovering or learning that includes "figuring out how to learn" by considering the learning procedure. Here, members would consider how they consider the norms and not simply whether the models should be adjusted. This type of learning does not endeavour to comprehend the guidelines or the natural variables and methodologies, yet empowers one to comprehend oneself as well as other people with respect to convictions and observations. Triple-loop learning may be clarified as a double-loop learning about double-loop learning (Tosey, Visser & Saunders, 2012). This, therefore, draws from certified effective standards, justifying it according to observed personal beliefs and consequences from reflection.

2.14 Curriculum Concepts

Several scholars (Su, 2012; Lunenburg, 2010; Wear & Skillicorn, 2009) of education have defined curriculum as a formal course of study, that is, placing emphasis on subject matter or content. Others, such as Tanner and Tanner (1980), defined curriculum as a plan or program of all experiences which the learner encounters under the direction of a school while Ramey and Ramey (2004) insist that it is the totality of the experiences of children for which schools are responsible. Looking at the seven types of curricula operating in schools, the two definitions seem to encompass all school activities. It becomes a necessary task to explore the curriculum concepts as a basis for educators to reflect on all units or concepts of the curriculum.

These concepts have been used in many planned school activities, such as in development of lesson plans. They include the objectives, content, skills-development strategies, skills and ideas in teaching-learning materials and assessment. A comprehensive model curriculum was developed by Thijs and van den Akker (2009) who identified ten curriculum concepts as 1) rationale/vision, 2) aims & objectives, 3) learning activities, 4) content, 5) grouping, 6) time, 7) aids and resources, 8) role of teachers, 9) location and 10) evaluation. These concepts play a central role, and may extend beyond the one level indicated. Beacco et al. (2010) cited an

example of general aims (concept 1) that are the central dimension on which all the others must be focused. Khoza (2015a) also used these concepts when investigating the encounters of two gatherings of students and a facilitator, who were associated with the learning and instructing of a postgraduate research module, affirming that these ten ideas covered all zones of educational programmes.

These concepts may be organised into goals (specific aims/competences: concepts 1 and 2), content (content: concept 3), organisation of instruction (concepts 5 to 9) and evaluation (evaluation: concept 10). These concepts are clearly the four main components of Tyler's (2013) model for curriculum evaluation. Ralph Tyler, born in 1902, became a master of curriculum issues, particularly the development of objectives needing to be in line with learner outcomes. To demonstrate the importance of Tyler's work, his 1949 *Principles of Curriculum and Instruction* was reprinted 36 times. Tyler (2013) presented his model as an attempt at inspecting, examining, and understanding a curricular programme in educational institutions. It has been widely used in curriculum evaluation.

Furthermore, Stanley (2009), while depicting the roots, highlights, and significant translations of the 1949 and 1970 Tyler's revised rationales, supported and clarified Tyler's model, closing gaps pointed to by critical educationalists and writers. For example, one gap was seen as the involvement of learners in curriculum development particularly, setting the objective before curriculum development. It is a general fact that most curriculum models were designed after Tyler's. Tyler's 1949 model has been far more influential than any other later developed model. This model is an average case of "how to simplify complex teaching situations sufficiently so that plans and procedures can be carried out rationally" (Marsh, 2009, p. 26). The next model by Taba (1962) was grounded on the four steps of the Tyler rationale. However, Taba saw it as critical have a preliminary stage 'diagnosis of needs' and thus Taba's model highlighted an inductive reasoning approach to planning a curriculum. Another model that was based on Tyler's model incorporated three levels of planning; the instructional level; the institutional level; and the societal level. These were added to Goodlad and Richter's 1966 model.

Following Tyler's Objectives Model of 1949, Taba's Inductive Model of 1962, Schwab's Deliberation Model of 1970, Walker's Naturalistic Model of 1971, Stenhouse's Process Model

of 1975, Posner's Intended Learning Outcomes Model of 1974, Resnick's Constructivist Model of 1989, Wiggins and McTighe's Understanding Design Model of 1998 emerged, all were aiming to improve the school systems. Of all these curriculum models listed above, only Tyler's model is still extensively used in a number of curriculum design processes, including planning, development, analysis and evaluation (Marsh, 2007). This model is an objective model: the objectives were regarded as the criteria for controlling every single other movement of the educational module forms. Tyler (2013) defined objectives as the starting point and asserted that they are "absolutely essential" (p. 111).

Tyler asked four important questions that reflect on a curriculum. These questions will be discussed at length in Chapter 4. Three other questions are closely linked to attainment of the objectives. This makes his work devoted to professional development of a curriculum. The Tyler's model therefore is greatly influenced by the certified domain of reflection. Hoadley and Jansen (2009) note that this is because "Tyler's way of producing curriculum suggests a performance model" (p. 199). The researchers further assert that performance approaches are more content-centred and teacher-centred than competence approaches. Having highlighted curriculum concepts from the works of Ralph Tyler and its similarities with that of Van den Akker, it may be concluded that Van den Akker's curricular spider web has supplemented and expanded curriculum conceptualization. To this end, it is clear that Tyler is incredibly rooted in the certified world and therefore content or learning experiences must be developed in line with the educational objectives.

2.15 Curriculum Content

From the technical/certified viewpoint, educationalists have devised elements of a curriculum; others have components of a curriculum. Lastly, the four approaches to curriculum theory and practice are curriculum as praxis, curriculum as body of knowledge − syllabus, curriculum as product, and curriculum as process. Content is the collection of the facts, concepts, principles and theories to be transmitted to the learner (Villegas & Lucas, 2002). All arguments over curriculum will always revolve around the content or subject matter. This comes in the form of audio, text, and video; and it entertains or enlightens learners. The curriculum may then be viewed in the light of its being subject centred (in which it is believed that content represents the repository of accumulated discoveries and inventions of man down the centuries, owing to people's continued exploration of the world); or learner centred (in which knowledge or content

is related to the individual's personal/own and societal/public world). The two approaches suggest a balance in the own, public, and certified domains; yet Tyler is influenced by the certified reflections. There is, however, no misunderstanding there, as Tyler also declared that content must serve all three domains. Content must meet every one of the three distinct sources from which instructive designs are sourced: "the learners themselves, contemporary life outside of school, and subject specialists" (p. 5).

In many cases in which school-going children demonstrate wayward behaviour, parents jump to questioning the content their children are subjected to − "Is that what you learn at school?" Consumer Sciences is the only curriculum area that focuses on the family and prepares students for family and home living. This suggests development of self or own reflection. Hira (2013), when investigating the future of Consumer Sciences literacy, observed that the focus of its curriculum content was the fundamental requirements of people and family in regular daily existence. Lorek and Wahlen (2012) also asserted that the focus of Consumer Sciences was on the well-being of individuals and families.

This content therefore concentrated on the basic needs of the individual and families such as food, shelter, and clothing. The field of Consumer Sciences includes content such as consumer education, aid-resource management, housing, furnishing, equipment, interior design and care, individual and family development, nutrition and food, and textiles and clothing (Brandt, 1988; Bowers & Wyatt, 2004). Jean, Julie and Kendra (2009) also emphasised the importance of housing in the Consumer Sciences curriculum in which it was then viewed as 'cooking and sewing'. In Zimbabwe and Swaziland, Consumer Sciences was presented as Domestic Science, which was fundamentally intended to prepare women as household specialists of colonists. The principle emphasis was on basic cookery skills, attention to dress, general neatness, cleaning of the house, and basic mending abilities (Siyakwazi, 1997). These studies presented Consumer Sciences as a discipline concerned with the well-being of individuals and families. However, the social orientation and needs of the family are constantly changing.

Furthermore, Jean et al. (2009) note that there is confusion in the direction which the Consumer Sciences curriculum should take. They therefore recommended that the major factor in determination of the Consumer Sciences curriculum be the teacher. Also, the formulation of learner outcomes, the selection of content, the delivery of teaching/learning activities, and

evaluation purposes and strategies should all be decided by the teachers who are, however, influenced by researchers who advocate an ideal curricular. Siyakwazi (1997), therefore, recommended that the societal values and needs of the learner must also be considered. She further urged educational institutions to reflect some changes in ideological thinking. The Consumer Sciences curriculum content should be geared towards educating and alleviating the problems of the society, thus educators must reflect on their own perceptions of the mission statement of Consumer Sciences. Literature explored in this study suggests that Consumer Sciences content or subject matter is better taught with greater influence from public needs, which is where families [that we claim to be developing] are situated.

Moreover, the public orientation of Consumer Sciences in Swaziland is closely attached to the history of development of the subject in the country. During its inception in 1936, the content areas taught were needlework and domestic science. These were named according to the nature and grouping of the content, focusing on the development of a skill (Dlamini, 1980). Needlework content involved sewing and textiles. It was taught in all the schools, while Domestic Science (food and home-management content) was only taught in schools which had cookery facilities. Needlework was first taught in Grade 3, while cookery started in Grades Five and Six. These subjects were attended by girls only (Myeni, 1992). Missionaries supplied equipment for Domestic Science, while needlework articles were sold at the end of the year, income being used for the next year. Cookery dishes were also sold to other pupils for the purpose of raising funds. Observations by Dlamini (1980) and Myeni (1992) clearly suggest that the subject was introduced to impart skills in young women and that it was derived from external influence (missionaries).

In 1940s, there were compulsory annual competitions for both needlework and cookery, at regional level. Pupils were assessed by teachers in charge of the subjects (Myeni, 1992). The criterion for winning the competition was based on skill exhibited through sewing and food preparation. This competition aimed at improving the skills, and creates interest among the students to develop competence in the practical subject, Consumer Sciences. This resulted in an increase in schools and students taking the subject. According to Myeni (1992), there were 40 Grade Six schools with Domestic Science by the year 1961. This qualified schools to have national exams in 1966 for Grade Seven. At this time, both Needlework and Cookery had

already been integrated into Domestic Science, yet their curricula contents were almost similar to that of practical arts.

Integration in Domestic Science began in the primary schools as one of the practical arts subjects, an area which was supposed to include modern agriculture, home economics, arts and crafts, business education, physical education and music (Dlamini, 1980). In the early grades, practical arts were supposed to be geared towards the development of the awareness in the child of the world of practical arts and the language commonly used in the area. Students were expected to use their hands and available resources to develop something new. At this level, practical arts were infused with siSwati, English, mathematics, science and moral education. It was supposed to be a combination of agriculture, home economics, arts and crafts, business education, physical education and music. At this level the subject was supposed to be wide enough to cater for both the urban and rural schools as well as alternatives for "boys' work and girls' work" (Nsibande, 2007). Although this subject was supposed to be given its own designation for purposes of operation, it was presumed to draw most of its content and principles from both social studies and the natural sciences. In the upper grades, depending on the availability of resources, Domestic Science, together modern agriculture, was offered. While Dlamini (1980) and Booth (2004) reveal the nature of content in both Agriculture and Consumer Sciences, this explains why they are till today housed on one ministry (Ministry of Agriculture) and both professionals are trained on the same campus (UNISWA-Luyengo campus) that used to be a one-faculty campus (Faculty of Agriculture). Again, both disciplines are practical-skills oriented, and have integrated mathematics and sciences in their curricula. This also demonstrates the contribution of missionaries towards the development of hand-on skills among Swazis.

For many years a selected number of schools taught Domestic Science under full control of the missionaries. Myeni (1992) asserts that schools such St. Theresa's, Mjingo, Swazi National school, St. Joseph's, Siteki Nazarene, Mbuluzi Girls school, Mhlosheni, New Heaven and Ebenezer were the first schools that taught Domestic Science before the government took over their operations. These schools are still mission schools, apart from Swazi National School. After several years government assisted the missionaries by supplying equipment and money for Domestic Science. Government then took teachers for training in South Africa; the name was changed to Home Economics. The South African teacher-trainers were believed to be

competent in developing Home Economics-related skills, particularly apropos of diet, nutrition, and sewing skills (Nsibande, 2007). In the new syllabus introduced in 1983, boys were also allowed to choose the subject if they so wished. However, the subject carried a gender stereotype because it was seen by everybody that the emphasis was on development of practical skills traditionally performed by women. The practical skills orientation was the same at secondary-school level.

The foundations of Consumer Sciences content in Swaziland secondary schools at the Evelyn Baring High School (previously Southern Swaziland Secondary School), were established in 1951 (Myeni, 1992). In 1971, 9 secondary schools offered either cookery or needlework contents. By 1973, 12 schools offered these subjects at Junior Certificate level. In 1974 there were 14 schools at Junior Certificate level, and in 1982 there were 61 secondary schools. Even at secondary level, the curriculum content was dominated by two main areas, namely, cookery and needlework. Little content on Home Management, Laundry and Child Care was included. It was long felt by the teachers that, apart from the fact that the syllabus was foreign, some areas had been left out and emphasis was placed on skills in cookery, sewing, and crafts (Nsibande, 2007). A team of 5 teachers and nutritionists, therefore, made some improvements to a draft syllabus, creating materials on the new content areas − Family Living, Health and Hygiene on local foods and recipes as one of the ways of preserving the Swazi culture. It was planned that the syllabus would first present in Grade Eight in year 1983 (Ministry of Education Annual Report 1982/83). In 1983, the Consumer Sciences integrated syllabus was introduced in Grade Eight, and was to constitute a discipline for the JC examination for the first time in 1985 (Ndlangamandla, 2015). The content areas taught in the integrated curriculum included content from Food and Nutrition, Clothing and Textiles, Child Development, Family Living, Health and Hygiene, and Family Resources. The last three areas were new to the Consumer Sciences syllabus. There was no specialization at this level; however, the J C leaver had some survival skills and was also prepared, to a certain extent, for the O-level examination. These studies document a chronology of events and changes in the development of Consumer Sciences as a subject in the Swaziland curriculum. All the above studies give evidence that the inception of the subject was greatly driven by acquisition of skills, thus public reflections shaped the subject. The integrated curriculum as observed by Nsibande (2007), is a product collection of skills/outcomes deemed necessary to produce an individual capable of managing the home. These skills range from practical arts, crafts, and needlework, and food preparation.

The findings by Dlamini (1980), Myeni (1992) and Nsibande (2007) date the integration of Consumer Sciences back from a combination of cookery and needlework to Domestic Science then Home Economics to accommodate other areas such as home management, hygiene, and health. All these were interwoven with science. Hira (2013) is in agreement that Consumer Sciences utilised available resources of modern science to improve life. Again, the integration within Consumer Sciences was within the discipline, combining areas that are traditionally identified with Consumer Sciences activities. A clear conceptualization of an integrated subject can help in the understanding of integrated Consumer Sciences.

2.16 Positioning the Nature of Integration for Integrated Consumer Sciences

In an attempt to define curriculum integration, several definitions of curriculum integration come under the spotlight. Defining curriculum integration has been made difficult by the many diverse definitions available these days, thus expressing doubt whether a curriculum in question is integrated. Hinde (2005) sees curriculum integration as an explicit link of content in form of skills and values of different areas with same subject area from two or more traditional disciplines having areas in common. These traditional disciplines are mathematics, art, language, science, and social studies (Akins & Akerson, 2002). Hinde reasons that integration provides learning experiences with a horizontal organisation that breaks down these traditional disciplines. The creation of these explicit links during the breakdown was also supported by Hartzler (2000) noting that an "integrated curriculum provides the context for learning, however, instructional practises must make these connections explicit" (p. 155).

Another view of curriculum integration parades it as an orientation or a way of teaching and learning that does not divide curriculum into separate subjects. The content, however, is drawn from two or more identifiable disciplines. Ackerman and Perkins (1989) note that curriculum integration embraces various approaches and is a method for educating and learning where content is drawn from what is interesting to both the students and the teachers, such that topics are studied not because they appear to be required, but because they are valued. Concerns about the curriculum and its relevance to the learner are strongly supported by Lonning, DeFranco and Weinland (1998), when they advocated for curriculum relevance, concluding that topics in the curriculum must be relevant, otherwise, the whole curriculum may need to be re-examined (p. 9).

Furthermore, researchers, though each one tends to offer a different definition, agree on the idea of a combination of two or more subjects in a lesson, project, classroom, or themes that cut across. The variation in the definitions of curriculum integration are brought about by the lenses, the approaches that researchers use to view curriculum integration. The two viewpoints presented above reveal two different forms of curriculum, if both definitions are to be upheld; linking skills with learners' needs (outcome based) and keeping identities of different subjects as separate learning areas (subject-centred). The informed approaches endorsed by (Hinde, 2005; Akins & Akerson, 2002) suggest that curriculum integration is driven by public endeavours; while Lonning et al. (1998) were informed by certified reflections in their subject-centred focus during curriculum integration. Although these studies lack the aspect of own reflection during curriculum integration, this may suggest that integration is only informed by the two domains. However, Drake and Burns (2004) assert that there are three perspectives that offer different maps in curriculum integration design process. There are, therefore, three main approaches to curriculum integration on which its complex conceptualization may be grounded. These approaches are curriculum interdisciplinary, multidisciplinary, and transdisciplinary.

2.16.1 Multidisciplinary integration or thematic approach

The multidisciplinary approach focuses on the disciplinary concepts and skills in independent disciplines that are mixed, yet with each discipline's identity preserved. This approach is therefore, additive and not integrative (Harris et al., 2013). This was asserted by Yarcheski and Mahon (2013) who liken "multidisciplinary to a salad bowl i.e. all elements mixed up in one bowl but the consumer can feel the bite and taste of each mixing vegetable". The disciplinary perspectives are, therefore, not altered, but juxtaposed (Choi & Pak, 2006). Boyd and Hipkins (2012) added that the term multidisciplinary as an approach places more emphasis on the juxtaposition of learning areas to other disciplines, approaches that add breadth while holding disciplinary elements intact. Collins (2009) describes multidisciplinary integration as a unique approach compared with interdisciplinary and transdisciplinary approaches: it allows for comprehension of information from various disciplines while keeping the disciplines' boundaries. "Multidisciplinary draws on learning from various teachers yet remains inside the limits of those fields" (Hargreaves & Moore, 2000, p. 100).

Moreover, multidisciplinary approaches focus mainly on the disciplines as independent study units that may be handled as such. Teachers accomplish this by organising standards from the

selected disciplines around a certain theme. Drake and Burns (2004) note that the ways in which a multidisciplinary curriculum may be created tend to be many, and contrast with the level of power of the incorporation exertion. They further described four approaches to the multidisciplinary perspective that can help curriculum planners structure the curriculum well. The first is when teachers integrate sub-disciplines within a subject. This is known as the intra-disciplinary approach. This approach is mostly used in natural sciences and humanities where, for example, reading, oral communication and writing are integrated with language and arts. Alternatively, sub-disciplines such as biology, physics and chemistry are integrated with science. The latter has been widely used in the junior secondary curriculum in Swaziland. With this approach, learners are expected to read the relationship and connections between the different sub-disciplines and how they relate to the real world (Stock & Burton, 2011).

Secondly, in fusion, teachers fuse together skills and knowledge into the existing, fixed school curriculum. For example, in this era of HIV/AIDS and environmental threats caused by people and changes in climate, students learn some aspects of AIDS and environment in every subject area. In agriculture, students may discuss how HIV/AIDS affects agricultural processes. In Consumer Sciences they consider the practices by individuals and families that lead to the spread of the virus; and how to prepare meals for AIDS patients. The limitation of fusion is that it places more emphasis on basic content, although it is possible to fuse technology and computer studies into every subject area.

Furthermore, service learning is another approach that involves community projects that are fully controlled at school in class. Hargreaves and Moore (2000) observe that multidisciplinary integration can fulfil national standards particularly in science, arts, and social studies. Service learning has been correlated with higher academic performance even in other subjects. Thorburn and Collins (2003) assert that schools that integrate service learning record an improvement in their grade average points for participating students. This is because such programmes promote lifelong commitment and prepare the students for the world of work.

Lastly, learning centres are widely known as parallel disciplines because they address curriculum topics or themes of several different subjects. Usually, learners are expected to make connections themselves as the themes are taught in parallel disciplines. Owing to the additive nature of multidisciplinary integration (Harris et al., 2013) that aim to organise

standards from the selected juxtaposed disciplines (Choi & Pak, 2006; Yarcheski & Mahon, 2013; Boyd & Hipkins, 2012), the argument above suggests that even though its main concern is putting them together, the certified standards of those disciplines must be upheld.

2.16.2 Interdisciplinary integration

An interdisciplinary approach analyses, orchestrates, and fits relations between disciplines into a fit entirety. Here, students and teachers come together to analyse differences in disciplinary approaches to a problem, working towards a synthesis resulting in a new, more comprehensive view. Common interdisciplinary skills are emphasised across subjects as central to the process of learning in each subject area. Subject area teachers and students govern their own curriculum (Boyd, 2013).

Furthermore, interdisciplinary integration differs from the multidisciplinary and transdisciplinary approaches in light of the fact that it encourages conversation and integration of information (Choi & Pak, 2006). Miller and Mansilla's (2004) understanding of interdisciplinary integration affirms that individual controls are profoundly associated with new questions emerging which will eventually solve the original question. Common terms used in describing interdisciplinary are blending, integrative and synthesis. The Mauritius Institute of Education MIE (2011) asserted that the Consumer Sciences curriculum is shaped by the interdisciplinary approach of integration in which regions of learning and experience from innovative, logical, inventive, tasteful and social examinations are connected and combined. "Consumer Sciences was then defined as a synthesis of key abilities and skills within science, technology, aesthetics and arts components, weighted to suit the ability and maturity of the pupils" (p. 4).

Yarcheski and Mahon (2013), therefore, liken interdisciplinary integration to a melting pot in which subject areas are melted, and blended into one whole. Boyd and Hipkins (2012) support this assertion by identifying its purpose of helping learners to focus and blend information. One example of this approach was the blending of Food Science and Clothing and Textiles to give birth to a new subject 'Consumer Sciences'. Another example is the blending of biology concepts with chemistry to create biochemistry as a new subject. Interdisciplinary efforts can create new disciplines (Aboelela et al., 2007).

These researchers describe curriculum integration from the perspective of an interdisciplinary approach. This views integration as packaging of various school subjects, a change detected by changing needs of the society. Audigier (2006), for example, stresses that there has always been evolution in knowledge triggered by the ever-changing societal needs. Boyd and Hipkins (2012) also support the idea that, for interdisciplinary education to be successful, both the planners and the learners must share a common understanding with regard to the teaching and learning skills. Such a conclusion identifies interdisciplinary integration along with attainment of skills.

By contrast, (Choi and Pak, 2006; Miller & Mansilla, 2004; Boyd, 2013) assert that the interdisciplinary approach of integration harmonises and blends information from various disciplines into a new whole. Drake and Burns (2004) remind that disciplinary skills and concepts are emphasised. This means that the disciplines remain identifiable, although the researchers have agreed that the disciplines become less important than the interdisciplinary approach. Reasonably, Boyd and Hipkins (2012) note that there are certain contradictions in the use and meaning of integration, to the point that teachers do not receive the necessary assistance in integrating curriculum. Boyd and Hipkins note that there were no clear rules or guidelines for the educators to follow. To try to mitigate the issues of confusing definitions, Klein (2006) considered numerous definitions of curriculum integration before noting that, although there were some contradictions, all the definitions contained one or some of the terms, such as combination of subjects, use of projects, links on discipline, and themes.

This study, however, adopts the definitions of Yarcheski and Mahon (2013) and others, for they clarify the very confusion noted at the beginning of this discussion that led to categorising integration by the three approaches. Although Dowden (2012), together with others (Choi & Pak, 2006; Miller & Mansilla, 2004; Boyd, 2013) differ from Drake and Burns (2004) on whether or not disciplinary skills are synthesised to a new whole or remain identifiable, they all agree that this approach places emphasis on skills or public concerns. This suggests that interdisciplinary integration is informed by public reflections, and explains Vincenti's (2005) describing Consumer Sciences in the same paragraph as interdisciplinary and practical skills-oriented.

2.16.3 Transdisciplinary integration or democratic approach

Transdisciplinary approaches offer holistic patterns that subordinate disciplines, urging disciplinary limits to interconnect with the goal that information and knowledge may be brought together. This approach solely permits the improvement of new perspectives, "while new information picked up from it can rise above through existing controls" (Choi & Pak, 2006, p. 9). The curriculum in this approach is created amongst students and educators grounded on genuine concerns of the students. Lawrence and Després (2004) therefore note that the transdisciplinary approach encourages intercommunicative action from teachers and students to create knowledge that addresses personal problems, further contributing to an understanding of the actual world. This is why Arrowsmith (2013) has discovered that arrangements by students is basic to this integration approach, students learning by applying what they know by direct examination to take care of an issue. The teachers' responsibility is to provide resources and guidance, teaching specific areas that have been recognized as weaknesses. Proponents of this approach contend that this approach is the most "unadulterated" type of educational-module integration while disputing that multidisciplinary is a form of integration. Scholars such as Fraser (2000) merely describe curriculum integration as a demonstration of educator scaffolding and students adapting, instead of teachers guiding them. Yarcheski and Mahon (2013) along these lines compare the transdisciplinary approach to a cake in which the ingredients utilised (flour, fat, sugar, eggs) are never again recognisable, making the last item not the same as the underlying ingredients. This approach is issue/problem/venture driven as opposed to topic driven; and subject matter simply covers learning zones that identify with the primary issue of the student. Fraser, Aitkin and Whyte (2013) attest that with a transdisciplinary approach, "no attempt is made to cover all curriculum areas" (p. 21).

Furthermore, association of educational module content in the transdisciplinary approach expects educators to work around the students' advantages and concerns. Transdisciplinary integration, along these lines, adjusts between problem-based learning and arranged educational modules. It empowers students to create fundamental abilities in a real-life setting (Drake and Burns, 2004). Problem-based learning enables students to take care of a nearby issue utilising locally accessible assets and school-based systems. Some schools call this problem-based learning or place-based learning. As per Combs (2008), problem-based educational modules have three recognised qualities; (a) teachers and learners are responsible for selection of study topics in line with the interests of the learner, but meeting curriculum

standards, and manageable with local resources, (b) The teacher's necessary skill is the ability to identify what the students already know with intent to create questions to explore and provide resources for students. The last characteristic is the sharing of students' work with others in a concluding activity, thus a platform for displaying the project result becomes a necessity.

Lastly, Curtis and Glass (2002) were also of the opinion that transdisciplinary interaction develops learners' interest by validating them as an approach that develops the learner completely. The researchers argued that it is the form of education that leads to growth through project-based learning. With project-based learning, learners are not limited to teacher guidance but can go way beyond the minimum effort required. Other benefits of project-based learning include making associations among various branches of knowledge while attacking open-ended questions and applying learning to real-life problems. The studies explored are determined that this approach is geared towards developing learners' interest (Curtis & Glass, 2002), an act of scaffolding students' learning (Fraser, 2000) and promoting real-life concerns of learners (Choi & Pak, 2006). This, therefore, demands own reflections. Since these connections are of great value to the learner, Hinde (2005) asserts that learners normally have fewer discipline problems and cases of absenteeism.

Having viewed the models of curriculum integration, it remains an area of concern whether a curriculum can employ all or a combination of the three approaches. Clarification on this aspect can allow for clearly positioning the Integrated Consumer Sciences curriculum. The Mauritius Institute of Education (MIE) first defined Consumer Sciences as an interdisciplinary subject before later presenting its content area as a multidisciplinary curriculum.

> "Consumer Sciences is an interdisciplinary subject drawing on the fields of nutrition and dietetics, textiles, fashion and design, human development, relationships and behaviour. Given the multidisciplinary nature of Home Economics, the present syllabus addresses two domains of learning of the National Curriculum Framework Secondary" (MIE, 2011, p. 2).

2.17 History of Consumer Sciences Curriculum Content in Swaziland

Home Economics practices and skills are believed to have been taught informally by older woman to young girls before the introduction of formal education by missionaries (Booth, 2004). Education is supposed to be a fundamental tool in the building of the individual and the

country and an engine of development in most African countries. The education process is intended to build up the individual so that he is able to contribute adequately to the advancement of his nation. The missionaries' main focus in Swaziland was to teach good morals and the gospel of Jesus Christ. However, upon realization that Swazis were the most backward people in the Southern Africa, the aim for missionaries shifted to educating the nation. It is therefore government policy to see to it that their nation receives the best education in assisting development (SNA, 1995). Education prepares the individual to live within the society in which he/she is born and to adapt to new conditions as he/she develops. In summary, one could say "the goal of education is human development" (SNA, 1995, p. 59-60). The work of missionaries, therefore, could be easily seen in both Consumer Sciences and Agricultural activities.

Furthermore, content is predominately focused in Consumer Sciences on household management practices, cookery, and needlework (simple mending of clothes). Such skills were taught to young girls by older mothers in their mothers' huts called emaguma (Mgadla, 2003). The curriculum was not universal; there was a general expectation for all women to be taught such skills. Between 1844 and 1889 Swaziland's King Sobhuza I invited some missionaries to visit his kingdom. Missionaries opened schools to teach people to read and write in order to enable them to preach the gospel. The missionaries then opened schools to facilitate evangelism. According to Mgadla (2003), the formal education introduced by missionaries produced educated African personnel to work for the colonial administration. Africans were attracted to this, and began to demand education beyond the basic skills necessary to read the Bible. Africans came to see academic and vocational education as a progressive step and a necessary deviation from the religious routine.

Moreover, as noted earlier, informal-type education existed in traditional Swaziland before the advent of Western Education. Matsebula (1988) defined tradition as a totality of ideas, feelings, and ways of life, habits, and attitudes which give rise to culture. This definition overlooks the public and the certified reflections: Matsebula was only inspired by own reflections when crafting this definition. Matsebula (1988) further stated that tradition did not mean regression to "primitiveness", but was progression in that it accepted new structures and elements of life to the improvement of living conditions for members of a community. This assertion anchors on the SNA (1995) that sees education as development; this suggests that development begins

with the own, advancing to the public/community. As with the American Moril Act of 1962, Consumer Sciences practices and household work was to be improved from those primitive means to incorporate scientific approaches. They linked the past to the present (Matsebula, 1988). Therefore, this definition confirms that traditional education was real; Swazis were flexible in growing or allowing change in their lives. For this reason they accepted formal education; and Consumer Sciences content was organised and taught at schools in 1936.

Furthermore, it would be an oversight to think that Swazis had no education at all before contact with the Europeans, because they were able to transmit knowledge and wisdom from one generation to another through oral literature. Indeed, a study of the Consumer Sciences curriculum would be incomplete without considering the indigenous educational system prevalent in sub-Saharan Africa. Awasom (2009) observed that Africans had their own system of indigenous education, which was functional, and prepared young people to fit well into society. Consumer Sciences and agricultural content dominated such teaching as it affected daily life, and was considered key to survival (Mberengwa & Mthombeni, 2013). However, learning took place and the content was learnt.

Children learnt by doing, imitating, and observing. There were no classrooms as in current education; however, teachers or instructors existed both informally (fathers were teaching boys at esangweni and mothers were teaching girls at egumeni) and formally, and knowledge was imparted to the youth. Awasom (2009) observed that "Education in old Africa was not rigidly compartmentalized as is the case in the contemporary system" (p. 574). The system of indigenous education prepared young people to be an integral part of society by giving them life skills, particularly in farming and Consumer Sciences-related matters (Mgadla, 2003). These studies suggest that the pre-colonial Swazi was not different from other Africans as far as education was concerned. Certainly there were some variations in culture. The Swazis may have had varied forms of content and training. The important issue is that Swazis had their own form of educations before contact with the Europeans.

In Swaziland informal education dealt essentially with the transmission of the system of indigenous knowledge from one generation to the next (Booth, 2004). It had different values instilled to prepare young people for integration into their society. Informal education connected the old to the young, and adults to children. Tradition was passed from one

generation to the next through word of mouth, myths, proverbs and legends, and oral literature, which included praise poems. Thus, Consumer Sciences content was dominated by food preparation and garment production. Girls were largely responsible for such activities, as enshrined by tradition (Dlamini, 1968). At that time, although Consumer Sciences was introduced in 1936 at schools, its content was taught as a life skill.

Furthermore, Swaziland valued indigenous education that placed emphasis on active involvement in society in general (Mabuza, 2001). This system concentrated on the child's immediate surroundings. For this reason young girls were taught Consumer Sciences-related content such as needlework, dressmaking, housekeeping, home management, hygiene, and sanitation (Dlamini, 1968). Also, lessons on child care were infused at a tender age, these girls being the future mothers. Swaziland then adopted a Consumer Sciences syllabus from the British. It also trained girls on the same content, although using modernised methods and practices. Traditional education did not restrict itself to the procurement of skills, but rather, prompted the improvement of the individual as a whole from youth to adulthood (Mgadla, 2003).

These studies clearly show that the characteristics and values of the Swazi indigenous education system was that it was pragmatic (own concern) and drawn from aspects that were immediately relevant to the daily lives of children (development of own). Swazi children pursued their informal education with different contents according to their age groups. Learners had to undergo eight identifiable stages, otherwise referred to as the age-class *libutfo* system. The life cycle spanned from the birth of a child, through adulthood and into old age. Although traditional Swazis could not be very specific about the age of children, that in no way compromised the Swazi "stage of development" (Booth, 2004). Every Swazi passed through the various life stages with a group of age-mates (specific to his/her gender), and it was this group which defined the individual. Booth (2004) points out that one's stage was closely tied to one's outward physical development, along with the cognitive competence, influencing the socialization and educational process of children and young adults.

Concerning the formal education in Swaziland, Mthethwa (2004), when documenting the development of Consumer Sciences education at tertiary institutions, observed that Swaziland had merely adopted a curriculum brought by the Europeans during the inception of Consumer

Sciences in Swaziland in 1936. At that time, there was a great need to teach Swazis, particularly on issues of nutrition. The team that proposed a programme for training teachers of agriculture felt that an essential part of any scheme for the improvement of agricultural instruction in the schools would be provision and utilization of all produce from the school gardens in feeding the children (SNA, 1935a). It would not be enough to merely teach the children how to grow certain vegetables and crops; an equally important part for their education would be to learn how to prepare the new foods for consumption. Dlamini's assertion grounds the Consumer Sciences content on the adaptation of internationally certified curriculum (certified reflection) while being driven by public reflections – the need in society for nutrition and proper preparation of agricultural products (food). However, all other literature cited above clearly indicates that the content was brought about by public influence due to need to teach Swazis on nutrition, as well as training of young girls as per tradition.

Correspondingly, it was the opinion of the medical department that Swaziland was chiefly suffering from food shortages between seasons as well as poorly balanced meals (SNA, 1935a). It was noted that one of the most effective ways of educating the native opinion with regard to nutritional matters would be by encouraging better feeding habits through the schools. It was a common practice among the Swazis to prepare only a morning an evening meal, so that many children went without a midday meal, a circumstance which must certainly have affected adversely their powers of concentration and their stamina (SNA, 1935b). In addition, owing to the fact that most pupils walked long distances to school, energy would have to be expended despite lack of sustenance. It was apparent that under such conditions neither the parents nor the children could be expected to cooperate willingly in making school gardens a success unless it was evident to them that they would derive some immediate benefit from the work undertaken. The introduction of nutritional and cookery lessons was seen as a one means of combating malnutrition in Swaziland. This project was applied as an experiment on a small scale in a limited number of schools. This discussion gives insight into curriculum content in Swaziland, however, it is necessary to explore curriculum content themes or focus and its rationale in Africa and other states.

2.18 Curriculum Content Themes Unique to Consumer Sciences

As noted, the Consumer Sciences discipline was introduced by missionaries in Swaziland and Africa as a continent (Kiamba, 2005). The missionaries' goal in Consumer Sciences was to

train and prepare women to be good housewives or maids; therefore the curriculum content had more emphasis on housekeeping skills, hygiene, and home management (Mberengwa & Mthombeni, 2013). The Junior Secondary Consumer Sciences curriculum (p. 17) therefore contains home-management content from topic 1.7 placing more emphasis on disposal of refuse, cleaning of sinks, windows, and dealing with household pests, to mention a few. Since the discipline was new on the continent, the teachers were also trained outside Africa (Mberengwa & Mthombeni, 2013); they were mostly the missionaries' wives. This may explain why the curriculum content in Consumer Sciences in Africa has been widely criticised in that it reflected a strong Western influence and could be viewed as irrelevant. Mberengwa and Mthombeni (2013) noted that this curriculum did not take into account the African development needs and problems (p. 200). These criticisms therefore form the basis of curriculum reviews in all African countries, including Swaziland.

Thinking critically, using the African lenses and perspectives, it would make sense therefore, for such disciplines to be faring well on the other continents. However, Consumer Sciences has lost popularity globally, to the point that there is now a shortage of teachers in countries such as the USA and Australia where Consumer Sciences-related programmes have been ousted from the university curriculum. Bernard (2010, p. 42) lamented that Consumer Sciences in the US was "literally born of an initiative to domesticate and train women for excellence in their sphere, which by the 1950s meant consuming a vast array of products aimed at wealthier post-war Americans". Vail (2017) reveals that a paucity of teachers exists in almost every state in the USA. This is a desperate situation, in which drastic declines and lack of popularity is observed in the US, this being a country in the forefront of the battle of advocating for Consumer Sciences-related courses. Smith and De Zwart (2010) noted that there was also a dramatic drop in the number of teacher preparation programmes in home economics/human ecology/family and Consumer Sciences at tertiary institutions.

2.19 Curriculum Content in Australia

In Australia, a study conducted by the Australian Home Economics Institute indicates that there is a growing deficiency of Consumer Sciences instructors to service a burgeoning demand. Van Bronswik (2008) observed that a lack of appropriate tertiary teacher training courses was the major cause of this shortage. However, there is a today a demand for the discipline which has given birth to the establishment of an academic institution in South Australia to implement a

Bachelor of Education Programme in Design/Technology and Consumer Sciences, and a Vocational Graduate Diploma of Consumer Sciences Education.

A study by Jenkins (2014) on a contextual analysis of secondary Consumer Sciences teachers' agency regarding curriculum change, reveals that the Australian curriculum content is a product of certified reflections. This suggests that the schools implement a curriculum that reflects government's vision of information and abilities that appear noteworthy. Generally, school educational module plans and implementation have been the domain of expert teachers (Marsh, 2009). The situation in Australia has therefore been influenced by a change in politicians and government controlling school curricula by mandating its outcomes. Jenkins (2014) observed that the curriculum in that country has ever been changing, and thus content viewed by government as less important has been removed from the school curriculum. Penney (2006) made the same observation that government and politically powerful interest groups play a significant role in Australia in determining content which must be covered in schools. This is because government looks at education as means of ameliorating the economic problems.

In contrast to the latest changes through certified reflections that saw the Consumer Sciences content being brushed aside, Richards (2000) asserts that teaching of home economics contents was brought about by public reflections. This included contents from textiles, housing, home management, consumer studies, food and nutrition, as well as child and family studies. Richards (2000) further notes that the traditional content in Home Economics, although adopted from the USA, has evolved with societal changes, including the changes in technologies and the needs of society and the home. These studies indicate that a certified Consumer Sciences content in Australia was adopted as per public reflection. More recently, however, certified reflections through government and politicians have influenced the content which must be taught. This has led to the rolling out of many Consumer Sciences-related programmes.

2.20 Curriculum Content in the UK

In the UK Buie (2006) asserts that TSL Education Limited, leading educational publishers, ran a headline "Consumer Sciences is starved of teachers". This line alone describes the situation in that country. In addition, Smith and De Zwart (2010) note that, in that year, an investigation was led by the Office for Standards in Education, Children's Services and Skills (OFSTED), an administration association that reviews schools. OFSTED stated that there was a shortage

of specialist teachers in Food Technology. It was then reported that some schools had abandoned the subject. They had attempted to recruit food technology teachers, subsequently dropping food courses from the school curriculum, through lack of response.

To highlight the extent of the problem, the organisation reported that some schools with the desire to sustain the curriculum opted to employ other specialist teachers such as those competent in Design &Technology, to teach food technology. This demonstrates a strong desire for the subject. However, the quality of the teaching and learning was at stake. Shortages in Scotland were also reported (Schofield, 2005), while Taylor and Usher (2004) reported the same in Ireland. Traditionally, the Home Economics content in secondary schools covered cleanliness, well-being and security, equipment, the cooker, weighing and estimating, fundamental sustenance, essential nourishment, and essential viable and authoritative abilities. Teachers, therefore, not trained on such content will not be able adequately to deliver Home Economics instruction.

Furthermore, the Northern Ireland Curriculum content in Consumer Sciences espouses the own, public, and certified reflections. The Council for Curriculum Examinations and Assessments (CCEA, 2007) in UK asserts that the content is set to enable students to accomplish their fullest potential with the goal that they can settle on educated and dependable choices for the duration of their lives. “It is tied in with helping students to get ready for life and work: as people; as supporters of society; as supporters of the economy and environment. Home Economics has a critical part to play in this” (p. 3). It is additionally noticed that, for Home Economics to be significant, its subject matter must meet the general educational programme targets that are for the most part concerned with obtaining of practical skills, and commitment to the general public.

The above studies indicate clearly that, although African countries decry the curriculum content on the basis that it has a Western influence, countries in the west also experienced lack of popularity on the content, even by Consumer Sciences professionals. Bernard (2010), when relating Consumer Sciences and housewifery, verified that even in the US, Consumer Sciences has been, from its origin, gendered, and focused on a particular philosophy of food preparation. Such projects have underscored the feminine role played by women in their capacity as supervisors of family-unit work. The European missionaries imposed such learning on

Africans, being fully driven by the need to eat well, follow rules of hygiene, and to care for the home. The curriculum content in Consumer Sciences has therefore, from the 1950s been influenced by public reflections.

Consumer Sciences, being multidisciplinary, draws its content from a range of disciplines such as science, art, economics, and social studies, with a greater chance of losing its identity unless some content unique to Consumer Sciences be developed. The major challenge when deciding on content has been the effort to negotiate between the public influence and the certified influence. Every consumer scientist agrees that the discipline is focused on improving the quality of life for individuals and families by answering directly to the practical problems encountered daily (McGregor, 2008). This assertion, therefore, positions Consumer Sciences on the public reflection. The professionals in the discipline are directly responding to the needs directly experienced by individuals in the families that make up society.

Heggestad (2005) pronounced that the women's movements of the 1960s and 1970s were critical to Consumer Sciences as they reinforced the roles of people and society even after the move for industrialization. For this move, in Ireland and America, gender issues found their way into the Consumer Sciences content. However, Consumer Sciences was the main discipline focused on equipping youngsters for regular day-to-day existence as well as for the world of work (McSweeney, 2014). The mission of Consumer Sciences was informed by own reflections, thus making provision for the development of individuals and families. The main focus of Consumer Sciences over time has been the prosperity of families and people in ordinary activities, as found in its mission statement. There is a need for change as the family structure and roles of individuals, particularly women, have changed over recent decades.

McSweeney (2014) lamented that the curriculum content has remained almost static through the decades. Professionals in the discipline are overly resistant to accept change in accordance with societal needs, particularly, the development of young adults. This leads to the question of who is responsible for the change and development of Consumer Sciences content. McSweeney (2014) insinuated that those charged with that responsibility are possibly not au fait with the changing values of the wider society. This attitude could result in primitive values being promoted in the 21st century, explaining why the discipline that claims to be serving the society may not have responded directly to public influences on family issues.

Siddiqui (2008), on the other hand, argues that Consumer Sciences has certainly expanded its remit on addressing socio-economic issues in the society, and that it has responded very well to changes in family systems and functions. Poirier, Faria, Hernandez and Madia (2012) are also of the view that Consumer Sciences has responded to changes and needs in society, establishing it firmly in the domain of public reflections. The curriculum content in Consumer Sciences is greatly informed by public reflections. The social dynamics of the family have lately accommodated the cultural perspective in both clothing and food preparation content areas. The Integrated Consumer Sciences curriculum in Swaziland has therefore attended to issues of traditional attire, Swazi dress, Swazi traditional foods, and types of family and marriage contracts in Swaziland. However, as noted earlier, this curriculum is also trying to strike a balance between the public and the certified reflections. The following section will, therefore, examine the defects of the certified world regarding the skills and knowledge the subject must offer.

2.21 Structure of Curriculum Content in Consumer Sciences

The multidisciplinary and interdisciplinary nature of Consumer Sciences has drawn a breadth of content from several other disciplines to enable educators to impact and change the political, social, biological, monetary, and mechanical frameworks at neighbourhood and worldwide levels. Knowledge and skills from these subjects are incorporated into one interdisciplinary subject, formally known as Home Science, Domestic Science, Human Science, Home Economics, Consumer Studies, Consumer Sciences and Family and Consumer Sciences; a field that empowers the taking care of issues of regular living. This mandate of Consumer Sciences must reply to: “What educational experiences can be provided that are likely to achieve the curriculum purposes?” (Tyler, 2013, p. 51).

The IFHE (2008) position articulation sets out the subject content particular to Consumer Sciences as: nourishment, sustenance and well-being; materials and dress; sanctuary and lodging; consumerism and consumer science; family administration; plan and innovation; nutrition science and accommodation; human advancement and family studies; training and community services. The Federation notes that the content (disciplinary bases) from which studies of Consumer Sciences draw is dependent upon the context. This allows for the development of explicit understanding and interpretations of the discipline, as relevant to the

context. Street (2006) observed that Consumer Sciences' learning experiences must enable learners to advance in many competences and then make connections between their daily lives and their future world which will eventually strengthen their understanding of the interconnectedness of various issues within families and society. In addition, Street endorsed research undertaken in New Zealand that validated a philosophical shift in practice and pedagogy for Consumer Sciences that does not only focus on the contents but also encourages learners to clarify their own ideas and make their own decisions. This shift will enable learners to critically reflect on their learning and use research tools and strategies to apply, analyse, and synthesise ideas.

Furthermore, the listing of content by the IFHE, as an international body, allows for addition of content depending on the needs and context. However, the discipline must have key areas of specialization it may identify with. Hira (2013), when planning a curriculum to reflect the purpose of Consumer Sciences, identified key areas of study for the discipline. Other scholars (HEIA, 2010; Mberengwa & Johnson, 2004) see these areas as essential threads underpinning courses of study in Consumer Sciences. This equates to core content, which are individuals, families, and communities; nutrition and food; and textiles and fashion. Other learning areas such as design, consumerism, and financial literacy, sustainability, social futures and management, and many more, are integrated across the three core areas of study.

These three essential threads are unique to Consumer Sciences. However, beside this content, mathematics, science, and thinking processes have also become the focus of Consumer Sciences curriculum through integration. Several content structures have been used worldwide, however, all are centred on these basic trends. Data collected by Hughes, Rougvie and Woods (2008) on 120 topics offered by schools in Consumer Sciences contents indicated that food and nutrition content areas were incorporated most regularly, followed by family living, garments and materials, parenting/childrearing, consumerism and home management, and lodging/home furniture/equipment. These findings were made in 1981 and 1983, and validated by other scholars (Burge & Cunningham, 1983).

2.22 Chapter Summary

Reflection is a mirror or a platform upon which educators ponder, and think critically about their actions and/or consequences of such actions. Educators who identify with such practice

are called reflective practitioners. Reflections have a long history in education circles; literature reveals that they have been used from the 1930s to 2017, and may be traced back to the works of John Dewey and Schon. This study explored uses and classifications of reflections by Dewey (1933), Schon (1983), Van Manen (1977), Cartwright (2002) and Khoza (2015a), eventually categorising reflections into own, public, and certified reflections. Educators' practise involves his/her actions as a stakeholder in the curriculum; and Lunenburg (2010) views curriculum as a formal course of study, that is, putting emphasis on subject matter or content. The history of curriculum content in Swaziland sheds light on the integration of the Consumer Sciences curriculum. Drake and Burns (2004) note that the curriculum may be integrated using three approaches: interdisciplinary (public reflections), multidisciplinary (certified reflections) and transdisciplinary (own reflections). Having viewed the models of curriculum integration, studies by MIE (2011), Siddiqui (2008) and McSweeney (2014) indicate that the Consumer Sciences curriculum, from its inception, has tried to strike a balance by serving the own, public and certified reflections. Consumer Sciences content, from the perspectives of Swaziland and Africa as a whole, is greatly influenced by public reflections, although presented in structures that adhere to certified reflections. This observation is consistent with findings in other countries such as the UK and Australia. The studies of Van Manen (1977) have presented a comprehensive view of curriculum concepts other than content. These concepts include objectives, location, time, and grouping, learning activities, resources and evaluation.

CHAPTER 3
CURRICULUM CONCEPTS

Introduction

This chapter presents an exposition of educational concepts with specific reflerence to curriculum as applied to the schoo; envonment. These concepts are aims, goals, outcomes, teacher role, learning activities, grouping, time, resources and learningactivitoes. The chapter explores literature about these concepts relative to Consumer Science curriculum as framed by the own, public and certified reflections.

3.1 Educational Purposes

Scholars normally use the expression educational purposes without informing the readers what exactly they mean by this term. For example, Dogruer, Eyyam and Menevis (2011) explored the use of the Internet by students for educational purposes. This study, although its main focus was on educational purpose, did not conceptualise it, but used it throughout the document interchangeably with 'learning purposes', 'academic purposes' and 'teaching purposes'. Their discussion suggests that educational purposes are the opposite of social and entertainment purposes. This term has also been used in place of educational objectives.

Objectives, together with goals and outcomes, make up educational aims, thus an aim gives the broader educational purpose or general teaching intention (Kennedy, Hyland & Ryan, 2006) or purposes of highest level of generality (Noddings, 2007). This suggests that listing the purposes as aims, goals, objectives, and outcomes, arranges them in order of generality or broadness, with aims as the highest educational intention or purpose. This was also evident in Tyler's rationale when he defined objectives as "aimed goals". Therefore, aims, goals and objectives are educational purposes, "aims, goals, and objectives can be thought of as hierarchically ordered educational purposes" (Noddings, 2007, p. 7). Similarly, Schubert (1986) asserts that educational theorists have always used aims, goals, and objectives, in descending order of generality, to refer to educational purposes. The studies by Tyler (2013), Noddings (2007) and Schubert (1986) therefore suggest that educational purposes are aims, goals and objectives. Moreover, Noddings further noted that both goals and aims, general as they are, demonstrated some vagueness. Again, there are no specific descriptors or characteristics of either goals or aims that may help one identify each in the absence of the other. This may explain the reason for Khoza (2016d), when conducting an interpretive case

study, to explore the postgraduate students' understanding of curriculum visions and goals framed by the educational purposes as aims, objectives and outcomes. This suggests grouping together goals and aims as "educationists have seen fit, however, to maintain a technical distinction between aims and goals on the one hand and objectives" (Wise, 1976, p. 280). This implies an additional concept "learning outcome". Noddings (2007) adds that the educational objectives need to be further stated in terms of measurable student outcomes.

3.1.1 Educational aims

An educational aim is a long-term intention or general expression of educators' sense of direction that an education process must take (Kennedy, et al., 2006; Mpungose, 2016). This definition of an aim indicates three main parts of the definition. First, aims are long-term purposes that are stated in broad terms. Khoza (2016d) further notes that these aims are long-term goals. Many scholars who tried to define aims either use the word 'broad' or 'long term' to differentiate aims from objectives and learning outcomes (Nkohla, 2016; Mpungose, 2016). Leslie (2014) suggests that the aim is therefore written in indistinct terms, for example, learn, know, comprehend, acknowledge, and they are for the most part not straightforwardly quantifiable.

Secondly, the definition suggests that an aim points out the teachers' point of view or standpoint. They are, therefore, more about teaching and the management of learning. Aims are general articulations of qualities that give a sense of directions (Hannigan, 2000). They are extensively expressed results adequate to everybody who has a stake in the programme and thus they are useful in presenting outcomes holistically in such a way that one may see the programme as whole.

Thirdly, an aim points out the direction or orientation of the programme in terms of its content (Schiro, 2013). Similarly, Leslie (2014, p. 1) defined aims as general statements that offer "direction or intent to educational action". Since aims give educational direction, this suggests that they act as organising principles that incorporate the continuum of educational direction for the whole programme, various disciplines and/or regional programmes. Leslie (2014) noted that educational aims reveal the general content and directions of the programme. Noddings (2003) also reveals the same sentiment albeit not explicitly. The researcher explicitly stated that objectives indicate content, while aims are purposes on the highest level of generality.

The studies above indicate that an aim is a statement of the teachers' intentions of the direction teaching should be taking. Khoza (2016a) and Mpungose (2016) suggest that an aim urges own reflections. These include teachers' dreams, aspirations, and strategies for the curriculum. Own reflections help teachers produce an environment conducive to both teachers and learners to create their individual identities and meanings. Similarly, Schiro (2013), in agreement with Khoza (2016b), asserts that these personal meanings develop unique knowledge that the teacher will hold, with personal significance such that it develops to habitual action (Khoza, 2015c). Similarly, when Khoza (2016a) was exploring the postgraduate students' understanding of vision, he notes that both the teacher identities and the parents' aims are aligned with own reflections. According to Khoza, these aims or own reflections represent what the teachers or the parents in general have in mind for the future of the children. They should always be able to express this without thinking about its broadness or vagueness. However, aims alone cannot be utilised to direct instructional choices, since these are excessively wide and general. To be helpful, aims require more noteworthy particulars, exhibited as objectives and goals.

3.1.2 Educational objectives

As opposed to aims and goals, objectives are, typically, particular explanations of instructive aims that spell out learning outcomes. Moon (2002) defined objectives as end qualifications that the educational programmes aim for the students to reach by the end of the programme. This suggests that educational objectives are specific and precise educational intentions that clarify the goals and the aims. Although both goals and aims are vague and not measurable, objectives are observable and/or measurable. Similarly, Wang & Parker (2013), when exploring traditional leadership took inspiration from the Tylerian model, suggesting that educational objectives be specific, measurable, attainable, realistic, and time bound (SMART).

According to Queen (2017), once teachers at any educational level begin to provide formal or semi-formal information relating to content of the subject or programme, they become rooted in certified reflections, with the purpose of communicating educational objectives. The researcher agrees with Leslie (2014) that objectives clarify goals. He further defined objectives as steps to be taken while moving towards a goal. "Objectives, therefore, spring directly from aims and are statements of the specific things which the teachers of the course intend to achieve

during the course" (Queen, 2017, p. 2). Leslie's (2014) study also suggests that objectives are more specific than goals and aims, adding that they detect content and standards.

Furthermore, although Kennedy et al. (2006) views objectives as specific statements of what the teacher intends to cover, they assert that objectives are teaching intentions concerned with the content. However, the above-mentioned researchers were quick to point out that objectives are sometimes written showing goals or expressed as expected learning. They therefore discovered some confusion in the literature relating to use of objectives in both teacher-centred approaches and student-centred approaches. Similarly, Moon (2002) notes this confusion in which objectives were used as teaching intentions or expected learning. This confusion has, however, been solved by Harden (2002), suggesting that objectives were suitable for educational programmes driven by the teacher-centred approaches. However, the learner-centred approaches are better presented by learning outcomes, as objectives become irrelevant in such approaches.

The use of objectives and their importance in any educational programmes is visible throughout past research and literature. This has been part of the curriculum discourse for decades, since the work of Franklin Bobbitt who propounded this while experimenting with his students on activities to perform. The use of objectives, according to Tyler (2013), was only promoted after World War I, where they were preferred over goals and aims. The use of objectives in the curriculum is now commonly identified with Tyler or the Tylerian model, after describing the four-step curriculum development process from specifying educational objectives, choosing learning experiences, sorting out the learning experiences, and evaluating the extent to which the educational objectives have been attained. Tyler (2013) advised that the objectives are criteria for all the other three steps. For this reason, his model is today known as the objective method. Wise (1976) observed that, apart from Tyler and Bobbitt, as discussed above, Pace in 1958, Taba in 1962, Lindvall in 1964 and Saylor with Alexander in 1974, continued to refine objectives, objectives being preferred over aims. The widespread acceptance of objectives use has created a wave of interest in all academic writings, including publishing, module writing, and in research. This demonstrates the benefits of stating practically the objectives before embarking on any educational programme, as Tyler advised. The above discussion suggests that there must be a correct way of stating objectives.

Since educational objectives are created according to the teachers' intentions rather than students' intentions (Khoza, 2013), it is the responsibility of the teacher to construct and state objectives. It is recommended in all educational processes to have a learning objective for day-to-day lessons. These objectives are taken from the curriculum documents, textbooks, and standards (Kennedy et al., 2006). Since objectives are specific statements of teaching intentions, this suggests that it should be made clear to the student what is expected of the programme. Leslie (2014) therefore suggests that educational objectives be stated as behavioural objectives, which must employ an observation of three specific domains—cognitive (head), affective (heart), and physical (hand).

In summary, all the studies reviewed demonstrate ways in which specific educational objectives are compared with goals and aims. Secondly, studies by Leslie (2014), Queen (2017), Moon (2002) and Kennedy et al. (2006) suggest that objectives spell out curriculum content and that they indicate the teachers' intentions of teaching (Khoza, 2013; Mpungose, 2016; Nkohla, 2016; Harden, 2002). Therefore, the studies by (Khoza, 2013; Mpungose, 2016; Nkohla, 2016) suggest that objectives advocate for certified reflections. Every teacher in that particular subject will have the same certified objectives that carried the standards for the programme (Queen, 2017; Leslie, 2014). These objectives, to qualify as SMART, must be stated as behavioural objectives. Similarly, Queen (2017) further observed that it has been a good trend in educational institutions, particularly those in higher education, to move from objective-based learning to outcome-based learning. This suggests that they be stated as learning outcomes (Khoza, 2013; Moon, 2002). Educational purposes, aims, objectives, or outcomes demand careful selection and communication, in which the teacher has to play a significant role.

3.1.3 Learning outcomes

Learning outcomes have been widely defined in literature, with many scholars adding their own definitions that do not differ significantly from the others. These definitions have been stated in very simple terms using the almost the same words. For example, Kennedy et al. (2006) explored ten similar definitions. The researcher eventually defined learning outcomes as "statements of what a learner is expected to know, understand and/or be able to demonstrate after completion of a process of learning" (p. 16). Although this definition has provided a working definition, it does not differ from the other ten definitions explored. Bingham (1999) viewed a learning outcome as an "explicit description of what a learner should know,

understand and be able to do as a result of learning" (p. 1). Similarly, (Gosling & Moon, 2001; Donnelly & Fitzmaurice, 2005) defined learning outcome as a statement presenting the anticipated knowledge and understanding that a student ought to demonstrate at the end of a period of learning.

In contrast, Bingham's definition highlights that these statements need to be explicit descriptions. This definition tallies with Anderson and Wahlstrom's (2001) advice that learners must be told the explicit outcomes so that they become clear on expectations. They are then in a position to evaluate their progress in developing towards attainment of such outcomes. In that sense, (Khoza, 2013; Kennedy et al., 2006) suggest that students be tested to gauge the extent to which they are achieving the learning outcomes. Learning outcomes must therefore be stated explicitly and be communicated to the learners.

Furthermore, Moon (2002) also defined learning outcomes as a declaration of what a student will know or gain at the end of a lesson. The researcher added that learning outcomes must indicate 'how' the learning is to be demonstrated. Similarly, Adam (2004) viewed a learning outcome as a "written statement of what the successful student/learner is expected to be able to do at the end of the module/course unit or qualification" (p. 4). These studies suggest that learning outcomes must be presented as evidence of what the learners have to achieve. For this reason Adam (2004) places more emphasis on the outcomes being written in relation to a 'successful' student.

These studies reveal three important components of learning outcomes. Firstly, learning outcomes are associated with student-centred approaches. Learning outcomes were developed from criticism of teacher-centred approaches and educational objectives that fail to specify what exactly the learner should achieve in order to pass an examination (Gosling & Moon, 2001). According to Khoza (2013), educational objectives are designed according to the teacher's intentions rather than student's intentions. However, the learner-centred approaches have been recommended over teacher-centred approaches owing to the high level of student participation being employed. Tyler (2013) argued that teaching is not what a teacher does but the product of a student's active interaction with the learning environment. Moon (2002) then posits that learning takes place more effectively if educational programmes are driven by learning outcomes rather than objectives. It would seem that teachers need to use learning

outcomes in all their lessons for ease of assessment, outcomes being observable and measurable.

Secondly, learning outcomes point to learning processes, strategies, as opposed to teaching dynamics. These processes are expressed using terms that distinguish them from other educational purposes. Wagenaar (2008) advises that there are specific terms that must be used to demonstrate and express the learning outcome. These terms in Bloom's Taxonomy developed in 1956, according to Moon (2002), are still regarded as the best aids to writing good learning outcomes. Bernholt, Neumann and Nentwig (2012) and Khoza (2016a) assert that the work of Benjamin Bloom, commonly stated as Bloom's taxonomy, is more valuable as a starting point for stating learning outcomes in the three domains of learning — cognitive, affective, and psychomotor. Khoza further expanded this concept by writing the cognitive key words in Bloom's taxonomy as learning outcomes: remembering, understanding, applying, analysing, evaluating, and creating — written in ascending order of complexity (Freeman, 2005).

Lastly, learning outcomes detail the competences from the perspective of the learner. These competences are viewed as skills, knowledge and behaviour changes that the society is expecting. This implies that the learning outcomes, as opposed to objectives and aims, are observable behavioural changes that may be appraised. Learning outcomes are therefore "expressed in terms of the level of competence to be obtained by the learner" (Wagenaar, 2008, p. 3). These studies reflect that learning outcomes embody a unique combination of knowledge, understanding, skills, and wider competences (Kennedy et al., 2006). These competences include abilities and attitudes of the learner. The studies explored above suggest that learning outcome identifies content, with learners demonstrating evidence of an acquired skill, thus stated in terms of what the learner will achieve. They are therefore learner-centred and driven by public reflections. Studies by Khoza (2016a) and Freeman (2005) point out that these competences and skills emphasised in learning outcomes are actually serving the expectations of the public. McPhail (2005) validated this claim, concluding that "learning-outcomes approach to education means basing programme and curriculum design, content, delivery, and assessment on an analysis of the integrated skills, and by both students society" (p. 72).

3.2 Teacher's Role

Role is a prescribed or expected behaviour associated with a particular position or status in a group or a school (Ndyali, 2013). In the school hierarchical structure, teachers are line subordinates of school heads; nevertheless having some autonomy on lesson content and pedagogy. All teacher roles must be represented in a particular school; however, some teachers have few roles while others have several roles (Tsang & Kwong, 2016). Consumer Sciences teachers, like other subject teachers, play a particular role in a school. However, even inside the classroom, the teacher has roles to play from lesson planning (Sebate, 2012), instruction delivery (Husbands, 2011), classroom management (Malik, Murtaza, & Khan, 2011), assessment (Wiliam, 2013) to student welfare and sports management.

The number of teachers to be deployed in each school is determined by the teacher role and the role expansion call for new recruitment of teachers. The role of a teacher may vary for different subjects and in different countries. For example, Consumer Sciences teachers are adequately trained on counselling; thus it became their role to take the lead in school activities related to guidance (Zvobgo, 2008). Emerging conditions in the teaching and learning environment have added more roles for the teacher. Nxumalo, Wojcick & Magowe (2015) studied the shifting role of the primary school teachers in Swaziland posed by the country's high prevalence of HIV/AIDS, finding that teachers must also play the role of caretaker and economic provider.

Roles differ in their level of rigour. Some roles afford more straightforward and personal contact with students; others less (Harden & Crosby, 2000). Teachers' roles, though not measurable directly for appraisal, are seen as descriptors of good teaching. A good teacher may be identified as a teacher who supports the student's learning efforts. The teacher's role, therefore, goes beyond imparting knowledge and understanding to learners. There is a range of roles to play within the educational arena of the learner.

Harden and Crosby (2000) identified twelve (12) key roles of a teacher. Harden and Crosby, like other scholars, have tried to synthesise and organise teachers' roles with the aim of formulating a working model that can guide a teacher and possibly help in teacher evaluation. However, there has not been a successful study on limiting the number of roles the teacher is charged with. Scholars (Harrison & Killion, 2007; Alabi & Keswet, 2015; Banda & Mntambo, 2016; Gamawa, 2015) affirm that there are many roles to be played by a teacher. The changing

dynamics of teaching and new developments socially and technologically keeps expanding the teacher's role. Mulford (2003), while investigating the challenging roles and effects on educators and school viability contends that the many roles a teacher is charged with can lead to inconsistent demands and poor teacher satisfaction that would surely pose a negative effect on students' performance. Harden and Crosby's (2000) twelve roles are in line with the ten roles by Harrison and Killion (2007). They admittedly confirm that the "the ten roles are a sampling of the many ways teachers can contribute to their schools' success" (p. 1).

Harden and Crosby (2000) further divide the twelve roles into six each (6), using a musical metaphor to describe their relationship, and presenting them as one song. At this point the researchers compared the roles to the introduction of a piece of instrumental music. The arranger of this situation designs (educator as an organizer) and has the motivation and blueprints for the music to be played. The conductor, after successful interpretation of the composer's lines, facilitates (teacher as a facilitator) and guides the players to play the music to the greater appreciation of the audience. Sheet music is then provided as resources to the players and music programmers, for the audience must be established for the musicians to deliver the music, and for the gathering of people to properly welcome the experience. In conclusion, the artists impart the music to the group of onlookers – they are the 'information providers'. There may be a need for the conductor to evaluate the musician's performance (teacher as an assessor).

The ten roles by Harrison and Killion (2007) and twelve roles by Harden and Crosby (2000) set the basis for my discussion on teacher roles. If students are to learn effectively, Biggs (2003) prescribes that the educator's definitive part is to connect with students in learning exercises that will bring about their accomplishment of learning outcomes. There are other emerging roles from the perspective of Consumer Sciences and/or owing to the ever-changing educational demands.

3.2.1 The bread-winner teacher ─ provides resources

Effective teaching and/or learning cannot be adequately measured without consideration of the available resources. However, even in elite schools where all teaching and learning resources are available, teaching may fail. Therefore, a teacher's abilities to make effective use of resources is a necessary practice for maximising learning (Coe et al., 2014). This was supported

by Harden and Crosby (2000), noting an increased need for learning resources in many of the developments in education. They further emphasised that these resources are critical, in particular with problem-based learning, and other student-centred approaches. Students fully depend on them and the teacher plays a significant role in providing such. Harden and Crosby (2000) were also quick to validate this role even in traditional curricula in which students spend most of their time on workbooks planned, prepared, and distributed by the teacher.

In addition, Etiubon (2015) demonstrated the teacher's role as a resource provider when exploring teachers' resourcefulness in chemistry achievement among University of Uyo students. The results of the investigation demonstrated an enormous contrast in the performance of students educated per instructional devices as opposed to those educated per descriptive technique. Etiubon (2015) attributed the positive effect to the teacher's ability to select and use appropriate resources. In turn, interest was aroused in the students, thus facilitating their creativity and knowledge skills. This observation corroborates the findings of Adipere (2010) that teachers' ability to select and use classroom resources was correlated with learner performance. Such an ability creates varied opportunities for students to participate in exercises that accord with their reality.

Lastly, resources may be defined as a person or groups of persons, an organisation or a body of knowledge, skills, tools, and strategy for potential utility of learner empowerment. This viewpoint implies that the teacher himself/herself is a resource. Davies, Richardson & Gaudet (2008) also defined learning resources as any persons or any material with instructional content that is used for teaching and learning purposes. Harden and Crosby (2000) advocated that teachers must help orient their fellow teachers, particularly the young and inexperienced ones, by sharing instructional resources. These researchers pointed out that all resources may be shared, including websites, articles, classroom notes, books and even easement tools. Obviously, (Davies et al., 2008; Harden & Crosby, 2000) definition of a resource suggests that a teacher, being a resource, must be resourceful.

Furthermore, Etiubon (2015) defined resourcefulness as a teacher's constant response to changes in students' needs to better prepare for the ever speedily emerging educational challenges. This relies on the teacher's ability to have a constant flow of ideas relevant to the area of specialization. Therefore, the resourceful teacher is skilful and continues to be skilful

and knowledgeable, while willing to offer himself/herself to students and other teachers. The teacher must therefore continuously sharpen himself through research and active participation in professional development activities (Akude, 2010). Akude asserts that such teachers will always find a way to approach and overcome difficulties. Hence, the certified reflections demands that teachers be open to training and familiarising themselves with the knowledge of various instructional tools. They themselves must be used as resources to impact positively on students' learning (Greenhill, 2010).

3.2.2 The catalyst teacher –facilitates learning

A facilitator is regularly characterised as an impartial body that deals with the gathering of exercises to create a conducive platform for individuals and groups to achieve identified or set goals and purposes. Schwarz (2005) describes a facilitator as a "substantively neutral third party, acceptable to all members of the group, who has no substantive decision-making authority" (p. 27). Managing group processes suggests that the person guides the group processes (Hunter, 2007) while helping the group participants. Maintaining neutrality as a facilitator is one highly effective technique needed (Molloy et al., 2000). In so doing, the participants should also perceive the facilitator as neutral and fair throughout the process, for the facilitation to be effective. Neutrality demands that the facilitator work closely with the group while keeping his /her opinions and ideas neutral to avoid influencing group decisions.

Traditionally, this type of facilitation in education incorporates a roundabout dialogue strategy in which the leader (the teacher in most cases), poses questions to the participants or students. This is supported by Brown (2004) when exploring the teacher's role in conducting facilitation class sessions. Brown (2004) further defines facilitation as "conducting a verbal discussion prior to, or after an activity, with the aim of encouraging students to reflect on what will, or has been, learned from experiences" (p. 161). While this facilitation is generally recognised in many education processes, Estes (2004) argues that facilitation need not be limited to verbal discussions. There are other forms of facilitation that are an integral part of learning, such as games, dance, journal writings, and others. Estes (2004) used his lens as an advocate for experiential learning in his determination to promote student-centred learning in experiential education. Brown (2004) also concurs with Estes (2004), concluding that this form of facilitation limits students' creativity and gives more opportunities to the leader.

To explore Estes' (2004) assertion, one must clearly understand the differences between student and teacher-centred facilitation processes. Teacher-centred facilitation represents a learning process in which the power during the learning experience resides with the teacher. Student-centred facilitation affords much power to the students (Young & Paterson, 2007). Although student-centred facilitation may be seen as a replacement of teacher-centred facilitation or a new idea, it is an old philosophy dating back to Aristotle and Socrates. Experiential learning has been championed as reversing the old traditions of teacher-driven learning activities. This is because learners learn best with experience-based learning based on life activities in which the students are solely responsible for the learning. This is supported by the old Chinese idiom: "Tell me, I will forget; show me, I will remember; let me do it, and I will understand" (Simpson, 2003, p. 27). Facilitation, therefore, whether teacher-centred or student-centred intimates that learners collaborate with the educator for successful learning (public reflections) while the teacher guides them or is invisible in among learners, to be consulted only when necessary.

This then requires switching roles at times, in which a teacher needs to be a leader or a trainer of the group. In this sense the facilitator becomes a gatekeeper (Brown, 2003). Laberge (2010), while exploring the numerous roles of a facilitator, argued that it is very difficult for a teacher to be neutral, yet that element of neutrality is crucial. This challenge is brought about by teachers having expertise in the content and thus have a stake in the outcomes generated by the group. The facilitating role of a teacher is, therefore, tempting, as it requires the teacher to avoid controlling or influencing the discussion and outcome.

Estes (2004) acknowledges the difficulty in playing the facilitation role while gatekeeping the direction, content, and processes; however, he blamed teachers who claim to value student-centred learning, yet practically, those values are frequently teacher-centred. Estes (2004) then writes an article with the purpose of creating and increasing an awareness of the discrepancies between espoused values, and those in practise that eventually affect the teacher and student power relationships during facilitation. In studying these values, Estes (2004) concludes that teacher-centred facilitation is problematic. He argues that learning must incorporate more student-centred facilitation practices in which the teacher can assume a neutral position. Facilitation thus involves the content, the process, and the outcome that may be influenced by the facilitators' actions and the extent to which the facilitator is neutral. This level of neutrality

during facilitation determines the type of facilitator role the teacher can assume among the four identified and discussed below.

3.2.2.1 The broadcaster facilitator

The first facilitator, who is a subject matter or content expert, is neutral to both the process and the outcome of the group discussions. He is a pure presenter (Laberge, 2010). The role of the teacher in this arrangement is to share his/her skill or expertise by presenting information or the subject matter. He or she is not concerned with the way in which the group functions, only presenting the subject matter in a facilitative fashion. In addition, Maxey and O'Connor (2013) note that this facilitator knows how to relax and foster deeper connections with the participants. He concludes that the good facilitator makes it easy for the participants to "get it" (p. 27). These studies suggest that the teacher is more concerned about how group members learn as she/he delivers the subject, and is less concerned about what the learners do with the outcome.

3.2.2.2 The uncontaminated/invisible facilitator

The second facilitating role skill is the ability of the teacher to assist the group in conducting its activities, namely, the process. The teacher now becomes the expert in the process, although not sharing content/subject matter. Since the facilitator is not charged with the responsibility of implementation, she/he is neutral to both content and outcome; this is therefore pure facilitation (Laberge, 2010). Smit (2014) adds that this does not mean that the facilitator does not express his/her opinion on the appropriateness of the process; however, he/she is neutral to both content and outcome. Playing an invisible role in facilitation was seen as the most difficult task by Smit (2014) who concludes that neutrality does not mean not caring about the issue. He further advises teachers to first experience their lack of neutrality, on their own, so as to clearly identify their position on the issue. This pure, neutral and external facilitator, therefore, allows participants to actively and fully contribute to the subject matter.

3.2.2.3 The proficient facilitator

Another facilitator that may be confused with the group leader serves as an advisor or guide, assisting and advising on subject matter, but not controlling the discussions. The teacher in this role helps group members with the processes of conducting the activity and in making decisions. The facilitator's assurance improves the productivity of a gathering, by helping it to propel its procedures and structures (Schwarz, 2005). The teacher uses his/her expertise to help

groups come to their own decisions about the matter by offering suggestions, advice, and sometimes by asking questions. The facilitator does not impose his or her opinions, nor take decisions for the group. Schwarz sees the facilitator as a procedure master, and one who knows the best systems on how the gathering can enhance its working. Raxion (2000) metaphorically describes this facilitator as a choir conductor. Raxion (2000) and Schwarz (2005), therefore, suggest that the teacher facilitator limit himself/herself in the discussions, nevertheless leading the processes that will guarantee sound decisions.

3.2.2.4 The spearheader facilitator

The fourth facilitation skill is widely classified as teacher-directed learning in which the teacher contributes immensely to the discussions of subject matter, and is willing to control discussions (Schwarz, 2005). This control does not end with the content, but the processes on how the group will reach its decisions are applied, because the teacher has a stake in the outcome. This role is very difficult because it demands that the facilitator control the group without the group noticing that the facilitator is not neutral; at the same time his/her credibility must not be doubted. Schwarz (2005) also describes this facilitator role as the "hardest facilitator" (p. 31) role for the teacher, who must use facilitative skills yet maintain strong views about the topic being discussed.

Laberge (2010) then recommends that such facilitator should as pose open-ended questions that will help the group find a way to own its answer, otherwise the facilitation exercise will be compromised. Another strategy will be to hand over the facilitation role to a student, assuming the role of a group member. Raxion (2006) refers to this facilitation "chameleon". On the contrary, (Schwarz, 2005) argues that the facilitator must "straightforwardly express his perspectives regarding a matter, clarify the thinking hidden in those perspectives, and after that urge others to distinguish any gaps or issues in his thinking" (p. 31-32). However, both suggestions have the same perceived consequences of jeopardizing the facilitation role. Their suggestions have equal chances of betraying facilitation should the participants notice the chameleon act in the case of Raxion (2006) or when facilitators fail to see facilitator as neutral in the case of Schwarz (2005).

3.2.3 The people's teacher − partakes in community activities

Teachers are charged with the responsibility of teaching school children at school (Ranjan & Rahman, 2010). However, teachers do not only teach children but the whole community through the children, because the knowledge and skills acquired at school are indirectly transmitted to their homesteads. Whatever the teacher teaches at school is highly likely to be the main discussion over dinner tables or in family conversation. School-going children are the teacher's extension to the families. Studies (Ntini, 2009; Knoell, 2012; Hertz-Lazarowitz, 2008) indicate that there is strong need for teacher/school and community participation. Teachers make the first move and reach out to the community they are serving, particularly in the case of rural school teachers.

Rural-based teachers are formal educators of the community. They form the majority of literate professionals (Panday, 2016) and thus must be actively engaged in community activities. Both parents and children look up to them as mentors. Teachers are the professionals in the community who have studied theories of psychology, philosophy, and sociology that enable them to communicate clearly with both the young and the adults (Macleod & Golby, 2003). Panday (2016) points out that critical skills management, budgeting and record-keeping in the community may be disseminated by the local school teachers through collaboration with the community authorities. These studies suggest that effective teachers know that their acceptance in the community plays a greater role in their effectiveness in the classroom; this makes them strive to create rapport with the community. A school, therefore, houses a team of experts from all disciplines, from sciences, languages and arts. This does not mean, however, that they should ignore the expertise of the villagers both from academic disciplines and traditional structures.

Another important role that teachers play in the community is participation in planning, implementing, and evaluating local organisations, youth clubs, and voluntary groups so that they contribute significantly in its development. It is common understanding that most parents have failed to play their roles in disciplining their children (Henricson, & Grey, 2001). The presence of teachers in such organisations, therefore, helps the youth to handle such activities with respect. Also, it helps make connections from family, school, and society. Teachers can play roles of mobilising, researching, and marketing the organisations. Using such establishes linkages outside the community.

The community is composed of families. Poirier, Faria, Hernandez and Madia (2012) state that Consumer Sciences education can enhance abilities and capabilities of families and people in an evolving world. They pointed out that educational practices in Consumer Sciences, such as equal opportunities for genders, safe hygiene, and conservative water use, entrepreneurial skills, food production and health are ways in which teachers can extend themselves to the society. Lemchi (2005) and Uko-Ayiomoh (2005) concur by identifying a catalogue of skills such as small-products development, nutrition and dietetics services, event planning, and many more responsibilities the teacher can offer as community services. While these skills are widely covered in the curriculum, Okafor (2004) advocates for such roles to be played in the community; but reminding Consumer Sciences teachers that the basic mission of Consumer Sciences education is assisting people to improve their lives through (a) training the society on necessary entrepreneurial skills (a) preparing and passing on of fundamental abilities to people and (c) conveying of specialised learning and professional aptitudes to build up the country on use of local resources to enhance life.

To accomplish these aims, Gamawa (2015), when contemplating the role of Consumer Sciences instruction in reducing neediness, thus supporting advancement, proposes that the focus be moved to families' improvement. Lemchi (2005) likewise focuses on the information and abilities controlled by Consumer Sciences teachers, which should not only be dispensed to learners' schools, but also in non-formal settings. Audu and Abdulkadir (2009) opine that, even in cases of high unemployment rates, Consumer Sciences teachers who understand their role in the community should mobilise the parents through the students and develop in them the competencies, skills and traits which are fundamental to productivity of the economics frameworks. These studies reveal a teacher with the interests of the public, reflecting on the needs of the public, and acting collaboratively with it, in achieving a common goal. Public reflections therefore allow the teacher to socialise, communicate, and provide his/her expertise to the society.

3.2.4 The pedagogue – delivers instruction

Conventional classrooms are teacher-centred by design. The teacher plays a greater role in delivering content to learners. The arrangement is simple: the instructor is in front of the classroom, and all students face the instructor (Lasry, Charles & Whittaker, 2014). This

encourages a passive, one-way transmission of knowledge that has been the norm for many. The focus is on the teacher as an expert delivering information (Zeki & Güneyli, 2014). The most common role a teacher plays in the classroom is to teach/transmit knowledge to students. Teaching then becomes an act of information-dispensing and students are knowledge consumers (Carey & Sale, 1993). Teachers are given a curriculum as syllabus to guide their instruction. The curriculum is followed by the teacher so that throughout the year, it stands as the blueprint of the activities and techniques the teacher will use. This teaching approach is anchored on the works of behaviourists such as John Locke, the empiricist, who believed that a child is born an empty slate. The blank slate idea has a long history in philosophy that may be traced back to Aristotle. This suggests that the instructor believes that learners are empty vessels that need to sit quietly while nature (the teacher) writes on these slates.

Furthermore, the idea comes across that the teacher has full control of the learning activities, including creation of a conducive classroom environment for learners. The formula for this approach is simple: if the teacher creates a warm, happy environment, students are more likely to be happy. If learners are happy, delivery of content will be interesting, and learning will take place. Depending on the environment prepared by the teacher, whether good or bad, students will acknowledge the teacher and the environment and react accordingly. Teachers therefore need to study the effects of different classroom settings created and controlled by them, for their teaching to be effective. The idea here is that the slate must be delivered in a 'clean place'. Sociologists, however, have offered substantial disapproval over the years on the 'blank slate' philosophy (Horowitz, Zagorsky & Kickham, 2014). A sociologist, Pinker (2002), one of the critics, popularised the notion of sociologists that prompted Horowitz et al. (2014) assessing whether sociologists deny the blank-slate view. Their findings indicate that the sociologists were equally divided.

Moreover, in the twenty-first century, with observed changes in student demographics, enrolments, and advancement in computer technology, this role of the instructor is becoming complicated. Schools and universities are now pressured to deliver instruction through virtual learning environments which the teacher may not be competent enough to use. Teachers, as instructors, therefore must master the techniques needed to support students in a virtual learning environment. The "role of the online distance learning instructor is ambiguous and often ill defined" (Easton, 2003, p. 87). The studies (Lasry, Charles & Whittaker, 2014; Zeki & Güneyli,

2014) regard the instructor as an expert who is in full control of the content. The word learners suggests that a teacher as an instructor is driven by certified reflections, whose main focus is the delivery of content. Horowitz et al. (2014) considering of students as passive learners or 'blank slates' confirms a strong influence from the certified reflections, with the own and public domains rendered inactive.

3.2.5 The judge – assesses learning

Assessment is undoubtedly an essential component of teaching in any curriculum. It is an activity that enhances learning by providing necessary information and feedback in others to modify teaching and learning activities (Burch, Seggie & Gary, 2006). It is the "systematic collection of information about student learning, using the time, knowledge, expertise, and resources available, in order to inform decision about how to improve learning" (Walvoord, 2010, p. 23). Assessment, therefore, is an act or practice conducted by the teacher to enhance learning. Educators have the responsibility to evaluate students; thus it is their role to equip themselves with assessment techniques (Wynne, 2004; Leepile, 2011). Other studies assert that teachers assess learning (Jones, 2005; William, 2013; O'Farrell, 2002), students (Spiller, 2009; Tomlinson, & Moon, 2013), and their colleagues (Jackson, Burrus, Bassett, & Roberts, 2010; Darling-Hammond, 2010).

Since teachers assess learning, students and their colleagues, they are part of quality assurance practitioners in education that are regarded with highest esteem and are integral to teaching and learning (Leepile, 2011). Quality assurance is crucial in assessment processes as it positively influences the quality of the assessment, thus giving the student, parent, and the public confidence in the qualifications awarded. Ensuring "quality assurance procedures in assessment must be the teacher's ultimate goal in assessment more especially in national examinations where coursework contributes to the final grade" (p. 37). Assuring quality in assessment involves establishing validity and reliability of all assessment tools. However, developing reliable and valid assessment tools is greatly influenced by the competences of the teacher, the assessor. Gardner and Gardner (2012) observe that assessment takes teachers considerable time. More effort and concentration is required for assessing practical lessons. Since the assessment role requires teachers' effort to measure the extent to which objectives have been achieved (Tyler, 2013), certified reflections drive teachers to perform this role.

3.2.6 Teacher as curriculum master

The term curriculum has been given many different meanings depending on context and how it is used at that time. Jadhaw and Patankar (2013) defined curriculum as deliberate communication and collaboration of students with subject matter, instructional materials, and the procedures for evaluating the achievement of instructional objectives. This viewpoint is limited to the implemented curriculum. Where one to define the role of a teacher along those lines, teachers would be seen as implementers of the curriculum. However, teachers play a wider role in the issues of curriculum from the planning, development, implementation, and finally, evaluating of the curriculum (Jadhaw & Patankar, 2013). Education has developed from traditional primitive processes in which the society was the 'teacher' and the teacher teaches or transmits traditions to new generations. The curriculum was based on life experiences. Society's future was limited to the norms and values of the society that depended fully on local expertise to successfully transmit tradition to children (Duyilemi, 2002). The eventual fate of the general public relied upon continuing the conventions that were effectively transmitted to the younger ones. There were no schools, no instructors, everybody in the general public was an 'educator' (Duyilemi, 2002) with the youngsters learning by doing and impersonation (Vygotsky, 1978; Nielsen 2006; Williamson, Jaswal & Meltzoff, 2010; Whitebread & Bingham, 2013).

Nowadays, in all societies, developing or developed, the curriculum has become more complex. All curriculum roles have been passed to the teachers (Oloruntegbe, 2011). Teachers are au fait with the needs of all stakeholders in the society, understanding the psychology of the student and preparing to demonstrate techniques and teaching methodologies. Educators, in this way, assume a vital role in planning and implementing the curriculum that will serve the learner's own needs. The needs of the public must be certified to be relevant for the discipline. Oloruntegbe (2011) therefore argues that teachers "must possess some qualities such as planner, designer, manager, evaluator, researcher, decision maker and administrator" (p. 443). Even though, as per Tyler's (2013) suggestion, the curriculum must serve the own, public, and certified needs, studies reviewed above indicate that teachers play a wider role as curriculum experts and stakeholders (Jadhaw & Patankar, 2013; Oloruntegbe, 2011). Similarly, Duyilemi (2002) draws from history when community members were the teachers of traditions, concluding that they played an extensive role as a walking encyclopaedia of traditions and values. These studies strongly suggest that the role of the teacher as a curriculum master is

greatly influenced by certified reflections. While the teacher plays his/her role, teaching and learning processes are limited and influenced by time.

3.3 Instructional Time

The time concept in curriculum was first examined by a veteran American analyst and psychologist, Edward Thorndike, respected for his work on animal behaviour. The learning procedure brought forth his hypothesis of connectionism and laid a solid foundation for educational psychology with scientific evidence. Thorndike, in his 'laws of learning' observed that 'duration' was a noteworthy and an effective variable in all teaching and learning processes. Another psychologist who came before Thomdike, William James, emphasised the importance of attention, maintaining that time was a major factor in school learning, and thus all teachers must learn to control this variable. Lastly, in the same year, the educational psychologist, Charles, of the University of Chicago asked an influential question on the attention span of a child (Judd, 1918). He was concerned about 'time', 'attention' and 'rate of instruction' as variables for teaching and learning. When referring to instructional time, there are so many words used that are related to it such as duration, rate, period, and attention (Loewer, 2009). Hollowood, Salisbury, Rainforth and Palombaro (1994) investigated the role of the teacher and the student in education classrooms. They noted that schools allocate far less than half of school time to instruction. They implied that this type of time is used in predicting achievement. Their conclusion therefore suggests that there are different times allocated at school which differ in their level of contribution to student academic achievement. Instructional time is divided into seven types which include allocated time, time-on-task, academic learning time, transition time, perseverance, and pace.

3.3.1 Allocated time

Allocated time is characterised as the time that the locale, region, school, or instructor offers the students for direction. It is the aggregate time for educator direction and student learning (McLeod, Fisher & Hoover, 2003). Allocated time has always been the challenge with most schools in Swaziland in which teachers complain that much time is devoted to sporting activities when subjects such as Consumer Sciences need more time for their practical work (Mabuza, 2014). There is, however, no evidence by research on whether or not the time allocated in the curriculum documents is sufficient to cover subject matter and effectively allow teacher to practise and demonstrate all necessary learning activities. However, there is a link

between time and learning (Gerwertz, 2008). Allocated time influences selected learning activities directly together with the teaching methodologies to be used. The OECD (2014) measured the time that elementary and secondary school students spend in the classroom. Their findings assert that allocated time differs in different countries, at different grade levels and on the subject being compulsory or not. This suggests that allocated time varies in different subjects, depending on the attention time needed and other variables such as need for class work and laboratory work. Allocated time is therefore instructor-controlled and delivered by the certified standards of the national curriculum for the subject. It reflects effects of forces beyond the control of the learner, such as the school authority, the teacher and the curriculum designers who use certified reflections to determine time to be allocated to a particular subject.

3.3.2 Engaged time

The second type of time that depends on attainment of goals is 'engaged' time. This is the time when students seem to be paying attention to classroom presentation, teaching aids or visuals that lead to attainment of instructional goals. Understandably, engaged time is perforce a subset of allocated time (Berliner, 1990; Savage & Savage, 2009). The concept of engagement denotes that, although time is allocated, teachers may not fully engage students in the learning situation at all times. At this stage the head of department and head teacher become necessary in ensuring that there is no significant variation in engagement and allocated time. Mabuza (2014), when exploring best practices in teaching of Consumer Sciences observed that incompetent teachers abandon students in clothing and textile classes. Such habits caused Savage & Savage (2009) to specifically refer to engaged time as time spent on activities directly serving instructional objectives. They further note that it is the remaining time after deducting from allocated time the time spent on moving to groups, making announcements, activities not directly linked to attainment of instructional objectives. Therefore, calculating the percentage of engaged time from allocated time can help educators and school administrators determine lost time. Saloviita (2013) explored lost time and discovered that, apart from time lost through transitions, teachers lost on average six minutes per lesson; reducing significantly the engaged time. Although Saloviita (2013) demonstrates how teachers can influence engaged time, studies (Berliner, 1990; Savage & Savage; 2009) suggest that allocated time is set by the teacher or the curriculum documents; while engaged time is in the hands of the learners on how they make use of the allocated time. Engaged time is, therefore, influenced by public reflections, learners acting in-group or interacting with the teacher.

3.3.3 Time-on-task

Time-on-task is an element of engaged time on a particular learning experience or tasks of a theme in the curriculum. Time-on-task is usually confused with engagement time, yet it is specific to a certain task (Scheerens & Hendriks, 2014). For example, in a bread-making lesson for Food Preparation in Consumer Sciences curriculum, time-on-demonstration must be planned and used effectively (Laster & Johnson, 2001). It is common with inexperienced teachers and practising teachers to use more than half of the lesson allocated time on one particular task—demonstration. The problem here is that if the teacher takes half of the time demonstrating a skill, what time should the students take? Consumer Sciences teachers must be competent in all skills to be presented, otherwise, Dlamini (2013) noted that much time is not just wasted on-the-task but on quiet moments and grouping of learners, particularly in demonstrations. Academic learning time (ALT) is the most complex concept, greatly influenced by engagement and time-on-task, and is directly related to the outcome of the teaching episode. The difference is that academic learning time is the amount of time learners are actively, successfully, and productively engaged in learning activities applicable to subject matter (Brodhagen & Gettinger, 2012). Each educator's own perspectives and judgement regarding the completeness of the task is thus informed by own reflections. In Consumer Sciences, part of allocated time is used in the Consumer Sciences subject matter, in which a student is exposed or subjected to learning activities related to educational outcomes. These educational outcomes must be valued by the learner, and lead to attainment of teacher-set goals (Berliner, 1987).

3.3.4 Transition time

The other time that is normally forgotten or not considered, shaped by public reflections, at schools yet it can delay and affect instruction, is the 'transition' time. Transition time is a "non-instructional time before and after some instructional activities" (Ylimaki, 2013, p. 126). However, this time may be deliberately planned to allow smooth transition from one subject to the next or be incorporated into the allocated time, for example, time when an educator takes the roll or gives back homework towards the start or end of a lesson or topic (Pollard & Pollard, 2014). It is common practice in Swaziland high schools and primary schools that the in-between period transition time is not allocated, although both teachers (when moving from one class to the other) and students (when taking away books and materials for previous

class or moving from their resident classrooms to a lab) utilise this. For Consumer Sciences, this was found by Simelane (2007) to be a major problem. Consumer Sciences lessons are normally conducted in laboratories far away from the mainstream classroom in which students reside. Transition time, therefore, eventually decreases the allocated time for instruction. A study accounting for the effect of the accumulated unplanned transition time has not been conducted. Transition time, however, must be differentiated from the waiting time.

3.3.5 Waiting time

Waiting time belongs to the family of instructional time used to describe the time a student has to wait before receiving instructional assistance or support from the teacher (Scheerens & Hendriks, 2014). This concept is relative to teachers' instructional management that includes time and human resources. Students must often wait for some time before receiving new assignments from the teacher, or spend time in a queue to have their work checked by the teacher or waiting for the teacher in group-work after signalling that they need help (Pollard & Pollard, 2014). While students wait, there will be no progress, no instruction. This is common in Consumer Sciences classes: in large classes students in a clothing and textile class can wait the whole period for the teacher to check one sewn process (Mantyi-Ncube, 2012). The student will not proceed to the next process before receiving the go-ahead from the teacher. Ncube gave the example that a student will not attach a sleeve to the armhole before the teacher checks that the sleeve is sewn and finished properly. It is the only means the teacher has to say "student was able to do…." Berliner (1987) noted that waiting time must not be mistaken for 'hold-up time', the time between the end of an enquiry by the instructor and the start of a reaction by the students. Although during waiting time there is progress towards attainment of instructional objectives, studies by (Mantyi-Ncube, 2012; Pollard & Pollard, 2014; Berliner, 1987) remind that waiting time is part of the teaching and learning progress, and that this depends on the social dynamics between the teacher and the learners. Again, public reflection drives these social dynamics: waiting time may be influenced by the nature of the classroom environment, number of students or groups and the teacher's classroom management practices. Such waiting demands patience and perseverance on the part of the learners.

3.3.6 Perseverance time

Perseverance can easily be confused with engagement time, yet this is engagement time relative to students' willingness to be engaged (Bausell, 2010). While engagement is defined in terms

of teachers' effort to engage learners in the instruction, perseverance is the extent to which the student is willing and able to spend time on learning a particular concept or undertaking a task. The perseverance concept is influenced by own reflection on the part of the student, normally gauged by the level of motivation the student receives. In other words, students' perseverance time is directly proportional to the level of motivation the class or students receive. PISA (2013) explored factors or indicators associated with students' drive and motivation. This programme discovered that students who had greater perseverance and stamina were more likely to succeed than those who are naturally talented. It further asserts that perseverance and stamina are personal attributes, but that are not correlated. Surprisingly, PISA (2013) further noted that failure develops perseverance among learners. Similarly, (Duckworth & Seligman, 2006; Zimmerman & Schunk, 2011) assert that learners with aptitude and talent are less likely to develop a strong drive and perseverance because they are always at ease and thus their loss is great during times of failure or difficulties. Berliner (1987) observed that, although perseverance is a variable of motivation, operationally, it is an instructional variable because it is a time duration with which a student is willing and able to take instruction.

3.3.7 Pace

Lastly, 'pace', carries the connotation of speed; however, speed cannot be measured without consideration of the distance covered over a certain period (Bausell, 2010). The term 'period' is widely used in school times and timetabling. This concept will be discussed in the next paragraph. Pace, therefore, as an instructional time, refers to the amount of subject matter taught or instruction delivered in a period. The issue of pace is usually brought under the spotlight during professional meetings and Consumer Sciences workshops. Teachers complain that they cannot finish the syllabus, while other teachers finish their subject and have time for revision before external examinations (Mabuza, 2014). This depends on the teacher being able to expose her students to the most content within the same time as others. Kerr (2015) conducted a study on the experiences of online learners, and noted that time afforded to students to complete the course had a great influence on their performance. He further observed that the pace of courses was significantly fast and thus the quality of materials were structured poorly, the organisation being worse. The study concluded that, even though some students may be faster than others, lessons must be adequately paced. The number of topics/themes covered in the first term by the teacher may depend on how quickly the students finish their garment, or how quickly the educator (own reflections) is exposing them to new knowledge. In addition, Consumer Sciences

practical lessons may vary inversely with the quality of work done. For example, students may finish their tasks speedily; however, the workmanship may be very poor, thus eventually scoring low grades by the moderators. As the pace of instruction increases, quality of work or attainment of curriculum generally decreases (Johnston, 2009; Roxburgh, & Carbone, 2013). All these time concepts are observed within a period.

A period is a term used to refer to a unit or block in which it is believed an average lesson/topic may be completed. A school period, according to Wikipedia (2017), is a chunk of allocated time for lessons, usually 40 to 60 minutes, set by educators at school. School and teacher management of available time has an influence on the learning activities that may be employed within the school calendar.

3.4 Learning Activities

A learning activity is defined as any organised lesson, planned and prepared by the teacher, or together with students, with the expectation of enhancing student knowledge, abilities and skills. Monnet (2006) characterised learning activities and non-learning activities by recognising two crucial criteria distinguishing learning activities from non-learning exercises: the action must be deliberate and organised. Purposeful learning is an intended search for information, knowledge, aptitudes, capabilities or mentalities of enduring quality. If the activity is deliberate, it must lead to a predetermined learner outcome. However, there are many school activities whose purpose is not learning, however, may produce some learning.

Educators must reflect on learning activities guaranteed to produce the intended change in behaviour (Wersch, West & Seven, 2003). Cultural activities, sporting activities or religious activities may or may not be considered as learning activities, depending on whether there is an intention to learn. It is worth noting, however, that non-learning activities may generate some learning, and that learning becomes a by-product of the activity. Organised learning, on the other hand, is characterised as arranged action orchestrated into a one-of-a-kind example or succession with a clear or verifiable aim (Vermette et al., 2010). The planning is conducted by the educator with the learners, and sequenced in a manner in which a learner can easily grasp. If learning activities are planned, the outcome may normally be predicted.

It would be difficult to understand learning activities without first defining teaching, learning being a product of teaching; and a learning activity a tool for teaching. Tyler's (2013) view of teaching, his comprehensive definition of teaching, views manipulation of variables of instruction to produce intended change in learner behaviour. This definition is composed of a three-part technical process: (a) manipulation, (b) variables, and (c) change in behaviour. Firstly, manipulation implies 'action' that is directly observable, suggesting doing something to someone or something. Educators manipulate in order to influence, direct, and guide learning or learners. There are, therefore, two things that educators do when manipulating their students: address the intellect of the students by questioning them and/or answering their questions, and treat with their hands by illustrating something, or giving a consoling touch.

The act of manipulating may easily be misunderstood as a teacher-centred approach, yet there will always be a need for the teacher to manipulate directly or indirectly. Lastly, educators in Consumer Sciences manipulate by treating with skill. This is in agreement with Duncan (2011) who defined rigour in Family and Consumer Sciences. The educator noted that, since Consumer Sciences is practice-based, a practical-intellectual field, its learning activities must be focused on equipping learners with practical skills for the prosperity of people, families, and the general public.

The second part of the definition, variables of instruction, must be manipulated. These are known as variables because they vary in size, shape, and nature. These variables include those human (individual learners, groups, teachers), environmental (material supplies, equipment, space, time), and curricular (content structure, content substance, content purpose). The variables, therefore, must represent all three domains: own reflections (human variables), public reflections (environmental variables), and certified reflections (content). Since these materials are variable, they need to be rearranged in such a way that learning experiences are made most favourable for the learners. Celt (2010), when developing effective learning activities, also advises that each discipline has traditional ways of teaching and organising learning activities.

Lastly, learning activities are intended "to produce intended changes in learners' behaviour". It is common knowledge that teaching (education) should have a purpose (MacBlain, Long, & Dunn, 2015; Qamar, Rehman & Khan, 2016). Teaching is directed at bringing about

change/growth in the behaviour of the learner(s). Such change/growth in behaviour provides evidence to both the educator and the student that the objectives of the teaching/learning have been attained. While learning is inferred/deduced from behaviour, it is defined as a "relatively permanent change in behaviour which is the result of the experience of the individual" (Huitt & Hummel, 2006, p. 1). The intentions/purposes/objectives must therefore be determined and made explicit so that they may be measured/assessed/evaluated for their quality and meaningfulness. Learning activities are therefore discernible activities set up by the educator for the students to collaborate with content. A learning activity is thus a teaching tool in which the teacher manipulates variables; and these variables may either be teacher-centred, learner-centred or content-centred.

3.4.1 The own/teacher-centred learning activities

According to Garrett (2008), the concept of classroom activities has always been embedded in behavioural theories of teaching and learning. The belief was that teaching techniques and teacher-organised activities are effective in bringing learners' behaviour under control. Similarly, Kaya, Kablan, Akaydin and Demir (2015) assert that these activities are strictly directed by the teachers. They further pointed out activities such as lectures, demonstration lectures, and questioning, in which, more often than not, the teacher does the discussing of topic, and has practically no support from the students. Activities in which the teacher conducts experiments and performs some hands-on activities for the class reflect teacher's own teaching styles and orientation of content. Herman, Potterfield, Dayton and Amershek (1969), when exploring the relationship between teacher-centred and student-centred activities documented a list of activities that are coded "teacher-centred activities" that include questioning, demonstration, and story-telling. These activities are promoted by own reflections of the teacher trying to control students and learning, to be identified with his/her styles, habits and perceived approaches of understanding content.

According to Sercu and Bandura (2005), teachers most frequently employ teacher-centred activities in which the main focus is to define the subject matter where student-centred activities allow students to decide on contents. Their study focused on competences developed by foreign-language teachers while employing either student-centred or teacher-centred activities. The findings of the study reveal that, although most activities ranked higher, as with most studies, these were interpreted as student-centred activities, but were found to have some

teacher initiatives, including teachers talking about what is of interest to him or her. Even in student-centred activities, therefore, these are planned by the students with the teacher, who can always demonstrate own interests in the whole process. This study subscribed to the common trend in literature, in which scholars (Kaya et al., 2015; Pepler, 2015; Froyd & Simpson, 2008; O'Neill, & McMahon, 2005) often discuss teacher-centred approaches, instructions or activities alongside or in comparison with student-centred, or vice-versa.

Proponents of student-centred activities or activity-based learning (Kaya et al., 2015; Al-Zu'be, 2013) argue that teacher-centred learning activities do not guarantee effective learning. The student-centred angle has always been promoted and all praises showered on constructivist theorists such as Dewey, Bruner, Piaget and Vygotsky. The main concern of these psychologists was that learning be dominated by the undertaking of hands-on, minds-on, or hearts-on experiments and activities. However, teacher-centred activities, according to Golji and Dangpe (2016), render students as passive learners and not active participants. Thus the whole teaching process is driven by teacher's own reflections on activities, methods, and assessment techniques suitable for learners. With teacher-centred activities, students are not given the opportunity of exploring their environment; learning therefore becomes boring. However, such assertions must be supported by evidence from research. Kaya et al. (2015) conducted an experiment interrogating whether there was any contrast between the academic achievement of students from student-centred and teacher-centred activities. This study employed paired sample t-tests in which a sample of 30 teachers from each approach was used to compare the effectiveness score for teacher-centred activities. The results of the study indicate that teachers appraised student-centred activities altogether more compellingly than teacher-centred activities. Teachers perceived teacher-centred learning activities as less effective. However, this study still focuses on the one-sided show of teacher-own reflections on own teaching. A true experimental study employing both approaches has not been presented by the literature.

Moreover, a study conducted in 1969 employed a good experimental design to examine the relationship between teacher-centred activities and student-centred activities for academic achievement and interest in a social studies class. This study by Herman et al. (1969) managed to control teacher variables such as teaching style, and pre-test scores of students. The research question was: Can one group of teachers who predominantly uses teacher-centred activities and

another group of teachers who predominantly uses student-centred activities differ statistically in the academic achievement? The study also measured whether student interest would differ by the end of the eight-month investigation. The results revealed that there was no major statistical difference in the academic achievement for both approaches, with the exception of a group of above average students who scored significantly higher when exposed to student-centred activities. Teachers in the study were equally successful in both teacher-centred and student-centred learning activities when academic achievement and student interests were considered. Similarly, Anderson (1959) when comparing authoritarian-democratic study activities in primary schools, concluded that there was no available evidence to demonstrate that either authoritarian or democratic methods are related to higher academic achievement. Anderson (1959) further suggested that the confusion and contradictions in research findings on either teacher-centred or student-centred learning is caused by lack of methodological rigour and inadequate research designs. Teacher-centred activities driven by own reflections may therefore still have certain benefits in the classroom.

3.4.2 Public/learner-centred learning activities

In contrast to teacher-centred instructional activities, Garrett (2008) observed that a student-centred approach focuses on enquiry and authentic activities. Unlike the behavioural approach, student-centred learning activities are rooted in constructivists' principles with emphasis on learning rather than teaching. The idea of student-centred learning activities is brought about by an influx in literature, with educators being encouraged to move from the conventional educator-guided form of learning to student-centred approaches. The term student-centred learning, according to O'Neill and McMahon (2005), is widely used in literature, going by various names such as experiential learning, and active learning. Similarly, Froyd and Simpson (2008) acknowledged these names and added to the very broad spectrum of named approaches associated with student-centred approach, such as collaborative learning, enquiry-based learning, cooperative learning, problem-based learning, peer-led team learning, team-based learning, peer instruction, and enquiry-guided learning, small-group learning and project-based learning.

Student-centred learning activities are thus endorsed in literature, constructivists having endorsed their importance in activity, discovery, and independent learning (Carlile & Jordan, 2005). Students therefore need to be engaged in activities that are of interest to them.

These learning activities therefore eliminate the passivity in traditional teaching and learning approaches. This is consistent with the observation of Armbruster, Patel, Johnson and Weiss (2009) when exploring the performance and attitudes of students through active learning and student-centred pedagogies. Although the teacher-centred learning activities have been used extensively and effectively in scattering a vast assemblage of content to an expansive number of students, Armbruster et al. (2009) assert that the traditional approaches often promote passive and superficial learning. Their findings indicate that student-centred pedagogy and interactive-learning activities increase academic achievement, learners being active in their learning. This active learning was not only beneficial to the learners, the study recorded another "unanticipated benefit, it improved not only the students' attitude toward the course but also the instructor's morale and enthusiasm" (p. 212).

Furthermore, student-centred learning activities, in the view of constructivists, relate the teaching and learning process to performing physical activities, for example, projects, and practicals (O'Neill & McMahon, 2005). Learning activities must actively engage the students on projects that may be visualised. In a teaching context in which the student-centred approach seems expensive or non-practical, the cognitive theory also emphasises activities, although such activities differ from those supported by the constructivists (Greitzer, 2002). The cognitive view, in such cases, supports the idea that the activity of learning may be constructed through schemas in the head. The study yielded positive results by engaging students in a more active form of learning as opposed to the sophisticated state-of-the-art computer simulations. Student-centred learning activities are thus associated with the social constructivist view of learning in the community of practice, facilitating problem solving.

According to Froyd and Simpson (2008) student-centred activities facilitate students' critical thinking, problem solving and analytic enquiry. These activities promote teamwork, and thus project-based learning skills are facilitated. Similarly, O'Brien (2015) explored the effectiveness of integrating student-centred activities with intent to promote critical-thinking skills among high school pupils in social studies classes. The study concluded in terms of high averages scored on post-test and encouraged more research to be conducted as this had promoted critical thinking in social studies.

Although the above studies demonstrate how useful and effective student-centred activities are through enjoyment and improvement in skills acquisition, (McGregor, Smith, & Robinson, 2002) observe that teachers are concerned that they would not be able to cover content with these activities, particularly in large classes. Even though teachers may be willing to shift from a teacher-centred to a student-centred approach, they are more concerned about subject content. The study, indeed, confirmed that more than sixty per cent of the teachers who participated in the study through interviews had covered fewer topics than they would normally cover with traditional methods. However, the participants noted that, even though the pace of teaching was slow, learning was effective, as students learned and retained more. In addition, Smith (2000) observed similar challenges with these student-centred activities. He advises that teachers employ more advanced preparation, working collaboratively with learners, so that learners can accept responsibility for their learning.

In summary, the studies from the literature give evidence that student-centred learning activities are seen as the student's choice for their education, per active learning. Certain researchers describe this concept in terms of a shift in the power relationship between the student and the teacher. This idea, therefore, promotes use of public reflections in the classroom for better attainment of skills and student performance, fostered by critical thinking developed. However, learning activities, whether teacher-centred or student-centred (Table 3.1) are all focused on better achievement of content. In both approaches, where either the teacher or the student is driving the learning, focus may be lost. In terms of assessment criteria, content-focused learning activities can give direction.

Table 3.1 Teacher-centred and student-centred activities

Teacher-Centred Activities	**Student-Centred Activities**

• Teacher establish goals and other educational purposes: students are silent • Teacher gives instructions and directions: lecture method dominates • Teacher illustrates on chalkboard: students listen, watch, and take notes • Teacher uses maps, charts, and pictures to illustrate concepts • Teacher demonstrates: students listen, watch, and copy • Teacher reads, tells story • Audio-visuals used, teacher-led: students are silent • Students read, write and study at their seats • Students write at their seats (tests, mimeographed materials) • Teacher makes displays, murals, bulletin boards • Teacher evaluates lesson: students silent • Authoritarian	• Students and teacher set goals and other educational purposes • Students recite, give reports, give prepared or unprepared talks • Students present skits or plays • Teacher lectures, asking questions to be answered by students • Teacher illustrates on blackboard; students participate verbally • Teacher illustrates with maps, charts, pictures; students participate verbally • Teacher demonstrates; students participate verbally • Audio-visuals are used, teacher or student led; students verbalise • Student illustrates or works on blackboard • Student illustrates with map, chart, picture • Student demonstrates • Student reads aloud, others listen • Students work on projects: paint, draw, cut, paste, research • Children make displays, murals, bulletins • Teacher and students evaluate cooperatively • Democratic

3.4.3 The certified/content-centred learning activities

Content-centred learning activities have been confused with teacher-centred activities because the new paradigm shift has rejected both for student-centred activities. Content-centred activities, according to Soiferman (2017), are also called instructional or curriculum-centred activities, whose focus is on learning skills and content that experts in the discipline regard as standards; and are certified reflection endorsed by the inspectorate. A good example is activities detected by the national curriculum or syllabus. The South African CAPS Consumer Sciences curriculum for example, states explicitly the learning activities to be employed in each learning unit, for content to be adequately covered. These activities in the curriculum document are displayed as minimum expectations from both the student and the instructor. Content-centred activities are therefore driven by certified reflections. However, Garrett (2008) argues that it is academic preparedness for content that develops children's confidence (own reflections) and the students' social skills. Soiferman (2017) therefore advises that it is important to "look at the types of curriculum-centred activities that have been proven, by research, to be important predictors of later school success" (p. 10).

According to Akdeniz (2016), content-centred activities focus on and meet the requirements of that content. That programme's organisation cannot therefore be altered to suit the needs of

either the instructor or the students. Akdeniz (2016) argues that only a discipline or subject committee is charged with the decision-making process responsibility with regard to activities recommended for content delivery. The teacher's role is therefore being an instrument for delivering content. Stevens (1996), who explored the experiences of college lecturers on the transition from content-centred instruction to student-centred learning, asserts that the instructors were experts in their respective fields, and that the assumption about content-centred was that teachers are adequately trained on activities and content knowledge. He concluded that even on transition to student-centred, a teacher is bound to fail if he/she is not an expert in the content.

The studies (Stevens, 1996; Soiferman, 2017) therefore suggest that selection of learning activities is greatly influenced by certified reflections through reasonably rigid but efficient structure of a prescribed curriculum content. The content compartmentalises students by age, ability, and discipline, depending on the level of content attainment. The teacher is also bound to adhere to internationally certified activities proven through research and practise to be efficient in covering discrete body of knowledge. The teacher's role is thus that of information disseminator. Although literature holds that student-centred activities are effecting for learning, Anderson (2008) asserts that some students prefer content-centred activities and thrive under this method, whereas others do not.

Studies viewed indicated that learning activities may either be influenced by teacher-own reflections in which the teacher uses his/her teaching styles and habits of delivering content to students, or by public and certified reflections. There is a strong link: both own and certified reflections having been concerned with teaching and covering the right content as prescribed in curriculum documents. However, own/teacher-centred activities have more influence from the teacher, deciding and making selections of activities he/she believes are appropriate for the learner and will help cover content. Nevertheless, literature predominantly promotes a paradigm shift from these approaches to one informed by public reflections in the view that student-centred learning activities create interest and enthusiasm on the part of both the learner and the teacher, thus effective learning is guaranteed. Learning activities, passive or active learning, need a varied range of educational resources.

3.5 Materials and Resources

Teaching materials and resources refer to the various sorts of materials that instructors and students use in the educating and learning procedures to advance effective learning. Educational institutions, including non-educational institutions utilise both human resources and non-human resources as inputs for the process of teaching, achievement being the output. Dlamini (2013) defines instructional materials as any tools, devices, or materials that are used by teachers in transferring or delivering knowledge, skills, and information to learners or students. This definition tallies with that of Kaewmak (2014), that instructional materials are devices or tools; however, he further opined that these resource materials may also refer to the use of technology in promoting quality learning in schools. This would mean better realisation of instructional objectives pre-set by the teachers or the institution. For better school or student achievement, there has to be a good combination of human and material resources. Glatthorn (2000), when aligning curriculum, categorised it into seven types of curriculum operating in schools. He referred to teaching materials as 'the supported curriculum'. Riet (2015), when exploring the use of learning and teaching support material for classroom teaching noted that teaching materials were the principal components for effective curriculum delivery in the classroom. The researcher further observed that the term 'materials' in educational circles was used interchangeably with 'instructional materials', 'support materials', 'educational materials' and 'curriculum materials'.

The Gauteng Department of Education (GDE), 2012 LTSM policy defined materials as "all the instructional tools or materials that enhance instruction and promote learning in schools, plus materials for students with extraordinary instructive needs" and further dubbed teaching materials as Learning, Teaching and Support Materials (LTSM). When this term is used collectively, it may not include essential materials in line with advancement in technologies and social media. The GDE provided a comprehensive categorization in their LTSM policy. The GDE (2012) categorised these materials into six types including non-LTSM, consumable materials, non-consumables, library resources, and electronic materials.

This classification groups resources according to their use, location, and materials used in creating them. However, there are observable overlaps in this grouping, for example, e-learning resources may be library material and may also be classified as 'other'. This study therefore

explores a classification by Khoza (2016c) that grouped resources into hardware, software, and ideological-ware.

3.5.1 Hardware (HW) resources

Researchers try to categorise instructional materials according to their use. The classification is also dependent on time and exposure of the educator or researcher. For example, very few consider the chalkboard as an instructional material nowadays. The list is dominated by computers, tape recorders, video cameras, amongst others. Dlamini (2013, p. 25) divided instructional materials into software materials such as "transparencies, slides, movie films, disks, cassettes; and hardware or instruments, which include the overhead projector machine, slide projectors, movie projectors, tape recorders, and computers". Similarly, Khoza (2016c), Brazdeikis and Masaitis (2012) and Khoza (2012) defined hardware resources as any machine or instrument utilised as part of instruction and for learning, for example, PCs, transparencies, intelligent whiteboards, media projectors, sound − video hardware, PC learning toys, estimating gadgets, and advanced cameras. Software resources are any materials created for the hardware to show information or to communicate learning such as "Face-book, discussion forum, Tablet software/application, iPad software/application, blogs, YouTube, twitter, WhatsApp, MOODLE and Skype" (Khoza, 2016c, p. 30). HW resources cannot be limited to computer-related devices or educational technology. Lau and Albion (2010) conducted a study to explore the rate of adoption of ICT by Consumer Sciences teachers in Hong Kong. Their findings indicated a barrier to adoption of ICT, mainly owing to lack of HW in the Consumer Sciences classrooms. In conclusion, Lau and Albion (2010) note that the HW resources included other equipment and facilities needed to teach the subject, such as sewing machines and other labour saving devices. Other hardware resources commonly used by Consumer Sciences teachers are models, real-objects, and cooking facilities (Horn & Barsness, 1975). The studies indicate that HW resources are tools, devices, and machines approved by curriculum experts and departments of education for use in a particular subject (Munandar, 2013; Ningsih, 2013). Certified reflections thus influence their selection, being controlled by the teacher to facilitate delivery of content.

3.5.2 Software (SW) resources

The lists of HW and SW cannot be exhausted. SW resources may be presented in the form of the content itself, such as digital content, email files, and PDF documents (Brazdeikis &

Masaitis, 2012). The paradigm shift from traditional learning environments to online environments has promoted the use of SW resources in schools, including social media. A study conducted by Eke and Odoh (2014) on the effect of SW platforms in education reveals that SW, particularly social networking, is used effectively by both students and teachers to interact, study online, discuss national issues, and watch movies and for socialization. Such interactions are strongly influenced by public reflections. They further cautioned that, even though many scholars have documented numerous benefits of such, some dangers may be detected. These dangers may be confirmed in studies conducted by (Vural, 2015; Alabdulkareem, 2015) showing that SW resources such as Facebook, WhatsApp and many others are used by students to serve other non-educational purposes. Having noted that the list of SW resources cannot be exhausted, SW resources may be equally applied to both educational and non-educational learning.

According to NCTE (2007), educational software refers to software essential for the learning environment used by teachers and students to enhance and speed up teaching and learning. Learning software is categorised into two: content-free or content-rich software. Content-free software is flexible, providing a platform for teachers and students to create their own content. This allows creativity on the part of the students and the teacher, for example, in word processing, publisher programmes, photo/image editing software, social media and Moodle. These SW platforms enable teachers and students to share and collaborate on most learning activities. On the other hand, content-rich software comprises mostly multimedia contents such as graphics, video, sound, animation, and others that tend to restrict user control.

According to Vannucci and Colla (2010), SW resources are mostly dominated by multimedia contents and communication with the user that fascinates youngsters of all stages − cartoons, characters, dialogues, videos. The researchers further note that the interactions and socialization are the stronghold for SW resources. Influence from public reflections therefore develops curiosity among students and encourages them to explore the SW. These studies clearly indicate that SW is used by teachers and students to learn through interaction and socialising with others, thus developing the content of the programme. However, the selection and use of SW and HW resources requires the teacher's ideology on facilitation of learning.

3.5.3 Ideological-ware resources

The work of Simon Khoza at the University of KwaZulu-Natal has been influential in understanding the use of resources in teaching and learning. Although Khoza's work is mostly in the context of educational technology, his classification may be applicable to other contexts. Khoza (2012) first defined a teaching and learning resource as anything that communicates learning. This viewpoint suggests that even students and teachers may be teaching and learning resources. Similarly, Davies et al. (2008) defined learning resources as any persons or any material used to enhance teaching and learning.

Having contextualised the SW and HW, Khoza (2015c) identified a third 'ware', ideological-ware (IW) (esoteric concepts). Khoza notes that there is an ideology behind any learning process that is the main driver for any curriculum, aided by both hardware and software resources. Khoza further advises teachers, as implementers of the curriculum, to first understand the IW resources of the curriculum before implementing new technologies. To help clarify this concept in the context of educational technology, Khoza (2015c) expanded the conceptualization of IW to refer to self-acquired competences necessary for facilitating teaching and learning. These wares therefore include but are not restricted to educating/learning techniques, hypotheses of learning, educators' encounters, educators' abilities and ordinary/general information. IW effectiveness in teaching and learning is therefore dependent on own reflections of the teacher's style, strategies, and ideology. Similarly, Naido (2013) and Khoza (2012) assert that IW is composed of teacher's teaching styles and experiences and these wares formulate the teacher's own inventory of practices.

3.6 Assessment and Evaluation

Defining evaluation has been made complex owing to scholars defining it according to their purposes. A good example is that of Tyler (2013), who asserted that objectives were a criterion for all the other three questions he asked. He then described evaluation as "a process that finds out how far the learning experiences as they were developed and organized actually produced the desired results" (Tyler, 2013, p. 105). Evaluation is thus a process of viewing the programme's strengths and weaknesses against the set educational objectives. Mokua (2010) viewed curriculum evaluation as a process of collecting data to determine its value, with future intentions to reject, adopt, or improve the curriculum. Such a definition carries a connotation that the curriculum is a process of examining the merits of a certain component

or the whole of a curriculum. Wolf, Hill and Evers (2006) defined curriculum evaluation as "a process of gathering and analysing information from multiple sources in order to improve student learning in sustainable ways" (p. 3). These few definitions all give a clear reference to the curriculum as a process. Secondly, each highlights a purpose for the process as resting on strength, or merits, or value (Tyler, 2013; Mokua, 2010) or in improving learning (Wolf et al., 2006). Lastly, inherent in the purpose of the process is the evaluator's goal. Tyler advises that an educational evaluation must focus on two important aspects that concern the behavioural change in the learners. Other scholars have the same conviction, however, Tyler, being objective and informed by the certified reflections, demands that there be evidence. He therefore points out that two appraisals must be conducted in order to measure the amount of change. This may be performed either before or after the learning experiences. According to Tyler (2013), "it is the change in these behaviours that is sought in education" (p. 106).

Tyler (2013) maintains that the change in behaviour is actually the realization of the educational objectives. The evaluation process must be conducted in accordance with the three sets of objectives as per the source: the learner, the contemporary life, and the subject specialists. The researcher advises that those who have not clarified the objective will be forced to do so before the commencement of the evaluation process,

> "unless there is some clear conception of the sort of behaviour implied by the objectives, one has no way of telling what kind of behaviour to look for in the students in order to see to that degree these objectives are being realized" (p. 111).

Evaluation is one of the curriculum concepts widely described. Evaluation is most often used interchangeably with assessment, or it may be confused with assessment. Technically, the meanings differ (Jabbarifar, 2009). The researcher adds that appraisal of an individual student's progress is a fundamental part of assessment. Assessment is therefore part of evaluation, evaluation going further than student accomplishment or performance. It takes into account other dimensions of teaching and learning in making educational decisions. Assessment is therefore inherent to effective teaching and learning, and may be traced from early experiments by Benjamin Bloom in his work of individualised learning. This individualization helps to provide essential feedback to the classroom (Wiliam, (2011). Assessment is a tool in the educator's hands that may be used to enhance learning. According to Ndudzo and Gasva (2017), assessment is a "systematic collection, review, and use of information about

educational programmes undertaken for the purpose of improving student learning and development" (p. 94). After exploring this definition, it may be presumed that assessment is the deliberate accumulation and investigation of data to improve student learning. This is a process conducted either by the teacher, the student or both. DoE (2008) and Sutton (1992) added the notion that assessment is a human process, influenced by human judgment. The purposes of assessment range from enhancing individual goals, monitoring learner progress, to facilitating learning. Studies indicate that assessment can improve learning (Chappuis, Chappuis, Stiggins, & Arter, 2004; DoE, 2008; Stassen, Doherty, & Poe, 2004; Sutton, 1992).

These definitions of curriculum evaluation suggest that aspects of own (personal goal of evaluator), the public (process) and the certified (programme purpose) evaluation must be present. This study therefore, being inspired by the Tyler model, defines curriculum evaluation as the process of collecting information about the human effort (learner and teacher), the learning environment, and content, and analysing such data in the light of the educational objectives. In the context of curriculum evaluation, there are three forms of assessment − assessment-*of*-learning, assessment-*for*-learning and assessment-*as*-learning. All these may be performed to gather required information pertinent to the taking of sound decisions.

3.6.1 Assessment *of* learning

According to Earl (2003), this approach is the most overwhelming sort of appraisal in schools. This is the evaluation performed towards the end of a course, a grade or programme, usually in the form of tests and examinations in which the results are expressed symbolically as summative marks presented to school authorities and parents (Garfield & Franklin, 2011). This assessment is therefore called the summative assessment of formal assessment (Hume & Coll, 2009). Earl (2003) further asserts that assessment of learning places more emphasis on comparing students' performance where feedback is indirectly in the marks or grades, however, advice for improvement is limited. Summative assessment may therefore be used to indicate which students are doing well and which are performing poorly. These studies therefore reveal three main components of assessment *of* learning: that it is achieved by the teacher or by the effort of the teacher; it is performed at the end of the programme; and its purpose is to compare, rank, and judge students according to their performance.

According to Taras (2005), the nature of assessment *of* learning being conducted towards the termination of the unit or programme does not suggest ignoring formative assessment. However, it is judgment that epitomises all the proof up to a given point, before summative assessment is conducted. Assessment *of* learning may therefore be likened to a court judgement, where after all evidence (formative assessment) is presented, an overall verdict is given. In addition, although this approach may be criticised for lack of specificity, Earl (2003), asserts that this is not a problem, because the teacher's purpose is served. The purpose is to rank and assign students a symbol that represents the students' positions within the class. Even the records kept during the course of the programme only serve to give evidence and justification of the grades assigned at the end.

Lastly, assessment *of* learning presents more teacher activity in judging content as the attaining of educational objectives. This approach is formal (Hume & Coll, 2009), driven by certified reflections based on present standards for ranking and judging. It therefore subjects student performance to standardised criteria supported by the assessment policy of the curriculum, for example, use of percentiles that are eventually presented as symbols (Garfield & Franklin, 2011). This assessment has been used by schools and ministries or departments of education to quantify what students have learnt by the end of a programme or when assessing the programme or curriculum itself. However, it fails to account for what has caused the final judgement, the assessment *for* learning.

3.6.2 Assessment *for* learning

According to Clark (2008), assessment *for* learning is concerned with communication in the classroom. Clark defined this assessment as all those activities that teachers, together with students, undertake for purposes of communicating information on student progress that will eventually be used as feedback. This suggests collection of a wide range of data by the teacher and/or with students, to help modify learning. Earl (2003) therefore describes it as shift from the traditional assessment to a formative assessment, that is, from creating judgements to creating descriptions that will help modify the next piece of learning. Marking of student's work is done to identify areas in which the student is either proficient or lacking, offering feedback and direction for the next piece of learning. Similarly, Taras (2005) notes that assessment for learning requires feedback that points to a gap between the actual levels of

student performance when set against the required standard, giving some direction on how student work may be improved.

According to Earl (2003), assessment *for* learning is a part of the instructional procedure that gives the data expected to modify ongoing instruction and learning. It is concerned with illuminating students on their progress, affording them the opportunity of making important moves to enhance their academic achievement. Teachers have the duty to create these opportunities in which learners may progress at a pace that will consolidate activities where necessary. Black, Harrison, Lee, Marshall and Wiliam (2003) note that this assessment goes beyond students being passively assessed, encouraging cooperative and collaborative interactions in the classroom, in which students in class are normally seen working in groups. Assessment *for* learning, therefore, adheres to public reflections in which students are continuously involved in discussions about their progress. Black et al. (2003) also view this approach as a communication triptych of a) involvement, b) discussion, and c) feedback, interactively making use of record keeping, "observations, worksheets, questioning in class and student-teacher conferences" (Earl, 2003, p. 5).

The underlying practice of assessment *for* learning involves a learner-centred approach that enables the needs of each student to be catered for individually. Berry (2008) asserts that a variety of assessments *for* learning processes gives each student the opportunity of demonstrating his/her ability, thus giving the teacher sufficient information to create a complete account about each student. Additionally, students are offered voice and visibility for their diverse activities. Similarly, Dixson and Worrell (2016) valued this assessment for its student involvement, concluding that assessment *for* learning is not practised nor implemented in full if students are not consulted nor their views considered. The researchers advise that students must be involved as assessors and again as resources for other students, this practice increasing their participation in learning and motivation to learn. Once assessment motivates students, Berry (2011) observed that the acquisition of knowledge and skills will become natural and more meaningful for students.

Studies (Berry, 2008: 2011; Dixson & Worrell, 2016; Clark, 2008) explicitly reveal that assessment *for* learning is concerned with communication in the classroom in which students also have a voice apropos of their assessment and learning. Democracy thus prevails in the

classroom, public reflections directing the assessment process. This consequently becomes part of the instructional procedure, fused into classroom practice. The studies demonstrate how assessment *for* learning contributes towards enhancing student learning and involvement of the leaver, however, falling short of explaining the part played by students, not just as backers, but as connecting units between assessment and the learning process. This is assessment *as* learning.

3.6.3 Assessment *as* learning

Assessment *as* learning magnifies students' responsibility during assessment, rendering them active, engaged, and critical assessors. This is a monitoring process in metacognition that occurs at times when learners personally monitor their own learning to improve through the feedback (Clark, 2008). Self-monitoring is crucial because students are in a better position to understand data related to earlier information, therefore mastering the abilities concerned. Students become their own best assessors. This kind of assessment is therefore driven by students' own reflections of what is right or wrong, without waiting for the teacher to judge.

Assessment *as* learning balances on the belief that learning is a vigorous process that takes place cognitively when students intermingle with new information. Lorna (2006) noted that this assessment emerged from the idea that "learning is not just a matter of transferring ideas from someone who is knowledgeable to someone who is not" (p. 41). This assessment, as an extension of assessment *for* learning is deeply rooted in active learning. Thus for them to be actively engaged in creating own understanding, students must be critical assessors. Lorna (2006) further opined that this assessment is rooted in own reflection of learning. "Assessment as learning is based in research about how learning happens, and is characterized by students reflecting on their own learning and making adjustments so that they achieve deeper understanding" (p. 41). Therefore, own assessment, own monitoring and own reflection comes about through metacognition of how learning has occurred and how it may be improved.

Furthermore, as students assess themselves, the teacher's role cannot be downplayed, becoming ever more sophisticated with increasing demands. The crucial aim for assessment *as* learning is enabling students to develop the habits of mind to increase independence metacognitively (Earl, 2012). These roles involve developing teaching and assessment that enables students to monitor their own learning (Afflerbach, 2002). Similarly, Lorna (2006) identified a range of

other teacher-extended roles such as modelling and fostering the art of self-assessment among students. Students need to be guided first on how to set goals, being given procedures for monitoring their progress toward the goals.

Lastly, self-assessment suffers reliability and validity issues, particularly when an unqualified, critical assessor conducts the assessment. Trustworthiness of assessment as learning refers to the guarantee that students' self-reflection and self-monitoring will be consistent (Lorna, 2006). The teacher has the responsibility to scaffold students' understanding of self-assessment, for them to develop clear criteria for good practise. It is the responsibility of the teacher to model this good practise and quality work. Effective assessment as learning, therefore, draws from own reflections about the learning, empowering students to construct reflective questions that help them use personal knowledge to make meaning.

These three approaches or purposes of assessment all contribute to student learning but in different ways, depending on the purpose, the reference in which the assessment is made, and the assessor. Assessment *of l*earning is more formal, with focus on categorising, ranking, and making judgements to report. This is fully controlled by the instructor, guided by certified reflections of standards rubric and criteria. Assessment *for* learning employs a diagnostic formative assessment geared towards improving learning from day to day. It is driven by public reflections of how the teacher, student, and peers view the learning process. It therefore emphasises communication and feedback in the classroom. Lastly, assessment *as* learning gives the learner power to assess own learning and monitoring of progress through own reflections. Table 3.2 below summarises the features of each approach according to findings in studies reviewed above.

Table 3.2 Approaches to Assessment

Approach	Purpose	Reference of scores	Assessor	Instruments
Assessment *of* Learning	Ruling for promotions, credentials Testimonials Accreditation Standardization	The norm Standardised measurements Statistically approved weights	Teacher	Examinations End of term tests Portfolios
Assessment *for* Learning	Evidence for educators'	Other students Teacher expectations	Teacher, student and peers	Monthly and unit tests Quizzes

	instructional decisions Continuous assessment	External standards		In-class questions Homework Class work Group activities
Assessment *as* Learning	Self-monitoring Self-correction	Personal goals	Student	Reflective questions

3.7 Location: Where are they Learning?

Position is a place or an area marked off or designated for purposes of teaching in which learning is likely to occur. Location may be a barrier between teaching and learning, that is to say, teaching may take place; however, if the location is not favourable, learning will not occur. A location then creates a different atmosphere and thus motivates students to learn. Educational tours help promote learning: learners are taken out of their normal environment to one that generates interest and enthusiasm among learners. If a location is thought of as an atmosphere, Meriläinen (2006) argues that there is a social and communicative atmosphere that must be good enough as the basis of creating a favourable learning situation. The researcher further notes that the atmosphere is formed through communication and therefore educators need first to develop communication skills.

Location is not just an open space, ground, or building. It has its accessories who are the peers, the teacher, and the facilities. Since learning can occur without teachers' direct instruction, the location and its accessories may be a barrier to effective teaching, therefore hindering learning. Students need to be prepared for the location, or the location be prepared to suit the learners. However, Joutsenvirta and Vehkalahti (2006) charged the teacher with a leading role in which teachers are expected to help the learner gain acquaintance with their peers, encouraging them to express their feelings, for a favourable situation to be created. This was supported by Vanhala (2008) when studying factors that motivate students and create a favourable learning environment, emphasising that "the teacher has a responsibility in creating the favourable learning environment, but also the students' effect on it. If communication in the group is easy and open, all parties in the situation are effective" (p. 12).

Furthermore, location may be a building, a classroom, a laboratory, a games room or a sports field in which learners gather to receive instruction. A location has a magnitude in the form of

size, offering certain dimensions. When researchers talk of overcrowding, they are actually referring to the size of the place and its effect on the academic performance of learners. Earthman (2008) conducted a correlational study on the conditions of school buildings and performance of students. His study demonstrates that comfortable classroom temperature and noise level are very important to efficient student performance. The age of school buildings is a useful proxy in this regard, since older facilities often have problems with thermal environment and noise level. A number of studies have measured overall building condition and its connection to student performance; these have consistently shown that students attending schools in better condition outperform students in substandard buildings by several percentage points. School building conditions also influence teacher effectiveness. Teachers report that physical improvements greatly enhance the teaching environment. Finally, school overcrowding also makes it harder for students to learn; this effect is greater for students from families of low socioeconomic status. Analyses show that "class size reduction leads to higher student achievement" (Earthman, 2008, p. 7).

In his study, it became evident that the condition of the learning place influences both teacher effectiveness and student performance. Earthman's findings concurred with Shamaki (2015) who conducted a quantitative survey on the effect of teaching arena on academic performance. This researcher concluded that there was a genuine difference of 0.05 significance level between the mean performance of students educated in perfect learning places and that of students instructed in shabby learning conditions. The discoveries were explained in the light of both teacher effectiveness and academic achievement of learners. However, teacher effectiveness and academic performance of learner will always influence each other. There is a need for a clear exploration of which is affected directly. Shamaki (2015), when conducting his survey, also describes the location in terms of size, lighting, charts, and the state of the chalkboard.

Moreover, the school location has factors, for example, schools in provincial or urban areas, and the financial status of the area, as characterized by quality of roads to school, shopping centres, and accessibility to other places where resources may be found, such as the national libraries. All these variables affect the teaching-learning process (Mege, 2014). Most researchers (McCracken & Barcinas, 1991; Chen & Fan, 1999; Ramos, Duque & Nieto, 2016; Zhang, Li, & Xue, 2015; Capita, 2012) found that location has a great influence on the academic

performance of learners, pointing out that schools in urban areas usually outshine those in rural areas. Parents from rural schools normally cannot afford necessary resources such as books, computers, and additional tuition for their children, nor funding for educational tours. These locations, being remote, do not only suffer from lack of parental contribution but shortage of teachers and poor quality students. These studies indicate that location provides a learning environment. Traditionally, the learning environment was dominated by the teacher and students in the desk-and-chair configuration, face-to-face. Today more learning environments such as online and blended learning environments have been provided.

3.7.1 Face-to-face learning environment

A face-to-face learning environment has been viewed as the dominant traditional learning approach in which students and teacher are engaged physically in a classroom or laboratory (Chew, 2011). This suggests more interaction between student and teacher, thus it is commonly characterised as a face-to-face or voice-to-voice learning platform. Similarly, Schrum and Hong (2002) posit that the main benefit of this platform is that it enables teachers to immediately clarify and expound further if students have not comprehended the ideas taught. In the event of online learning, researchers have been exploring the means of duplicating this mode as face-to-face, having predicted the benefits that may be enjoyed via online learning, but lacking the rewarding features of a face-to-face environment. Schrum and Hong's (2002) assertion therefore explains why researchers (Ellis, 2001; Lundberg, Castillo-Merino & Dahmani, 2008; Duensing, Stickler, Batstone & Heins, 2006; Fortune, Spielman & Pangelinan, 2011) always use face-to-face as the reference or control for any experimentation conducted to improve online learning environments.

For example, Young and Duncan (2014) conducted a study on online and face-to-face learning, with the purpose of comparing student ratings of the online with face-to-face. The ultimate goal for the study was to strengthen teaching in online environments. The findings of the study indicate that face-to-face courses are rated significantly higher than online courses with regard to communication, teacher-student interaction, assessment, instructional techniques, and course outcomes. The study was replicated using the same course and instructor but it yielded the same results. Although there have been new and sophisticated learning environments, face-to-face learning still has a place in certain contexts. It is therefore still necessary to explore

benefits presented by this traditional learning environment. Young and Duncan (2014) conclude that students are satisfied with the traditional learning environment.

According to Poe and Stassen (2002), this environment creates a social community characterised by student-to-student interaction and teacher-to-student interactions. The researchers asserted that this interaction sets a good tone for students to communicate with one another, with the educator and with new data, thus learning is made meaningful (Meyer, 2007). Again, these interactions develop a foundation of a community of learners; thus public reflections dominate the mode of communication on this platform. Public reflections give the opportunity for socialization about the content, in which students can read the teacher's body language; and learning becomes an act in a community of other learners. Poe and Stassen (2002) observe that if students feel they are a part of a group of students, they are more likely to succeed because they are more motivated. Similarly, Ellis (2001) compared the online and face-to-face learning, discovering that students in this approach enjoyed the facial and bodily expressions that contributed to effectiveness of communication in the classroom. This suggests the importance of the social atmosphere in the class and how effective communication enhances instruction through collaborative learning.

According to Laal and Ghodsi (2012), collaborative learning in face-to-face learning environments has a range of rewards for teaching and learning socially, psychologically, academically, and in assessment and evaluation. Poe and Stassen (2002) were also of the idea that this approach gave students the chance to interface with each other about their scholarly work, asserting that some students learn best when they are in a community of learners with similar characteristics. This encourages learners to be at the centre of learning: students enjoy learning if it occurs with their peers (Gleeson, McDonald & Williams, 2007). This improves their critical thinking and intellectual skills (Jbeili, 2003).

In contrast, Bencheva (2010) and Chew (2011) found that face-to-face learning has more nuances that distract teaching and learning in a way that does not favour students; for instance, there is the teacher's tendency to dictate the structure of the lesson and the division of time. Again, Bencheva (2010) notes that the subject matter is 'distant' from the students, rendering students as passive learners (Chew, 2011). Chew further observed boredom in face-to-face

environments brought about by the uniform pace for all learners and the idea of same place, same time location.

In summary, Zhang, Watson and Banfield (2007) conducted an efficient and systematic audit of existing writing; and collected scholarly works featuring ten examinations that compared the impact of face-to-face and online computer-aided learning using controlled trials to find a better platform if available. The research tabulates the study methods, number of participants, and the findings. Findings indicated clearly that face-to-face guidance and computer-aided instruction are similarly viable in engaging students in learning. This study, together with other studies (Young & Duncan, 2014; Gleeson et al., 2007; Schrum & Hong, 2002), demonstrates that public reflections enhance learning in a social environment with students and teachers; the skills acquired through a face-to-face learning environment. This has been found to foster among others a collaborative environment, student motivation, student access and support, and school experience.

3.7.2 Online learning environment

The term online learning, sometimes called 'distance learning' is a form of instruction with virtual interaction between teacher and the student in which media such as the internet are used. Distance learning is commonly accepted as that which incorporates various computer-aided instructional methodologies (Poe & Stassen, 2002). However, distance education has had a long history before the use of computers, mobile devices, and telecommunication technologies. Nasseh (1997) observed that there have been great changes and growth recently in distance education, however, this idea is more than 160 years old. It was begun as correspondence study by mail. However, there have been concerns regarding the quality of the programmes offered through correspondence. This prompted a recommendation resulting in its termination about 1906.

The theoretical background of distance education was grounded on the proposition that instruction without student and educator collaborating face-to-face was conceivable and powerful (Holmberg, Bernath & Busch, 2005). These researchers further noted that correspondence instruction dates back to the eighteenth and nineteenth centuries, but they were quick to note that the idea and practice is as old as the writing itself. This is because, even in the New Testament, Paul the apostle, used letters to teach and send messages to various

congregations. He would sometimes receive feedback. There has thus been evolution in distance education arriving today at the use of computers and the internet. The method is not new. Scholars who define online learning with regard to use of Internet would parade it as a new development. This study, therefore, does not limit online learning to the new era of digital migration, although more emphasis will be referenced to it as a mode of learning currently in use.

These days, online teaching is institution-delivered using computer-assisted instruction methods via the internet (Poe & Stassen, 2002). The Internet has been user-friendly in creating sophisticated virtual learning environments, to the point that online learning is generally alluded to as online learning conveyed through the web, or through intranet or extranet (Chiu et al., 2007). Web-based learning has been seen as learning through synchronous and asynchronous correspondence per mixed media and the web. Similarly, Poe and Stassen (2002) noted that this platform of online instruction provides a real-time (synchronous) interaction and anytime, anywhere (asynchronous) interactions.

3.7.2.1 Synchronous interactions

This is an approach to online learning that provides real-time instruction and collaboration between students and teachers via the internet. According to Baldwin-Evans (2006), synchronous (real-time) communication is the customary instructional approach associated with online teaching, in which the teacher and the student are accessible at the same time to share learning encounters and to interact live. The researcher further suggested that, for synchronous teaching and learning to be effective, students must shift from the traditional classroom set-up, developing new learning styles. Synchronous teaching, being real-time, may copy the traditional face-to-face learning environment if used properly, with advanced video devices allowing teacher and students to see one another. This enables learning to take place in the comfort of the student's home. Similarly, Wang (2007) observes that synchronous teaching is preferred for international students, because they learn in their home countries.

Moreover, Poe and Stassen (2002), in their study on online teaching and learning, found that synchronous online discussions, when used properly, can improve communication, elaboration, dynamic learning, and, in addition, afford equal learning opportunities. The researchers then identified typical tools used in real-time interactions, such as "live chat, audio and video conferencing, data and application sharing, shared whiteboard, virtual hand raising and a joint

viewing of multimedia presentations and online slide shows" (p. 12). Chew (2011) also advocated for the use of video conferencing and live chat rooms during online teaching. This real-time communication promotes interactive teaching styles (Wang, 2007). Educational institutions must therefore provide a range of electronic and internet facilities for this platform to be successful.

3.7.2.2 Asynchronous interactions

Asynchronous communications (different time) offer the opportunity for the instructor and the student to use computer-based courseware at different times (Baldwin-Evans, 2006). This approach favours most students who prefer self-directed learning, thus learning at their own pace, and at a comfortable place and time. Asynchronous learning methods use a range of capabilities that may be viewed by the student at a delayed time, downloaded from the Internet and viewed offline (Poe & Stassen, 2002). Common tools used in asynchronous learning include e-mails, threaded discussions, newsgroups, and bulletin boards, file attachments, and interactive videos and presentations. Student and teacher can conduct and communicate in learning activities whenever it might suit them, as opposed to amid particularly orchestrated class sessions. There is thus no planned learning time permitting students and educators the advantages of whenever, anyplace learning.

Many scholars (Capra, 2011; Posey, Burgess, Eason & Jones, 2010; Stone & Perumean-Chaney, 2011; Nguyen, 2015) are of the idea that online learning offers many positive opportunities that enhance and improve student learning, particularly in higher education. Enhanced capacity helps teachers to adopt material that is 'basic' to the students' understanding and learning. Stone and Perumean-Chaney (2011) identified ten possible benefits of online learning, such as awarding students additional activities that may be utilised to improve student learning. These benefits offer a complete sum of what other scholars suggested. Nguyen (2015) emphasises the improvement in a teacher's ability to create and maintain contact with all students on the course. Active learning is being promoted when the teacher has direct contact with all the learners at a personal level. Furthermore, students of different learning styles and paces can benefit from this approach, as learning materials may be downloaded and perused at the student's leisure.

The studies above indicate that online teaching offers the learners an individualised instruction taken at the student's own pace, and at individual learning time. This approach therefore promotes self-learning. It is informed by own reflections of a conducive learning environment suitable for each student. Online learning thus places the student in his or her own classroom, providing him with the power to detect own pace, time, and learning style, utilising sites and wikis, transferring podcasts and vodcasts and using many other methods (Chandra & Chalmers, 2010). Although online instruction may be teacher controlled, the student exercises more freedom of choice of what suits own preferences, and thus is likely to promote learning. Both online and face-to-face learning environments have presented benefits unique to each, implying that blending the two can foster learning.

3.7.3 Hybrid learning environment

An online learning environment is common, and increasingly being adopted; it presents the content of a programme over a longer period of time than in the classroom environment and per other methods (Akkoyunlu & Soylu, 2008). Online learning, otherwise called e-learning, distance learning, or computer-aided learning, provides a learning platform that is independent of time and place. However, it hinders some necessary socialization processes of students, and limits the communication and physical interaction between teacher and students or peers. This contrasts with the brighter side of the traditional face-to-face learning environments. Blending learning environments that combine the advantages of online learning and those of traditional learning environments lead to development of a new learning environment 'hybrid learning' (Finn & Bucceri, 2004). Similarly, Brown (2003) asserts that hybrid learning supports all the benefits of online learning, such as time efficiency and location convenience. Both the traditional and online environment present a wide range of platforms such as computer interactive videos, use of Internet, emails for online learning and collaborative approaches, student-centred, teacher-centred approaches, group work for face-to-face engagement; there are many definitions of hybrid learning in literature.

Brown (2003) further opines that hybrid learning is a method of teaching that disregards time, location, and other regular situational obstacles in face-to-face learning, offering opportunities for high-quality interactions between teachers and students. This approach provides flexibility of time and place, and allows students to take instruction at their own pace. This puts hybrid learning on a higher level than face-to-face and online learning environments. Such an

environment is a product of research on provision of an environment that will enhance learning, Jeffrey, Kinshuk, Atkins, Laurs and Mann (2006) therefore assert that students' experiences vary with various learning environments.

Secondly, Bonk and Graham (2006) simply defined hybrid learning as a combination of face-to-face and computer-mediated instruction. This explains why, in most contexts and literature, this method is described as 'blended learning'. Lloyd-Smith (2010) defined a blend as "harmonizing, mixing together two elements and the act of combining into one" (p. 508). The researcher further advises that a careful evaluation to determine which objectives may better be achieved through online or face-to-face must be conducted if hybrid learning is to be successful. This environment is therefore instituted to benefit students through both delivery styles (Hijazi, Crowley, Smith and Shaffer, 2006). Interestingly, González (2009) explored the patterns of associations of the definitions of hybrid learning, summarising them into three conceptions: a) as a deteriorated method for supporting transmission of data; b) as a dissonant way of combining face-to-face and online teaching; and c) as an embedded way of supporting students' learning. Hybrid learning will therefore present more benefits to both teacher and students than will other learning styles. However, even the best teaching or learning approach has its shortfalls.

Moerover, according to Aldrich (2006) it is always difficult for the teacher to decide which concept or instructional objective is best mediated by technology, and which requires person-to-person interaction. This is in agreement with Hijazi et al. (2006) observation that a comprehensive evaluation has become a necessity. Some of these challenges are brought about by incompetence in using today's technologies, and by the failure of institutions to provide necessary facilities. Scholars (Hamuy & Galaz, 2010; Mouyabi, 2011) note that this creates some resistance to change pedagogy to that which uses ICT, not all institutions being able to afford such. This was evident in Buchanan, MacFarlane and Ludwiniak's (2011) study in which students were exposed to hybrid learning. These students preferred face-to-face as the main mode of instruction delivery, while acknowledging the online aspect as a supplementary for catching up and revising for assessment. Similarly, Dahlstrom, Walker, and Dziuban (2013) discovered that, even though students liked the idea of using technology in the classroom, they still expect the teacher to provide some guidance for its use. Teachers must therefore be competent in both modes of learning.

Since hybrid learning integrates face-to-face and online environments, it has been difficult for researchers to identify collective benefits of hybrid without attributing them directly either to face-to-face or online learning. However, studies reviewed here indicate clearly that hybrid learning is a combination of learning environments and pedagogies used to deliver subject matter effectively. A hybrid learning environment, therefore, draws life from the certified reflections of researched and approved methodologies, borrowing from both traditional and computerised environments.

3.8 Grouping

Instructional objectives always point to learning outcomes to be attained by an individual learner, although learners learn in groups or in a particular group. Grouping is a set of associated groups acting together, especially taken from a larger class or school. While the groups are in operation, the teacher views each small group as a separate and distinct social set that can receive instruction as one unit (Ward, 1987). Therefore, for instructional purposes, the group must perform activities that involve learning of educational material. A study by Van den Akker (2010) that explored how a better cross-pollination between educational research and curriculum development could reinforce the information base for curriculum policy yielded a classification of students, grouping them as either whole class, small groups, or individuals.

3.8.1 Whole class group

Grouping of learners occurs at the macro level (school) and at the micro level (in the classroom). The National Education Association (NEA) (2017) has classified the groupings into within-class grouping and between-class grouping. At the macro level, learners are grouped by cohorts or grade level, that is, the group here indicates the level of education achieved. This is school practise (between-class grouping) whereby students are placed into various classes, courses, or course groupings (curricular tracks) in light of their scholastic accomplishment (NEA, 2017). Students earn this grouping through screening that comes in the form of tests and examinations determining whether a student will move to the next class. The screening is conducted by the school administration or class teacher, being driven by certified reflections normally pre-set on the qualities or standards needed for the learner to progress to the next group or to remain in the class (Ward, 1987). Failure to proceed to the next level automatically enlists the student to another cohort, subsequently delaying his matriculation.

Such groupings may have adverse effects on the learner, who may fail to associate himself with a new group.

Correspondingly, since failure has placed him in that group, this suggests that a student is likely to suffer discrimination and may fail to fully participate in micro groupings. However, to others this comes as motivation to work harder (Blatchford, Kutnik & Baines, 2002). Again, the macro level groups students by sporting activities offered at school such as netballers and footballers. These groups also offer advantages and disadvantages. Studies reviewed above indicate that students have no choice of a class or micro level grouping although performance has greater influence in placing students. However, teachers are in control of grouping techniques whether academic activities (class) or in extracurricular activities. These studies further reveal that students are grouped according to their abilities. For example, those who can play football well form a school team. This grouping technique is therefore informed by certified reflections.

3.8.2 Small groups

For micro-level groups, (within-class grouping), on the other hand, students are placed within the classroom or grade level in several ways such as by subject combination, gender, or instructional groups. The educator has the job of masterminding and grouping students of comparable ability (and sometimes of different ability) into small groups usually for the purposes of reading or special activities (NEA, 2017). Instructional groups are a set of learners that may be homogeneous; heterogeneous groups are formed either naturally or purposively, by the teacher or by the students themselves.

The grouping technique by NEA suggests that grouping is either the act of the teacher or the school. However, non-instructional grouping at school may be devised by the students themselves; or grouping may be either coincidental or accidental. Students may group themselves through friendship; or students may be from the same location/township, or they may belong to the same ethnic society or political party. Peer grouping is an influence employed by a peer group to a student, promoting or facilitating a change of attitude (Kirk, 2000). Temitope and Christy (2015) characterise peers of same age group, friends, sharing activities within and outside the school. Therefore, peer groups have the ability to urge individuals to accomplish something or decline accomplishing something, regardless of whether the individual needs to do it or not (Ryan, 2000).

Most scholars have tried to define peer influence; all agree that conformation is the only recruitment strategy; otherwise, one will fall out with the group. On the contrary, Black (2002) saw peer-group influence on academics and morals. However, he concluded that school-going teenagers adjust to peer influence on seemingly irrelevant aspects such as music, apparel, or hairdressing, using parents for moral values and teachers for academics. Teachers and parents are viewed as role models. In either case, the students view the peers, teachers, or parents as role models and these role models act as a source of motivation or lack thereof. Ryan (2000) believes that role models change students' cognition and behaviour.

Therefore, all forms of grouping need the approval of the teacher: all gatherings, whether academic or social will eventually influence the teaching and learning process (Ryan, 2000). Public reflections from social or peer groups can yield both negative and positive results. Some of these social groups develop into study groups or teams in which members of the group compete to be the best; at the same time slow learners may be encouraged to work harder and even be given assistance by peers. Good peer groups may inspire members by a demonstration of a possible achievement that one can strive for (Korir & Kipkemboi, 2014). On the other hand, bad peer groups parade bad habits and practices as something to achieve. This is the form of peer influence that most researchers focus on, such as indulgence in alcohol, substance abuse, violence, and absconding from classes.

Students' peer relationships play a crucial role in their ability to adjust at school and have a greater influence on the level of motivation attained. Scholars (Ide, Parkerson, Haerted & Walberg, 2006; Ryan, 2000) admit that students' experience with peers establishes a concrete developmental context for most children, particularly adolescents. Santor, Deanne and Kusumskur (2000) also assert that students gain their primary developmental and adolescent identities through participation in peer-group activities. If peer grouping has such a profound influence on the life of students, there must be a grey area on how teachers can use grouping outside the class to win students over for academic purposes. More studies focus on the effects of teachers' practices and home environment, than on the effect of peers and their impact on student academic achievement. The school and subject teachers can formulate either heterogeneous or homogeneous groups. According to Heltemes (2009), homogeneous grouping has been the common practice in the 1900s, otherwise known as ability grouping, in which learners are grouped according to their achievement. The emphasis is on homogeneity within the student group. This grouping follows the English idiom that 'birds of a feather flock

together'. Here the feather is the shared background of experience, events, and level of understanding of instructional concepts. However, although proponents of homogeneity grouping would argue that it lessens conflicts and thus speeds up learning, it may be difficult to construct a completely homogeneous group because teachers cannot measure similarity of temperament of emotional response of students. In this approach, the teacher can receive numerous benefits that will be discussed in the next paragraph.

3.8.2.1 Homogeneous grouping of students

Communication in homogeneous groups carries a twofold benefit for both the learners within the group and for the teacher of each group. Since this approach sorts and places students of the same capability in one group, this can build student accomplishment by enabling educators to direct instruction. Teaching a gathering of same-capacity students empowers the educators to change the pace of instruction to suit students' needs. For instance, in Food Preparation class/practical, a teacher may re-demonstrate for the slower learners at the pace they can follow, providing more repetition and reinforcement where necessary.

Contrariwise, the most capable learners become bored with unnecessary repetitions and overemphasis of instructions understood. Straus (2013, p. 8) endorses this, in saying that "students who had mastered a skill or concept reported boredom in the designed program, and students who had not mastered a particular skill or concept were lost once the teacher had completed a module". Straus (2013) is one of the proponents of homogeneous grouping. This approach was proposed to help schools to offer their students a more individualised set of instructions. Also, a group of high-performing students may be given more prospects for independent work/activities and group discourse than a group of low achievers that need more teacher guidance. LeTendre, Hofer and Shimizu (2003) lament that logic, emotion, and research have, over the decades, been debating the pros and cons of assigning students into groups according to their abilities. When homogeneous and heterogeneous groups of students are taught similar curricula, Heltemes (2009) posited that the advantages for homogeneous grouping with regard to academic achievement are very limited.

Opponents of homogeneous grouping, on the other hand, claim that the more capable students make greater academic progress when separated from the others. Less capable students being segregated from their peers are more likely to receive a poor or inferior curriculum tailored to the level of their understanding. This notion, however, is directly counter to ability grouping

proponents, in that it can lead to greater academic achievement. This was supported by Hostetter (2013) who maintained that homogeneous grouping of learners retards the academic progress of many students. The less capable students have their self-esteem lowered, which eventually encourages school misbehaviour and dropping out. Students with low self-esteem normally have lower ambitions. Ward (1987) supported that both high and low capability students' score better academically in classes where there is wide range of academic capabilities of learners. He further invalidated any claims that either heterogeneous or homogeneous grouping may enhance academic performance. This debate of whether or not homogeneous groups improve learning cannot be concluded without specific research conducted to qualify each claim.

The debate over homogeneous groups and heterogeneous groups is old and has not been concluded. There is a lack of experimental studies conducted to compare the two approaches. Most researchers conduct studies on the effectiveness of each approach when they are already charged as either proponents or opponents, therefore having a view likely to influence the outcome. This is in line with what Straus (2013) observed, that those who believe that homogeneous grouping does not enhance overall academic achievement are actually opponents of homogeneous grouping. Straus (2013) accuses them of masking important facts. He further noted that, while proponents admit that highly capable students perform better when surrounded by peers of similar aptitude, opponents insist that less capable groups of students perform poorly.

Another confounding factor in this long-standing debate is that homogeneity in grouping students is viewed differently by educators of different subjects. For example, Attard (2015) asserted that, although there were arguments both in favour and against homogeneous grouping, it is normal and acceptable, internationally, to use this approach in mathematics classrooms. Attard concluded that teachers need to think carefully about their rationale for homogeneous grouping, while considering the impact on the learners' self-esteem. Although opponents of this grouping type warn of its adverse effects on less capable learners, both proponents and opponents agree that this grouping is used for teacher convenience more than for the student benefit. Attard (2015) also supported that, based on the findings by an Australian TIMSS and PISA study report that showed that our secondary school students are not keeping

up with most aspects of mathematics, thus homogeneous grouping helped teachers to deliver instruction according to the needs of the group.

In contrast, Boaler, Wiliam and Brown (2000) explored students' experiences of homogeneous grouping, discovering that students were significantly disadvantaged by their placement. Contrary to other researchers' findings, Boaler noted that the disadvantage was not restricted to students in the less capable groups. This was a sociological study in which about one-third of students in the most capable groups felt disadvantaged because of too high expectations to succeed, and the fast pace of lessons. The differentiation in pace of instruction delivery for different ability groups resulted in some students feeling that the pace was too fast, causing anxiety, while others felt it was too slow, resulting in disengagement.

This mismatch offered as an advantage for homogeneous groups is not easy to solve, however, the solution may lie in Glass's (2002) observation that homogeneous grouping is usually based on previous achievement rather than on a measured academic aptitude. Lastly, Adodo & Agbayewa (2011) examined the impact of homogeneous capacity level grouping class teaching and heterogeneous capacity class on students' learning result. Results indicated that homogeneous grouping is more effective in promoting students' learning outcomes.

In addition to the findings above, it has become very important to look into other possible drawbacks of homogeneous grouping. Advantages and disadvantages of grouping students according to their ability depends on the individual teacher expectations and instructional techniques. This is because most of the disadvantages cited above are owing to teacher neglect of one group. Other perceived problems associated with homogeneous groups is the stigmatising of learners, and indirectly tagging them as inferior and 'dumbed down'. However, in Consumer Sciences, homogeneous grouping is used mostly for practical lessons. It may therefore be difficult for students to feel labelled as the lesson/task is normally finished on the same day. Mpofu (2002) asserted that group work, homogeneous and heterogeneous, is an essential component of Consumer Sciences practical work, particularly in the area of Food and Nutrition.

3.8.2.2 Heterogeneous grouping of students

Heterogeneous grouping has been practised at micro and macro levels in schools even after the 20th century. It is a kind of distribution of students among several classrooms of a grade within a school or within same level in classroom (Bainbridge, 2017). It is an educational practice in which students of various capabilities are placed in the same classroom/group within the class for academic instruction (Marzano et al., 2008; McCarter, 2014). This allows an arrangement whereby students from various backgrounds, classes, and sexual orientation, ethnicities, culture, and accomplishment levels can work out how to cooperate (Kellough & Kellough, 2007). In this approach, students of relatively the same age are placed in different classrooms for even distribution of abilities, different educational and emotional needs. In this regard, capable and less capable students will be scattered throughout various groups at grade level.

There are four main benefits for using heterogeneous grouping in schools, according to Conyne (2013). This researcher observed that this approach is good at improving social competencies of students, improving self-esteem, building positive connections amongst dominant and minority students, encouraging leadership abilities, preparing students for the working environment, and in expanding student accomplishment. Mpofu (2002) notes that, although homogeneous grouping was a common practice in food and nutrition classes, Consumer Sciences teachers normally use heterogeneous groups for clothing and textile, home management and laundry lessons.

Improved Social Competencies: this grouping enables student to develop respect for human differences, as they are still developing. Early development theories asserted that children have an egocentric attitude that must be minimised through social interaction with peers and teachers at school in and outside the classroom setting. This kind of awareness is far-reaching in the social and academic life of students because it entails accepting others who are not of similar temperament, economic status, and family background. Zamani (2016) notes that learners first learn from each other, the teacher and the classroom environment, before they can concentrate on the instruction. Placing learners in a mixed group helps them appreciate the rights of minority groups. Swaziland, however, is blessed with only one ethnic group, religion, and political regime; and thus disapproval of students apropos of race, ethnicity and religion has never been an issue. However, there is a wide distribution of economy in Swaziland rendering some students indigent and vulnerable.

In addition to the above, social competence is improved through creation of awareness of equity and justice. Owing to heterogeneity, students are placed in a situation in which they develop some willingness to negotiate differences with peers. They need to exercise patience in order to participate in in-group discussions. Group work also means that learners of different learning skills and styles can work on one project or task. This, therefore, requires that they become open to other group members' ideas, regarding the privileges of others. This awareness of others' expectations is crucial to their learning; but also, it is very helpful at preparing for adulthood and their future families. Heterogeneity in the classroom groups improves self-esteem.

Within cooperative groups, self-esteem is improved since people have a tendency to collaborate more with peers. Most researchers (Huitt, 2004; Canfield, 1990; McVey, Davis, Tweed & Shaw, 2004) assert that teachers spontaneously know that when students feel better about themselves, they will perform better academically. Once students accept themselves and others, they can promote each other's success and can give accurate and immediate feedback other than in a non-responsive group in which members of the group always feel someone else can give a better explanation. However, Webb (2009) notes that teachers must play a greater role in achieving self-esteem among student in heterogeneous groups, otherwise this grouping approach can be the worst. Teachers can do this in two ways: "providing instruction in communication, explaining, or reasoning skills; and altering status relationships among students, thereby changing students' expectations about each other's capabilities" (p. 6). Developing self-esteem entails accepting self and tolerating peers, thus a relationship between minority and majority students is improved. This means development of good future leaders with sound leadership skills.

Improved Leadership Skills: A leader is faced with people of diverse beliefs, background and educational attainment. Heterogeneity in grouping students avails a chance for a student to become a leader because a better resistance to peer pressure is developed. Leaders are developed in schools every day and a group will not be progressive if it does not have a leader (Wilson, 2012). Therefore, learners are prepared for the workplace at which schools are expected to work in teams to facilitate decision-making and problem-solving skills. Lastly, heterogeneity in a classroom grouping improves student achievement in which retention is

increased and active participation promotes active learning. There is relatively little evidence that heterogeneous grouping improves performance, apart from social and interpersonal benefits. These social and interpersonal benefits form the main rationale for both homogeneous and heterogeneous groups. Studies (Zamani, 2016; Marzano, Welch, Adams, Brown & Welch, 2008; McCarter, 2014) suggest that public reflections during grouping of students integrate students of various backgrounds, classes, and sex, ethnicities, culture, and achievements, placing them so as to learn with others, socialise and interact horizontally with the teacher.

3.8.3 Individual grouping or no group

Individual learning does not refer to having one student in the class but is a 'directed learning' specifically designed to be handled or carried out by the student as an individual (Klieme & Vieluf, 2009). This learning is rooted in the constructivists' view that focuses on students not as a group of passive learners but as dynamic members all the while in the process of acquiring knowledge. The teacher's role in this arrangement is to facilitate student enquiry and give each student a chance to develop or find a solution to the problem on their own. This grouping is therefore driven by own reflections focused on developing each learner. Thus it stresses more than knowledge acquisition but the learner's contribution to his/her own learning.

Weimer (2002) asserts that this 'individualised' or student 'directed learning' has many benefits of removing self-doubt, awkwardness, and the fear of failure. This grouping develops students' confidence and motivates them to initiate and lead learning as they have nowhere else to look for solutions but to themselves. The study by Weimer (2002), together with Balcom (2012), observed that individualised learning, although not commonly practised, is best and very effective in teaching the disabled, in which each learner needs special attention and own approach tailored to his/her needs and interests. Such grouping may be more effective in normal students. Individual learning or directed or targeted learning therefore demands that schools build up an arrangement to gather vigorous confirmation of student realising (what every student is prepared to learn immediately, and how much the learning has advanced) and utilising that information to provide time, tools, and instruction to serve the needs and interests of each learner (Goss & Hunter, 2015).

3.9 Chapter Summary

This chapter gives an overview of the curriculum anatomy by looking at it closely using the lens of the own, public and certified reflections. Although each curriculum concept has value, literature has proven that all three reflections have some influence − each curriculum concept is dominated by a certain domain of reflection. For example, grouping of students is dominated by public reflections that enable students to interact and socialise in the class while provision of resources, assessment of learning and educational purposes are greatly influenced by the teacher, school authority, or national or international bodies, driven by certified reflections. However, even though curriculum concepts may be naturally controlled by certified reflections e.g. teachers' role, studies suggest that there is a need for a shift to facilitation with more influence from the public reflections.

Educational purposes are school learning purposes, academic purposes or intentions by which the educational institution seeks to achieve in the long or short term (Noddings, 2007; Tyler, 2013; Khoza, 2016d). These purposes may be long term, representing the institution or discipline aim or objectives and learning outcomes. Studies suggest that statement of educational purposes be driven by public reflections, thus be stated in terms of learning outcomes (Gosling & Moon, 2001; Donnelly & Fitzmaurice, 2005; Kennedy et al., 2006). Educational purposes help in the assessment of the curriculum.

An assessment is a teacher's effort driven by certified reflections to regularly check whether the curriculum is achieving its stated objectives (Tyler, 2013). Hume and Coll (2009) categorise assessment into three: assessment *of* learning (suggesting the summative assessment conducted by the teacher at the end of the programme), assessment *for* learning (formative assessment concerned with activities that teachers, together with students, undertake for purposes of communicating information about student progress that will eventually be used as feedback), and assessment *as* learning. Studies (Hargreaves, 2005; Ecclestone, 2007; Hayward & McNicholl, 2007) suggest that assessment will be meaningful and effective if teachers use assessment *as* learning in classrooms. This further suggests that own reflections or self-assessment empowers learners; and thus the teaching and learning process is greatly rewarding. Assessing learning is not the teacher's only role.

The teacher's role is a prescribed or expected behaviour each educator is to assume while on the premises of the school or in line with the teaching profession (Ndyali, 2013; Sebate, 2012). Literature (Hunter, 2007; Schwarz, 2005; Etiubon, 2015; Adipere, 2010) presents teachers' roles being driven by own reflections (researcher), public reflections (facilitator, community teacher) and certified reflections (assessor, pedagogue, and bread-winner/resource provider). Emerging conditions in the teaching and learning environment have added more roles for the teacher. A study by Nxumalo et al. (2015) demonstrated a shifting of the role of teachers in Swaziland owing to the prevalence of HIV/AIDS. This study notes that the teachers must play the role of caretakers. Teachers need adequate and relevant resources in order to play their roles. Resources may be defined as a person or groups of persons (Khoza, 2015a), an organisation or a body of knowledge, skills, tools, and strategies for potential utility of learner empowerment (Harden & Crosby, 2000). Khoza (2013) views resources as hardware (educational tools controlled by educators thus driven by certified reflections), software (used for communication and socialization purposes thus driven by public reflections) and ideological-ware (theories on teacher's ideology of teaching influenced by teacher's own reflections). According to (Khoza, 2016a; Khoza, 2015c; Govender & Khoza, 2017), ideological-ware is the resource that teachers need most, as it is used in the selection and proper use of both software and hardware resources for classroom activities.

A learning activity is defined as any organised work planned and prepared by the teacher, or together with learners, with the expectation of enhancing student knowledge and abilities (Monnet, 2006). Kaya et al. (2015) classifies learning activities into teacher-centred (driven by public reflections), student-centred (driven by own reflections) and content/subject-centred activities (driven by certified reflections). Studies by (O'Neill & McMahon, 2005; Carlile & Jordan, 2005) promote a paradigm shift from content-centred and teacher-centred to student-centred learning activities, taking the view that this creates interest and enthusiasm. Learning activities are greatly influenced by availability of time.

The time concept in curriculum takes the form of 'duration' 'attention' and 'rate of instruction' and other words such as period and speed/space (Loewer, 2009; Hollowood et al., 1994). Instructional times driven by certified reflections are allocated time, engaged time, and time-on-task; while transition time, or looping is greatly influenced by public reflections. Other time concepts such pace and students' perseverance depend on each individual teacher or student, and thus are driven by own reflections. Studies (Ylimaki, 2013; Scheerens & Hendriks, 2014;

Pollard & Pollard, 2014) suggest that looping can create a great opportunity for teacher and students to learn from one another and develop some rapport over two to three years, which makes instruction easy and avoids waiting times, while increasing the pace of learning; thus time allocated will suffice for teaching and learning.

Lastly, location is the position or place or an area marked off or designated for purposes of teaching, in which learning is likely to occur. This may be in the school, community or field or in laboratories. Location also suggests an atmosphere or environment for learning. A study by Young and Duncan (2014) classifies learning environments into class face-to-face, online, and blended learning environments. The face-to-face environment promotes peer-to-peer/teacher and voice-to-voice interaction, and socialization within the learning environment that is driven by public reflections (Gleeson et al., 2007). Online environments driven by own reflections provide students with a platform on which to design and control their own learning, pace, time, and place (Poe & Stassen, 2002; Chiu et al., 2007). Studies by (Finn & Bucceri, 2004; Brown, 2003; Bonk & Graham, 2006) assert that learning is likely to be effective if it is dominated by blended learning environments that combine proven methods from both online and face-to-face environments.

CHAPTER 4

THEORETICAL AND CONCEPTUAL FRAMEWORK

4.1 Introduction

A theoretical framework is the groundwork from which all knowledge is constructed for a research study (Grant & Osanloo, 2014). When likening research construction to building a house, a theoretical framework may be referred to as the blueprint that guides and supports the study. Sinclair (2007) likened this to a map or travel plan used when planning a journey in unacquainted country, taking the best way to travel. A theoretical framework, according to Osanloo and Grant (2016), is carved from existing theories in the literature that have been tested, validated, and accepted by other scholars in the discipline. A theoretical framework gives a novice researcher a roadmap of viewing the research, and provides a sense of guidance in going about conducting the study. However, seasoned researchers and PhD students whom Macleod and Golby (2003) observed were capable of creating their own blueprints. Merriam (2001) argues that theoretical frameworks help them to 'borrow' blueprints from someone's theory and use them to build their own theories.

One setback in selecting and using theoretical frameworks is that it encourages rigidity in its standards, thus preventing the introduction of new ideas and validity issues in qualitative studies. However, this limitation may be overcome by the use of conceptual frameworks, defining concepts in the context of the study being carried (Luse, Mennecke, & Townsend, 2012). The conceptual framework therefore provides some logic in terms of structure on how concepts are connected or how new theories and ideas have been generated relative to the framework. These concepts are presented in such a manner that readers can clearly identify with the researcher's epistemological and ontological worldview and approach to the topic of study. The endeavour of analysing the reflections of educators of the Integrated Consumer

Sciences curriculum demand a framework for reflecting and applying logic in viewing curriculum issues. Development of the study framework therefore combines Tyler, Stenhouse and Freire's theories of curriculum.

4.2 Ralph Tyler vs Lawrence Stenhouse: A Civil Case

The Consumer Sciences curriculum strives to emancipate society through development of life skills that individuals and family members can live with. Studies from Swaziland (Kiamba, 2005), Africa (Mberengwa & Mthombeni, 2013), the UK (Bernard, 2010; Schofield, 2005), and Australia (Jenkins, 2014; Richards, 2000) suggest that the curriculum is greatly influenced by public reflections in providing the needs of the society through application of technical, vocational, and scientific majors in clothing, nutrition, food preparation, and child development. Such desires to serve the society may be anchored in the school of Lawrence Stenhouse who used societal dynamics in planning and reviewing a curriculum. However, this curriculum in Swaziland is designed and assessed by a national body that adheres to international standards, drawing from certified reflections. This move makes use of the technical or professional viewpoint of a curriculum through the objective model by Ralph Tyler.

4.2.1 Ralph Tyler's statement

Ralph Tyler, an American religious man born in 1902, in Chicago to a professional family, made a landmark study in the area of education, particularly curriculum, assessment, and evaluation. Although Tyler's 1949 objective model has been criticised, his book first written as a course module for the University of Chicago has been used extensively in curriculum issues even today. Before discussing his model, a brief background about Tyler will lead to a better understanding of how he developed his rationale. Nowakowski (2011), in his interview with Tyler, found that Tyler was motivated by his part in the *Eight-Year Study* and that of being a director and founder of the "Centre for Advanced Study in Behavioural Sciences" for 13 years. These activities therefore suggest that Tyler was influenced by notable educators such as Charles Judd and Charters when consolidating his ideas into curriculum issues. Tyler's background, both parents being professionals, would promote his likelihood of following his parents. As his father who later became a congregational minister, Tyler also thought of becoming a missionary:

> "In fact, at one point I was quite tempted when I was a senior in college to go to Rhodesia as a missionary, but decided not to. [Why?] Because I didn't think that I could do enough. I hadn't been trained as a minister. I was only trained in science and math and that's what I was a teacher for" (Tjerandsen, Carl, Chall & Malca, 1987, p. 7).

Tyler's justification for not pursuing missionary work suggests that was professional in practise and that he had the zeal to shine in his teaching profession. Interestingly, all his brothers who were previously trained missionaries eventually joined him in the teaching profession. How about his rationale for thinking about planning a curriculum? Did not the whole world join him? A 1981 survey of 135 university instructors of curriculum modules was directed to decide on the greatest effect on the school educational modules since Phi Delta Kappa. Ninety-five per cent rated Tyler's 1949 rationale as major and considerable (Stanley, 2009). Similarly, McNeil (1990) asserts that Tyler's rationale "is regarded as the culmination of one epoch of curriculum making" (p. 388).

4.2.2 Reasons behind Tyler's actions

The *Eight-Year Study* was also called the *Thirty School Study* as it was an experimental study involving 30 schools supposed to take eight years to experiment with a new educational programme in the USA. As the name implies, the "*Eight-Year Study"* was supposed to be completed within eight years, but was extended to twelve years from 1930 to 1942 (Stanley, 2009). The thirty schools were experimented on for two main goals:

> "To establish a relationship between school and college that would permit and encourage reconstruction in the secondary school, and to find, through exploration and experimentation, how the high school in the United States could serve youth more effectively" (Kridel & Bullough, 2007, p. 3).

An agreement was crafted to the effect that there would be an evaluation to establish degree of success with regard to student's performance in readiness for admission to college, students' performance on their college work, and a follow-up on students at work places (Finder, 2004). The evaluation committee used the *General Culture Test* created by the Cooperative Test Service for the Pennsylvania Study of School, and College Relations, to evaluate the programme at the end of the first year (Madaus & Stufflebeam, 2012). However, there was nearly a crisis as the schools argued that the evaluations were not valid. The focal point of the new curriculum for these assessments captured only 'recall' information, a

system found in widely used textbooks of the time. The schools threatened to drop the programme. Boyd Bode, a renowned philosopher of education at Ohio State University, who happened to be a member of the directing committee, suggested that they make use of Ralph Tyler.

> "We've got a young man in evaluation at Ohio State who bases evaluation on what the schools are trying to do. He works closely with them and doesn't simply take a test off the shelf. Why don't you see if he will take responsibility for directing the evaluation?" (Nowakowski, 2011, p. 26).

Ralph Tyler received a telephone call and invitation to an interview before assuming the position of overseer of an evaluation team for the Eight Year Study. According to Finder (2004), Tyler's involvement in the evaluation of the programme produced a remarkable work of the evaluation team such that, in five years' time, the schools began to cherish the difference in the support they received from the evaluation team. The director of the Eight-Year Study, Aikin, noted through some interviews that the schools were receiving more help from the Tyler team (evaluation) compared with that from the curriculum team (Schubert, & Schubert, 1986). This, according to Nowakowski (2011), was owing to a rationale Tyler had for evaluation. Tyler used a previously established rationale for evaluation on this curriculum programme. This positive effect challenged Tyler to produce a rationale for a curriculum. During an interview with Ridings Nowakowski in 1981, Tyler confessed to have conceptualised the curriculum while eating with his right-hand workmate, Hilda Taba:

> ". . . I said to Hilda Taba, Shucks, we can produce a rationale for them. She said, you can?! I said, Yes. And on a napkin I sketched out . . . basic principles of curriculum and instruction. . . . After lunch we brought that back to them and they said, That's just what we need. But it was just bringing together all of things that had been coming" (Madaus & Stufflebeam, 2012, p. 253).

The outline sketched on a napkin eventually developed into his famous 1949 rationale for a curriculum. This model presented a technical view of a curriculum: his students would testify that Tyler's writings and teachings were established in certified reflections. "It was obvious that he has a powerful mind. His lectures, modestly delivered, were masterfully organized and the materials fitted together like a work of art. I realized that I was dealing with an exceptional educator. . . ." (Schubert & Schubert, 1986, p. 8). Tyler, in his rationale, asked four basic

questions which have been widely accepted in literature as valid. The questions referred to educational purposes, content, organisation, and evaluation. This model presented a technical, systematic, and objective model, commonly referred to as an objective approach. Tyler begins with aims and objectives, thereafter, content may be selected. The objectives, according to Tyler (2013), are the fundamental basis on which all other aspects of the curriculum are developed. Similarly, his evaluation is a process of checking whether the objectives have been met. This approach has suffered criticism because it renders the teachers as technicians, and does not much involve the teacher and the learners. The curriculum is developed outside the school by experts in the field. It is therefore so technical that it does not allow flexibility and creativity for learners and teachers who need to follow prescribed rules and objectives. It overlooks the needs and interests of the society and the learner. Lawrence Stenhouse, therefore, presents a process model embracing the sociological perspectives of a curriculum.

4.2.3 Introduction of Lawrence Stenhouse

Lawrence Stenhouse, the father of the process model found fault with the objective model of curriculum development started by Bobbitt and Tyler, and refined by Taba. Stenhouse believed that education involves process instead of the fulfilment of pre-stated objectives: the aim of instruction is itself cherished during the time spent on the inquiry. Additionally, he argued on the role of not only the learner but also the teacher in the classroom. Stenhouse believes that the teacher is a researcher, and that classroom activity must be a seminar. Although Stenhouse does not state it explicitly, if learning is an enquiry and the teacher is learning along with the students, then the process of teaching is action research. As with other theorists, there is a source of inspiration and motivation to see things differently. It is worth exploring Lawrence Stenhouse's background to understand clearly what inspired him to develop the process model.

4.2.4 Stenhouse's statement

According to Lilyea (2015), Stenhouse's ideology was doubtless shaped by his childhood within his community. He was born in Scotland in 1926, in a model town whose physical setting helped Stenhouse develop feelings for the community. Reading his works, it becomes clear that Stenhouse had a passion for the community, for socialization, and culture. Although his writing was dominated by sexist statements (the 1975 book), Stenhouse had passion in developing and disseminating his ideas. Elliot and Norris (2012) believe that he was much influenced by his history teachers at Manchester Grammar School who shaped and positioned him to see and

experience the seductive power of ideas. His ideology of social dynamics was developed to the point that he gave lectures at the University of Oslo in 1962 on the development of a framework on sociology in the classroom and sociology in the curriculum (Elliot & Norris, 2012). His main belief was that education must transmit culture. Stenhouse began to view the classroom as a cultural laboratory; and cultures were seen as resources for creativity, individuality, and independence. These three themes are dominant in all Stenhouse work, particularly in his book *Cultures and Education.*

According to Norris (2012), when Stenhouse wrote this book, there was little mention of sociology in the British education, although people believed that sociologists of education at that time were more concerned with the relationships between social structures and interaction of social class, educational outcome, and mobility. Even though the British education did not consider sociology of education, Stenhouse (1967) in his "*Culture and Education*" made reference to sociologists such as George Mead, Talcott Parsons and Werner Stark. The sociology of curriculum was negated even though a sociology of education book was published in 1968 to give insight into the sociological perspective of education. Even then, it failed to address the sociological approach to the curriculum until publication of Stenhouse's Culture and Education (Norris, 2012). Stenhouse, through this book, was concerned with empowering the youth using culture to liberate them rather than control them.

Another point of inspiration and development in Stenhouse's works may be gleaned from his role as the director of the Humanities Curriculum Project (HCP) at Durham University in the 1950s preceding his move to Jordanhill College in Glasgow. The HCP was funded by the Nuffield Foundation to help enhance the nature and quality of the schooling background for youngsters and school leavers. The HCP aimed to promote a pedagogy of enquiry with changing the roles of both the students and the teacher. The role of the teacher was considered to be that of a co-investigator, not merely facilitating learning outcome. The teacher, together with the student, does not know what the outcome will be (Stenhouse, 1971). Stenhouse began to question the power structure in academic research and in the classroom. This power relationship placed teachers in higher authority over students. In research, conversely, academic researchers had more influence on the ways teachers teach and how students learn. Stenhouse believed that this role of experimenting with the curriculum was the responsibility of the teacher, not academic researchers. His ideology of democracy and way of regarding

teachers as co-investigators along with students seemed to undervalue the expertise of teachers. However, in essence it suggests teacher development, someone who is capable of researching independently in his line of expertise. According to Stenhouse (1971), this was to afford the teacher an opportunity to give his/her own sincerely held point of view. However, this, according to Stenhouse, does not permit the teacher to push his agendas that are not directed towards the curriculum. "But the inescapable authority position of the teacher must in this case leave him open to the charge of using the classroom as a platform to promote his own views" (p. 154). Similarly, Norris (2012) confirms that "teachers were advised not to use their authority as a platform for promoting their own views, but that they were, nonetheless, responsible for quality and standards in learning" (p. 88).

On the role of the students, Stenhouse believed that enquiry must not be directed by the most capable; he viewed all young people of different abilities and backgrounds as equally capable. They should be urged to think about their learning as far as enquiry is concerned. Stenhouse was optimistic that people could achieve more and achieve greater potential in life. Again, his educational theory seems to have arisen from a strong democratic conviction: people should act, share, and participate in a democratic culture. This gives students power, independence, and some responsibility for their own learning. Rudduck (1995) asserts that Stenhouse's idea of power structures in education was not simply developed with the HCP, but that he first wrote about authority and emancipation in education while he was a teenager, through school assignments. Both Rudduck (1995) and Norris (2012), while giving an account after his death in 1982 affirm that his project on the development of an independent mind among older students was liberation of young people from uncritical dependence on the teacher, the school, and other authorities. His zeal to liberate students from a disempowering dependence on authorities in school is paralleled by the liberating of teachers from academic researchers.

4.2.5 Stenhouse's definition of curriculum

Stenhouse (2005), from the social domain, first explored the present definitions of curriculum by Neagley with Evans, Inlow, and Johnson, presented from 1966 to 1967. These definitions, according to Stenhouse, were performance models in that they defined the intended performance or attainment, before proceeding to stipulate that the course should deliver such performance. This ideology therefore presents education as means to an end, described in terms of learning outcomes or behavioural objectives. This is where Stenhouse stands to differ, as he

labelled such models problematic. He then defined curriculum as an "attempt to communicate the essential principles and features of an educational proposal in such a form that it is open to critical scrutiny and capable of effective translation into practise" (p. 4). Having explored factors in the development of Stenhouse's intellect, this definition is a true reflection of his belief. Stenhouse was quick to point out that the definition reflects his own perspective. Three main elements make up this definition. Firstly, Stenhouse opposed the use of objectives as a guide for selecting content, organising learning, and in evaluating the learning experiences. However, Stenhouse believed that "each discipline has principles for selecting content in curriculum in terms of criteria which are not dependent on the existence of a specification of objectives" (p. 86). The principles are analysed by the criteria of worthwhile activities. These principles of procedures were recommended in place of objectives. Stenhouse's scholar, Peter, drew a clear distinction between aims and principles of procedures. In Stenhouse's class, curriculum designers needed first to provide resources to carry out the worthwhile activities on which content would then be selected. As a basis for planning a curriculum, Stenhouse (2005) presented four principles.

> "Principles for selecting what is to be taught and learned − Content;
> Principles of how content will be taught and learned − Teaching strategy;
> Principles for arranging content − Sequence; and
> Principles for diagnosing strengths and weaknesses of individual student −Evaluation" (Stenhouse, 2005, p. 8).

Secondly, Stenhouse believed the curriculum must be subject to critical scrutiny through enquiry in the classroom by the students and the teacher as a co-investigator. The critical scrutiny does not begin in the classroom, but from the very principles and criteria for selecting what is worthwhile activities. Lastly, that the educational proposal must be capable of effective transmission into practice. Stenhouse (2005) in this case views the curriculum "not as an intention or prescription but what happens in real situations" (p. 2). Although he did not completely rule out the need for curriculum intentions, Stenhouse advises that it should be the relationship between the intentions and reality so that it does not merely become aspirations. Aspirations can be problematic because "the gap between aspirations and practise is a real and a frustrating one" (Stenhouse, 2005, p. 3). The Stenhouse model is therefore composed of content, teaching strategy, sequence and evaluation, all governed by principles of procedure on the criteria of what is worthwhile.

4.2.6 Teaching strategy and sequence of content

The process model embraces the organisation of learning, which is the responsibility of the school to use by whatever means. Organisational process involves adopting essential teaching methods, strategies, and sequencing content, in such a manner that will promote effective learning. Stenhouse (2005) personally did not regard teaching methods; he defined teaching according to strategies adopted and applied by the school. He found teaching strategies to be an important aspect of the curriculum, stating that teaching is never instruction. He asserted that "in instruction, it is where the objective model is appropriate" (p. 81). "I prefer teaching strategy to teaching method, which has traditional undertones of training the teacher in skills" (p. 24).

Stenhouse found that teachers' old habits and assumptions invalidated hard-won skills, which blocked teachers from developing new teaching strategies. Again, he denied that the professional skills attained at teacher training institutions were sufficient. Teachers need to engage in cooperative effort with colleagues within a research and development framework. A teacher cannot develop new teaching strategies independently. Stenhouse wished to gear teachers towards becoming consultants in their fields, the same as other professionals such as doctors and engineers. "Nevertheless it is true that strategies can only be developed in the classroom" (p. 25). This ideology suggests action research and a shift in the role of the teacher.

According to Aubrey and Riley (2015), Stenhouse did not see the teacher's role as being the expert who delivers instruction to students, but as people who are adept at teaching. The role of the educator is creating an opportunity for students to access knowledge and skills. Secondly, Stenhouse argues that "teachers are learners alongside their students where learning is through discovery or inquiry rather than instruction" (p. 91). However, he notes that teaching must be driven by an aim, as it is an intentional behaviour: the aim ought to be made clear so that both the teacher and students can test if this has been attained. Indeed, according to Stenhouse, this does not suggest stating objectives. He noted that "the business of teaching involves more than stating curricular objectives" (p. 35). Similarly, Norris (2012, p. 2) noticed that Stenhouse "was not opposed to outcomes as such, since all learning has an outcome; rather, he was opposed to a curriculum structured in terms of objectives". Therefore, a good classroom, according to Stenhouse, is one in which both teacher and students employ appropriate teaching strategies

that allow them to experiment and learn new things every day, including things that the teacher did not previously know. A teaching strategy, as opposed to a teaching method or instruction invites public reflections and peer discussions of Stenhouse's concept of systematic self-critical enquiry. In strategies of presenting and organising content, the process model has deferred influences from certified reflections and the model is consistent in promoting public reflections.

4.2.7 The Stenhouse evaluation of educational practice

The process model, just like all other curriculum models, advocates for testing attainment of educational practice. This model, according to Stenhouse (2005) presents problems for the assessment of student work. He argues that, although this may be difficult in practise, it is not difficult to understand. Central to the American approach and the objective model, this model implies that, in assessment, the assessor must be a critic and not just a marker. The role of the teacher here as an assessor is mainly to prepare the student to critical reactions to the work done. Assessment is all about teaching the student about self-assessment. Stenhouse referred to this model as "a critical model, not a marking model" (p. 95). Using the critical approach, assessment is not purely subjective, but subject to public reflection, since it appeals to public criteria and thus performance will vary from teacher to teacher. It exposes the weakness and strengths of teachers very clearly.

Stenhouse has always set this model against the model used in the United States and Sweden where assessment focus is on information and skills. However, the process model is more appropriate for measuring knowledge and understanding. Arguably, Stenhouse (2005) noted that the weakness of the model is that its rests on the quality of the teacher; yet this is its strong point because it focuses on teacher development. Stenhouse therefore developed five criteria that may be used to estimate educational practice: meaning, potential, interest, conditionality, and elucidation. This suggests a parallel form of assessment in the USA and Britain. When the process model was developed, Stenhouse (2005) noted that the Americans used criterion-referenced assessment. This was using certified reflections by a national body that set a criteria, and thus assessment would be directed to 'pass' or 'fail'. However, the British assessment was localised in each school; the teacher using norm-referenced assessment in which student performance is compared with the group. However, there are too many schools for one to consider public reflections per group in each school.

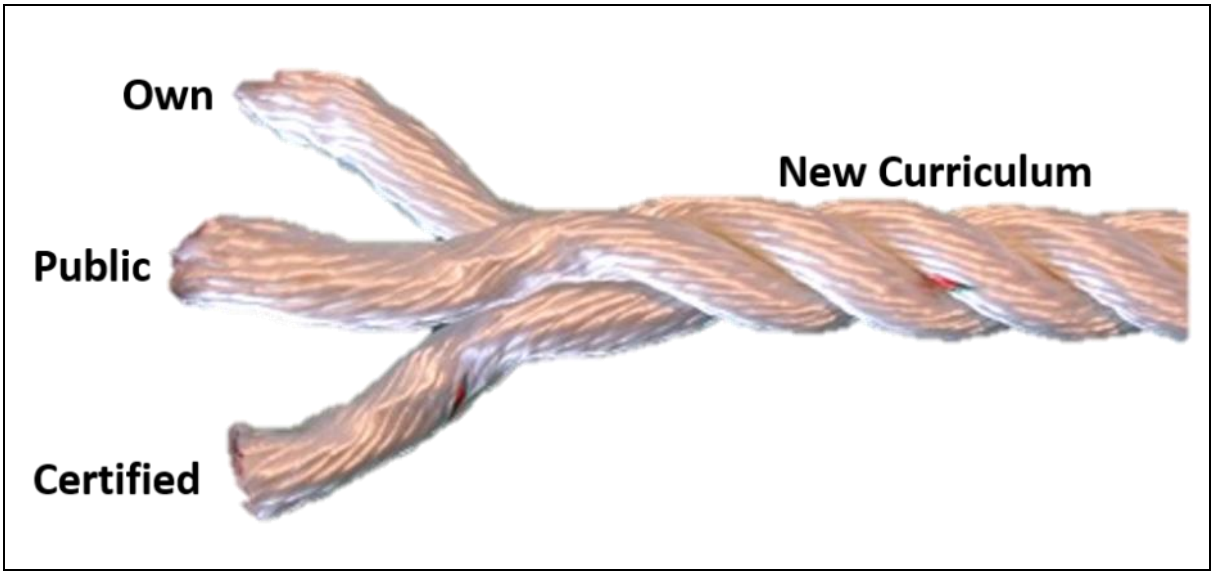
4.3 Summary and Verdict

Stenhouse (2005) and Tyler (2013) present distinct curriculum approaches, with Tyler being driven by certified reflections, while Stenhouse espoused the societal view (public reflections). Firstly, Tyler's objective approach has certain drawbacks, particularly in ignoring the humanistic perspective of the curriculum. His curriculum is too mechanical beginning with aims and objectives. This approach is therefore concerned with the subject and not the people and their desires and interests. The curriculum therefore takes away the voice of both the teacher and the student (Kelly, 2009). From Tyler's viewpoint, it is the curriculum that makes people equal and gives them equal work opportunities. However, it renders them as victims who follow rules and become a threat to individual freedom and creativity. Finally, it suggests that behaviour may be objectively and systematically measured, yet other subjects, such as morals and ethics, do not lend themselves to behaviour specificity.

Alternatively, Stenhouse's (2005) process approach promotes critical thinking and allows students to choose what they wish to learn as a deliberative process with the teacher. However, in this approach also, Stenhouse points out that Tyler is prescribing the objectives and the content for teachers and students, yet the process approach demands that there should be resources and worthwhile activities where it is not clear who selects these activities. The approach is therefore dependent upon the teacher to select and avail herself/himself of resources, selecting the activities worthy for cultivation of wisdom and meaning-making in the classroom (Ornstein & Hunkins, 2004). In other words, the objectives and aims are hidden in the purpose of the activities, thus it is as good as Tyler's objective approach. Schubert (1986) argues that "given the realities of the teaching situation, how can one high school teacher who meets 150 or more students per day enter into dialogue with each one and work out a curriculum for personal growth?" (p. 31). Lastly, although Stenhouse opposed the objective structured curriculum, he admits that the curriculum must be guided by intentions that are, however, educational purposes (aims, goals, objectives).

The integrated curriculum, according to Humphreys, Post and Ellis (1981) investigates learning in different subjects identified with specific parts of their circumstances in which abilities and knowledge are created and connected in excess of one territory of study. Scholars such as (Hoadley & Jansen, 2009; Asad & Jafari, 2013), therefore suggest that an integrated curriculum is aligned with a competency-based curriculum. However, in practise, the curriculum is performance based. The educators in Swaziland are locked in a battle in which they are

implementing a curriculum that is supposedly integrated/competence-based or serving the demands of the public/society, yet, practically, the curriculum document is performance-based. Khoza (2016d) advises that, if the public reflections and certified reflections are at odds, we need to empower or develop the teacher/personal world (own reflections), because once the educators understand themselves and their interests, they can then negotiate a 'marriage' between the two so that the 'marriage' may give birth to a new curriculum that serves the needs of the Swazi population while still on a par with international standards. For that reason, the study explores the Freirean critical approach as a unifying agent. This has been depicted in Figure 4.1 below. This study is therefore framed by the triptych of technical, societal, and critical approach to curriculum.



1Figure 4.1. 'Marriage' between the public and certified reflections

4.4 Freirean Approach to Critical Pedagogy

Paulo Freire, a Brazilian pedagogue who fled to America after a coup d'état, through critical theory, developed a critical pedagogy. Freire's indigent background and political inclination shaped his viewpoint on curriculum that is demonstrated in his book "*Curriculum for the oppressed*". His works on a critical education shift from social critique to critical pedagogy (own reflection) came as a result of his experience of the oppression of the education system in Brazil. He therefore created and practised a pedagogy of critical education that was different from the norm, particularly the objective method practised in America. He viewed education

as a political act (Palmer, 2001) and thus did not expect that his ideas would simply be accepted and followed without scrutiny.

Freire's critical approach to education is based on several observable principles throughout his works. First, it is concerned with the relationship between teacher and the students. The teacher and students are engaged in a respectful relationship in which they think and reason with one another (Gravett, 2001, p. 35).

Secondly, the process of constructing knowledge in critical education comes when the teacher realises that he does not have all the solutions. "No one knows it all; no one is ignorant of everything" (Freire, 1998b, p. 39). Much against the behaviourist standpoint of an empty slate, students are not void vessels into which learning is poured, with the instructor being the expert and gatekeeper of all knowledge and facts. This is what Freire referred to as 'banking education' that views learning as a system of accumulating knowledge, presented as a 'gift' from the teacher (Morrow & Torres, 2002). This approach therefore "demands that teacher and student construct knowledge together and that they name the world together. Whoever teachers learn in the act of teaching, and whoever learns teaches in the act of learning" (Freire, 1998a, p. 31). Here, Freire is in agreement with Stenhouse that a teacher learns alongside his/her students. Own reflections in this approach give a sense of authority and empowerment to the students. "An empowering teacher does not talk knowledge *at* students but talks *with* them" (Shor, 1992, p. 85).

Thirdly, the critical pedagogy approach stems from conscientization that Freire explains as "learning to perceive social, political, and economic contradictions, and to take action against the oppressive elements of reality" (Freire, 1972, p. 16). This conscientization is concerned with critical consciousness, a critical consideration of what people learn, how they learn and the relationship between this and the quality of human life (Swart, 2009). This points to the teacher's role in the classroom in which students are critical co-investigators. As a result, students develop critical thinking skills that are viewed as life-skills which will enable them to transform their world after school. Similarly, Semali (2000) and Darder (2002) assert that passive learners in our schools are a product of lack of critical pedagogy and that critical education reconciles teacher and students' authority on a democratic platform.

Lastly, Freire's approach hinges on the humanist point of view. The students' best interests are to be put first at all times, not the agendas of the teacher, the school and external parties. The teaching and learning, according to Freire, turns on human views on both the part of the student and the teacher. Throughout Freire's work, he has demonstrated his belief that teachers must have passion and love for teaching. According to Ghosh (2017), Freire, through an interview, emphasised humanity as demonstrated through love and passion.

> "I understand the process of teaching as an act of love. I mean, it is not an act of love in the formal sense, and never in the bureaucratic sense. It is an act of love as an expression of good care, a need to love, first of all, what you do. Can you imagine how painful it is to do anything without passion, to do everything mechanically" (Ghosh, 2017, p. 178).

Ghosh (2017) further noted that it is only love and action through which perfect knowledge may be constructed. Paulo Freire therefore takes a critical approach to pedagogy, thus rejecting the technical viewpoint of curriculum as 'banking education' in which the teacher regulates the way in which the student should conceive the world. Freire believes that teacher and student will be empowered by means of the dialogue involved in the generation of themes to be used in the curriculum. His political viewpoint on curriculum begins with consideration of the learner and the environment, thus seeking to emancipate the oppressed. However, the critical approach, as with the objective and the process approaches suffers from certain drawbacks. Firstly, Freire argues that education is politics because whatever choices are made, this implies politics − the power to choose. This, however, deprives those who lack experience and a background in politics, thus they may be limited in the classroom dialogues. Secondly, Freire's liberation practice may be viewed as the 'banking education' when considering the many ideas smuggled into the classroom as problem-posing. And lastly, this approach does not specify the role of the teacher as distinct from that of students. Under normal situations, students will rank teachers higher than their colleagues and value their contributions. If teachers come to class to learn with students, what is their role, or could students learn without the teacher?

4.5 The Microscopic Curriculum Framework

Tyler (2013), Stenhouse (2005) and Freire (1972) view curriculum from the certified, public and own reflections and all have made great contributions to curriculum development as they represent the three main aspects of life − professional, social and personal. However, each

approach contradicts the others, and has some glaring drawbacks that make it fail to present a satisfactory framework for curriculum in isolation. The objective process and critical approaches complement each other, so that the needs of the discipline or subject, society and individual are represented in the curriculum. This suggests that development of a new framework will unify the three so that a shortfall of one is covered by the others in all concepts of the curriculum. Van den Akker's (2010) study leads to categorising these curriculum concepts into objectives, content, learning activities, time, teacher's role, grouping, and assessment. The concepts are the 'anatomy' of the curriculum. They, therefore, need a lens through which educators may view and reflect on them.

Studies (Leitch & Day, 2000; Lonergan, 2016; Bernier, 2017) argue that reflections can help educators interrogate their experiences with regard to the curriculum concepts. This study suggests a microscopic curriculum framework to reflect on a curriculum holistically, using the own, public, and certified reflections. This framework is formed by the four main components of a compound microscope with the eyepiece, the lens, the stage, and the base. The base denotes the grounding of the investigation being the critical paradigm as it attempts to transform the respondents from their mental and emotional structure, becoming sufficiently emancipated to take action (Thecla, 2011; McGregor & Murnane, 2010).

The eyepiece: this is the entry point in which elements under scrutiny are looked at or through (Pal, 2006). It represents the input, being the curriculum for reflection. The lens: This is likened to the objectives, which are the most important part of the magnification system (Pal, 2006). They provide a platform for reflecting on the curriculum with three lenses; the own, public, and the certified reflections. As the compound microscope has three different powers, reflections may be driven by own, public and certified influences or needs. This is where the anatomy/specimen (concepts) of the curriculum are carefully viewed and judged. These curriculum concepts (specimen) are neatly nailed on a stage on which all the nine curriculum concepts pass through the lens (reflections) for further analysis. Objectives may then be viewed further as cognitive (under the certified reflection-lens), psychomotor (under the public reflections-lens), and affective objectives (under the own reflections-lens). Each of these lenses presents a different approach to curriculum: Tyler's (2013) objective approach (certified lens), Stenhouse's (2005) process approach (public lens), and Freire's (1972) critical approach (own

lens). Figure 4.2 represents a schematic presentation of the microscopic curriculum framework with colour codes for each form of reflection.

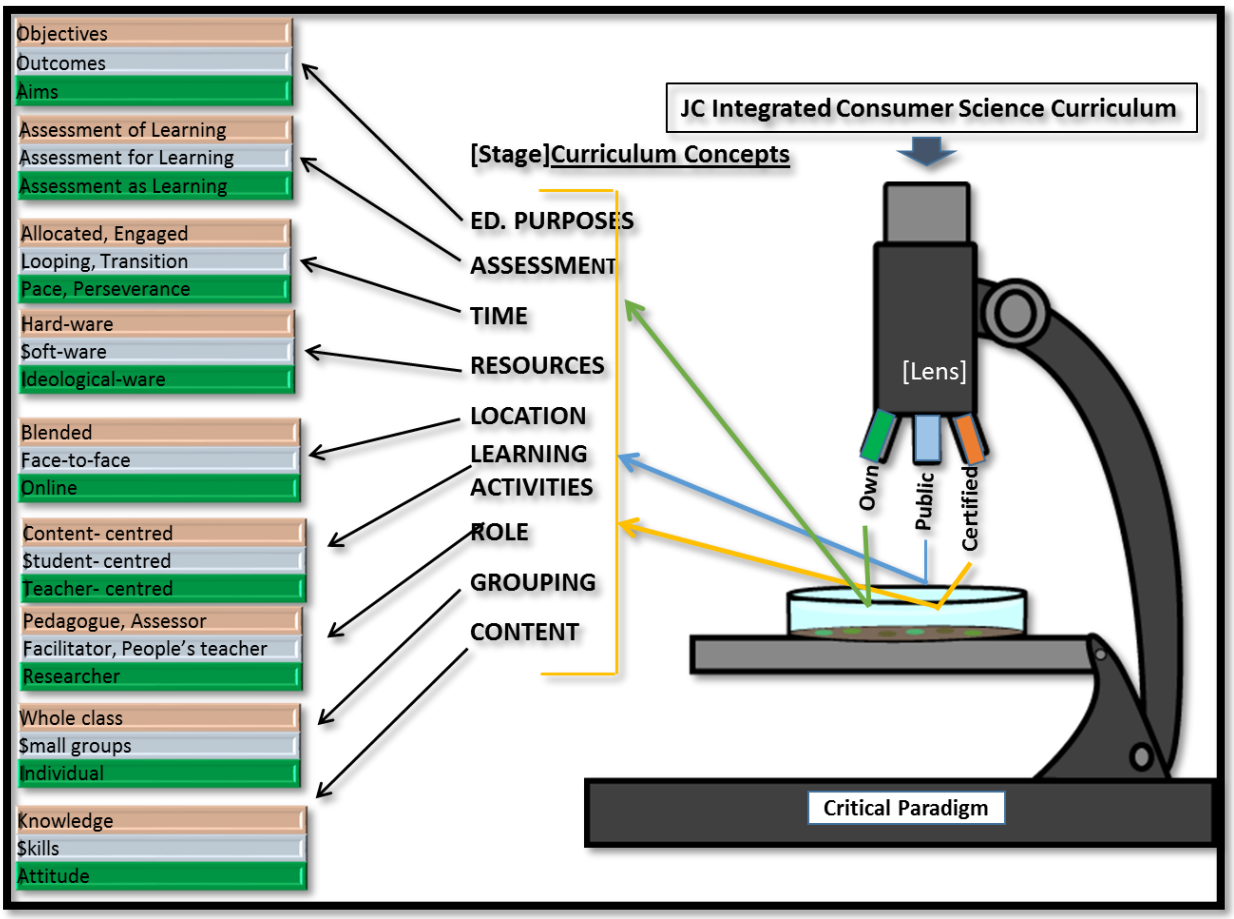


Figure 4.2. The Microscopic Curriculum Framework

4.6 Reflections through the Microscopic Framework

Table 4.1 presents the anatomy of the curriculum as seen through the three lenses: own, public, and certified reflections, powered by Freire (1972), Stenhouse (2005) and Tyler (2013), respectively.

Table 4.1 Reflections through the Microscopic Framework

Eyepiece	Integrated JC Consumer Sciences Curriculum			
		Tyler's (2013) Objective Approach	**Stenhouse's (2005) Process Approach**	**Freire's (1993) Critical Pedagogy**
Lens	**Lens**	Certified Reflections	Public Reflections	Own Reflections
On the Stage	**Content**	Information, Knowledge, Skills Kelly (2009)	Skills, Social traditions/heritage Semali (2000); Darder (2002)	Beliefs, Attitude, Understanding Ghosh (2017)
	Assessment	Assessment *of* learning Summative evaluations Teacher is marker, assessor; Taras (2005), Hume and Coll (2009)	Assessment *for* learning Formative evaluation Teacher critique; (Earl, 2003; Taras, 2005; Black et al., 2003)	Assessment *as* learning Problem-posing Self-evaluation, pose critical real-life questions; (Earl, 2012), (Clark, 2008).
	Role of teacher	Assessor/judge, pedagogue, Curriculum master; Leepile (2011), Zeki and Güneyli (2014)	Facilitator/catalyst, People's teacher community activities, critiqued learning, researcher Ntini (2009)	Researcher, Motivator, Harden and Crosby (2000)
	Educational purposes	Objectives (Cognitive, Psychomotor, Affective) Stated before lesson; They pronounce intended behaviour; (Kennedy et al., 2006)	Intentions, outcomes; Worthwhile activities	Aims, Values, questions of power, political questions, what people want and social change; (Swart, 2009).
	Time	Allocated time, predetermined, engaged time, blocked periods; Gerwertz (2008), Saloviita (2013)	Transition time, Looping, Ylimaki, (2013), Pollard and Pollard (2014)	Learner's pace, perseverance controlled by love; Ghosh (2017) Bausell, 2010)
	Resources	Hardware resources, classrooms, textbooks (recommended, prescribed), qualified instructor; Khoza (2015c), Khoza (2012)	Software resource, quality teacher, resources selected by teacher guided by principles; Brazdeikis and Masaitis (2012), Vural (2015)	Ideological ware, field trips, life experiences; Darder (2002)
	Location	Blended environments, combine face-to-face and online proven environments; Brown (2003), Lloyd-Smith (2010)	Face-to-face environments, online learning environments, sociological; Lundberg et al., (2008), Chew (2011).	Face-to-face environments, online learning environments, real life experiences (Poe & Stassen, 2002).

	Learning activities	Content-centred, teaching methods; Akdeniz (2016), Soiferman (2017)	Student-centred, dialogue, interactions; Aubrey and Riley (2015)	Teacher-centred, reflect critical conditions on reality; Semali (2000)
	Grouping	Whole class, Teacher in front, students take instruction, follow scientific methods/procedures	Small groups-socialization, discussions, research, inquiry	Individual, personal environment.

Table 4.1, therefore, represent linkages and relations of how each of the concepts in the theoretical and conceptual framework has been used to judge data during analysis. This framework thus segregate and identify educator reflection in relation to the own, public and certified reflections. This means that a researcher can use this framework as a measurement tool. Forexample, the assessment curriculum concept; the framework imply that an educator who is concerned with assessing the class as a whole and uses summative assessment is driven by certified reflections. Similary, an educator who is concerned with student progress in terms of formative assessment that lead to summative is thus driven by public reflections and finally, educators concerned with problem ssolving and self-assessment is driven by own reflection.

4.7 The Stage

4.7.1 Educational purposes

The question: “What educational purposes should the school seek to attain?” was asked by Ralph Tyler. Tyler (2013, p. 3) is a popular researcher and author on curriculum studies. This is one of the four important questions Tyler believed should be asked in the development of curricula or in planning an instruction. Tyler himself did not attempt to solve the questions, “since the answers will vary to some extent from one level of education to another and from one school to another” (p. 1-2). In addition, the term ‘educational purposes’ has not been clearly defined in literature. Tyler also expounded on educational objectives, goals and aims, insinuating that educational purposes were actually such, even though he was concerned with objectives. This is evident is his first statement in which he lamented that that “many educational programmes do not have clearly defined purposes” (p. 3). He then gave an example “in case one may ask a teacher of science, of English, of Social Studies, or of some other subject what objectives are being aimed at and get no satisfactory reply” (p. 3). By educational purposes, Tyler was actually referring to aimed educational objectives.

Objectives, together with goals and outcomes, make up educational aims; thus an aim gives the broader educational purpose or general teaching intention (Kennedy, et al., 2006) or purposes

of highest level of generality (Noddings, 2007). These studies suggest that educational purposes are mainly aims, objectives, and outcomes, arranged in order of generality or broadness, with aims as the highest educational intention or purpose. Leslie (2014) asserts that an aim gives educational direction and thus is written in amorphous terms such as learn, know, understand, appreciate, not all directly measurable. The studies (Khoza, 2016a, b; Mpungose, 2016; Schiro, 2013) indicate that an aim is a statement about the teachers' intentions of direction the teaching should be taking. This suggests that an aim demands own reflections. According to Queen (2017), objectives provide formal or semi-formal educational intentions relative to the content of the subject or programme, after which they are rooted in certified reflections. Studies (Khoza, 2013; Mpungose, 2016; Nkohla, 2016) add that objectives are created according to the teachers' intentions, rather than students' intentions, and that they must be SMART for them to be meaningful. They should thus be stated in behavioural terms: literature fails to distinguish behavioural objectives from learning outcomes. Learning outcomes detail the competences from the side of the learner. The learning outcomes represent competences in terms of observable behavioural change that may be appraised (Wagenaar, 2008). Studies by Khoza (2016a) and Freeman (2005) suggest that these competences and skills emphasised in learning outcomes are actually serving the expectations of the public, and thus they are driven by public reflections. A curriculum with educational purposes is stated in terms of learning outcomes that can provide a clear description to students, teachers, and parents of what will become of the learner (McPhail, 2005; Moon, 2002; Adam, 2004).

The Swaziland JC Consumer Sciences curriculum presents educational purposes in terms of aims and objectives. Apart from the main assessment objectives, the whole document specifies clearly both the general objectives (for the unit and topic) and the specific objectives. The specific objectives are stated in terms of what the learner will do. The specific objectives in the curriculum are actually behavioural objectives driven by the Tylerian objective approach. This curriculum is therefore likely to present an assessment criteria for educators to use, clearly defining the content that must be taught (Tyler, 2013; Noddings, 2007; Moon, 2002). Furthermore, it may not pronounce lucidly the behavioural change, as it is not clear on the learning outcomes, these outcomes being explicit descriptions of what a learner should know (Gosling & Moon, 2001; Donnelly & Fitzmaurice, 2005).

It is then obvious that the curriculum designers are informed by the Tylerian objective approach, in which objectives are the fundamentals of the curriculum. Tyler's (2013) book has five chapters; however, he emphasised the importance of educational objectives as a criterion for guiding all other activities in curriculum making, the first chapter focusing on the selection of educational purposes. This became evident, as he spent sixty (60) pages, almost half of the book, on the selection of educational purposes. Tyler (2013) further identified three different sources from which to obtain educational objectives: the learners themselves, contemporary life outside of school, and subject specialists.

To this end, Tyler (2013) notes that any educational programme must have clearly defined educational purposes that are systematically and intelligently structured. Tyler, being informed by certified reflections, embraced consideration of the own, public, and certified needs in sourcing these objectives. However, throughout his work on both own and public objectives, he maintained that the information from these sources must be subjected to acceptable standards and norms. All stakeholders in the curriculum must be consulted before finally documenting what constitutes the educational programme. Studies viewed above also call for balance in educational objectives for Consumer Sciences. In addition, the Consumer Sciences curriculum also acknowledges the own, public, and certified objectives.

4.7.2 Content and learning experiences

According to Tyler (2013), learning experiences refer to "the interaction between the learner and the external conditions in the environment to which the learner can react" (p. 63). This points to active learning, and suggests that the student must be actively engaged in the teaching and learning process. Similarly, Schmidt and Weisberg (2008) viewed learning experience as an interaction between the teacher and student with focus on the achievement of the student's goals. This is in agreement with Tyler's advice that the educational objectives must be used to select these learning experiences. Again, on his first principle for selecting the learning experiences, Tyler stated that "a student must have experiences that give him an opportunity to practise the kind of behaviour implied by the objectives" (Tyler, 2013, p. 65).

Tyler further refutes that a learning experience is same as content, treating learning experience differently from educational experience. The difference between the two shows clearly that Tyler used the term 'learning experience' from the perspective of the student while educational

experiences are what the teacher provides. The difference is that not all the educational experiences which the school or the teacher provides will eventually be a learning experience. To make it clear, Tyler stresses that, "it is possible for two students to be in the same class and for them to be having two different experiences" (p. 63). By contrast, the literature of such as Kelly (2009) has used Tyler's selection of learning experiences as equivalent to selection of content. For example, Nompula (2012), while investigating the strategies for integrated learning experiences in South Africa, has used content and 'learning experience' interchangeably. In addition, Abbott (2014) found learning experiences to include the interaction, course, programme, or other experiences in which learning takes place. Similarly, Kong (2008) noted that learning experiences include three fundamental elements (a) what the student would learn (content); (b) how the learning opportunities are created; and (c) how to produce the best context for learning. Abbott (2014) further notes that learning experiences must reinforce the educational goals stated as objectives that spell out content or outcome. This implies that inherent in learning experiences is content, although the two are separate.

According to Taba, content and learning experiences are two fundamental concepts that need to be considered. This suggests a strong relationship between these two concepts. She further explores the relationship in the light that learning experiences influence how students retain new content, defining curriculum as a plan for teaching. While in agreement with Tyler (2013) on the usefulness of educational objectives in determining what is important (content), Taba asserts that an "adequate curriculum planning involves selecting and organizing both content and learning experiences" (p. 266). Content is therefore what is learned, as pronounced by the objectives. Tyler therefore, has hidden content in the selection of the learning experiences, observing that this learning experience or "interaction of the student to external environment to which he can react" (p. 63) and the "reaction of the learner himself determines what learned (content) is" (p. 64).

Hilda Taba, his colleague, enjoyed explaining selection and organisation of learning experiences. According to Taba (1962), "selection has always been a problem in curriculum development, and that there is never enough class time for all of the things students must learn" (p. 263). Taba observed that there has been an explosion of new knowledge and that educators are confused on what to choose. However, Taba has kept referring to Tyler's rationale. Tyler (2013) offered five criteria to use when selecting the content. Although Tyler admits that the experience involves students' active participation, all the principles used in selection of the

learning experiences are controlled by the objectives and the teacher. The selection is driven by certified reflections concerned with development of knowledge and understanding as they are the main focus of these learning experiences. Lastly, acquired knowledge could include "principles, laws, theories, experiments, and the evidence supporting generalisations, ideas, facts, and terms" (p. 72).

4.7.3 Curriculum content as culture

Stenhouse (2005) notes that content and method are interwoven in educational practice, however, there is a great need to detach it for the sole purpose of analysis. From his sociological viewpoint, according to Stenhouse, the school is charged with the responsibility of making a good selection of the society's intellectual, emotional, and technical capital, that he otherwise called public traditions. The public traditions are, however, denoted as culture by sociologists and anthropologists. Stenhouse eventually likened content to culture after being impressed by Tyler's definition of culture and the three characteristics of culture by Parsons, an American sociologist. Culture, according to Stenhouse (2005), is transmitted (a heritage or social tradition), learned and shared. Stenhouse (2005) saw a relevancy in conception here, namely, "content of education is transmitted, learned and shared" (p. 7). Another contributing factor that encouraged Stenhouse to accept the idea of culture as conceptualised by Parsons, is that Parsons viewed culture as a product of social interaction. This concept tallies with concerns of the HCP of learning through social interactions. Stenhouse's idea of content as culture offered by the school as tradition may be integrated with the definition of culture by Tyler. Content therefore becomes knowledge, belief, art, morals, law, customs, and other capabilities people have acquired while acting as members of society. This is confirmed by Stenhouse apropos the elements of the culture that school usually consider curricula, such as "knowledge, arts, skills, languages, convictions and values" (p. 9). This sociological viewpoint can present problems on selecting and limiting content. The process model for curriculum is richly embedded in the social view and judgement, thus it is driven by public reflections.

Stenhouse (2005) asserts that the school cannot transmit the entire culture; however, the selection therefore must be based on what is relevant, or interesting, and which guides students towards the ultimately worthwhile. This suggests a major problem as to what is relevant; and, using student's interests complicates the search for worthwhile content. Stenhouse also observed the difficulty in selecting and organising groups that will interact cooperatively and

fully in terms of the culture the school offers, so that those cultures gain reality and are afforded satisfaction. This prompted Stenhouse to ask the question: "Where do school subjects come from?" (p. 10) in clarifying the possibilities for students and teachers through social interaction. Selecting only content of paramount interest to them, Stenhouse asserts that content is external from school and is independent, governed by the principles of each body of knowledge. Consumer Sciences, as a body of knowledge, has its own culture in which the school serves only as a "distributor of the knowledge and not manufacturer" (p. 10).

In contrast to Stenhouse's sociological viewpoint of curriculum, this assertion sounds as though he is falling for certified reflection, in that there is certified, standard content that exists somewhere outside the school. To shed light on this, Stenhouse first was of the idea that personnel charged with the responsibility of school curriculum must constantly maintain close "contact with scholars in the discipline so that the nature and contributions of the discipline are reflected" (p. 14). Is Stenhouse ready to accept that there are groups outside the school that set the standards in knowledge or content? "I don't think we can, in that simple form…..reference groups lies in sociology and applies to the dynamics of knowledge in society rather than to truth values" (p. 14). The process model for curriculum banks on public reflections in which the public examine how and what knowledge is shared, and that knowledge must be socially constructed.

These assertions by Tyler and Stenhouse give two distinct viewpoints from certified reflections and public reflections, respectively. Tyler would expect a Consumer Sciences content based on knowledge and facts approved by experts in the field to be relevant to the development of the discipline. This prepares students for employment in Consumer Sciences-related workplaces. On the other hand, Stenhouse would expect a content socially constructed through experimentation in the classroom that will fit the skills and competences needed by the society. Freire would present a similar case as Stenhouse in the idea of conscientization; however, Freire's students develop critical thinking skills in the process, as well as teachers learning as they teach (Semali, 2000; Darder, 2002). Freire therefore presents a humanistic view on the issues of content so that this bureaucratic presentation on content by Tyler (knowledge) and Stenhouse (skills and competence) may be of interest to the student/teacher who thus develops love and a good attitude.

Although Tyler and Stenhouse may differ in their approach to content, Stenhouse admits that content is driven by certified reflections, being external from school and independent, governed by the principles of each discipline. The Consumer Sciences curriculum presents an organised and sequenced content to be delivered in order to meet pre-stated objectives. This makes it clear for all teachers on the scope and depth; teachers are likely to assess their teaching based on the objectives being achieved. This curriculum therefore rules out own and public reflections and promotes professional content delivery. Learners throughout the country are likely to acquire the same content. Thus, the curriculum may be successful in meeting the standards set internationally for the discipline, with its graduates being able to take up employment even outside the country.

4.7.4 Assessing Consumer Sciences

Assessment is a process of collecting relevant educational data or information, analysing it for the purpose of examining the strengths and weaknesses of the programme (Tyler, 2013; Mokua, 2010). This data or information may be collected from multiple sources (Wolf et al., 2006). A case study of two schools in New Zealand conducted by Hume and Coll (2009), in which secondary school students learn how to perform scientific investigations under direction leads to categorising assessment into three forms. The study identifies the assessment *of* learning (suggesting the summative assessment done by the teacher at the end of the programme for the purpose of comparing, ranking, and judging students according to their performance), assessment *for* learning (formative assessment concerned with activities that teachers, together with students, undertake for purposes of communicating information about student progress that will eventually be used as feedback), and assessment *as* learning (a metacognition development that takes place as students personally become watchful of own learning, and gathering feedback for improvements as a result of self-assessment/monitoring). Studies (Earl, 2003; Taras, 2005; Black et al., 2003; Dixson & Worrell, 2016) suggest a shift from traditional assessment forms (assessment of learning) to formative or assessment *for* learning, that is, from making judgements to creating descriptions that will help modify the next learning. These studies suggest that educators concerned with formative assessment are likely driven by public reflections. Other studies (Hargreaves, 2005; Ecclestone, 2007; Hayward & McNicholl, 2007) argue that teachers have applied a narrow interpretation of assessment *for* learning in classrooms using methods that focus on assessment practices to ensure that students comply with criteria and achieve awards. Both often drive decisions about the content and delivery of

lessons because teachers want to secure good results for their students. These studies therefore suggest categorising of assessment *as* learning.

Assessment *as* learning stems from a certainty that sees learning as a vigorous process in the minds of students when interacting with fresh information. Assessment dominated by assessment *as* learning is driven by own reflections (Lorna, 2006). This is an extension of assessment *for* learning that is rooted in active learning, allowing students to be active in developing own meanings and become critical assessors. This suggests that that self-assessment is crucial because students are in a better position to make sense of information relating to prior knowledge, mastering the skills involved. Assessment can take place all the time as students consciously reflect on the merits of their work. In Swaziland, the Consumer Sciences syllabus (p. 3) demands that teachers assess knowledge with understanding, practical skills, and problem-solving skills. With the exception of the final practical examinations, all other assessments are school-based and therefore, marked by the teacher using guidelines provided by the ECOS. This curriculum document does not specify the role of students in assessing their own learning (assessment *as* learning). This demonstrates the teacher's extensive role in assessment. Wyatt-Smith and Castleton (2005) observed a significant discrepancy in teachers' judgements even though they followed a uniform pattern. Similarly, studies by Clayton, Booth and Woolf (2001) conclude that there is a notable difference between teachers' and external examiners' assessment, which questions the teacher's honesty while playing the role as an assessor. The assessor must be objective and competent in the assessment practices (Pang & Leng, 2011). This assessment practice that is dominated by assessment of learning in Swaziland may promote 'teaching to the test' (Hume & Coll, 2009; Ecclestone, 2007).

Furthermore, as assessment is dominated by assessment *of* and *for* learning, the assessment outcome must be recorded, analysed, interpreted, and communicated to the learner (feedback). Without communication of feedback and interpretation of assessment outcomes, assessment will be meaningless. Jabbarifar (2009), when exploring the significance of classroom assessment and evaluation in educational systems assures that the purposes of any assessment strategy is to enable the teacher to improve students' motivation, and shows them how well they have learned. He further notes that assessment goes beyond students' achievements and has to inform all aspects of teaching and learning. Assessments must guide assessors in making

decisions; and those decisions directly affect the lives and the educational well-being of students (Jarr, 2012). To avoid misunderstandings or misinterpretations that can adversely affect learners, Jarr recommends that the teacher as an assessor must develop a comprehensive understanding of assessment results.

Lastly, one major stronghold for assessment *as* learning is developing confidence in students as they are responsible for assessment. With assessment *of* learning and assessment *for* learning, assessors have a duty to consider the effects of their assessments on the learners in class and beyond, the whole idea of tests and examinations promoting emotions of stress and anxiety to most learners. Berry (2008) noted that this is a very unfortunate situation in the classroom, assessment being an important part of effective teaching and learning for it enables both the teacher and the student to reflect and review activities, progress, and performance. This anxiety is promoted by students' fear of failure, and concern for what others will think of them with regard to their performance. These bad experiences that most students encounter may be demotivating. It is at this time that the teacher, as an assessor, has to play a significant role in not only assessing learning, but also preparing students *for* assessment (Black et al., 2003; Spiller, 2009). The role of the teacher in preparing students *for* assessment becomes visible when approaching external examinations in which the teacher as an instructor sits on one side with the student as a learner, while on the other side is the examining body as an assessor. The teacher's role, therefore, is to help the student beat the examiner by offering him/her all necessary techniques for answering examination questions. One way of quelling assessment fears is involving students throughout the assessment process (Falchikov, 2004; O'Farrell, 2002; Price, Pierson & Light, 2011). This again, suggests the use of assessment *as* learning and that own reflection in assessment can help empower the students not only with assessments, but in mastery of content.

4.7.5 Teaching time in Consumer Sciences

Curriculum concepts such as learning activities planned by both the teacher and the student, as well as grouping to facilitate learning, become essential owing to the limited time available for the curriculum. The school curriculum is composed of several subjects that share the very limited for the nine hours a day for secondary schools in Swaziland. Time is crucial with Consumer Sciences lessons, mostly because the practical work consumes a great deal of time from preparation, instructional delivery, to assessment (Simelane, 2007). Instructional time

cannot easily be defined without first looking into the definition of curriculum. Curriculum is the totality of all the experiences that learners are subjected to on the school premises. Instructional time, therefore, encompasses all the time teachers and learners use for the purpose of attaining educational goals. This definition takes cognisance of study time, preparation time, actual learning time, transition time, and examination time. Studies (Loewer, 2009; Hollowood et al., 1994) that investigated the use of time by teachers observe that schools assign far too little time to instruction. Time for actual instruction is used to predict achievement. Similarly, Kerr (2015) conducted a study on the experiences of online learners, noting that time afforded to students to complete the course had a great influence on their performance. In addition, these studies reveal other types of time driven by certified reflections (allocated time, time-on-task, academic learning time, and engaged time), public reflections (transition time, looping), and own reflections (perseverance, pace). The studies (Kerr, 2015; Loewer, 2009; Hollowood et al., 1994) suggest that teaching time must be driven by certified reflections, placing more emphasis on allocated, engaged, and academic teaching time.

A period is a term used to refer to a unit or block of time in which it is believed an average lesson/topic may be completed. A school period, according to Merenbloom & Kalina (2006), is a chunk of allocated time for lessons, usually 40 to 60 minutes, set by educators at school. School and teacher management of available time has an influence on the learning activities that may be employed within the school calendar. This 'period' represents the duration of time within which a student at a particular level can concentrate (perseverance time). However, periods vary with countries and subjects (OECD, 2014). Consumer Sciences must have a unique period in which its activities may be accomplished without exhausting the energy and interest of the students. Subjects that need in-depth understanding and concentration, such as mathematics and those with practical orientation such as consumer sciences, need more periods or even double periods to allow and support teaching and learning activities, thus increasing student engagement (Farenga & Ness, 2015; OECD, 2014). In Swaziland, both the Swaziland education policy sector for 2011 and the Consumer Sciences curriculum documents are silent on the recommended period duration and number of periods to be allocated (allocated time) in secondary schools for Consumer Sciences. However, high school curriculum documents in food and nutrition stipulate that Consumer Sciences lessons are normally awarded single, double, and triple periods, with the triple periods typically being used for practical lessons. Appropriate teaching time for the Consumer Sciences syllabus at senior secondary should be

equivalent to six (6) periods [of which two (2) are for theory and four (4) for practical skills] of forty (40) minutes each over a period of a one (1) week/cycle (ECOS, 2017b). The Junior Secondary Consumer Sciences curriculum is therefore bound to fail or result in teachers failing to complete the syllabus or having too much unnecessary time, as the curriculum document fails to specify the recommended teaching time.

Another time concept endorsed by public reflections in the classrooms as it advocates for continuous relationship and communication between students and the teacher, is looping. This is an approach whereby students remain in the care of the same teacher for several years; that is, the teacher moves with students to the next level (McCown & Sherman, 2002). Looping, therefore, creates long-term relationships, teacher-student progression, in which students and their teacher work together as a team for two to three years. "Looping can provide a consistency and continuity that students need to be successful" (McCown & Sherman, 2002, p. 17). The idea of looping is not new. It may be traced back to 1913 when a memo by the U.S. Department of education posed the question:

> "Shall teachers in graded city schools be advanced from grade to grade with their pupils through a series of two, three, four, or more years, so that they may come to know the children they teach and be able to build the work of the latter years on that of the earlier years...?" (Mahoney, 1916, p. 5).

Looping is therefore able to reduce the transition time and unnecessary repetition in finding out what another teacher has taught the learners. It creates some responsibility for the teacher, and enables students to bond and own their teacher. It is common understanding that researchers and educators are studying looping because they are aiming to improve student achievement. However, studies reviewed that measured the influence of looping on student performance have yielded inconsistent findings. Studies such as (Bogart, 2002; Roberts, 2003; Ford, 2010; McCown & Sherman, 2002) report a positive influence of looping on academic achievement. For example, Bogart (2002) conducted a quantitative study comparing the student performance in looping programmes at school systems in East Tennessee with their peers in traditional one-year instructional programmes. The study used all students who had completed fourth grade, and a two-way Analysis of Covariance (ANCOVA) was used to execute the test. The results of the study indicated that students in looping classrooms performed significantly better when taught by the same teacher for a period of two years.

Similarly, Roberts (2003) explored the effect of looping on the performance of students in some Californian schools. This was a descriptive ex-post-facto study of six schools involving fourteen looping classes and fourteen traditional classrooms. The results indicated that even economically disadvantaged students in looped classrooms showed a significant improvement on their reading tests compared with their counterparts in traditional classrooms. Likewise, McLeod et al. (2003) praised looping, after observing that looping eliminated transition time, thus allowing the teacher to thoroughly explain concepts. In the end the students' educational needs are met.

By contrast, studies (Lavender, 2005; Thomas, 2005; Snoke, 2007) recorded little or no difference between the academic achievements of students in looping programmes compared with their peers in traditional classes. Thomas (2005), for example, conducted a retrospective causal comparative study exploring the effects of looping on achievement and self-efficacy. Results showed no statistical real difference between the experimental and control groups in terms of student performance. Snoke (2007) also used a causal-comparative regression analysis on fifth and eighth graders in six Pennsylvania schools, applied to over one-hundred-and-twenty students, both looping and non-looping. The study indicated that there was no real statistical difference between the academic achievement of students in looped classes and those in traditional classes.

The results of the studies reviewed above on the effect of looping on the academic performance of students are varied. There is therefore no pattern that may be created. However, the studies suggest that looping is more effective with younger students, as demonstrated in findings by (Roberts, 2003; Ford, 2010), compared with the no-significance difference observed by (Lavender, 2005; Snoke, 2007), who studied older grades. The looping concept, therefore, emphasised a period of continued interaction demanding public reflections of students with the same teacher over a period of three years. Inasmuch as the literature affords, the studies are not conclusive on whether or not looping can benefit secondary schools. The Swaziland Consumer Sciences curriculum lacks teacher guidance on how teachers can make use of such time concepts as looping, allocated time, engaged time, pace, and time for practical lessons and demonstrations. Allocated time for the subject may differ from school to school, yet students finally sit for the same external examination.

4.7.6 Resources for Consumer Sciences

Resources may be defined as a person or groups of persons (Khoza, 2015a; Davies et al., 2008), an organisation, or a body of knowledge, skills, tools, and strategies for potential enabling of learner empowerment (Harden & Crosby, 2000; Adipere, 2010). An interpretive case study conducted by Khoza (2013) on university lecturers who were using an online environment in teaching their modules, identifies three types of resources in education. These resources are hardware (educational tools, devices, and machines), software (materials used by teachers and students to enhance or communicate hardware and speed up teaching and learning) and ideological-ware (theories and competences necessary for facilitating teaching and learning).

The use of hardware resources in education is driven by certified reflections that specify the tools, devices, machines approved by curriculum experts and departments of education for use in a particular subject (Munandar, 2013; Ningsih, 2013). Software resources complement the use of hardware resources by providing a platform that enables ease of communication and display. Software encourages interaction, communication, and dialogue, and thus it is driven by public reflections (Vannucci & Colla, 2010). However, the selection and use of SW and HW resources requires the teacher's ideology of what will promote learning. According to (Khoza, 2016a; Khoza, 2015c; Govender & Khoza, 2017) ideological-ware is greatly influenced by own reflections and is responsible for organisation of both hardware and software resources; thus teaching and learning cannot take place in the absence of ideological-ware.

Even in educational systems well equipped with both hardware and software resources, the selection and proper use of such depends on educators' understanding of the ideological-ware for that particular curriculum. It further suggests the importance of own reflections in establishing the validity of instructional materials. Validity of the materials involves its suitability for the instructional objectives, the learner, and economic status of the school, the educational policy, and feasibility. To promote active learning and create interest and enthusiasm for the content, teachers must use different instructional materials that will lead to better acquisition of subject matter. Again, both teachers and learners must use the instructional material with ease without posing a danger to property and humans. The teacher's ideology on what, when, and how resources are organised and used becomes the driving force. Certified, public, and own reflections collectively, play a significant role in the use of resources in school. Therefore, Tyler's objectives method (Tyler, 2013), Stenhouse's process method (Stenhouse,

2005), and Freire's critical approach (Freire, 1993) establishes a triptych framework for organising relevant instructional materials (Khoza, 2017; Hoadley & Jansen, 2009).

In Swaziland, the Ministry of Education and Training is responsible for all educational activities from primary school to tertiary and technical and vocational institutions. The National Curriculum Centre (NCC), established in 1983, is a wing of the Ministry responsible for developing curricula at primary and secondary schools. Among its [NCC] four components there is a 'Design and Preparation component' that writes materials based on the objectives of each subject curriculum document. These materials, according to UNESCO (2010), include teachers' guides, children's workbooks, posters, and other teaching aids. The NCC design writes or prescribes and pilot tests materials in collaboration with the subject panels. After pilot testing, materials are revised and then introduced nation-wide once they have been commercially published. During the pilot testing, feedback on the efficacy of the instructional materials is elicited from teachers and learners. The NCC accomplishes this task by engaging experienced teachers through workshops and conferences.

> "Workshops are an integral part of NCC activities. Orientation workshops are conducted to introduce school-teachers to the philosophy and approach of new NCC materials. Feedback workshops help the curriculum developers, pilot school teachers, teacher educators and evaluators to share ideas on the curriculum materials being trial-tested in pilot schools. Infusion workshops bring together the NCC teacher educators, curriculum developers, inspectors, in-service teachers (INSET) and classroom teachers to familiarize them with the materials" (UNESCO, 2010, p. 8).

However, the national curriculum framework does not specify the resources to be used for each subject offered in the country. Furthermore, the JC Consumer Sciences curriculum document does not stipulate the equipment, devices, machine (hardware); educational computer programmes, computer game, websites (software); and teaching methodologies, strategies and theories (ideological ware) useful to the implementation of the curriculum. Teachers, therefore, are at sea, as there are no subject-specific theories that underpin the teaching of Consumer Sciences. This may have a negative effect on this particular curriculum, as educators may choose wrong theories influenced greatly by public reflections from colleagues. The selection and use of HW and SW resources for JC Consumer Sciences is thus driven by public reflections (Ningsih, 2013; Khoza, 2016a). A study by Matsenjwa (2012) explored the perceptions of

Consumer Sciences teachers regarding in-service training, discovering that the teachers were not free to use some instructional materials and equipment unique to Consumer Sciences content areas. Teachers had technophobia, dreading using computers. There is therefore a greater challenge, in this regard, most electronic instructional materials suiting mathematics and some science content. Literature lacks documentation on how technology may be fully utilised in Consumer Sciences teaching and learning. With reference to technology, resources for educational activities are scarce and in short supply owing to financial constraints. Lack of ideological-ware resources in teachers may add to their phobia and poor attitude towards the use of technology in the classroom, "Digital Technology Refugees" (Khoza & Manik, 2015; Uwameiye, 2015).

4.7.7 Location: Where are they learning Consumer Sciences?

Location refers to the space, place, building, a classroom, a laboratory, a games room or a sports field where learners gather to receive instruction (Earthman, 2008; Mege, 2014). Other studies (Joutsenvirta & Vehkalahti, 2006; Capita, 2012) view location not only as the physical facility but that which includes even the teacher and the student's peers and the social and communicative atmospheres (Meriläinen, 2006). In addition, school location has variables such as schools in rural or urban areas. The economic status of the neighbourhood also greatly affects the teaching-learning process (McCracken & Barcinas, 1991; Chen & Fan, 1999; Ramos et al., 2016; Zhang et al., 2015; Capita, 2012). These studies suggest that teaching and learning location provides a learning environment. A comparative study by Young and Duncan (2014), whose purpose was to compare student ratings of instruction under different learning environments, classifies learning environments into class face-to-face, online, and blended learning environments. Each of these environments finds space in the Tylerian, Stenhouse and Freirean curriculum. The face-to-face promotes peer-to-peer/teacher interaction, voice-to-voice and socialization within the learning environment, that is driven by public reflections (Gleeson et al., 2007; Jbeili, 2003). If the learning environment is dominated by online, then it is concerned with distance learning driven by own reflections through individualised learning that gives students a platform to design and control their own learning, pace, time, and place (Poe & Stassen, 2002; Chiu, Chiu, & Chang, 2007). However, studies (Finn & Bucceri, 2004; Brown, 2003; Bonk & Graham, 2006) assert that learning is likely to be effective if it is dominated by blended learning environments that combine research-proven methods from both online and face-to-face environments. The blended learning environment therefore draws life

from the certified reflections of researched and approved methodologies, borrowing from both traditional and online environments.

A successful curriculum must therefore provide a blended learning environment for students to enjoy both benefits from face-to-face (creating a social community characterised by student-to-student interaction and teacher-to-student interactions) and online learning (making use of multimedia and advanced telecommunication technologies that promote active learning). The teaching and learning process is therefore enhanced, and interactive teaching styles are promoted (Wang, 2007; Chew, 2011). Both students who prefer self-directed learning (thus they can learn at their own pace and own time) and those who prefer direct instruction from the teacher can benefit from this approach (Capra, 2011; Posey et al., 2010; Stone & Perumean-Chaney, 2011). Although this approach seems to benefit learning, the school has to provide a range of electronic and internet facilities, which may be a constraint for those in rural areas (Mege, 2014; Capita, 2012).

In Swaziland, studies by (Mabuza, 2014; Guiffrida, 2008) assert that school location affects students' performance, quality of teachers posted in schools, and the nature of students. Specifically, these studies suggest that good and hardworking teachers, as well as gifted students, migrate to schools in town, to schools that are adequately resourced (laboratories, good facilities, libraries and internet). Teachers often avoid schools in low economic locations, preferring to be near towns where transport, roads, and other facilities are within reach. The Ministry of Education and Training, through the Swaziland education and training sector policy of 2011, has committed itself to future provision of computerised learning environments. Currently, such has not been availed. Both sections 8.3.4.3 "Integrate information and communication technology (ICT) in the secondary school curriculum" (p. 36) and 9.4.1 "offer and promote basic computer skills and internet facilities as technology is continuing to advance" (p. 47) indicate commitment to align the Swaziland curriculum with a blended learning environment. However, the JC Consumer Sciences curriculum is silent on laboratories, classrooms, space and technologies which the teachers should use to implement this curriculum. It is the teacher's prerogative to decide when and how teaching and learning will take place, relying on trial and error. This places the curriculum in a position of failure, particularly with new and inexperienced teachers. Again, this allows public reflections to drive

the curriculum, when there are no specific recommended learning environments (Uwameiye, 2015; Ukpore, 2010).

4.7.8 Consumer Sciences learning activities

A learning activity is any organised, planned, and prepared action or exercise in the classroom undertaken for the purpose of promoting teaching and learning (Monnet, 2006). There are other school activities that are not considered learning activities, such as sporting activities, religious activities, and cultural activities (Vermette et al., 2010). A descriptive study by Kaya *et al*. (2015) examined teachers' cognisance of effective instructional activities with regard to time they allocate to these activities. This study, together with others, classifies learning activities into teacher-centred (dominated mostly by teacher's activities, plans, and instruction), student-centred (dominated by more student participation, involvement, democratic) and content/subject-centred activities (instructional or curriculum-centred activities whose focus is learning skills and content). Teacher-centred activities, according to (Pepler, 2015; Froyd & Simpson, 2008) are designed on teacher's own teaching styles and preferences, including establishing goals and other educational purposes, dominated by lectures, methods, and teacher instructions and directions while students listen, watch, and take notes. This approach is driven by own reflections; while student-centred learning enables teachers to engage students in the selection of goals, activities, and demonstrations through dialogue and democracy, and thus being influenced by public reflections. Studies (O'Neill & McMahon, 2005; Carlile & Jordan, 2005; Greitzer, 2002) promote a paradigm shift from content-centred and teacher-centred to student-centred learning activities, with the view that this creates interest and enthusiasm (O'Brien, 2015) in both the learner and the teacher; thus effective learning is guaranteed when learners become active and responsible learners.

Educators need to engage students in learning activities that promote constructivism in the classroom. As learning activities are designed for the students, this further suggests that these activities must be developed together with the students, be of interest to the students, and that the students themselves must actively participate (Kaya et al., 2015; Golji & Dangpe, 2016; Herman et al., 1969). This further upholds Stenhouse's (2005) process approach to curriculum that learning must start with worthwhile activities planned with the students.

The Swaziland JC Consumer Sciences curriculum advocates for a student-centred approach method applied to learners using all available resources (ECOS, 2017a). This curriculum document explicitly demands that learning activities be dominated by problem-solving, investigation, research, and application of information on which to base judgments and choices. These activities are more likely to facilitate students' critical thinking, problem solving, and analytic enquiry, while promoting teamwork, thus project-based learning skills are facilitated (O'Brien, 2015). These activities fits into public reflections, but educators driven by certified reflections may argue that these activities delay progress in large classes, and may result in content not being covered (McGregor, Smith, & Robinson, 2002).

4.7.9 Role of Consumer Sciences teachers

A school consists of several multi-disciplined teachers playing different roles towards implementation of school curriculum. A role is an expected behaviour or responsibility with which a teacher is charged (Ndyali, 2013; Tsang & Kwong, 2016). These roles differ in level of rigour, however, roles commonly understood as teacher roles are those that support student learning (Harden & Crosby, 2000; Harrison & Killion, 2007). Studies (Alabi & Keswet, 2015; Banda & Mntambo, 2016; Gamawa, 2015) assert that a teacher has numerous roles that keep changing owing to changing dynamics of teaching, both socially and technologically. The numerous teacher roles may be grouped into six main roles (Harden & Crosby, 2000; Biggs, 2003).These roles may be driven by own reflections (teacher as a researcher), public reflections (people's teacher/community teacher, catalyst/facilitator), and certified reflections (bread winner/resource provider, curriculum master, judge/assessor, pedagogue/instruction deliverer). Studies (Brown, 2004; Estes, 2004) assert that teacher roles driven by public reflections in a curriculum dominated by facilitation are likely to promote experiential learning through student-centred learning approaches. This is because facilitation encourages student creativity and enables the teacher to play many other roles to support facilitation.

Learners learn best when the role of the teacher does not appear to be authoritarian but based on life activities, in which the students are solely responsible for the learning. The teacher's role as facilitator must therefore expand beyond verbal discussions, games, dance, journal writings and other learning activities (Hunter, 2007; Schwarz, 2005). Teachers, as content experts, have a stake in the outcomes. Teachers using processes of learning are likely to succumb to the temptation of controlling or influencing the discussion and outcome (Brown,

2003; Laberge, 2010; Estes, 2004). The teacher must develop expertise in changing roles and applying some useful facilitation roles; as broadcaster (Laberge, 2010; Maxey & O'Connor, 2013), uncontaminated/invisible teacher (Laberge, 2010; Smit, 2014), proficient teacher (Schwarz, 2005; Raxion, 2000), and spearheader (Laberge, 2010; Raxion, 2006).

The JC Consumer Sciences curriculum and the Swaziland National Policy sector of 2011 does not specify the key teacher roles that underpin the teaching of Consumer Sciences, yet Tsang & Kwong (2016) assert that each discipline presents unique roles to the school in addition to the general ones. The general roles are lesson planning (Sebate, 2012), instruction delivery (Husbands, 2011), classroom management (Malik, Murtaza, & Khan, 2011), assessment (Wiliam, 2013), student welfare, and sporting. Nxumalo et al. (2015) and Zvobgo (2008) found that Consumer Sciences teachers are adequately trained on counselling and health-related issues and thus have a role to play in advising the school authorities accordingly. Similarly, other studies (Poirier, Faria, Hernandez & Madia, 2012; Lemchi, 2005; Uko-Ayiomoh, 2005; Okafor, 2004) charge the Consumer Sciences teacher with a role in gender equality, safe sanitation, water use, generation skills, food production, and health. Not all these studies, however, spell out Consumer Sciences roles relative to the teaching and learning of the subject. Since the curriculum is not clear on their roles, teachers are likely to draw from own reflections, performing roles as per their habit, and thus inconsistencies are likely to result, leading to the failure of the curriculum.

4.7.10 How to group Consumer Sciences students

Grouping applies associated cooperative activities, especially formulated for a larger class or school to receive instruction as single unit (Ward, 1987). A study by Van den Akker (2010) exploring how a better cross-fertilisation between educational research and curriculum development could reinforce the information base for curriculum policy, yielded the classification of students' grouping into three: whole class, small groups, and individuals. Whole-class grouping is a practice by the school or subject teacher to place students into different classes, courses, or course sequences or curricular activities based on their academic achievement or performance (NEA, 2017). This grouping is driven by certified reflections, with teachers or the school administration setting the criteria for compiling the group. This is why it is called ability grouping. Small-class groups, on the other hand, are formed of small in-class groups assigned a special activity. This grouping is formulated by the students, who select peers

they can work with, and thus compete with other groups as a single body (Black, 2002). This grouping allows social interaction among peers and helps those learners who learn best by sharing and presenting within their peer group (Kirk, 2000; Temitope & Christy, 2015). Such grouping promotes socialization, sharing and interaction, and thus is driven by public reflections. Studies (Klieme & Vieluf, 2009; Weimer, 2002) however, suggest that educators shift from teaching the class or a group, to teaching every learner, as educational objectives are stated in terms of what each learner will achieve after the instruction. This individualized or targeted or directed learning is driven by own reflections that enable each learner to own the instruction and understand that every learning experience is about himself or herself. Such learning develops self-confidence and prevents fear. Studies (Weimer, 2002; Balcom, 2012) found that this grouping has been used and found effective among disabled learners, in which each learning activity is designed and targeted to each individual learner. It further suggests that students taught in small and whole class groups must align themselves to fit the learning styles of the majority group members, or risk failing.

The JC Consumer Sciences curriculum groups students by class, denoting level of ability, that is, Form 1, Form 2, and Form 3. Its curriculum content has then been designed with scope and depth sequenced according to the grades. This encourages teachers to teach the one-class group and prepare teaching strategies assumed to be effective for the majority of the students. This curriculum is therefore likely to create failures, because students cannot all cope with the pace and learning styles of the majority (Goss & Hunter, 2015; Ward, 1987).

4.8 Chapter Summary

This chapter presents a development of a microscopic curriculum framework gleaned from the metaphor of a compound microscope used to analyse or view an anatomy or specimen through its three different powered objectives or lenses. The curriculum, as a body, is composed of an anatomy (nine curriculum concepts) as presented by Van den Akker (2010). The framework has three main parts: the eyepiece (through which the curriculum is viewed), the stage (on which the curriculum concepts are clamped), thereafter being analysed according to the three lenses (reflections: own, public, and certified). This curriculum framework is a triptych consolidation of three curriculum theories by Tyler (2013), Stenhouse (2005), and Freire (1972).

This triptych has brought about a review of the Integrated Consumer Sciences curriculum that by its nature of being integrated, has to be competency based, and as such, Khoza (2015a) suggests that a competency-based curriculum is driven by public reflections. Similarly, studies (Kiamba, 2005; Mberengwa & Mthombeni, 2013; Bernard, 2010; Schofield, 2005) suggest that the Consumer Sciences curriculum in Swaziland, Africa, and Canada has been strongly influenced by the needs of the society to solve, in particular, nutrition problems, needing to train women on household skills and community development. This fits well with Stenhouse's (2005) sociological perspective or the process approach. However, the curriculum documents and its presentation are performance-based, being designed by the national examination body (ECOS) to meet international standards for the discipline, and to prepare pupils for the world market, as recommended by Tyler (2013) in his objective approach. These two theories are therefore contending for professionalism (that curriculum content must be selected by subject expectation, using objectives that will eventually be used for evaluation) and conscientization (advocating for empowering the teacher, and that curriculum content must come from worthwhile activities performed by teacher and students in the class as co-researchers). Tyler (2013) and Stenhouse (2005) advocate a good combination curriculum, however, they present distinct views, each approach having its drawbacks; therefore selecting one theory over the other may cripple the curriculum. Khoza (2016d) therefore suggests a marriage between the objective and the process model in developing the own. This marriage is better commissioned by Paulo Freire in his critical approach with political claims in the curriculum while promoting emancipation of both the teacher and the learner (Freire, 1972). Khoza (2016d) further suggests that own reflections enable educators to negotiate a curriculum that meets world and discipline standards (certified reflections), at the same time meeting the needs of the society (public reflections).

Lastly, this chapter presents a clear view of indicators or reflectors useful in interpreting the Microscopic Curriculum Framework in terms of the nine curriculum concepts. It shows the criteria that may be used to judge a curriculum concept, whether or not it is driven by either own, public, or certified reflections. In order to understand the educators' reflections, the study must be grounded in a certain paradigm with clear methodology, instruments, and analyses, so that when this framework is used with the same methodology, similar results may be observed.

CHAPTER 5
THE STUDY GROUND PLAN AND EVOLUTION

5.1 Introduction

This chapter explores the designs and methodologies on which the research work is grounded. A critical paradigm, supporting qualitative research has been selected and championed as the framework for this study. In addition, the chapter deliberates on the research instrumentation, data generation, and analysis methods. Since the study is grounded on a critical paradigm, being a descriptive study, it employs an action research. Face-to-face interviews and focus groups were used as data-generation tools. Lastly, to ensure trustworthiness, suitable principles for qualitative research are discussed, and some procedures, such as supervisor/panel of expert checks, peer-reviews, and triangulation was employed.

5.2 Research Paradigm

A research paradigm is a set of rules and regulations (written or not) that establishes or defines boundaries and tells the researcher how to act within those boundaries in order to be successful (Mesquita, 2017). Similarly, McGregor and Murnane (2010) define a paradigm as a set of assumptions, concepts, values, and practices that constitute a way of viewing reality. A research paradigm forms the roots and support system of the research work. Furthermore, Guba and Linchon (2005) view a research paradigm as a basic belief system in the research journey in which the research paradigm becomes the first and the most crucial step. Since there is no research work that is value free, Creswell and Clark (2007) suggests that all research must include assumptions it holds about the world and knowledge that informs the investigation. Using a paradigm may be very useful, particularly to readers who are not familiar with qualitative research. Using a research paradigm therefore guides and influences the design and how to go about conducting the research (Creswell & Clark, 2007; Guba & Lincoln, 2005). Research paradigms are derived from meta-theories (Fleetwood, 2005). Sousa (2010), in his discussion paper on meta-theoretical alternatives in research, acknowledges the existence of other theories, but categorised paradigms into three theoretically dissimilar views: positivist, interpretivist, and critical paradigms. Similarly, Avramidis and Smith (1999) observed that the pursuit of categorising all educational and psychological research into a few paradigms is a complex operation, however, their study eventually found that these are the three major paradigms currently operating in the social sciences.

5.2.1 Positivist paradigm

The positivist paradigm, also called the 'scientific paradigm', believes that the truth exists somewhere. It requires a scientist, using scientific methods to collect it and conduct some analyses for generalization purposes (Mack, 2010). Similarly, Easton (2003) asserts that positivists, ontologically, believe that there is a world 'out there' with observable, perceptible, measurable, and quantifiable phenomena, all waiting to be discovered by the researcher. A phenomenon is believed to exist through observations and experimentations, and thus this paradigm's purpose is to prove or disprove a hypothesis. It further suggests that what cannot be observed or experimented on does not exist. However, other studies (Muller & van Fraassen, 2008; van Fraassen, 2004) extend the scope of scientific paradigm to embrace phenomena that cannot be observed by humans, only through various instruments, such as microscopes and telescopes. The notion of positivism came from a French philosopher, Auguste Comte, who alleged that reality may be observed and measured. Cohen, Manion, and Morrison (2007, p. 9) aver that Comte's viewpoint gave birth to the positivist theory which is driven by certified reflections, in the belief that "genuine knowledge is based on sense experience and can be advanced only by means of observation and experiment". Other labels associated with positivism are 'experimental', 'quasi-experimental', 'correlational', 'causal comparative' and 'quantitative'. Epistemologically, positivism believes in 'tabula rasa' or a 'blank slate' on which the world began to write into the five senses of humankind, differentiating between a 'subject' and 'object' (Sousa, 2010). This belief is rooted in a set of parallel dualisms such as reason-emotion, fact-opinion, mind-body and thought-action. Methodologically, positivism often employs induction and deduction in the development of scientific explanations and predictions (Sousa, 2010; Cohen et al., 2007). Research should therefore employ quantitative research techniques such as regression analyses, variance, and correlations.

Positivism seems to have limitations, particularly with social science, owing to its obsession with measurement and quantification (Hesketh & Fleetwood, 2006). This statistical manipulation of variables may lead to inadequate conceptualizations of social phenomena, its nature being qualitative and multidimensional. Although, according to Cohen et al, (2007, p. 11), "positivist science provides us with the clearest possible ideal knowledge", the outcome of a research study can never be objective, regardless of how stringent the methods are (Sousa, 2010). This paradigm often ignores the moral choices, values and judgement made by

scientists. Bhaskar (1998) therefore believes that positivists operate in a closed system, with absence of internal change within the system of interest (internal closure), and that external influences remain constant or the same. Lastly, positivists' ideology of parsimony fails as the world presents peoples' multiple perspectives and interpretations, making it complex. These criticisms therefore suggest the development of a different paradigm, the interpretivism paradigm.

5.2.2 The interpretivist paradigm

The interpretivist paradigm is derived from hermeneutics and phenomenology that study meanings and interpretations mostly in historical contexts (Cohen et al., 2007). This paradigm is also known as an 'anti-positivist' paradigm because its development was based on criticism and reactions to positivism (Easton, 2003). Interpretivists believe that "social reality is subjective and nuanced, because it is shaped by the perceptions of the participants, as well as the values and aims of the researcher" (Vosloo, 2014, p. 307). Interpretivists also embrace the ability of humans to construct meanings: humans' subjective interpretations and perceptions are to be used as starting point for understanding social phenomena. Meaning is therefore not created outside the human mind. For this reason this paradigm is also called the 'constructivism paradigm'. Interpretive scholars believe that reality comes from humans' subjective experiences of the external world that is socially constructed. Interpretivists therefore embrace a tradition of no one 'correct' or 'incorrect' theory, but assume that meaning and knowledge are acts of interpretation, thus there cannot be an objective knowledge independent of thinking and human reasoning (Fleetwood, 2005; Myers, 2013).

Ontologically, interpretivists believe that there are multiple realities, and that these realities may be socially constructed through human interaction and action (Sousa, 2010). A researcher must study people's social worlds in close to natural context through their daily routine, conversations, while interacting with others. This paradigm is driven by public reflections in which social realities are believed to exist, owing to the changing human experiences, views and experiences. Epistemologically, interaction with social contexts helps human interpretations in studying and understanding events (Myers, 2013). Researchers can only construct knowledge socially by experiencing real life. The researcher and participants must be committed to an interactive process − listening, talking, reading, or writing − which allows a more interactive data-generation approach. Therefore, methodologically, data is collected

through interviews and reflective journals that represent the values of the researcher (Myers, 2013).

The interpretivism paradigm, as with the positivism paradigm, is helpful in bringing into the space a new viewpoint that considers social construction of knowledge and its interpretations. However, this paradigm has also been criticised. Firstly, although it is useful in qualitative researches, it fails to acknowledge political and ideological influences on knowledge and social reality (Babbie & Mouton, 2008; Neuman, 2011). Secondly, it does not address the issues of generalization and verification of findings. Meanings and interpretations socially constructed in a very small sample cannot represent the interpretations of views and meaning held by the whole society. Lastly, the positivists and the interpretivists seem to be at loggerheads, with the former trying to explain a social phenomenon (Collis & Hussey, 2009; Rubin & Babbie, 2010) and the latter trying to understand it (Babbie & Mouton, 2008). No one is trying to change or challenge the existing phenomena. A critical paradigm therefore takes the stage.

5.2.3 Philosophical foundation for the study - the critical paradigm

The critical paradigm is rooted in critical theory from philosophers such as Marxists and Paulo Freire, who provide a new framework incorporating philosophy and methods for approaching research (Cohen et al., 2007). This approach capitalises on the potential that humans have in reasoning, critiquing, and challenging the nature of existence (Blaikie, 2009). Similarly, Patton (2002) observes that the critical paradigm is one of the most powerful and influential frameworks in social sciences that goes beyond the interpretivists' mandate to understand the society, but critiques it and takes action. It is driven by own reflections aiming to liberate participants from historical, and structural social phenomenon − this because participants feel free to give their own views of the situation and the world they live in (Babbie & Mouton, 2008; O'Leary, 2004).

Furthermore, McGregor and Murnane (2010) opine that all three main sciences agree on what constitutes a paradigm, thus use a certain paradigm as a foundation, however, the actual paradigm used in each science is different. Natural sciences normally use a positivistic paradigm while human and social sciences prefer post-positivistic paradigms. This study was, therefore, grounded on a critical paradigm. This study, being social in nature, is better set in a critical paradigm that is not fully rooted in politics as with the realist and liberal paradigms, nor

in economics as is the radical paradigm. Critical paradigm is fairly compatible with rationalism or a problem-solving theory, thus it may be used as a good base for educators' reflections in a social environment. Again, Cohen et al. (2007) believe that a critical paradigm stems from the critical theory, and that its main purpose was the emancipation of the people in an egalitarian society. It then better suits this study, as it does not only seek to understand the educators' reflections or document them, but also to change their actions in the Consumer Sciences curriculum. This paradigm enlightened Consumer Sciences educators on their reflections, urging them to take appropriate action in the review of the curriculum after their eyes have been opened. The critical paradigm is most appropriate for this study because it attempts to transform the respondents from their mental and emotional structure, thereby emancipating them so as to take action. Rahman (2016) describes the focus of a critical paradigm as liberating or emancipating the participant from an inappropriate mindset because it assumes a comprehensible social reality. Thus, this study is able to critique and transform the social, political, economic and gender values. This study balances on the critical paradigm, borrowing from Plato's famous allegory of the cave that people bound to illusions can be happier than with the freedom afforded by the light of the day.

Any researcher who wishes to embark on an enquiry journey must cover three assumptions − epistemology, ontology, and methodology (Sousa, 2010). Scotland (2012) considered these three as major dimensions or assumptions (Cohen et al., 2007) of a research process. A research paradigm is a system of related practices and thinking that defines the nature of enquiry along the three assumptions. Similarly, Gray (2013) sees a research paradigm as a belief system that influences the way a researcher selects the three. These scholars therefore suggest that any research must be supported by the three research philosophical underpinnings.

5.2.3.1 Ontological assumptions

Ontology was defined by Blaikie (2009) as the science or study of being, and it is concerned with the nature of reality. The ontological question in this paradigm therefore asks, "What is the nature of the 'knowable'? Or what is the nature of 'reality'?" (Guba & Lincoln, 2005, p. 24). It questions whether the research phenomenon need be perceived as objective or subjective. This study employs a qualitative, subjective means of exploring the reality of educator reflections. It is, therefore, assumed that the social phenomena (reflections) are created from perceptions and consistent engagement of the educators with their existence. To that

extent, there are many truths generated, and since the study purposed to empower these educators, reflections of the minority group, high school educators, are reported.

5.2.3.2 Epistemological assumptions

Epistemology aims at determining the nature, basis, and extent of knowledge (Sousa, 2010). It explores the various ways of knowing, the nature of truth, and the relationship between knowledge and belief (Gray, 2013). It involves the construction of concepts, and asks the questions 1) Where does knowledge come from? 2) What are the features of genuine knowledge as distinct from what appears to be knowledge? 3) How can we know what is true and what is false? Similarly, Guba and Lincoln (2005, p. 24) assert that the epistemological question asks, "What is the nature of knowledge and the relationship between the knower (the inquirer) and the 'would be known' (the knowable)?" Knowledge comes from reason and thus in qualitative studies like this, humans become knowledgeable when they experience life situations, such as the daily planning, teaching, and assessment of learning. The study fostered the truths by interviewing and engaging the educators to generate reality. The critical paradigm thus allows for real-life experiences of working people such as the educators, in which researchers understand problems through reflections, probing, and revising meanings (Gray, 2013). The critical paradigm is most appropriate for this study because it has transformed the respondents from their mental and emotional structure, liberating them to take action.

5.2.3.3 Methodological assumptions

O'Leary (2004, p. 85), describes methodology as the framework which is associated with a particular set of paradigmatic assumptions that is used to conduct research. Brown (2006) adds that it is a philosophical framework within which the research is conducted and thus forms the groundwork upon which the research is conducted. The methodological question therefore asks: "How can the knower go about obtaining the desired knowledge and understanding?" (Guba & Lincoln, 2005, p. 24). In this paradigm, knowledge is constructed by scientists/humans and, therefore, there is no single method of generating the knowledge. The methodology in this study focuses on analysis and interpretation of reality through action research. The study has then used face-to-face interviews, reflective journals and focus groups as illustrated in Table 5.1.

Table 5.1 Paradigmatic Assumptions of the Study

Assumptions	Critical Paradigm
Ontology	Virtual reality moulded by social, political, cultural, economic, ethnic, and gender values; Qualitative; reality is created; multiple realities/truths
Epistemology	Subjectivity; value-mediated findings; interactive life situations; educator experiences; Knowledge is grown through individual experiences; Knowledge is socially created through educators' institution/school and society; "Knowledge is determined by the social and positional power of the advocates of that knowledge" (Cohen et al., 2007, p. 27).
Methodology and Methods	Participative, transformative; Dialogic/dialectical; Action research; Methods: interviews, reflective journal, focus groups
Basic Assumptions of the critical theory	Educators' ideas are mediated by power relations in education system/school/society; Certain stakeholders in education or school or professional association are privileged and exert an oppressive force on subordinate educators; What exists as truth cannot be separated from ideology and the self-interest of dominant groups

Thecla (2011) used the critical paradigm when analysing the participatory community development initiatives of the small-business development department of the Elgin learning foundation in the Overberg region, and found it more handy when dealing with social contexts and understanding of meanings. This was supported by Vosloo (2014), who said that the critical paradigm stresses that to reason is the highest potential of human beings. Blaikie (2009) added that, with the critical paradigm, it is possible to critique and challenge the nature of existing societies. The critical paradigm seeks not only to understand the phenomenon or society but also to critique and bring change to the society.

Although the critical paradigm seeks human emancipation to liberate teachers from the circumstances that enslave them, it has major problems: that of dealing with small data with unnecessary liberty and flexibility, particularly with inexperienced researchers. In addition, the critical paradigm is criticised for its elitism, supposing that everyone needs to be liberated (Mack, 2010). Common sense implies that one cannot liberate another if one is not liberated

oneself. Critical theorists or researchers believe that they have been emancipated and that this has placed them in better position to analyse society and transform it than someone else. This problem has been taken care of because this study is supervised and guided by researchers at the University of KwaZulu-Natal who are seasoned in research, particularly in handling qualitative research and in curriculum issues. Also, the researcher analysed data as it was collected rather than analysing all data at the end, which may have proved challenging.

The second limitation of the critical paradigm is that it relies on unreliable interpretations as no interpretation is final. Different interpretations will be examined (Sousa, 2010). The critical paradigm lacks evidence or indicators or criteria that illustrate what happens when one becomes emancipated and gains critical consciousness (Mack, 2010). In other words, how can we provide evidence that a person who has been liberated and has gained critical consciousness stops reproducing inequalities that oppresses him/her? On the issue of interpretation, I used participants' words if constructed in good language, and participants again reviewed the data. In order to expose the undeserved and unfair and institute a change within the Consumer Sciences curriculum, action research is an effective tool with which to achieve this. Cohen et al. (2007) further assert that action research has a great impact on curriculum research, and is ideal for practices in education.

5.3 Action Research as Research Design

This study is a descriptive research employing action research design which is qualitative. Action research is a collective self-reflective enquiry undertaken by participants in social situations in order to advance their own social and educational practices, as well as their understanding of these practices and the situations in which the practices are carried out in conventional research (Koshy, 2005). Action research is thus a form of enquiry undertaken by the researcher as a practitioner, or together with students or colleagues, focusing on the effectiveness of their own teaching practices and/or students' learning. Similarly, Power and Naysmith (2005, p. 4) observe that action research is "any research into practise undertaken by those involved in that practise, with an aim to change and improve it". It is therefore a process of enquiry used together with educators in Consumer Sciences to reflect on practices with the aim of improving the JC Consumer Sciences curriculum in Swaziland.

Power and Naysmith (2005) further assert that this approach to research or enquiry involves both ‘action’ and ‘research’. Action may therefore be taken without research; research may be conducted but does not lead to action. However, the unique combination of ‘action’ and ‘research’ makes action research a distinct form of enquiry. Kemmis and McTaggart (2000, p. 21-22), therefore, used four main descriptors to distinguish this from other research enquiries. Firstly, action research, although involving reflection and practice, is more systematic and collaborative. This makes it different from the usual thinking of educators when considering or planning their teaching. It suggests that action research engages educators in classroom research, therefore integrating them in a dimension in which they are reflecting systematically and critically on practise (Hopkins, 2002). Secondly, taking action for improvement in action research is not simply the problem solving that other practitioners such as pathologists would do when first considering the problem. Researchers in action research, are motivated by the quest to understand their world and then improve it. Koshy (2005) agrees that the rationale for carrying out an action research is to understand, evaluate, and change for the purpose of improving educational practice. Thirdly, action research is not conducted on other people but by people on their own work (Power & Naysmith, 2005). This suggests evaluating what the practitioner is doing, has done, or plans to do, including how they work with other teachers or students. “Evaluating one’s own practises is an integral part of an applied discipline such as education” (Koshy, 2005, p. 16). Lastly, action research differs from the scientific method used in teaching. It embraces many methods, not only one single view of doing things. This differentiation between action research and teaching supports the former definition by Koshy (2005). Sheehy (2005) concurs with Kemmis and McTaggart but further asserts that action research is a legitimate part of good teaching.

Action research involves practitioners in studying their own professional practise and framing their own questions. Their research has the immediate goal of assessing, developing or improving their practice. Such research activities belong in the “daily process of good teaching, to what has been called the ‘zone of accepted practise’” (Sheehy, 2005, p.13). The term ‘action research’ has often assumed different labels such as classroom research, self-reflective enquiry, educational action research, and exploratory teaching and learning (Power & Naysmith, 2005). The similarity in all these names is the most important component of action research that suggests both action and reflection. Confusion with the action research names may be clarified by exploring the three categories of action research.

5.3.1Technical action research

This is also known as technical/technical-collaborative research (Holter & Schwartz-Barcott, 1993) or scientific-technical/positivist research (Masters, 1995). Technical action research is an enquiry normally carried out by an individual researcher with the main focus of improving the current situation to make it more efficient and effective (Power & Naysmith, 2005). At this school, the assumption is that there is a difference between a researcher and a practitioner, with the researcher being an expert (Willis & Edwards, 2014). Although the methods are adapted to fit action-research procedure as it is conducted in the field, technical-action research prefers traditional scientific methods. Similarly, Gaffney (2008) asserts that the enquiry would normally be conducted by a particular person who is regarded as an expert owing to the qualifications and/or experiences she/he possesses. Technical action research is therefore driven by certified reflections that lead to accumulation of predictive results and validation of existing theories. Masters (1995) therefore suggests that it is a positivist approach, and further labelled it "the scientific-technical view of problem solving" (p. 3).

5.3.2 Practical action research

This is also known as mutual-collaborative (Holter & Schwartz-Barcott, 1993) or a practical-deliberative-interpretivist perspective (Masters, 1995). Practical action research, according to Power and Naysmith (2005), was developed for educational research to promote teachers' professionalism by relying on their judgement. This is what Schön referred to as 'reflection-*on*-action' as it focuses on understanding and interpreting social positions with the aim of improving such. This goal sits well with interpretivism and is driven by public reflections. Action-research processes are facilitated by outsiders who form cooperative relationships with practitioners, guiding them in articulating their issues and problems. The outsider further plans strategies for action of change, and evaluates the consequences of the change implemented (Gaffney, 2008). Similarly, Edwards and Gilbert (2002) observe that the researcher and the practitioners converge to identify potential problems, their fundamental causes and possible solutions. Action research, therefore, applies a dialogic and interactive approach to defining a problem that is only identified after dialogue and mutual understanding. The researcher therefore believes that the participants have some wisdom that may be applied to improve their practice (Kemmis & McTaggert, 2000). For practical action research to be successful, there

must be a continuous good communication between the researcher (facilitator) and the participants.

5.3.3 Emancipatory action research

This is also known as the enhancement approach (Holter & Schwartz-Barcott, 1993) or the critical-emancipatory action research/critical science perspective (Masters, 1995). Emancipatory action research strives for developing understanding of oppressive structures and personal constraints that hinder autonomy and freedom of practitioners (Power & Naysmith, 2005). It is therefore a political yet educational enquiry that aims to emancipate participating practitioners. It creates and "promotes a critical consciousness which exhibits itself in political as well as practical action to promote change" (Grundy, 1987, p. 154). Emancipatory action research, also called "critical-emancipatory action research" (Masters, 1995, p. 3), is driven by own reflection with the main goal of assisting practitioners to identify major problems by raising their collective consciousness (Edwards & Gilbert, 2002). Contrary to the technical and practical action research views, this approach is initiated within a group of practitioners who decide to take joint responsibility to change and improve their practice as a group or individual (Kemmis & McTaggart, 2000). It therefore employs a critical theory to practice.

It is worth noting that these three schools of action research differ in the underlying assumptions held, but not in methodologies, although the views of participants lead to a varying application of methodology (Grundy, 1987). The main difference among the three is the question of power. In technical-action research, the source of power for action lies with an expert or researcher who controls the project, thus driven by certified reflections (Willis & Edwards, 2014). In practical-action research, an individual facilitator enjoys the power for action, yet during research enquiry power is shared equally within a group of participants. In emancipatory-action research, power resides entirely within the group of participants. Change in power relationships automatically shift the enquiry from one school to another. Table 5.2 below gives an overview of the philosophical assumptions held in each school of action research.

Table 5.2 Philosophical Assumptions in each School of Action Research

	Certified Reflections	Public Reflections	Own Reflections
Philosophical Base	Technical action research predominantly used in natural sciences	Practical action research used in historical research with mutual collaboration	Emancipatory action research usually employing participatory action Research in critical science
Ontology	Single, measurable, fragmentary, with problem pre-defined	Multiple, constructed, holistic problem defined in the situation	Social, economic; exists with problems of equity; the problem is defined in the situation based on value clarification
Epistemology	Separate relationship between the knower and what is known with focus on validation of theory through induction. It is value-free	Interrelated, dialogic, dependent on individuals' active mental work and is value-bound	Interrelated, embedded in society/workplace focusing on social change and emancipation
Purpose of research	Uncover laws underlying reality	Understand situation and the meaning practitioners make of phenomena	Understand what limits fairness and justice Change practice towards more equity and conciseness

5.3.4 Strengths in action research

Action research methodologies are applied according to the many strengths associated with it. One of the most powerful weights behind action research is its ability to ground research in the realities of classroom practice (Hagevik, Aydeniz & Rowell, 2012). This suggests that practitioners are able to close up the knowledge-to-practise gap, and thus educators can walk-their-talk by putting into practise their beliefs. Educators' reflections of the JC Consumer Sciences curriculum because it deals with their own problems, not an external researcher's and thus providing them with prospects for better understanding and improving their educational practices in the Consumer Sciences curriculum. Carr and Kemmis (1989, p. 192) note that "action research is a deliberate process for emancipating practitioners from the often unseen constraints of assumptions, habit, precedent, coercion and ideology". This suggests that action research enables practitioners the prospects of examining their often tacit beliefs (Pedler, 2011). The educators in this case are the minority who implement a curriculum handed down by government. Working together through action research can open their eyes, fully understanding

their role in curriculum development. They may understand that even government may be upholding this curriculum, banking on them as experts in the discipline who would advise correctly if called upon. Action research has been used mostly by practitioners in their workplaces; however, educators in Swaziland do not conduct post-undergraduate research projects, and thus action research has not been adequately explored. Studying reflections through action research has enabled educators to discover how using own and public reflections in generating knowledge can influence action and practise.

Action research constitutes a form of praxis concerned with reflection and action upon practise with the desire to improve or transform it (Day, Elliott, Somekh & Winter, 2002). This praxis, according to Pedler (2011) involves the thoughtfulness of theory and practise. It is therefore a theory-building exercise based on own reflection that informs our practise and our action. This suggests that there is no new knowledge without practise. Consumer Sciences educators therefore reflect on their current professional practices and thus take action on a justifiable and reasonable outcome for students and the teaching and learning process. Furthermore, action research affords practitioners more control over their practise (Kemmis, 2009). Practitioners are able to carefully assess the match or mismatch between professional practice and beliefs. Action research was employed because it enables Consumer Sciences educators to share the responsibility of collectively conducting the research that concerned issues of their own social institution or areas of work, eventually being challenged to take action.

Although action research has been presented as an enquiry in educational research that has potential to effect change in the classroom or school (Hine, 2013; Seider & Lemma, 2004), it goes way beyond that in influencing educational policy (Somekh & Zeichner, 2009). This is because information generated by practitioners adds to a great deal of evidence and data needed in development of policy. Similarly, Rust and Meyers (2006, p. 73) add that it is a “powerful vehicle for communicating the ways in which education policies affect the complex realities” by “highlighting areas and opportunities for policy reform” (p. 84). These studies demonstrate how powerful action research is, both as a mode of enquiry and as a tool for liberating practitioners. However, it has both methodological and philosophical critics.

5.3.5 Limitations of action research

Although action research is the best tool for exploring practitioner's own practice, as with the educators' reflections, judging from the certified reflection view, there are problems with it and criticisms levelled against it with regard to its planning, processes, and reporting and application of outcomes. The first concern is centred on action research lacking rigour and validity (Stern et al., 2012). Judging from the certified reflections, action research lacks objectivity and validity. It is therefore difficult to tell whether the study findings really reflect what they claim. However, action research deals with different and unique data that cannot be handled using rigorous statistics, and thus it uses casual inferences. McNiff and Whitehead (2011) then suggest that alternative quality assurance mechanisms may be developed to counter this problem. This study therefore used three methods of data generation to triangulate and complement findings from action research, subsequently improving its vigour. In addition, Coghlan and Brannick (2014) assert that action research is situated in the context of both the practitioner and the phenomenon and thus must be acknowledged as such. This suggests judging, using the lenses of own and public reflections. Furthermore, triangulation, deploying methods used in traditional research helps action research keep strict standards. Sharing generated data with critical colleagues and supervisors promotes quality and ensures that what is gathered is robust and without bias. Therefore, discussing this study data with a community of colleagues and the research supervisor at the University of Kwa-Zulu Natal ensured the rigour and quality of this project.

Another issues with action research that is not too distant from that of rigour and quality also driven by certified reflections in which positivists are anxious about the issue of generalizability within action research (McNiff & Whitehead, 2011). Data generated from nine educators in Swaziland cannot be generalizable to the whole population of Consumer Sciences teachers in Swaziland. However, action research, by its nature, does not seek to generalise data, but to construct knowledge based on action within the practitioners' own situation or environment or school (Hinchey, 2008). Although this criticism may be valuable when such data is considered for policy development (Somekh & Zeichner, 2009), educators were reflecting on a national curriculum that is enacted in all the schools in Swaziland. The educators have gone through the same training at the same institution, and thus educators in Swaziland schools are likely to face the same challenges. Dissemination of these research findings is therefore possible, and the study could be replicated as other practitioners present with similar circumstances.

Lastly, action research has been criticised with regard to selection and ensuring of meaningful participation throughout the research process (Stern et al., 2012). This problem is centred on practitioners evaluating their own practice. The question is: how objective was the practitioner in selecting colleagues or participants, as there is a greater risk and possibility of selection participants with which one has a good relationship and are likely to cooperate than those that must be coerced (Stevenson, Brody, Dillon & Wals, 2014). There is an issue of power either being top down or bottom up from the initial planning of action research. Sandretto (2008) observes that it is practically impossible to involve all the participants from the planning stage, maintaining equal participation throughout the investigation. Coghlan and Brannick (2014) point out a similar problem of objectivity even in the writing up of the report, particularly if the report is critical of the practitioner's action or teaching style. The possibility is that some data may be left out of the report which would jeopardise the validity of the report. How objective will the practitioner be when writing the results? What if the report is critical of the teacher's teaching style? Will the practitioner include findings that will reveal this, or will this be left out of the report? If so, this does raise the issue of how valid the report will be. This study therefore carefully balances the top-down and bottom up demands by involving and selecting participants during the first national subject meeting held at the National Curriculum Centre, at which interested participants registered their interests. Also, data generated was cross-checked by the participants to ensure that the report really did represent their submissions.

5.3.6 The action research process

The action research process, according to Power and Naysmith (2005), is a cyclical four inter-related steps that involves planning, taking action, observing/analysis, and reflecting. This cycle is being addressed by questions. Similarly, Riel and Lepori (2014) assert that action research, as a systematic enquiry, transforms problems into questions and the questions shape actions. The cycle is then completed by reflection that frames a new cycle of enquiry. Coghlan and Brannick (2014) present reflection as central to the research process because it generates new platforms and bases for further enquiry. This process then enables practitioners to view their actions from different perspectives through critical assessment that ensures refining of actions, and that leads to transformational learning (McNiff & Whitehead, 2011). Figure 5.1 below, therefore demonstrates how the study systematically developed within each cycle for each phase with reflective journals, through face-to-face interviews, and focus groups. After

completing each cycle, the participants re-planned and reviewed questions, basing them on actions and reflection in the previous cycle.

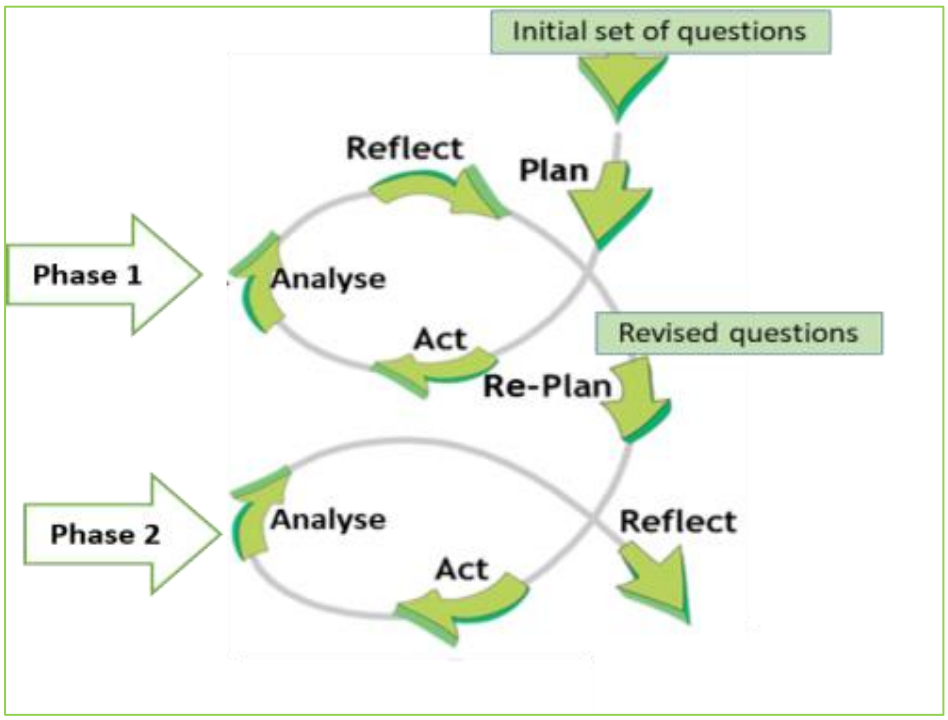


Figure 5.1 Action research process

5.3.7 Steps and activities within the research process

The plan, act, analyse, and reflect research activities of the simple two-phase cycle introduced in Figure 5.1 is reported and summarised in Figure 5.2. Planning: this is the crucial stage at which educators met and deliberated on a detailed strategic plan of action intended, or the kind of change expected in the Consumer Sciences curriculum. This included proposed alterations to the curriculum content, structure, and implementation. Also, decisions on research technique and instrumentation, interview schedules and electronic gadgets used, together with ethical issues, formed part of the planning session. Educators were informed of the importance of reflecting on their actions and of the process of reflection. The educators accepted the process with enthusiasm. The majority had not been exposed to action research; while two educators complained that action research was too tiresome, but acknowledged that no study has ever considered their feelings and reflections about this curriculum. They were therefore assured that they were free to take time over the process because their reflections were valuable.

Action: the plan is carried out; however, reality can be unpredictable, and as such, minor deviations are recorded, and feedback is registered. New understandings arise and are

incorporated into the action or reserved for the next cycle or for future research. Throughout the data-generation methods, particularly the one-on-one interviews, educators seemed to be more interested in issues of financial resources, curriculum scope and breadth, and the training they received from the university as teachers. These issues were then incorporated in Phase Two.

Analysing: this entails monitoring and assessing the effect of action. Educators were observed while teaching. For Phase One, this was conducted to confirm what was written on the reflective activity, possibly reviewing the lesson planning to see whether their planning matched actions. In Phase Two, most educators seem to have transformed while considering their reflective work. Thus an observation had to be conducted on the action and lesson plans. During Phase One, the lesson plans were too diverse and lacking most concepts of the curriculum. As part of the empowerment process, we agreed on the one working definition of a lesson plan: “a visualisation of exactly what I will do in class”. This made it possible to conclude that every activity, grouping, timing, assessment, the resources used, or educational purposes aimed for must be clearly stated on the planning. The observation in this phase therefore aimed at confirming such to gather evidence that educators had transformed.

Lastly, reflection: this is the integral part of the study in which educators registered their feelings and reflections about each curriculum concept as part of the anatomy of the Consumer Sciences curriculum. Innovations and emerging issues from individual participants informed future questions for next cycle. The basic reflective questions in each curriculum concept were: What have you done? What are you doing? Why?

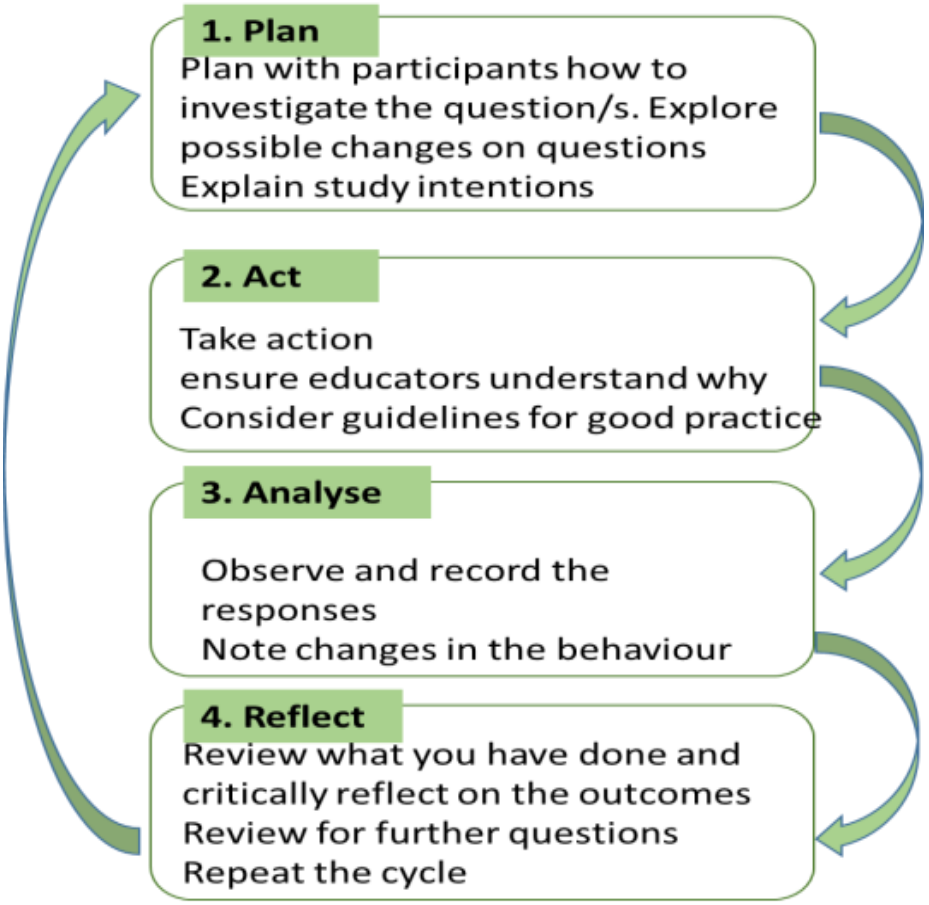


Figure 5.2 Steps and activities within the research process

5.4 Sampling

Any research study strives to study a population, eventually presenting results or findings that represent the whole population (Denzin & Lincoln, 2000; Given, 2008; Hair, 2015). However, money and time constraints hinder such attempts and thus a sample is used instead (Latham, 2007; Cohen et al., 2007). Researchers therefore opt to use a sample that reflects how data has been generated (Zuma, 2016). Sampling therefore requires taking a representative selection of the population for use in data generation. A sample is not simply a portion of the population − the portion must be representative and present similar characteristics as the population (Levy & Lemeshow, 2013). Similarly, Denzin and Lincoln (2000) define sample as a subgroup of the population that represents a 'taste' of that population. Polit and Beck (2003) therefore opine that it is the standard requirement for any researcher to carefully select a true representative of the said population. Cohen et al. (2007) add that, although selection of appropriate methodology and instruments may be made, this may be watered down by the quality of the sample. The researchers further recommend that selection of a sample or subgroup must be

conducted at the beginning of the research, by identifying groups believed to have the potential of generating the maximum data possible.

Since studies (Latham, 2007; Cohen et al., 2007) use sampling as a means of representing a population owing to money and time constraints, this suggests that the larger the sample size, the better the chances of using a true representative of the population. Oso and Onen (2009) define a sample as a part of the target (or accessible) population that has been procedurally selected. Moreover, Bloor and Wood (2006) add that a sample is selected with the intention of finding out something about the population from which they are taken; and sampling is the selection of cases from wider populations. There must be a procedure or method used to guide the researcher. Concerning the size, Creswell (2007) then maintains that if the study is descriptive, a researcher could take anything from 10% to 20% of the population. However, that is not possible with qualitative studies, particularly action research, which demands in-depth inquiry in stages (McMillan & Schumcher, 2001). Therefore, before deciding on the size of the sample, the study must have been described along with the nature of the study (Zuma, 2016). In addition to this criterion, sampling is also influenced by the conceptual framework, research questions, type of phenomena studied, and consideration of ethical procedures Creswell (2007). The studies reviewed above reveal the importance of a sampling technique.

5.4.1 Study Population and Sample

Practically, in conducting any social research work, it is rather becomes difficult if not impossible for the researcher to use the population that is defined by the research topic due to the many limitations in using the whole population of as study which includes amongst others time, resources, and energy (Cresswell, 2007). Consequently I opted to select a representative from the population; the selected representative participants are called a sample. A sample, according to Cohen, Manion, and Morrison (2007, p. 78) is "simply a sub-group of the population or a sampled unit representing the characteristics of a known number of units in the population". This study utilised nine educators comprised of six (6) high school Consumer Science teachers and three (3) regional inspectors. All the participants hold a degree of Bachelor of Science in Consumer Science Education from the University of Swaziland. In addition, the three inspectors were recruited from the teaching profession. Two of them hold a Masters' degree in Consumer Sciences – Food and Nutrition Major from the University of

Pretoria. Generally, these educators have similar educational qualification and experiences and thus qualify formulate a sample.

5.4.2 Sampling technique

A sampling technique or method or procedure is a style or fashion with which a sample is selected from the population. Speziale and Carpenter (2003) advise that, in order for any researcher to reduce research costs with greater accuracy, while enjoying more efficiency during the study process, a correct sampling technique must be employed. Even though there are many sampling methods available for a researcher, the sampling technique must be correct with regard to the nature and goals of the study (Mpungose, 2016). Latham (2007) therefore classifies sampling techniques into two main categories: probability and non-probability sampling. Probability sampling provides an assurance that each person or element in the population has a known chance of being selected. Judging from the certified reflections, probability sampling is considered the best technique, as it enables the researcher to easily calculate bias and error in data generation. Furthermore, this approach is good for researchers who wish to make generalizations of research results to the whole population. Common methods within the probability sampling include simple random sampling, systematic random sampling, stratified random sampling, and cluster sampling (Latham, 2007). Probability sampling is also called random sampling. This approach is unique to the quantitative paradigm and thus it is not suitable for this study.

5.4.3 Non-probability sampling techniques

Contrary to the concept of probability sampling, non-probability sampling rests on a non-random selection of sample or subjects or people. Subjects within the population do not have an equal or known chance of being selected. The non-probability sampling technique includes purposive, quota, snowball, and convenience sampling methods. Cohen, Manion and Morrison (2007) assert that this approach is normally used in qualitative researches with very small sample size, thus increasing the sampling error and bias. This suggests that non-probability sampling does not support generalization of research findings. Similarly, Latham (2007) alludes to non-probability sampling having no intention to generalise the findings, but stimulating rich, detailed explanations from a small sample. Denzin and Lincoln (2000) assert that non-probability sampling is used as a final alternative when probability sampling cannot

be used owing to the nature of the population, research questions, and resources (time and finances).

Each of the four non-probability sampling techniques is used for specific purposes. Quota sampling is employed where there are strata groups that exist within the population, each stratum presenting a unique characteristic needed for analysis and comparison. Quota sampling has been seen as one non-probability sampling method that improves the representativeness of the population (Cooper & Schindler, 2006). It is performed systematically by dividing the population into groups. Each group is sampled until the quota is achieved (Fox & Bayat, 2007). The researcher must have some information about the nature of the population to effectively determine the different strata, such as gender, age, race, and ethnicity (Latham, 2007). However, there is always a challenge of accuracy when selecting the subgroups. Consumer Sciences educators fall into one stratum, and therefore this approach is not appropriate for the study.

Snowball sampling is also called networking sampling (Latham, 2007). This is applicable when the researcher cannot identify suitable respondents who happen to have information about others' whereabouts (Cooper & Schindler, 2006). The researcher relies on referral networks made by initially selected subjects. The technique relies on the assumptions that the respondents know one another. For example, a study on homosexuals in a school cannot easily identify respondents, yet if the researcher knows a few, those can contribute to the selection of more prospective fellow respondents. This approach is very useful in hard-to-reach respondents, however it carries the problem of ignoring isolated respondents and thus introducing an additional bias in the research (Corbin, Strauss & Strauss, 2014). The participants in this study are educators designated in known national schools and thus snowballing is not supported. Therefore, the sampling techniques that underpin this study are convenience and purposive sampling.

5.4.4 Convenience and purposive sampling

Convenience sampling, also known as accessibility sampling selects a sample or respondents on the basis of their availability or easily accessibility, and willingness to participate in a study (Latham, 2007). This approach is therefore widely used in market research in which it is not easy to convince customers in the street to participate in the study. However, Hair (2015) warns

that this approach should only be used when other sampling techniques have not proved effective. Purposive sampling, on the other hand, also known as selective or subjective sampling, enables selection or involvement of groups or individuals for a specific purpose. Subjective judgements are used to purposefully select respondents that the researcher believes will represent the population. Purposive and convenience sampling was therefore used to select the nine (9) participants in this study. Purposive sampling refers to deliberately selecting a particular setting or person/s (Teddlie & Yu, 2007) for the important information they can provide that cannot be found elsewhere. Convenience sampling refers to the drawing of samples that are both easily accessible and willing to participate in a study.The educators were selected purposively in that they are seasoned implementers of the Junior Secondary Consumer Sciences curriculum. I selected those that I could work with conveniently, taking into account geographical location and their availability at that time of data generation. Therefore, using both purposive and convenience sampling techniques has afforded me greater opportunity to purposely select participants with deeper understanding of the research phenomenon, while finding it convenient to work with them. This is particularly a benefit during the face-to-face interviews and the focus group discussions. This approach thus saved a great deal of time and costs for participants. In summary, both convenience and purposive sampling are extremely speedy (Hsia, 2015), easy, readily available (Hair, 2015) and cost-effective (Given, 2008), making this the best option for most researchers. It therefore leads to accelerated data generation because there is very little preparation.

Contrariwise, albeit convenience and purposive sampling presented many positives, they have limitations, particularly those of bias. The findings generated through these approaches cannot be generalised to the whole population of Consumer Sciences educators in Swaziland, owing to under-representation. Also, this bias cannot be measured or controlled, thus inferences can only be about the sample itself (Farrokhi & Mahmoudi-Hamidabad, 2012). Convenience and purposive sampling increased the chances of sampling error and bias. A prior discussion during the first National Consumer Sciences panel workshop on the research topic was therefore conducted to clearly identify educators who have valuable information. Again, purposively selecting a sample is not easily defensible as a true representativeness of the population, owing to the subjectivity of the selection by the researcher. All these drawbacks are driven by the certified reflections that demand a random selection with greater chances of generalization and inferences of findings.

Another limitation of a convenience sampling is the possibility of engaging outliers who, owing to a small sample size, can easily skew the findings (Etikan, Musa & Alkassim, 2016). However, this was overcome by purposefully selecting participants with clear understanding of the phenomenon and overall assumptions of the study, from a list of educators who indicated interest at a prior meeting on the study. Owing to its nature being qualitative, focused on generating a holistic, rich, detailed understanding of the JC Consumer Sciences curriculum, participants were selected, screening out outliers. The above limitation therefore suggests that use of convenience sampling lowers the credibility of the study. However, questions and data were given to panel educationalists at the University of KwaZulu-Natal, to ensure that the profiles of participants qualified them to participate in the study and thus solve the research questions. Although all criticism levelled against these sampling approaches are rooted in certified reflections, even natural sciences have used these methods in selection of rates for their experiments, not being able to account for the population of rates, thus using those that are readily available. Lastly, other scholars (Naidoo, Esterhuizen & Gathiram, 2009; Ndlovu, 2010; Ally, 2009; Maharaj, 2011) have used purposive and convenience sampling techniques and made similar observations as made in this study, stating that it eased the study process, saving time and money, while generating rich information about the studied phenomenon. In addition, these approaches are the best tools for selecting participants in reflection studies (Zuma, 2016; Reed, 2010; Mpungose, 2016).

5.5 Data Generation

For any research work, the most crucial part is generation of useful and accurate data that will answer the research questions (Csikszentmihalyi, 2011). The temptation at this stage is to collect data that is either excessive, incomplete, or unusable data (Wadsworth, 2011). To adequately register educators' reflections through action research, data was generated in two phases. At each phase, educators reflected through a reflective journal, a one-on-one interview, and focus groups through action research.

5.5.1 Reflective journal

A reflective journal is a record of ideas, thoughts, and experiences, as well as reflections (Walker, 2006). Reflective journals are very useful in reflecting on a number of issues and situations from different perspectives (RMIT, 2006). For this study, being grounded in a critical

paradigm, Kraft (2015) avers that a reflexive approach is nowadays widely recommended for qualitative research. This is because reflective writing enables researchers to express themselves, "their presuppositions, choices, experiences, and actions during the research process" (Mruck & Breuer, 2003, p. 3). It then become evident to all readers how the data was constructed, along with the nature of the research outcome showing clearly how it "originates in the various choices and decisions researchers undertake during the process of researching" (p. 3). This method therefore has become a useful tool for a critical paradigm, presenting clearly the researcher's "own experiences, values, and positions of privilege in various hierarchies have influenced their research interests" (Ortlipp, 2008, p. 695). Reflective journal writings thus fit well into the critical paradigm and action research, in which the researcher is part of the study. Its basic assumption is that the researcher's values must not be concealed or controlled, but must be consciously acknowledged. A study by Cohen et al. (2007) reveals that a reflective journal must serve three main functions in the research process: describing the events and practitioner's experience, for example, the questions of − What did I do/hear/see? Secondly, it must enable practitioners to interpret and evaluate those events from their own perspectives – Why am I doing this? What does this tell me about other things I already know? This suggests describing personal experiences and highlighting new perceptions and connections with other experiences or actions. Lastly, it enables practitioners to reflect on how the evidence or experience may be useful to the practitioner. For example, have I changed how I feel towards the situation? What is the next action from here?

Whilst the use of a reflective journal is now a common practice in qualitative research, particularly reflection studies (Etherington, 2004), reflective journal-writing is useful even in the learning processes of students. This provides good exposure for educators in Swaziland to extend these benefits to their classrooms. It encourages students to reflect on the learning using own judgement about content and other processes of learning. Developing the culture of identifying barriers, patterns, strategies, and challenging their own beliefs helps learners to avoid making the same mistakes. The main determination of using reflective journals in the classroom is therefore to "encourage students to be more aware of what they do, how they do it, why they do it, and for them to be able to identify useful problem solving strategies, as well as recognize their own strengths and weaknesses" (Judd, 2017, p. 1). For Phase One, the reflective activity was open, allowing educators to write down all their reflections against each curriculum concept. Each educator was provided with a grid (Appendix 1) showing only the list of the curriculum concepts. This instrument enabled me to identify the gap in their

knowledge apropos of the three reflections. For Phase Two, the same grid was provided alongside columns for own, public, and certified reflections (Appendix 2).

5.5.2 Researcher's reflective journal

This research study is based on interviews and focus groups, thus regarding the researcher as the main instrument of data generation. I therefore kept a personal reflective journal for the purposes of eliminating bias and thus making the data analysis process as visible and transparent as possible (Ortlipp, 2008). This is imperative because, as I was listening to the educators, thoughts, opinions, and feelings are developed that must be noted in a reflective journal. Apart from the interviews, I also reflected on the responses of the educators, registering their opinions and then reviewing the research questions for the next phase (face-to-face interviews). In addition, Kremenitzer (2005) agrees with Ortlipp (2008) that this strategy of keeping a self-reflective journal facilitates reflexivity to examine personal assumptions, beliefs, and subjectivities. A self-reflective journal encourages transparency during research process and thus becomes a useful instrument for readers, particularly novice researchers. As such, other researchers can also follow a clear trail of ways in which the study generated the reflections of Consumer Sciences educators on the curriculum.

Based on the above contributions of reflective journals, it is clear that they become a good tool for the reflective activity, using a microscopic curriculum framework in which educators reflected on the objectives, content, learning activities, teacher role, grouping, teaching time, resources, and assessment in the JC integrated Consumer Sciences curriculum. Here, educators' reflections (research question #1) were registered simultaneously. The reflective journal in this study was therefore driven by the certified reflections in which educators who wish to record their reflections and provide support and justification where necessary, were accorded that opportunity. This was evident, with some educators expressing themselves more extensively in the reflective journal, while being limited in the group discussion. Studies on educators in Swaziland have mostly used questionnaires and interviews. The reflective journals offered by these educators were interesting and revealing. Participants were also given curriculum documents from other countries, and a reflective model to help them understand their practice and the power of their actions. I selected reflective journals because this encourages the educators to take the initiative to be active, self-driven, allowing them also to explore the curriculum in relation to their thoughts and feelings from different perspectives. It thus

provided them with a platform on which to freely express these thoughts and feelings. It is worth noting, however, that the written records of reflective journals may be very wide, involving a wide range of concepts, issues, and perspectives. It thus took a considerable amount of time for me to read, listen, and analyse. I therefore constructed a structured form that is friendlier because specific questions and guidelines were made available. Also, I made sure that clear expectations were set out, allowing participants to understand the purpose and benefits of reflective journals from the start. The participants were given fifteen (15) days to register their reflections on the reflective journal; the participants met and planned for the next phase (face-to-face interviews). This planning helped review the questions and made participants aware of ethical issues and their right not to be recorded.

5.5.3 Face-to-face interviews with observation

The second data-generation method was through use of one-on-one semi-structured interviews. Interviews are methods of gathering information through oral quizzing using a set of pre-planned core questions. According Creswell (2003), interviews may be productive since the interviewer can pursue specific issues of concern that may lead to focused and constructive suggestions. An interview as a method of data generation, according to Neuman (2002) and Creswell (2003), permits (a) direct contact with the users, often leading to specific, constructive suggestions; (b) facilitates gathering of detailed information; and (c) requires few participants for the researcher to gather rich and detailed data. Through this method, I was able to seek and generate an in-depth account of the participant's reflections with regard to the phenomenon of the study. It involved communication between the researcher and the participant (interviewee) on the research questions. Since an interview, according to (Savenye & Robinson, 2004), aims to address pre-set research questions, interviews may be distinguished from normal talking and communication. It is therefore a systematic way of conversing through talking and listening (Kajornboon, 2005). This suggests that the interviewer must be good at facilitation and listening skills to effectively provide a two-way flow of communication. Harrell and Bradley (2009) maintain that interviews may be useful in generating a wide range of data, such as experiences, opinions, expert knowledge, and reflections. This study, therefore, used structured face-to-face interviews (Appendix 1) to generate Consumer Sciences educators' reflections of the JC curriculum they are teaching. Interviews enabled the educators to express their feelings and experiences about the curriculum.

The structured interview, according to (Corbetta, 2003), is composed of an interview schedule in which participants are asked the same set of questions in a logical sequence. This questioning technique, however, is not good for enquiries that sought a profound understanding of the phenomenon, as it tends to be rigid and does not allow probing (Creswell, 2003; Corbetta, 2003). This study therefore adopts semi-structured interviews, a non-standardised platform on which the interviewee could seek clarification of questions while being afforded the opportunity of changing the question structure. Educators were asked in general to narrate their success or failure stories in the teaching of Consumer Sciences. This enabled them to personalise the accounts, and they were open enough to either lament their bad experiences and or congratulate themselves for their achievements. While narrating their experiences, I noted that they reflected on the ten curriculum concepts, eventually asking specific questions on those they had ignored. This method is supported by the own reflections, and embraces the critical paradigm. Even the researcher has the freedom to pose questions without constraints of following a rigid structure.

Since face-to-face semi-structured interviews involves facilitation of the interview process with the aim of obtaining a deeper understanding, Creswell (2003) outlines some good moderation practices in conducting interviews. I therefore solicited advice from my supervisor on how to structure the questions in such a way that the educators opened up. This approach is in line with Murchison's (2010) advice that the greatest commandment in conducting interviews is that the researcher must always be ready to adapt to situations that present themselves. Secondly, the researcher must be in a position in which she/he is prepared to learn from others, including the interviewee. Lastly, there must be willingness to "cede some control of the research process so that your informants can help guide the research" (p. 105). These are the three fundamental tenets for conducting an interview. In addition, Kajornboon (2005) finds it necessary to prepare the interviewee and create a friendly atmosphere by first talking about general issues of participant's background as opposed to going straight into research questions. This is one of the interview strongholds: to allow body language and facial expressions which in the process helps the researcher to gain a clear understanding and thus probe for further explanations.

The participants in this study were therefore asked the first principal open question. Other questions emerged as the interview progressed, and as I probed for more information. Other questions may emerge from the responses by the interviewees. This is in agreement with Reid,

Greaves and Kirby (2017), who state that interview questions may build from one another. Interviews are conducted more than once if need be to enable participants to reconstruct themselves; this also strengthens the dependability of data. Through action research, interviews were therefore conducted on both phases. I used the semi-structured interview, as this allows for clarification and probing. Leedy and Ormrod (2010) supports that this interview type has the advantage of providing the researcher with an opportunity of deviating from the initial questions prepared, to probe the educators' reasoning, or to seek clarification on a particular issue. While interviewing educators individually, I was able to seek clarifications and justification; that put me in a good position to understand why the educators reflect in particular ways (research question #2). Also, participants informed by own reflections enjoyed this session of sharing personal experiences while reflecting on the goals, content, organisation, and assessment of the curriculum.

Face-to-face interviews are a valuable tool to record the educators' reflections, however, they have certain drawbacks as with all other forms of interview. First, they are mostly influenced by or disturbed by interviewer effects (Bernard, 2011) when the interviewer guides the interviewee in a certain direction by means of his or her behaviour. This is a serious concern driven by public reflections that demand to take control of the process. In this study, this obstacle was minimised by developing and using an interview protocol and by remaining objective throughout the session. The second drawback to using face-to-face interviews is the high level of concentration on the questions to be asked and the answers given (Kelty, 2012). This requires both listening to the participants' responses to understand what they are trying to express, while, at the same time, writing with understanding for smooth progress to the next question. This problem was overcome by my use of a tape recorder and a smartphone to record the interview with the permission of the interviewee. The final disadvantage, from the viewpoint of public reflections, is the time and cost constraints (Evans, & Rooney, 2013), as interviewees may live over a widespread area. However, Swaziland is a relatively small country; I sampled from two regions, using convenience sampling.

5.5.4 Focus groups

The last instrument used for the study was focus groups, after reflections and reviews of research questions, as shaped by the face-to-face interviews and the reflective journal. This approach gave educators the opportunity of registering their reflections on a platform on which

other participants may react to them. To direct discussions, the same interview guide (Appendix 1) was used. Prior arrangements were made with the senior inspector for the research activity to be scheduled. Focus groups have become increasingly popular as a research tool in recent years (Silverman, 2006). A focus group is "a group comprised of individuals with certain characteristics who focus discussions on a given issue or topic" (Anderson, 1990, p. 241) designated and gathered by the researcher to discuss phenomena from the personal experiences of participants. Smithson (2000) defines a focus group as an in-depth group undergoing interviews or carefully planned group discussions, using comparatively homogeneous groups to provide information around the research topic. Krueger and Casey (2014) argue that a focus group is not simply about gathering people together to talk. The group is special in its purpose, size, composition, and procedures. Participants are selected according to certain characteristics they have in common, and related to the research study. Brooker, Rogers, Ellis, Hallet and Roberts-Holmes (2010) used focus groups to study practitioners' experiences. This approach prompted a new set of interview questions. Focus groups help give insights into how participants think, and provide a deeper understanding of the phenomena being studied (Nagle & Williams, 2013). Dealing with such a group gave me the ability to capture deeper information more economically, as participants were gathered together. Also, in reflections on curriculum content, in which all educators reflected on their bad experiences of having a curriculum too broad, the focus helped capture collective reflection and possible action to be taken. A focus group provides "a more natural environment than that of individual interview because participants are influencing and influenced by others − just as they are in real life" (Krueger & Casey, 2000, p. 11). This approach was therefore beneficial to participants informed by public reflections who found this method interesting. Their contribution through focus groups yielded rich and in-depth information. This is supported by Dilshad and Latif (2013), that focus group discussions are useful in generating rich qualitative data at a rapid pace, requiring only moderate time commitment from both participants and moderator. According to Denscombe (2007, p. 115), the "focus group consists of a small group of people, usually between six and nine in number, who are brought together by a trained moderator (the researcher) to explore attitudes and perceptions, feelings and ideas about a topic". The nine (9) Consumer Sciences educators formed one focus group. Also, focus groups enable the educators to revisit their submissions when exposed to other participants' submissions. Having gathered together all the participants, it is easy to understand lessons learnt from the reflections of the educators (research question #3) and further, to take a collective, community action.

Even though focus groups present numerous benefits in generating qualitative data, Gorman and Clayton (2005) observe some limitations with the focus group interview. One main problem with focus groups is that participants tend to fabricate responses; sometimes a few vocal participants may dominate discussions and influence the findings (Krueger & Casey, 2014). However, I was competent in moderating this situation and that minimised the risk, while at the same time turning this to a beneficial learning experience. My role as a moderator was a levelling force, while allowing participants to reflect on arguments without pressure and intimidation. I observed Dilshad and Latif's (2013) suggestion on the nine crucial characteristics of a good moderator: being non-judgmental on the opinions of educators, respecting educators throughout, being open-minded and welcoming, possessing sufficient and relevant knowledge about the study, having good listening skills, possessing good leadership skills, being a good observer, being patient and flexible at all times, and being passionate in attending to participants' needs

5.5.5 Research questions that framed the study

A three-pronged set of data generation instruments (reflective activity, observation, and face-to-face interviews) was deployed. For each activity, educators' practice was viewed under the ten curriculum concepts.

Question 1: Rationale for teaching JC Consumer Sciences: Why do you teach CS?

The first question of the study was on the reasons educators had selected Consumer Sciences teaching as a major at tertiary education, and their rationale for teaching the subject. Participants confused rationale with goals in Phase One, while avoiding the question in the reflective activity. However, after sharing my rationale through the face-to-face interview, participants opened up and expressed their rationales. While reflecting on their responses I realised that these educators were not comfortable articulating that they are teaching Consumer Sciences for financial gain, or that a family member or role model teacher advised them to select Consumer Sciences as there were greater opportunities of gaining employment soon after graduating.

Question 2: What are your goals in teaching Consumer Sciences?

Educators reflected on the educational purposes for teaching Consumer Sciences that include aims, objectives and outcomes. This question was designed for educators to critically reflect on the purposes of their teaching. Almost all participants lacked an aim, while divulging more on the curriculum objectives and the outcome. Through all the data-generation activities, participants were consistent in expressing that their teaching was controlled by the objectives stated in the curriculum. The dominance of objectives extended to other curriculum concepts, such as content taught, and assessment. However, educators believe that Consumer Sciences is a practical or skills-oriented subject, thus elaborating on the outcomes, at first, without knowledge that they were referring to outcomes. I observed, therefore, that the educators act as robots in enacting the curriculum objectives. It is worth noting again that the educators were trained at the university to adhere to the objectives to the point that even the structured lesson plans demands that the objectives must be stated. However, educators were not aware that some of their objectives were, in fact, outcomes. It was only after they were given studies by Khoza (2016a) and Freeman (2005) on curriculum goals, that they realised that they had actually stated both objectives and outcomes.

Question 3: What content do you teach in Consumer Sciences?

The third question educators were asked relates to the content being taught to learners enrolled in Consumer Sciences. This question anticipated that educators would respond on the knowledge, information, skills, and attitudes developed in Consumer Sciences students. Consumer Sciences being a practical subject and classified along with Agriculture and Woodwork as a practical subject, educators were quick to point out that the knowledge they teach was a foundation for basic understanding. Learners can develop a skill in sewing, food preparation, and a good attitude towards healthy eating. This is the one concept that educators were mostly interested in, not only the ‘what’ and ‘how’ of teaching the content, but mostly with challenges in delivering the content, that was seen as being too broad and all-embracing. The issue of content coverage was always aligned with teaching time allowed.

Question 4: What teaching time do you use in Consumer Sciences?

The time concept was categorised according to certified reflections (allocated time), public reflections (looping, wasted time, transition time) and own reflections (pace and perseverance). Educators in Phase One reflected, mostly through public reflections, that time was lost to

sporting activities, thus reducing teaching time for their subject. Although educators complained of having too little time allocated to Consumer Sciences, no educators, with the exception of the three members of the inspectorate, knew what the policy recommended with regard to time allocation. The time concept was therefore reflected upon with great enthusiasm and thus related to complaints about the lengthy content. Time was also seen by educators as a great teaching resource. Teachers sometimes are at loggerheads over time overlaps and time lost through transitions and time wastage that occurs between periods.

Question 5: Grouping of students: What grouping do you use?

Educators reflected openly on students' grouping, without noticing that they had inherited a culture of using groups for practical lessons. This concept could not be missed by any participant, as it was linked to lack of resources and a teaching strategy commonly used in Consumer Sciences. Educators were expected to reflect on the types of groups used, how they group learners, and their rationale. Participants seemed to be clear on reasons for grouping students; however, the majority were doing it for their own benefit − saving time, resources, and reducing marking tasks. The series of data-generation activities and progression from Phase One to Phase Two of the action research enlightened educators in considering individualised or targeted learning that benefits not just the teacher but the learner, who cannot manage generalised teaching styles and the average student pace of taking instruction. This influenced the selection of learning activities, either by the teacher, the learner, or the group of learners.

Question 6: Which learning activities do you organise and why?

Learning activities were categorised into those curriculum centred, student centred, and teacher centred organised activities. This concept was mostly avoided by educators. However, they all acknowledged that the curriculum must employ student-centred activities; yet they were not clear on the learning activities.

Question 7: Which resources do you use, and why?

Educators were also asked to reflect on the educational resources they used when teaching Consumer Sciences, how they use them, and why they felt these were most appropriate for use in teaching Consumer Sciences. Reflection on resources was tailored to all other curriculum concepts, such as time, assessment, learning activities, and grouping, where lack of resources

was seen as a cause of all educator problems. Having known me and my external results or performance of my students at Timpisini High School, educators were interested in knowing how I managed the very scarce resources. In preparation for Phase Two, I shared my experience and that of the senior inspector on how to manage and preserve these resources. The focus group discussion resulted in a proposal to in-service educators on the use and servicing of sewing machines. As a teacher trainer, I therefore accepted that it is my responsibility to recall these teachers and offer them in-service training early in 2018. The senior inspector was therefore charged with the responsibility of liaising with the University of Swaziland, further making a request to the Ministry of Education to sponsor and supply refreshments for this exercise. The senior inspector accepted this as her role.

Question 8: Teacher role: What is your role as Consumer Sciences teacher?

This question was not answered directly by the educators, who seemed not to know their role, mostly associating themselves with role of transmitting skills to students. This makes Consumer Sciences educators feel superior to other teachers who do not possess their hands-on skills. Swaziland has a high unemployment rate, and therefore teaching skills and competencies that learners can use to generate income after completing school was seen as a major contribution to the education system of the country. Surprisingly, the educators had already tapped into numerous roles such as assessor, community development, researcher, and instructor, while reflecting on other themes.

Question 9: Location/environment: Where do you teach?

Learning environment/location was the least reflected upon. Educators were expected to reflect on the learning environment they create for learning that may be face-to-face, online, or blended learning environments. Educators at first described the geographical location of their schools, the teaching environment being in the laboratory or face-to-face in the classrooms. Participants felt no need to reflect on the environment: they considered that it is common sense that Consumer Sciences be taught either in a food & nutrition laboratory or in a clothing laboratory. Similarly, scarcity of resources for ICT, and other hardware resources such as sewing machines and ovens greatly influenced the learning environment.

Question 10: Assessment? How? Why? Purpose?

Lastly, the tenth question Consumer Sciences educators were asked, was how they assess learning. Their reflection was expected to be framed by the three forms of assessment: formative assessment (assessment for learning), summative assessment (assessment of learning), and assessment as learning. Although educators would want to impart a skill to learners, they did not reflect much on assessment for learning in practical lessons, but extensively reflected on how formative assessment such as quizzes, tests, and summative assessments were used in examinations at end of terms and at year end.

5.6 Ethical Considerations

In action research, and in other qualitative studies, particularly participative action research, the assurance of dignity, rights, safety, and welfare of participants must be the principal concern. According to Opie and Sikes (2004, p. 25), "any research that involves people has the potential to cause (usually unintentional) damage". The fundamental ethical concern in any research involving humans is avoiding harming them, and further treating participants fairly and respectfully. The researchers therefore recommended an 'acid test' for evaluating the suitability of any research methods: "Ask yourself how you would personally feel if you and your children or your friends were 'researched' by means of them" (p. 25). I reflected on this throughout the data-generation process. Similarly, Halai (2006) articulates that compensation may need to be provided, and that the participants must have been given prior information about possible harm. With regard to this ethical issue, the participants in this study have been informed about the risks and benefits involved. Furthermore, research interviews and focus groups were conducted in environments conducive and safe for all participants. These principles concerning safety (physical, emotional) of participant during the research progress are laid out in the consent form with the intention of protecting participants.

Secondly, participants in action research and biological studies, in particular, need assurance that participation in this research is voluntary, and that decisions about participation in this study are made from an informed position (Marshall et al., 2006; 2014). Obtaining informed consent was therefore a central element of social research. Consent was therefore sought from the educators (Appendix 3). They were informed that they had the right to withdraw from the study at any stage. Furthermore, assurance of confidentiality of all information on participants is a universally ethical issue (Opie & Sikes, 2004). By ensuring confidentiality, Klenke (2016) notes that the research contracts not to report private and personal data. Confidentiality of

educators in this study was maintained by limiting the access to data, and by not attaching names and identifiers of subjects to the data. Selected participants were identified using numerals − Educators 1, 2, 3 to 9. The amount of personal information received was kept to a minimum, and identifiers were changed or aggregated.

Thirdly, extra care was taken for me to be aware of any inequalities within the participating educators (Dongre & Sankaran, 2016). I provided opportunities for the less powerful to express their opinions and have them heard. This is crucial to this study because it used teachers and subject inspectors, of which the latter is likely to dominate in-group discussions, if the researcher is not sufficiently vigilant. However, participants were clearly informed, and understood that they had the right to withdraw from the research at any time. Careful studying of their inequities and giving them freedom to express themselves also minimised cases in which the educators had decided to withdraw. In addition, I ensured that the educators did not have unrealistic expectations regarding the outcome of the research process.

Lastly, the educators used in this study are all government employees, thus protocol in Swaziland dictates that a letter seeking permission to use them or to conduct the study on any government premises must be written to the Director of Education (Appendix 4). The letter seeking permission was accompanied by the research proposal, stating clearly the objectives, limitations, and methodology of the study. The Director granted me permission to conduct the study in selected Swaziland schools (Appendix 5). In addition, permission was sought from the University of KwaZulu-Natal Ethics Committee prior to data generation (Appendix 6). Data generation commenced in September/October 2017, after obtaining the clearance certificate from the University in February 2017.

5.7 Trustworthiness

According to Krauss (2005), the traditional criteria for ensuring the credibility of research data— objectivity, reliability and validity— are used in scientific and experimental studies because they are often based on standardised instruments and may be assessed in a relatively straightforward manner. However, this study utilises qualitative data that is usually not based upon standardised instruments, relying on a smaller, non-random sample. Therefore, reliability and validity cannot be strictly applied to the critical paradigm, particularly when the researcher is more interested in questioning and understanding the meaning and interpretation of

phenomena. Assessing the accuracy of qualitative findings is not easy, yet this is a prime concern for it to be usable. However, (Guba & Lincoln, 2005; Krefting, 1991; Creswell, 2003) recommend that the trustworthiness of qualitative research may be established by using four strategies: credibility, transferability, dependability, and conformability. These are constructed parallel to the analogous quantitative criteria of internal and external validity, reliability, and neutrality.

5.7.1 Credibility

Credibility in qualitative research is defined as the extent to which the data and data analysis are believable and trustworthy (Wahyuni, 2012). To establish credibility of the qualitative questions and data, the research questions were given to a panel educationists at the University of KwaZulu-Natal and the University of Swaziland to determine whether the interview questions really reflected and presented the construct and content that solved research questions. Also, frequent debriefing sessions with my superior, and peer scrutiny of the research project conducted by colleagues, peers and academics at periodic cohort seminars at the University of KwaZulu-Natal, strengthened its credibility. Lastly, I examined previous research findings on studies that viewed educator reflections to assess the degree to which the study's findings were congruent with those of past studies. Credibility is comparable to internal rationality, that is, how research findings match reality. Merriam (2001) added that credibility asks the question: "How congruent are the findings with reality?" Ensuring credibility is one of most important factors in establishing trustworthiness (Elo et al., 2014; Karlsen & Larrea, 2016). Although the philosophy underlying qualitative research points out that reality is relative to meaning that people construct within social contexts; qualitative research is valid to the researcher and not necessarily to others, owing to the possibility of multiple realities. Therefore, the readers needed to critique the extent of its credibility based on their understanding of the study. Furthermore, member validation was used, in which the educators were given the opportunity of assessing, validating, and revising the research findings throughout the data analysis process (Barone, 2004; Bryman, 2004). The intention of member validation in this study was to establish corroboration of the interpretation and explanations presented.

5.7.2 Transferability

Research findings are transferable or generalizable only if they fit into new contexts outside the actual study context (Wahyuni, 2012). Generalizability refers to the extent to which one

can extend the account of a particular situation or population to persons, times, or settings other than those directly studied (Maxwell, 2004). Owing to the small sample used in qualitative research, it is hard to imagine that the whole population would express the same opinion. Thus, transferability poses a great challenge in qualitative research, owing to the subjectivity from the researcher as the key instrument; transferability therefore poses a threat to valid inferences. Shenton (2004) notes that, since the findings of a qualitative project are specific to a small number of participants, it is difficult to prove that the findings and conclusions are valid for the larger population. I therefore overcame this threat by providing a detailed research method used, offering a rich description of the settings and context of the Consumer Sciences educators interviewed. This is what Bitsch (2005) labelled 'thick description' which enables the study to be replicated in future under similar contexts (Anney, 2014). I also described in depth the limitations of the study, the assumptions shared by the educators in Consumer Sciences, so that it is clear where and when findings are applicable. Furthermore, readers of this study are at liberty to decide for themselves the knowledge and meanings applicable to their situations. Cohen et al. (2007) also add that readers and reviewers of action research can weigh the implications of this study for themselves. An illustrative, in-depth description presented by this study provides reviewers with a database for making judgements on the possible transferability of the research findings (Bryman, 2004; Cohen et al., 2007).

5.7.3 Dependability

Dependability is comparable with reliability in quantitative studies, that is, the measure of consistency when observing the same finding under similar conditions. Dependability refers to the extent to which research findings may be replicated with similar subjects in a similar context. Reliability is problematic because human behaviour is not easily predicted − it is highly contextual (Thomas, 2010) and changes continuously in different situations and per influencing factors. Also, human beings have multiple interpretations of reality (Feltham, Hanley, & Winter, 2017) that stem from different personal backgrounds, culture, and context, or because a different researcher may not necessarily yield the same results. To establish reliability of the qualitative data, triangulation was conducted. I used multiple sources of data or techniques (interviews and focus groups in cases in which participants are not good in language) to confirm emerging findings. Also, as stated earlier, I have taught the Consumer Sciences curriculum and I am currently training teachers for the said curriculum. Clarifying the researcher's biases, assumptions, worldview and theoretical orientation at the outset of the

study (assumptions of the study) was not a problem. I also outlined the processes of reporting data in detail, thus enabling future researchers to repeat this study, not necessarily to gain the same results. The research design of this study may then serve as a prototype model. Detailing the research design and processes of report will allow the readers and other researchers to examine the extent to which proper research practices have been followed.

5.7.4 Confirmability of the findings

Confirmability is the degree to which the research findings may be confirmed or corroborated by others. It is comparable with objectivity (Shenton, 2004), the extent to which a researcher is aware of, or accounts for individual subjectivity or bias. The key criterion for confirmability is the extent to which the researcher admits his or her own predispositions (Kennedy-Clark, 2012; Miles & Huberman, 2007). To achieve objectivity, I archived all collected data in a well-organised, retrievable form, so that it may be made available to anybody should the findings or interpretations be challenged. This ensures that the study's findings are the outcome of the reflections and ideas of the educators, with no characteristics and preferences of my own. In addition, I have explained in depth, comparing paradigms, theories and methods, the weaknesses of other approaches that could have been used in the study. Lastly, an assistant researcher was used to collect comparable data. This helps eliminate researcher bias and influences.

5.8 Limitations and Delimitations of the Study

Limitations of a study are potential weaknesses and deficiencies in the study that are out of the researcher's control. Simon (2011) notes that the researcher's empowerment comes from recognising his/her own shortcomings and the shortcomings of the choices made, and then adjusting the best way possible. Leedy and Ormrod (2010) posit that assumptions, limitations and delimitations of a study are so basic that, without them, the research problem itself could not exist.

Firstly, wider coverage: for the purpose of data generation, I should like to cover more than 85% of the studied population. However, because most of the educators are spread over a wide area it is not possible to accomplish such a target with qualitative research that aims to generate rich and deeper understanding of educator reflections. This has implications on the time I could invest in data generation and in costs of collecting data. The study being qualitative was

restricted to a sample of nine (9) educators in Manzini and Hhohho regions of Swaziland. The findings of the study may not, therefore, be generalizable to other areas of the country, owing to inconsistent secondary variables such as geographical location of school and the socio-economic status, not measured in this study. However, the Ministry of Education, through the regional inspectorate, normally conducts workshops for teachers to review challenges in implementing the curriculum, and other challenges observed during previous external examinations. I therefore made use of those times to make prior arrangements with the senior inspector, so as to allow data generation.

Secondly, the research process of this study suffers from the quality of the composition of the sample. By selecting educators alone, the sample may not be sufficiently heterogeneous, owing to the fact that there are others who have a stake in the Consumer Sciences curriculum. Although the inspectors present a different group, they were also recruited from the ranks of Consumer Sciences teachers. Educators, however, are the implementers of the curriculum; it was imperative that I concentrate on their reflections. Other researchers can consider reflections of other stakeholders when proven, theoretically, that their input can enhance the curriculum.

Thirdly, a curriculum has many dimensions and thus it is impossible to study educators' reflections on all aspects of a curriculum, the curriculum being defined as the totality of all experiences by the student on the premises of the school. In order to deal with manageable data and detailed analysis, the study focuses on ways in which educators reflect on the ten curriculum concepts. Lastly, the study includes factors involved in assessing educators' reflections on the JC Consumer Sciences curriculum. Reflections were therefore studied based on educators' own perceptions, practice, and experience. It is therefore assumed that the educators were objective and honest in responding to the questions, and that they reported accurately. I used a tape recorder to minimise researcher effect and calculated or premeditated responses.

5.9 Data Analysis

There are many approaches to analysing qualitative data, yet there is no right or wrong approach, although theories and methods abound (Dey, 2005). All interviews in this study were audiotaped and transcribed. Transcriptions of the interviews were analysed using the constant comparative method through the framework analysis. Data were analysed as they were

collected through the process of coding. Through open coding, themes of educator reflections were recognised and examined in relation to the ten curriculum concepts (rationale, objectives, content, teacher role, grouping, resources, learning activities, teaching time and assessment) of the Consumer Sciences curriculum as per the guide in the Microscopic Curriculum Framework.

The concept of generating themes from data in qualitative analysis is a common useful practice widely used in thematic or guided analyses. It is an interpretive process that searches patterns to eventually provide a description of the phenomenon being studied (Smith & Firth, 2011). It therefore provides a rich and intuitive understanding of the phenomenon across complex epistemological approaches (Braun & Clark, 2006). However, thematic analysis lacks depth, thus fragmenting the phenomenon. It lacks transparency on ways in which the themes are developed, thus affecting the rigour of the research findings (Attride-Stirling, 2001). This study therefore adopted a framework analysis approach that presents a wide range of similarities to thematic analysis. Its process makes data analysis transparent and draws a clear description and interconnection between its stages of the analysis (Ritchie & Lewis, 2003, Braun & Clark, 2006). These connections and the relationship between the stages enable the researcher to move back and forth across the data until a clear account emerges (Ritchie & Lewis, 2003).

Framework analysis purposes to meet specific information needs and to provide outcomes or recommendations, although the cycle may be shorter than the grounded theory. However, it shares many of the common features of a qualitative analysis. The framework analysis consists of five (5) key stages that, however, were not undertaken in a linear fashion, as that would have required the data to be collected before analysis begins. Lacey and Luff (2001) note that framework analysis could equally be used when data collection and analysis occur concurrently. The benefit of framework analysis is that it afforded me systematic and visible stages to the analysis process, so that the supervisor and the other stakeholders, including the participants, were clear on the stages by which the results have been obtained from the data. The framework analysis is inductive, therefore this form of analysis allows emergent concepts in coding. The stages followed were: Familiarization, Identifying a thematic framework, Indexing, Charting, Mapping, and Interpretation.

5.9.1 Familiarization

This is the first stage of framework analysis after the compulsory transcription, yet it also involves transcription and reading of the data. Familiarization therefore refers to the practice of familiarising oneself or other analysers with the transcripts of the data from interviews, focus groups, and reflective journals (Srivastava & Thomson, 2009). Although the transcription process is enough, Gale, Heath, Cameron, Rashid and Redwood (2013) maintain that becoming familiar with the whole data from both audio-recordings and the transcribed texts or reflective notes is a fundamental stage in interpretation. To adequately familiarise myself with data from interviews, focus groups and reflective journals, I re-listened to all the recorded audio and compared this with the transcriptions. Although this stage may sound as good as transcription, Libetwa (2006) notes that it is an important stage, as there is some time between transcription and analysis. In addition, Gale et al. (2013) find this stage more beneficial in cases in which those involved in data analysis are different from those who conduct the study or who transcribe data. Familiarization therefore enabled me to become deeply immersed in the data, through listening to recorded audiotapes, reviewing the field notes and reading the transcripts. "Throughout this process the researcher will become aware of key ideas and recurrent themes and make a note of them" (Srivastava & Thomson, 2009, p. 75).

5.9.2 Identifying a thematic framework - coding

Identifying a thematic framework occurred after familiarization when I identified emerging themes in the data set with the help of a CAQDAS software. This stage is similar to "coding" in other qualitative data analyses methods such as the guided analysis which is developed from both a priori issues and those emerging from the familiarization stage. I carefully read the transcript line by line, applying a label (code) that defined important themes in every passage. Although these thematic frameworks are predefined in purely deductive studies, open coding is important in inductive studies in which anything can be important, such as educator reflections that can take as many perspectives as possible, e.g. beliefs, emotions, behaviours, values, and experiences that underpin reflections. In this way, it would be impossible to miss any data (Smith & Firth, 2011). Thematic framework therefore purposes to "classify all of the data so that it can be compared systematically with other parts of the data set" (Gale et al., 2013, p. 120). I therefore allowed the data to dictate the themes and issues. Srivastava and Thomson (2009), however, warn that, even though I already had a set of a priori issues, "it is important to maintain an open mind and not force the data to fit the a priori issues" (p. 76).

Thus, coding line-by-line made me aware of some data that may remain invisible because it is not clearly expressed, or does not match the rest. I observed that thematic framework is a tentative process that does not prevent further refining in subsequent research. To avoid such, Gerrish and Lacey (2010) advise that the researcher needs both logical and intuitive thinking leading to judgments about meaning, relevance, importance, and connections between issues and ideas.

5.9.3 Indexing

Indexing is a process of systematically applying numerical or textual codes along the margin to identify specific pieces of data (Gerrish & Lacey, 2010). In this study, codes representing related texts for semi-structured interviews were indexed first, then corresponding emerging issues particularly from the focus groups were grouped and presented in a matrix. Owing to numerous data being generated, and the thematic frameworks developed in previous stage, some portions or sections that support or correspond to a particular theme were annotated. The Computer Assisted Qualitative Data Analysis Software (CAQDAS) became helpful at this stage by speeding up the process, making sure that data was easily retrievable; sorting, storing and organising data to make analysis easy (Gale et al., 2013).

5.9.4 Charting data into the framework matrix

Charting is a process of using headings from the thematic framework to generate charts so that data is easy to read and compare. The indexed pieces of data were then arranged in charts, thus reducing the volumes of data in readiness for the analysis process to begin. In this study, I lifted data from original textual context and placed them into new headings and subheadings according to the thematic framework and the curriculum concepts. This charting was conducted on a spreadsheet to create a matrix, thus summarising data by category/concept from the transcription. Srivastava and Thomson (2009) advise that care must be taken while charting that data is reduced but retains the original meaning. This suggests that original interviewees' words should be retained, if possible by use of quotations. Similarly, Lê, Huss, Mshelia and Mirzoev (2015) agree that it is of paramount importance to "remember here that although the pieces of data are lifted from their context, the data is still clearly identified as to which respondent it came from" (p, 29).

5.9.5 Mapping and interpretations

Lacey and Luff (2001) assert that the main focus for this stage is to create typologies, mapping, and associations within the data, thus providing explanations based on defined concepts. To create maps and interpretation in this study, I looked for patterns, associations and explanations in the data with the aid of the visuals and plots made. This process enabled me to create a schematic diagram of educator reflections which then guided me on the interpretations of the data set. The interpretations then became useful in answering the research question; however, the "concepts, technologies, and associations are reflective of the participant" (Srivastava & Thomson, 2009, p. 79). This was achieved so that any scheme or recommendations I make reflects the true experiences, attitudes, beliefs, and values of the educators.

The framework analysis is very useful in summarizing the data during charting, thus reducing data volume, but in a systematic and transparent manner. It pronounced a clear system for ensuring that the researcher paid close attention to all pieces of data using the educators' subjective frames before the explanation and interpretation. Dey (2005) observes that, **"**the perspective of qualitative data analysis is pragmatic rather than prescriptive, introducing different possibilities without advocating one particular approach". Looking at the research questions for this study, Lacey and Luff (2001) assert that framework qualitative data analysis is good for answering the 'what', 'why' and 'how' questions. Qualitative research is an interpretative and subjective exercise; it requires the researcher to be closely involved in the whole process. The framework analysis has been commended by researchers who used it, as well-organised data, retaining links to data, having thematic analysis, case analysis, and combining examples and explanations. However, studies (Gale et al., 2013; Ritchie, Lewis, Nicholls, & Ormston, 2013) pointed out some pitfalls in the sense that it is time and labour intensive. There is therefore the danger of becoming process-focused rather than outcome-focused. I therefore decided to acquire study leave from my current employer so that I could engage myself in full-time study.

5.10 Chapter Summary

This chapter expounded on all the details of the research design, being action research and methodologies extending from research paradigm (critical paradigm), research approach, sampling, data generation, analysis, ethical considerations, trustworthiness, and limitations and delimitations of the study. These methods clearly demonstrate how this study was carried out

to answer the research questions and attain the aim of the study − to explore the reflections of Consumer Sciences educators using the JC curriculum in Swaziland. It is therefore necessary to present the research findings and discuss the reflections framed by the ten curriculum concepts as independent themes.

CHAPTER 6
EDUCATIONAL PURPOSES, CONTENT AND ASSESSMENT IN CONSUMER SCIENCES

6.1 Introduction

All disciplines have at one time defined themselves as using a philosophy that guides their practice, and thus helps them to remain focused. Consumer Sciences, as a field of study, was formed before the start of the twentieth century by a group of women, most of whom were scientifically educated and reform-oriented, as well as men who were interested in applying science and philosophy to improving everyday life. These women were irritated by lack of opportunities for educated women in the male-dominated disciplines. For a discipline, by means of its curriculum, to remain productive and relevant, it must be appreciated by the learners and instructors through the benefits and achievements recorded. Horn (1993) professed being disheartened by students who do not seem to share that pride, maintaining that other professions do not recognize the worth of such a discipline; and that society in general seems not to bestow upon women the prestige women believe their work merits. Horn added that one cannot blame the students nor our peers nor society but, she suspected that there must be something women are doing that could possibly be done better. Educators must first understand the rationale for teaching the subject, thereafter defining themselves along the philosophy of the discipline.

This rationale then guides the educator in selecting educational purposes (goals), which form the core of any curriculum, thus it outlines the boundaries for the content to be taught. Tyler (2013) presents curricular goals in the form of a question: '*What educational purposes should the school seek to attain?'* In the teaching and learning of Consumer Sciences, educators come with their own/personal goals, shared/public and the documented/technical goals with regard to the dimensions (scope, breath, continuity, integration) of the content and curriculum processes. Goals become useful during assessment, as teaching of any content uses goals as a yardstick for content taught. This chapter therefore presents findings and discussions of educator reflections with regard to rationale, educational purposes, content, and evaluation relating to addressing the research questions:

1. What are educators' reflections on the Junior Secondary Integrated Consumer Sciences curriculum?

2. Why do educators reflect on/in/for the Junior Secondary Integrated Consumer Sciences curriculum in particular ways?

3. What lesson learnt by the educators' reflections aims to improving the curriculum?

6.2 Why are they Teaching Consumer Sciences? (Rationale)

6.2.1 Rationale (Phase One)

During Phase One, educators were given a reflective activity (journal) helping them to critically think about the rationale for teaching the subject Consumer Sciences. However, recording such thoughts only benefits educators informed by certified reflections. Therefore observation, focus, and one-on-one interviews were also conducted to allow educators informed by public and own reflections to express their rationale clearly in a social setting. This was done in a relaxed environment or personalised space in which I was asking personal questions face-to-face.

The participants had to reflect on their own rationale, public rationale, and certified rationale. None of the nine participants reflected on all three rationales. Each participant identified with one form of rationale during the written reflective work. For example, only the rationales of Educator 3 and Educator 5 were derived from certified reflections that indicated a vision of the discipline supported by their knowledge and the training they have received. Educator 3 said: *"I teach Consumer Sciences because I am a qualified Consumer Sciences teacher trained in the discipline and thus every teacher in the department is expected to teach at least one Consumer Sciences class."* Correspondingly, during the face-to-face interviews she confirmed that her rationale is deeply rooted in the tertiary academic training she received as a teacher. "*I was trained in home economics for five years. I selected Consumer Sciences as my first choice through mature entry".* The rationale for being a teacher was influenced by public reflections*: "I decided to be a teacher during the first week of orientation and, my aunt who was a Consumer Sciences teacher's works related to Consumer Sciences such sewing made me see her as a leader and I decided to follow her path"*. However, this teacher had a desire for training in Consumer Sciences. "*I wanted to be trained in Consumer Sciences to acquire more knowledge in this subject"*.

The observation session, however, proved that Educator 3's rationale is greatly influenced by public reflections. While teaching a lesson on child care and development, Educator 3

consistently encouraged students to make use of the skills she imparted to them: they would be able to make clothes for themselves. In support of this, the teacher gave the example of Consumer Sciences skills obviating the need for purchasing, for instance, baby clothes. These can be sewn at home.

Educator 5 further noted that she had acquired vast knowledge and ideas from the discipline. Through her expertise she was ready to organise these ideas a meaningful way that learners can assimilate. "*My rationale for teaching JC Consumer Sciences is to organize ideas and help make knowledge more meaningful and useful to learners than just having them memorise the material"*. During the face-to-face interview, Educator 5 further elaborated that the students need concepts and ideas of the discipline for them to be able to connect with knowledge from other disciplines: *"Students need the understanding of the subject for them to connect even with other subjects and we need not to just give them skills. That understanding broadens their views. Skills can be acquired by anybody on the streets e.g. baking scones can be done even by the granny. This defines my existence, to make those connections for education to be meaningful".*

Similarly, during the observation, this teacher was explaining to the learners that Consumer Sciences is a body of knowledge, but that it does not exist in isolation. She mentioned subjects such as Agriculture and the natural sciences from which Consumer Sciences draws its knowledge.

The reflections above undoubtedly indicate that Educator 3 and Educator 5 share the same rationale for becoming Consumer Sciences educators. The common rationale is that they are trained in the discipline and thus qualified to teach the curriculum. These educators therefore consider themselves experts in the field. This is clearly outlined by Educator 5 in that she has acquired vast knowledge and ideas from the discipline. This places her in a better position to organise those ideas in a meaningful way for learners to understand. It is interesting to note that both these educators are still young, and the findings confirm East's (1980) observation that the new professionals in Consumer Sciences are confident, and they know their material. These professionals are likely to be successful in their teaching, particularly in national performance, because they remain open to finding new information, techniques, and content knowledge (Bevir & Rhodes, 2015). They are able draw upon the knowledge base of Consumer Sciences

in directing their teaching. Educator 3 and Educator 5 therefore are rooted in their certified reflections. These educators therefore do not align themselves with the dictates of an integrated curriculum that, according to Khoza (2015a), should be competence based, with more focus on acquisition of skills.

6.2.1.1 Public rationale

The rationale for Educator 9, Educator 7, and Educator 1was rooted in the public reflections associating Consumer Sciences with public identity. "*My vision in teaching Consumer Sciences is to exert the skills the subject comes with to students for daily and future use in their entire households and entrepreneurial prospects"*, said Educator 9. During the interview, she added that her rationale is to make sure that "*I deliver the syllabus to the students so that they acquire understanding and skills"*. She further elaborated on how, through Consumer Sciences, she has developed skills that she is now using after opening a catering business. Even though Consumer Sciences' areas of specialization range from nutrition, clothing, home management to housing, Educator 9 frequently justified her viewpoint and gave examples using competencies taught in food and nutrition.

Similarly, Educator 1, in her reflective journal, noted her desire to serve the community through skills and training she received. *"I joined the profession of Consumer Sciences teaching because I was enthusiastic about assisting students and communities through their children to cook proper meals for their health and be able to do things on their own. I was actually influenced by my teachers who were Sisters in my Catholic Secondary School. They were very handy, sewing our uniforms and cooking for use and we didn't lack anything. We were a complete family right in the hostel. So, I also wanted to produce a young adult who will be self-sufficient in their communities".*

Furthermore, during the interview, Educator 1 explored her rationale for teaching, that students be prepared to work on their own and start businesses: *"I want to mould up a child to live better in a society and I am about to retire next year, to me this is what Consumer Sciences has lived for….preparing the students for the future and they must shine in their communities with the knowledge they have received from us as Consumer Sciences teacher. They must be able to start their own businesses either in catering or as designers…..it is really painful you know when I see people without Consumer Sciences doing it and our students are waiting for an*

employer. Just here, in our offices, a young lady is selling to us simple fat cakes and I said to my heart…this is exactly what our graduate in Consumer Sciences must be doing".

Likewise, Educator 7 reinforced Educator 1's viewpoint that Consumer Sciences is one of those subjects that equips learners with life skills they can use to generate income and flourish. *"I want my students to learn to do things on their own and start businesses in their communities to improve the well-being of their families"*. During the observation session, Educator 7 was teaching Form 2 Consumer Sciences students a topic on commercial patterns, discouraging learners from buying or using commercial patterns. *"I teach you what is in the commercial envelope because it is in our syllabus and you must know it, otherwise, as Consumer scientists you must be able to make your own patterns"*. She further reminded them, as discussed earlier, that these commercial patterns do not fit the African figure well. When interviewed face-to-face, Educator 7 revealed that she had selected Consumer Sciences education as her first choice. *"It was my first preference because I wanted this subject to gives me skills that I can use at work and at home so that I can be able to do things on my own"*. However, she selected education because it increased her chances of gaining employment. "*I didn't like teaching initially. I was from a girl's school and those kids were naughty so really didn't like being a teacher but because it offered greater employment opportunities, I found myself in it."*

This findings clearly indicate that the rationale for these participants − Educator 9, Educator 7 and Educator 1 − to be teaching Consumer Sciences was constructed through public reflections in the form of influences from their high school teachers, parents, and from their willingness to develop a skill in their students, themselves, and the community. They therefore indicated that they had selected Consumer Sciences teaching as the first choice for professional training. They already they had some enthusiasm to assist learners and communities to prepare healthy meals that will alleviate diet-related illness; equally, they wished to impart sewing skills so that others might sew their own clothing to conquer poverty. This finding is in line with the assertion by Mberengwa and Johnson (2004) that Consumer Sciences, from its inception, has had an influence on societal needs, such as the addressing of malnutrition and the preparation of young girls to appropriately cook for their European employers. Similarly, Martinko (2013) decries the new generation children of the twenty-first century who fail to prepare healthy, homemade food and lack understanding of good nutrition. This clearly demonstrates a public need that may have driven these educators to respond to that need.

6.2.1.2 Own rationale

With the first written reflective activity, not all the participants reflected on the rationale for liking the subject. The findings reveal that there are areas in Consumer Sciences such as cooking or sewing that attracted educators to the profession. For example, Educator 8 said, *"Firstly I chose the profession as I liked cooking and sewing and as I learned and understood what it was about I had a passion for it and now I enjoy making a difference in the life of the learner (gained skills, acquired information to use now and in the future as well as changed behaviour)".*

In addition to the love of sewing and cooking participants demonstrated esteem for their subject. This was evident when observing Educator 8 teaching her students to sew fasteners and openings. She portrayed Consumer Sciences teachers as better professionals than other teachers in the school. She frequently used the phrase, *"we Consumer Sciences teachers are better because….."* She thus demonstrated love for and pride in her subject, encouraging students to follow in her footsteps. Interestingly, one of her students argued that teachers were poorly paid in Swaziland, therefore she could not take up the teaching profession. However, this debate challenged Educator 8 to justify her profession more extensively, stating that, even though they may be poorly paid, teaching Consumer Sciences is enjoyable. The teacher has had so many opportunities and more time on her side to conduct other entrepreneurial projects. This was also evident during the one-on-one interview with Educator 8, *"I choose home economics as my first choice at the university because I loved it. Although at Ngwane High School where I did my secondary education there was no fashion and fabrics I fell in love with food and nutrition. It is not like I hated the sewing part but my mother was a tailor and I hated it during that time because I had no time for myself I would be always busy helping my mother. When I reached school I developed the love for it. I also loved teaching. I never knew it had so much work though"*.

Similarly, Educator 4 expressed her love for Consumer Sciences and teaching of it, saying that her love of the subject had developed from secondary school through tertiary learning to her teaching. Her performance is now a new drive towards loving the subject. *"I applied for the Consumer Sciences education. It was a subject I liked at school and I would pass it very well. I chose it in JC and I got an A. I was brilliant; my teacher challenged me into doing Computer*

Science. Computer Science teacher advised that I sit for Computer Science even though I wasn't learning it. For Consumer Sciences even at senior level I passed it very well. I like teaching, yes I do like. Ever since I started teaching my students pass and that's encouraging. The only thing I don't like in teaching Consumer Sciences is working under pressure but I am self-motivated. Motivation is one drive and I can advise novice teacher to develop such and consider the curriculum all the time". However, during observation, Educator 4 expressed exhaustion and discouragement, mostly from the pressure of teaching larger groups and the lack of teaching resources in Consumer Sciences. She even exclaimed that "*I feel like I can just take a break or change profession….."*

Lastly, Educator 2 believes she is liberated and thus her rationale for teaching Consumer Sciences is empowerment and emancipation of the learners. "*I teach the students to take informed consumer decisions and be able to live sustainable lives through the use of skills attained in Consumer Sciences lessons theory and practical"*. Similarly, during the one-on-one interview, Educator 2 expressed passion for teaching and her love for Consumer Sciences, *"I did food and nutrition at school. I chose to be a Consumer Sciences teacher because it was a subject I never had problems with and thus I had interest in it"*. She also derives some interest from her Consumer Sciences teacher who was her role model to the extent that she began to consider critically anything currently happening to the environment and reflecting on what she could have contributed. *"I think I am ok with Consumer Sciences and I have established myself in it and relate myself very well in Consumer Sciences".* That developed desire to transmit her emancipation to others through teaching. *"And, I have a strong desire to share information. Yes I need money but you can never have enough money. I have a passion for teaching*".

Own rationale constitutes a series of self-located reasons and justifications for choosing and teaching Consumer Sciences. The rationale for Educator 2, Educator 4 and Educator 8 teaching this subject was rooted in personal or own reflections. Their justifications were either on personal development of self, the learner, or merely propelled by love and self-constructed admiration. These findings confirm Young's (2014) contention that educators of Consumer Sciences would not argue for long without the emphasis on self-development, self-awareness, and self-actualization as the ultimate reason for their actions. That is also preserved in the mission statement of Consumer Sciences (IFHE, 2016). Similarly, this aligns very well with the philosophy of Consumer Sciences challenging a curriculum to develop a person as an

individual, for her to enjoy her immediate environment. These educators therefore draw on own reflections to establish their identities within the teaching of Consumer Sciences. It also confirms that love and enjoyment of teaching the curriculum is improved (Gamedze, 2012).

6.2.2 Why are they teaching Consumer Sciences? (Phase Two)

During this phase of reflection, all the educators had developed a conception of the three domains of reflection and the importance of viewing curriculum from the perspectives of all three lenses, as prompted by the studies of Tyler, Stenhouse, and Freire.

6.2.2.1 Public reflections activating own rationale

Educators, during the second reflective activity, reflected extensively on the public rationale that was used to qualify their own rationale. Educator 2 expressed love for the subject but justified this using public reflections as this helps solve problems of the family and the society. *"I love Consumer Sciences because its prepares the students to be self-independent, family's to be self-reliant particularly in solving the problem the society is facing".* These problems include malnutrition and the inability of families to be self-sufficient. *"I therefore teach the students to be informed Consumer decisions and be able to live sustainable lives through the use of skills attained in CS lessons theory and practical"*. Similarly, Educator 4, Educator 9 and Educator 6 love Consumer Sciences for being a practical subject. Again, their love stems from its practical or skills-oriented nature that imparts learners with the capabilities to live better in society. *"I teach Consumer Sciences because I love it since it's a practical subject. I used to pass it at high school and that motivated to pick it at the university"*, Educator 4 explained. Educator 6 added that it: *"Promote better living conditions within individuals, families and the communities at large. Consumer Sciences education seeks to provide day to day activities focusing on imparting knowledge and skills to empower the learners in making informed decisions that will enable them to live independently with one another"*.

Educator 9 stated that doing well in the practical component of Consumer Sciences motivated her to love it. *"I teach Consumer Sciences because I love it since it's a practical subject. I used to pass it at high school and that motivated to pick it at the university"* On another hand, Educator 3 and Educator 7, through public reflections, engaged in Consumer Sciences activities and through the work and encouragement of siblings, but eventually enjoyed it. "*I didn't know much about it but my mother's sibling advised me to select it at the university. I just wanted*

employment by then but now I enjoy teaching Consumer Sciences and my students love me". Educator 7 added that Consumer Sciences is one of those subjects that equips learners with life skills they can use to generate income and flourish; thus she enjoyed teaching it.

6.2.2.2 Public reflections activating certified rationale

The certified reasons educators associated themselves with during the second phase stemmed mostly from professionalism and the employability of Consumer Sciences teachers in Swaziland. Educator 3 identified herself in the teaching profession as a trained professional prepared for teaching the subject. *"I am a qualified Consumer Sciences teacher by profession. I therefore teach Consumer Sciences because every teacher in the department is expected to"* and Educator 6 aligned herself with the mission of Consumer Sciences as a guide that defines her path and professionalism. "*I was trained in Consumer Sciences so I want to replicate myself in the community"*, concludes Educator 7.

Furthermore, Educator 4 and Educator 9, just as the other educators gained influence from public reflections, teach the subject because it offers employment. Educator 4 said, "*My aunt advised me to go for Consumer Sciences as there was still employment as I did not lack employment after graduating from the university"*. Similarly, Educator 9 adds that "*my mother was working as a secretary at the University of Swaziland and advised me to be a Consumer Sciences teacher as there were more employment opportunities and I am now actively involved in the Association of Consumer Sciences in Swaziland".* Figure 6.1 therefore depicts the three rationales in which public reflection/rationale was seen as entry point for either the love (own) or the training and professionalism (certified).

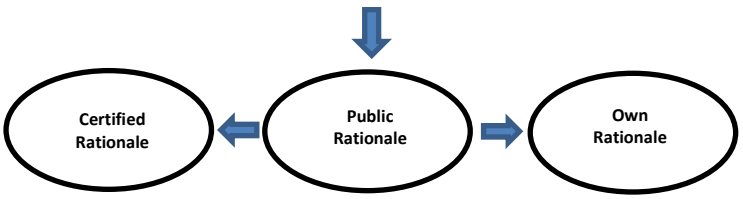


Figure 6.1 Public rationale as rationale for own and certified rationales

The findings reveal that Consumer Sciences educators learnt and developed reasons for teaching in Phase Two of the study. This has been evident with educators now reflecting on the three domains. This observation validates that reflection is essential for all teachers to continue being effective (Day, 2001). Schon (1983) argues that the public reflection (reflection-*on*-action), together with certified reflection (reflection–*in*-action), are the two forms of thinking necessary for one to interrogate his/her actions. Other scholars (Munby, 2012; Draper & Harrison, 2010; Giaimo-Ballard & Hyatt, 2012) have endorsed and validated Schon's work, ignoring the importance of own reflection in thinking. Killion and Todnem (1991) then expanded Schon's reflection model to incorporate the own reflections by including the concept of reflection-*for*-action. Furthermore, Khoza (2016d) confirmed the importance of own reflection and suggested that once educators develop their identities, they are able make good judgements of the content/discipline (certified reflections) and the skills/competence (public reflections). These three domains of thinking facilitate methodological thinking capabilities (Kolmos, 1996; Thomas, 2008).

Furthermore, the findings on the rationale for teaching Consumer Sciences may better be depicted in the Figure 6.1, in which reflections of educators indicated that, even though educators identified themselves with either certified rationale, public rationale, or own rationale, they were all attracted by public reflections as an entry point into the discipline. It may therefore be concluded that educators were influenced by their teachers, parents, and/or they have seen practical works and skills in Consumer Sciences (public reflections), thereafter identifying with these. Educators then liked the subject or loved teaching it, enjoyed teaching it (own reflections) or through training and qualifications attained, have enriched their outlook to making meaningful information and ideas that promote Consumer Sciences-related contents and knowledge.

6.3 Educational Purposes in Consumer Sciences

Educational purposes mark a set of teaching intentions in Consumer Sciences (Kennedy, et al., 2006) and these purposes, aims, objectives and learning outcomes indicate the order of generality or broadness, with aims being the most general (Noddings, 2007). Educators in action-research platforms were presented with the opportunity of pondering and considering their purposes for teaching Consumer Sciences.

6.3.1 Educational purposes (Phase One)

Educators had to reflect on their aims (own reflections), objectives (certified reflections) and learning outcomes (public reflections). However, findings of this study indicate that the educators' teaching goals were informed by public reflections during the first written reflective activity.

However, during observation and one-on-one interviews, educators indicated that their goal of enforcing learning outcomes presented as skills was outlined by the objectives of the curriculum. Educator 2's goal was to *"help learners acquire knowledge and skills which they can use to solve their day to day challenges".* Educator 7 shared the same view: *"I want to impart real-life knowledge and practical skills that can be beneficial to the learner in and outside the classroom setting"*. Educator 8 added that, beyond imparting these skills, the learner must change and be prepared for many other career opportunities: "*my goal is to transfer knowledge and skill that can change the learner, which they can use in everyday life and prepare learners for many careers under the Consumer Sciences"*. Similarly, Educator 1 also wished to impart life skills, however, her focus is on helping learners to acquire a university degree. Learners can use these skills if they fail to make it to the university: "*yes goal is to help children so that they can be something in the future even if they are not able to get to varsity they can still make a living".*

During observation, all educators had a list of objectives lifted from the policy document. These objectives, however, lacked in the affective domain: they were dominated by cognitive and psychomotor domains. When asked during the interviews, it transpired that teaching was geared towards assessment. Since the external national assessment is composed of questions from these two domains, educators believed that it was a waste of time engaging the affective objectives.

When further engaging participants in the reflection process through one-on-one interviews, all educators reinforced their goal of pushing for learning outcomes, revealing that these outcomes are a product of the objectives of the curriculum. To most of them, reflecting on the objectives was not very important, because the outcomes explain the curriculum objectives. Educator 4 further noted that, even her lesson objectives are written as learning outcomes or behavioural objectives. Educator 4, "*My goal is to help students acquire knowledge, skills and abilities in*

doing a given task based on what have been learnt. They must develop skills. Not all learners are gifted in the understanding but with skills. One of my students was very poor in the theory part but now he owns a restaurant. So I help two types of learners; those good in theory and those in the skills. However, I do not know what is lacking really with our goals or what really need to be changed because the graduates do not really become what I want. Yes they pass and get good grades but I do not see them using these skills in starting own business or just making a living. I think we as teachers are also not setting a good example before them".

Educator 7 and Educator 1 also decried the lack of good models. "*This curriculum is good for our youth. It equips them with relevant skills that both boys and girls can use to make a living. Its objectives cover areas of clothing construction and food preparation. That's what we are known off. Really without the cooking and sewing there is no Consumer Sciences but there is more on top of that, the person being developed should be able to employ others. However, these children lack a good role model even with us as teachers. We buy clothes yet we claim they will be able to make clothes for themselves though we are failing. Secondly, we are here depending on government salary instead of starting businesses. I think the scope of the goals is good but the curriculum fails to prepare or empower the child to be independent or to think beyond the daily lesson objectives".*

Educator 7 added that, *"We teach these skills and they are the expected outcomes outlined in the curriculum objectives but I feel like we are teaching a controlled curriculum with limited time, from her in JC through the university. I run a small business of baking cakes. I know it's a skill related to Consumer Sciences and I ventured into it because I had some basics but, I did not acquire this skill from training at the university but from high school. I had an interest then I viewed some video clips in YouTube. I didn't get the skill through training in Consumer Sciences. I was looking for something of interest then I saw cakes...wow! Then I viewed them on internet. Then I started baking and advertised on WhatsApp".*

Lastly, Educator 9, Educator 2, Educator 5 and Educator 3 were well enlightened on the three educational purposes. Each one of them reveals the aim of empowering or developing the learner and themselves in the teaching of Consumer Sciences as a long term goal. This will be achieved once learners attain the learning outcome within the scope of the curriculum objectives. Firstly, Educator 5 had the aim of seeing her learners being able to analyse the

relationship that exists among concepts in the various Consumer Sciences subject matter areas. "*When learners are helped to see these relationships, they are better able to formulate their own generalisations that tie together the various Consumer Sciences content areas"*. She considered the curriculum objectives the roadmap, while the learning outcomes were daily checkpoints that help her as a teacher to decide whether students are becoming proficient or changing in behaviour.

Secondly, Educator 9 aimed to finish the curriculum because successful attainment of the objective stipulated in the curriculum will lead to the attainment of skills necessary to enlighten the learners, and thus be able to transfer these to their daily lives, improving them. "*My goals for teaching Consumer Sciences are to complete the given curriculum in applying the skills of the subjects so the pupils would gain them to pass their exams and practise them in their daily lives. So, I make sure that I deliver the syllabus to the students so that they acquire the knowledge, understanding and skills and skills. These skills can help them in their daily activities. It's about transferring what they are doing in class to their life. The leaner need to know, understand and apply skill"*.

Educator 3 as well, through skills in Consumer Sciences, has established a restaurant in Matsapha that supplies food to nearby factories on an industrial site. Educator 2, Educator 3 and Educator 6 added the element of empowering self through teaching. "*I want learners to be empowered, to be able to transform their lives. To me a relevant curriculum must lead to a sustainable kind of a curriculum. If we say learners must learn content and content goes as far as the facts and content theory. We need to see the Consumer Sciences knowledge seeing our graduates to the field out there so that even the others not trained in Consumer Sciences must see that. For me, Consumer Sciences is meant to transform not just sitting in class and teach washing windows or making soups. They may be relevant but not helpful at all"*, Educator 2 noted.

Educator 3 wishes to be empowered along with the students; *"I want to empower myself and I thought teaching was the best way to empower self. Again, it was a promising source of income that would at the same time enable her to bond and socialise with learners. With learners, I wanted the learners to be entrepreneurs, not to look up for employment but to develop a skill such as drafting. While teaching, I have noticed that the more I empower my students, I get*

transformed as well. I love clothing and textile and my students are aware of that. They even come to my house for an extra lesson".

These students see her as a role model and trust her with the competences in garment construction. However, Educator 6, just like Educator 3, felt that the personal engagement with curriculum depends on how the teacher interacts with the learners in class. She advocates for socialising during content delivery for learners to be attached to both the curriculum and the teacher. *"I wanted them to see a role model. When doing fashion and fabric practical's. As we were sewing we were also talking about life issues. As they are sewing we would talk about personal issues. I would even pick up if one of them is not okay. I remember discussing in class during the sewing practical a story of one girl who was dumped by her boyfriend. It should go with the curriculum".*

6.3.2 Educational purposes (Phase Two)

For the second phase of action research, participants had a clear understanding and distinction of the educational purposes; aims, objectives, and learning outcomes. Research papers by Kennedy, et al., 2006; Khoza, 2015b) on educational vision and goals enlightened them to realise that they have these educational purposes, although they couldn't identify them. The importance of having clear goals in their teaching became evident. *"I was taught about curriculum objectives at the university and my teaching has all along been controlled by them and that made me teach like a robot. The paper by Khoza converting teacher centred objectives from Bloom's taxonomy to learning outcomes really made it clear for me. The inspector once complained that my objectives are not observable and I was chocked because they were measurable and observable but now I understand that it was the keywords I used in stating them",* testified Educator 5.

Educator 2, Educator 9 and Educator 1 have the goal of empowering the students to be responsible citizens. This may be achieved through the acquisition of skills and knowledge enshrined in the curriculum document.

Educator 2, "*My main aim of teaching Consumer Sciences is to empower students as future leaders and to gain income as an employee. I want them to be responsible citizens through acquisition of knowledge and skills which they can use to solve their day to day challenges. My*

goal is guided by objectives listed in their curriculum which is to demonstrate knowledge and understanding in relation food preparation, clothing construction and home management".

Educator 9, "*My aim is to empower students to take charge of their own lives. Life is difficult these days, unlike in our times, there is no employment. Everywhere it's saturated with exception to primary teaching. So I teach students to be the knowledge, skills and abilities they need to live a better life. However, as a teacher, I am bound to follow the objectives of the subject provided by the Examination Council of Swaziland as they will eventually be assessed based on those objectives stated in the syllabus*".

Apart from the attainment of skills of the curriculum, Educator 3 and Educator 8 want their students to develop knowledge to enable them to excel in the external examination offered by the Exams Council of Swaziland at the end of the year.

Educator 3: "*I want to help students to understand Consumer Sciences. My aim is to develop students who excel academically and get good grades at the end of the year. They need to attain skills in food preparation but I like the clothing section. All these qualities I want to see in these students are listed in the objectives of the curriculum".*

Educator 8: "*Personally I do value education and I want these children to be educated just like me. I believe education will change their lives. So my aim is to produce 'A' grade students. However, their education must be cherished in the society they live in and I believe the objectives of the syllabus can produce the ideal person".*

Lastly, Educator 6 and Educator 7 wish to impart real-life knowledge and skills that the learners can use outside school life, thus eventually developing critical and problem-solving skills. This they will see by the distinctions on the national performance.

Educator 6, *"I want to help learners to: develop knowledge, skills and attitude specifically related to wise Consumerism, good nutrition, health, hygiene, home management and family life; strengthen the well-being of individuals and families across the life span; promote nutrition and wellness across the lifespan; appreciate human worth and accept responsibility for one's actions and success in family and work; and use critical and creative thinking skills to address problems in diverse family, community, and career development".*

Educator 7, *"To impart real-life knowledge and practical skills that can be beneficial to the learner in and outside the classroom setting. Students need to exhibit and demonstrate Consumer Sciences competences at their homes and outside life. And, my aim is that my school be the best nationally in producing distinctions".*

6.3.2.1 Aims in teaching Consumer Sciences: a discussion

An educational aim is a long-term intention or general expression of educators' sense of direction that the education process must take (Kennedy et al., 2006; Mpungose, 2016). Most educators were not aware of their aims for teaching Consumer Sciences. Most educators could not differentiate between aims and objectives, except for Educators 9, 2, and 3. The study therefore had assisted them to understand the importance of aims in teaching; thus after reading articles on goals, they were able to express their aims. The findings of this study reveal that Educators 9, 2 and 3 shared the same long-term educational aims of empowering learners and transforming their thinking about Consumer Sciences and daily life. This, according to Educator 3, will be achieved when both the teacher and learner appreciate human worth and accept responsibility for one's actions and for success in family and work life. This aim concurs with the philosophy of Consumer Sciences (IFHE, 2016).

Furthermore, the educators have the aim of enlightening students to be able to formulate their own generalizations that tie together the various Consumer Sciences content areas. An aim, although a personal vision, may be tied to the content. An aim therefore points out the direction or orientation of the programme in terms of its content (Schiro, 2013). Leslie (2014) also asserts that educational aims reveal the general content and directions of the programme that includes teachers' dreams, aspirations, and strategies for the curriculum. Lastly, these aims are to enlighten, appreciate, value, empower, understand, and transform. All these aims seem to be unmeasurable and unattainable over the short term. Noddings (2003) asserts that aims are purposes of highest level of generality. Aims may be clouded with emotions and feelings and may vary with individual educators, or over time and age. For example, a teacher may teach personal beliefs and values and try to interweave these into the recommended curriculum. *"The curriculum does limit me in my teaching but as a teacher I can always find a way of incorporating my personal aims"*, Educator 2 added. In agreement, Schiro (2013) and Khoza (2016b) confirm that aims carry personal meanings that develop unique knowledge that the teacher will hold such that it develops to habitual action. These findings therefore indicate that

the aims of the educators tally with the aims of Consumer Sciences in Swaziland stated in the policy document: to appreciate that the vital role in improving the quality of life within the family is essential to social and economic development: to understand and to develop habits and practices that promote optimal physical, mental, and emotional health; to stimulate an interest in handwork, handicraft, needlework and dressmaking, inter alia, with a view to gainful occupation.

6.3.2.2 Objectives for teaching Consumer Sciences: a discussion

Educational objectives are specific and precise educational intentions that clarify the goals and the aims. Although both goals and aims are vague and not measurable, objectives are observable and/or measurable (Wang & Parker, 2013). The findings of the study indicate that educators of Consumer Sciences were clear about educational objectives. They claimed that they were trained at the university always to uphold the curriculum objectives. This was evident in all the phases and in the three data generation methods, particularly the observation. The lesson preparation in Phase One lacked a great deal of curriculum concept, but all had clearly outlined the objectives and would state the objectives before lesson delivery. The objectives guide the educators through lesson presentation. Educator 4 deferred a student question on the basis that it was not on their curriculum objectives, but for senior level, *"kindly note that the question asked by Lihle is outside the scope of our objectives for this topic but we will cover this when we reach Form 4, for those who will pass"*. The objectives were related to the topic at hand. This confirms Queen's (2017) assertion that educational objectives begin to provide formal or semi-formal information relating to content of the subject. Similarly, Kennedy et al. (2006) confirm that objectives dictate content and standards.

Furthermore, the objectives they stated were all taken from the JC curriculum policy document, stating what the teacher would do with the content and/or interaction with the students. This confirms that objectives are "statements of what the educators of the course intend to achieve during the course" (Queen, 2017, p. 2) or created according to the teachers' intentions (Khoza, 2013; Leslie, 2014; Moon, 2002). The use of educational objectives according to (Khoza, 2015a; Mpungose, 2016; Zuma, 2016) is directed by certified reflections; and thus the educators' practice of lifting them from the curriculum policy document also confirms Kennedy et al. (2006) recommendation that in all educational processes that have learning objectives for day-to-day lessons, these objectives are taken from the curriculum documents, textbooks, and

standards. The enlightenment and consistent use and observation of objectives by educators, therefore, are responsible for their success in the teaching of Consumer Sciences. Educator 2, Educator 4, Educator 8, Educator 3 and Educator 1 confirmed that what encourages them is that they were successful in their teaching: they received credits and distinctions from the national examinations which they attributed to successful completion of the curriculum topic and objectives.

6.3.2.3 Learning outcomes for teaching Consumer Sciences: a discussion

Learning outcomes are "statements of what a learner is expected to know, understand and/or be able to demonstrate after completion of a process of learning" (Kennedy et al., 2006, p. 16). Findings of the study revealed that Consumer Sciences educators' teaching and educational purposes were presented as learning outcomes. However, these educators could not distinguish between learning outcomes and objectives, and thus presented learning outcomes as objectives. Through action research, educators were transformed to differentiate clearly learning outcomes from objectives, thereafter presenting their educational purposes on aims, objectives and outcomes. *"I have always had objectives and I write up to 5/6 objectives of what I will do and what students will do or become after the instruction but now I can separate my intentions from what my students will do. I think the article by Khoza with a hierarchy of Blooms objectives being converted to learning outcome was very helpful",* said Educator 3.

Educator 5 shared the same sentiments. Figure 6.2 presents a reformed lesson plan by Educator 3 showing the distinction between objectives and outcomes.

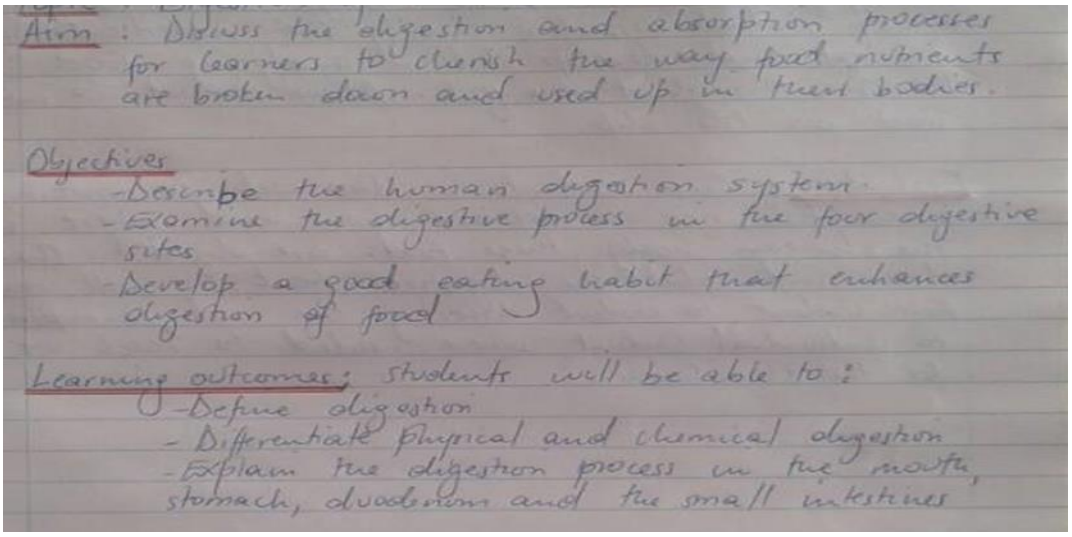


Figure 6.2 Presentation of objectives and learning outcomes

The educators presented learning outcomes as observable skills and competences that learners are expected to achieve. Studies by Khoza (2016a) and Freeman (2005) suggest that these competences and skills emphasised in learning outcomes are actually serving the expectations of the public; this was influenced by public reflections. Generally, the study findings indicate that learning outcomes in Consumer Sciences are concerned with development of skills in garment-sewing processes such as fasteners, openings, pockets, collars, hems, sleeve construction, seams, pleats, and darts; food preparation skills of preparing food for vulnerable groups (elderly, toddlers, pregnant mothers, lactating mothers, the sick, convalescents), making cakes, scones, batters, and desserts.

There are two conclusions observed here: firstly, that these outcomes were not aligned with the learning outcomes specified in the policy document, "learners to be self-reliant and specifically equipped with practical skills and creativity to meet the emerging nutritional and health needs, enables candidates to meet the needs of a changing society by being self-reliant, being observant and specifically equipped with entrepreneurial skills" (ECOS, 2017a, p. 4). Secondly, the learning outcomes were presented as evidence of what the learners had yet to achieve. This confirms that learning outcomes are written in relation to a "successful" student (Adam, 2004; Moon, 2002; McPhail, 2005), and the level of competence to be obtained by the learner (Wagenaar, 2008; Khoza, 2016a). As noted earlier, teaching seems to be controlled by objectives and focused on preparing students for the external national examination. Their learning outcomes also indicate content and level to be achieved to pass examinations (Gosling & Moon, 2001). Therefore, the educational purposes in teaching Consumer Sciences were greatly influenced by both public (outcome) and certified reflections (objective).

6.4 Content in Consumer Sciences

6.4.1 Knowledge and skills in Consumer Sciences

All educators reflected properly on the content, showing clear understanding of the content they are teaching, categorising it using the seven components/themes found in the curriculum policy document. For example, Educator 7 extensively reflected on all the seven themes in Consumer Sciences and supported her view by describing what each theme entails. *"I teach seven components of this curriculum from nutrition to Home Management. Nutrition, I teach all that concerns the nutrients found in food, their functions, food sources and deficiency disorders, food groups; Food preparation, I cover the principles of measuring food and*

methods of cooking; Clothing and textiles, I teach concepts of fibres and clothing construction processes such hand stitches, seams, disposal of fullness, pockets, sleeves, collars; Family studies, is concerned with the types of homes/houses, puberty, roles and responsibilities of family members, types of families, banking, budgeting; Child care content that includes conception, pregnancy, child care, child development; Health and Hygiene covering accidents in the home, first aid, teeth, skin; and Home management where waste disposal, choice care and cleaning of stoves, windows, glassware, plastic ware, chinaware, stoneware, aluminum and wooden equipment are studies within the JC curriculum. I think I am competent in teaching this curriculum and that's my motivation" Similarly, Educator 3 noted that her motivation comes from the external examination results: *"although there is too much work in Consumer Sciences but, I am competent in the content knowledge, particularly the clothing and textile sections"*. All others agreed that they are teaching the same aspects, although they would leave out one or two themes. They cited that they teach such themes because they have developed competence from university training. However, during the one-on-one interviews it transpired that teachers are teaching all the seven concepts as demanded by the curriculum document. The Exams Council serves as the government watchdog and as an independent body that examines learners at the end of the programme, reporting feedback as grade symbols. Furthermore, Educator 5 added that these contents are what makes Consumer Sciences: *"I teach the materials dealt with in Consumer Sciences; nutrition, food preparation, clothing & textiles, family studies, child care, health and hygiene and home management".*

Furthermore, Educator 1 added that she, as a teacher, is the one who is an expert on the curriculum and thus responsible for selecting and sequencing the content: "*I teach the syllabus, content is the syllabus documented by the Exams Council and it must be taught in totality. So, my task as an expert in the subject is to organise it and sequence the way I feel it will be manageable".*

Reflecting from the certified viewpoint, the curriculum as a body of knowledge syllabus, is the collection of the facts, concepts, principles, and theories to be transmitted to the learner (Villegas & Lucas, 2002). Reflection by these educators confirms the assertion by studies (Brandt, 1988; Bowers & Wyatt, 2004; Hira; 2013) that the field of Consumer Sciences includes content such as Consumer Education; Aid Resource Management; Housing, Furnishings, Equipment, Interior Design and Care; Individual and Family Development;

Nutrition and Food; and Textiles and Clothing. Educators were cognisant of content knowledge taught in Consumer Sciences. This is clearly outlined in the curriculum policy documents, and categorised as educators conceptualised it (themes). Jean et al. (2009) also recommended that the 'major factor in determination of the Consumer Sciences curriculum is the teacher'. Studies (Nsibande, 2007; Myeni, 1992) also confirm that, at secondary level, the curriculum content was dominated by two main areas, namely, cookery and needlework. The curriculum included aspects of Home Management, Laundry and Child Care. In conclusion, the educators are au fait with content knowledge in Consumer Sciences. (Agbulu & Ademu, 2010; Keys & Bryan, 2001) agrees with the educators that teachers are key in the teaching process rendering them as sources of knowledge. Their competence is likely to yield good academic performance of students. Educator 3, Educator 2, Educator 5 and Educator 8 confirmed that they are the best teachers in their schools when ranked with others according to JC external results. Summing up the reflections of these educators, this practice of teaching themes and topics on facts, concepts, principles and theories that the learner will use to further studies for professional qualifications is well rooted in Tyler's (2013) objective model (certified reflections). Figure 6.3 depicts such.

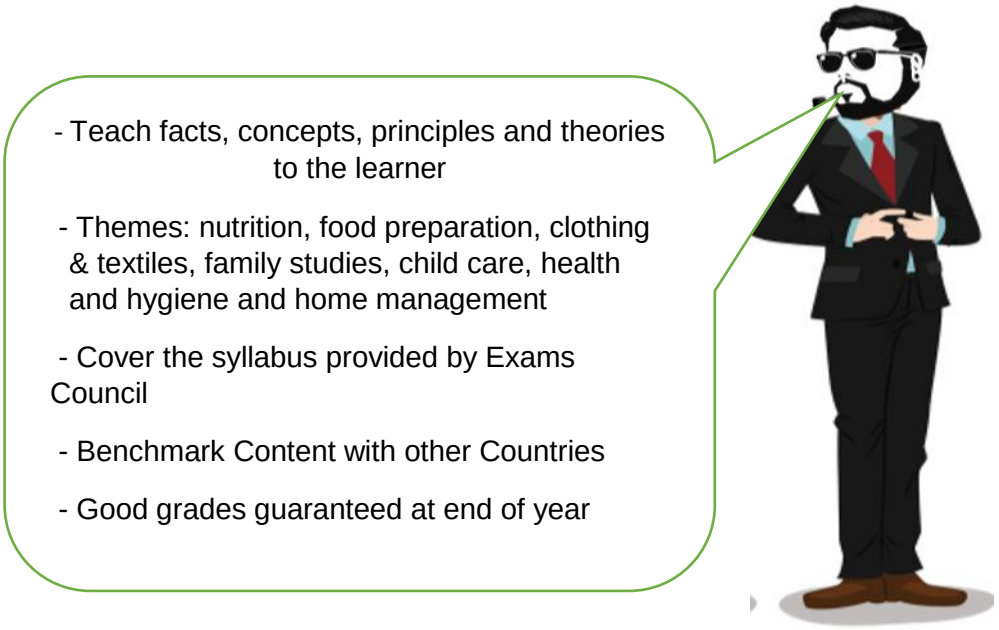


Figure 6.3 Tylerian reflection of the Consumer Sciences content (knowledge)

During the face-to-face interview, educators revealed that their practice is not only limited to the content knowledge above. They further implied that each of the Consumer Sciences themes or topics lead to a practical aspect in which they now impart a skill as application of the

knowledge or information taught during a theory lesson. This was evident as three educators during the observation session were found giving practical lessons. For example, Educator 4 taught a lesson on a plain seam and would now and again make reference to what she had taught learners in the theory lesson: *"you remember what we said is the importance of neatening a seam and the steps in neatening them last week?"* Educator 3 was also teaching Form 3s on the preparation of meals for diabetics. She first asked students to recall the principles to follow when preparing food for diabetics and the convalescents. This is a topic under food preparation. All other educators during the one-on-one interview believed that it would not be Consumer Sciences were there no application of skill. *"We teach a practical subject and we are skill oriented, so a Consumer Sciences teacher must be competent in food preparation and clothing and textile in particular. Without these you are not a Consumer Sciences teacher"*, Educator 1 commented.

Educator 2 also emphasised that, owing to the subject being practically oriented, she, as a teacher, ought to be resourceful or competent in such skills: *"the content I teach in consumer is wide from Food and nutrition, housing and interior, the consumer, and clothing. I teach theory lessons delivering information and knowledge to students. Most of the contents in Consumer Sciences are practical oriented that is why we are known as a practical subject. So, I ought to be resourceful in imparting skill or applying the knowledge practically where students now sew own clothes, develop skills in healthy food preparation and keeping the home".* The skills the educators teach are to be demonstrated by students in their societies and home. This is also carried in Educator 4's reflection point *"I also foster skills particularly in food preparation, clothing or dress making and home making. This is what the society expect from our students"*. The educators were motivated by public reflections to teach skills that the society and everybody else identifies with, or associates with Consumer Sciences.

However, these educators teach the skills within the frame of the themes provided in their curriculum document. Even the practical skills conducted or taught are suggested or recommended in the curriculum. This is confirmed by Educator 3 with own reflections on her practice in the application of skills: "*Consumer Sciences as a subject is refreshing particularly when teaching something you like. But, the curriculum somehow make it boring, e.g. the expectation to do the same practical year after year. In this arrangement I no longer learn anything or develop as a teacher. So the curriculum is oppressing me. I feel like I am in a box*

where I am limited that I cannot go beyond this. For example, there is some information that I gets from internet but that information is not in prescribed book. So, I cannot use it because during external assessment it will be marked wrong as it may not appear in standard mark scheme to be used".

Educators thereafter, through reflections, created a picture that this subject is practical, skills-oriented, and that whatever content knowledge they have in Consumer Sciences eventually develops into a skill. These skills, according to the educators, promote their reputation in the community, society knowing the skills they teach. Educator 3 added that some parents would buy sewing machines for their children just to make sure that they extended their skills outside the classroom. *"My school is in the rural areas and most parents cannot afford but some are really interested in the subject when they see what their children are sewing and go on to buy the sewing equipment for their children".* This recommendation is in agreement with Siyakwazi (1997), that the societal value and needs of the learner must be considered in the Consumer Sciences curriculum content, further recommending that it must focus on educating and alleviating the problems of the society. This is also explicitly enshrined in the curriculum document that "*this syllabus is designed to meet the requirement of the Swaziland National Education Policy on formal education. It enables candidates to meet the needs of a changing society by being self-reliant, being observant and specifically equipped with entrepreneurial skills*" (ECOS, 2017a, p. 2). A competent Consumer Sciences educator at secondary level must enable learners to acquire skills and knowledge to explore actions that can improve their well-being. Others can apply critical-thinking and problem-solving approaches in addressing current social issues. Similarly, Nsibande (2007) observes that pioneer educators in Swaziland first trained by South African teacher trainers were believed to be competent in developing Consumer Sciences-related skills, particularly on issues of diet, nutrition, and sewing skills. Correspondingly, Stenhouse's (2005) conscientization would expect these educators to develop principles of selecting worthwhile activities, socially constructed, experimenting in class along with learners. Using his ideology, Figure 6.4 depicts such conscientization being driven by public reflections.

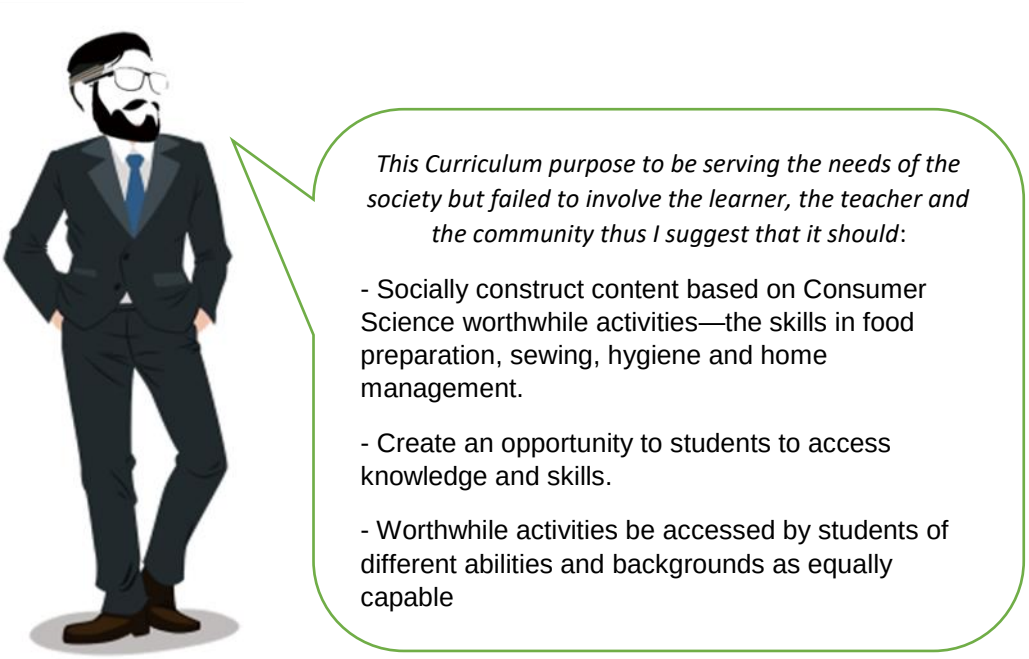


Figure 6.4 Stenhouse's reflection of the Consumer Sciences content (skills)

Furthermore, the reflection of educators, particularly Educator 2 and Educator 5, that educators are known by these skills in their society and even at school where most teacher do not understand their content knowledge but see the skills. This therefore confirms that Consumer Sciences as a body of knowledge has its own culture in which the school serves only as a "distributor of the knowledge and not manufacturer" (Stenhouse, 2005, p. 10). This content is not fully socially constructed. Educator 4 and Educator 3 observed that these skills are limited by what is provided in the curriculum document. However, it still fits well into Stenhouse's process model, in which Tyler and Stenhouse meet, both agreeing that content (worthwhile activities) is external from school and is independent, governed by the principles of each body of knowledge. The Consumer Sciences curriculum document thus provides practical activities deemed worthwhile. Educator 3, being driven by own reflections, reflected sadly that the curriculum somewhat bored her, owing to *"the expectation to do the same practical year after year. In this arrangement I no longer learn anything or develop as a teacher. So the curriculum is oppressing me. I feel like I am in a box where I am limited that I cannot go beyond this".* This therefore points to educator attitudes and beliefs about the curriculum (own reflections).

6.4.2 Educators' attitudes towards and beliefs about the content

Interestingly, all educators reflected on content coverage issues that they believed were challenges preventing them from giving their best on what they were trained to teach or what

they think must be achieved with regard to content. All reflected complaints that the curriculum is too broad, all-encompassing, therefore limiting them from exposing students to many activities and teaching methodologies. For example, Educator 4 believed that she is teaching so many things that are not even necessary, pointing out that it is the very curriculum coverage that has made it impossible for her to finish the syllabus, yet she is concerned that if they do not finish it, her students will not get good grades on the external national examinations: "*The JC curriculum is just too much. There are contents that cause stress for no reason. This makes it difficult for the students finish it or master the content. Child care is one content that we really don't need. They [students] don't need this because it is for the adults. Useful contents are from the nutrition, food preparation and the sewing and textiles. Health and hygiene must not be that deep. Family resources must go. Family living and the pests must not be part of a curriculum some of the pests even myself as a teacher, I can't even identify. Other content are there and do exist but they are just general knowledge and thus should not be taught"*, lamented Educator 4.

Another challenge concerned intentional repetition in the curriculum content offered in Grade 7, junior secondary and senior secondary. *"Our content in Consumer Sciences; I have noticed a repetition of so many things. In other cases you find that it can be better covered in career guidance or through life skills sessions. This create an overload and thus the curriculum becoming too much. For example, there is some content from accounts. Yes they do need that but the accounts teacher can tackle it better than we do. And, it is hard to find that information from our resource books. Another are drugs and substance abuse. It is being taught in natural sciences. This makes the syllabus to be lengthy",* Educator 5 noted. Educator 3, Educator 8 and Educator 1 agreed. Educator 6, however, acknowledged this challenge, but expressed that there is little that can be done about it. The repetition of the syllabus was intentional, allowing students to enrol in the subject at any phase: *"But you can't avoid that when teaching about an egg you can talk about the structure and uses. That too can also be taught in secondary and in high school. But that is not a problem because you can do the subject in secondary even if you did not do it in secondary. And, you can also do it in high school even if you did not do it in secondary or primary".* However, all other educators felt this is a serious challenge as they have to teach the same content on several levels. Educator 2 gave the example that she was teaching the same content in Form 2 (JC) and in Form 4 (Senior secondary Phase): *"This is boring seriously, I was teaching digestion and absorption' in Form 2 yesterday and today I am*

teaching the Form 4s same stuff. What makes it funny is that I was the one who taught these Form 4s in junior secondary…..so this was a repeat", Educator 2 exclaimed.

Thirdly, Educator 9 reflected with similar concerns as the others in terms of wide coverage and repetition of content within the discipline. She also indicated that this repetition extends across other subjects where content from Agriculture, Science and Commercials is taught in Consumer Sciences. "*The content is broad, nutrition, home management, textiles. I think some content is outdated. Some of the things we not supposed to teach it e.g. budgeting. They may be necessary but they can always take it from the commerce department. Some of these contents such as types of accounts are irrelevant. It need to be redesigned".* Educator 3, Educator 7, Educator 8 and Educator 1 also agreed with Educator 9 that some content is either outdated or irrelevant, and thus must be traded for appropriate subjects within the school curriculum. This leads to the question of 'What content is most appropriate for Consumer Sciences?'

The educators are losing interest in the subject although they have laid down good and positive educational purposes for the curriculum. At one point they revealed that the curriculum is outdated, suggesting that they are teaching certain content that was relevant some decades ago. This confirms McSweeney's (2014) complaint that the curriculum content has stayed broadly the same over the decades. Professionals in the discipline are resistant to accept change with regard to what society needs, particularly for the development of young adults. The question must be asked who is responsible for the change and development. Educators keep referring to unknown authorities that are not doing enough reviews by saying "they need to change it…" I observed then that stakeholders other than the educators comprise the curriculum officer at NCC, the examiner at ECOS, and the inspectorate. Surprisingly, the senior inspector is also a participant in this study. She also articulated the same concerns and is, however, waiting for educator reflections before taking action. These educators must be empowered to understand their role as stakeholders of the curriculum.

Another explanation may be that Swaziland has adopted this curriculum from the West, therefore it still reflects such but from a pre-industrialisation era. This confirms that educators took over from missionaries' wives, whose content had emphasised the training of women to be good employees (Mberengwa & Mthombeni, 2013). The researchers further observed that such curricula fail to take into account the Swaziland development needs and problems, thus educators find the curriculum irrelevant. These are contents mostly from Home Management

[concerned with cleanliness in home, cleaning windows, stoves etc.], Laundry [washing] and Child Care. These criticisms therefore open room for the basis of curriculum reviews in Swaziland. Judging from Paulo Freire's humanistic approach, these contents do not benefit the learner, and thus Figure 6.5 outlines serious concerns and attitudes the educators have developed.

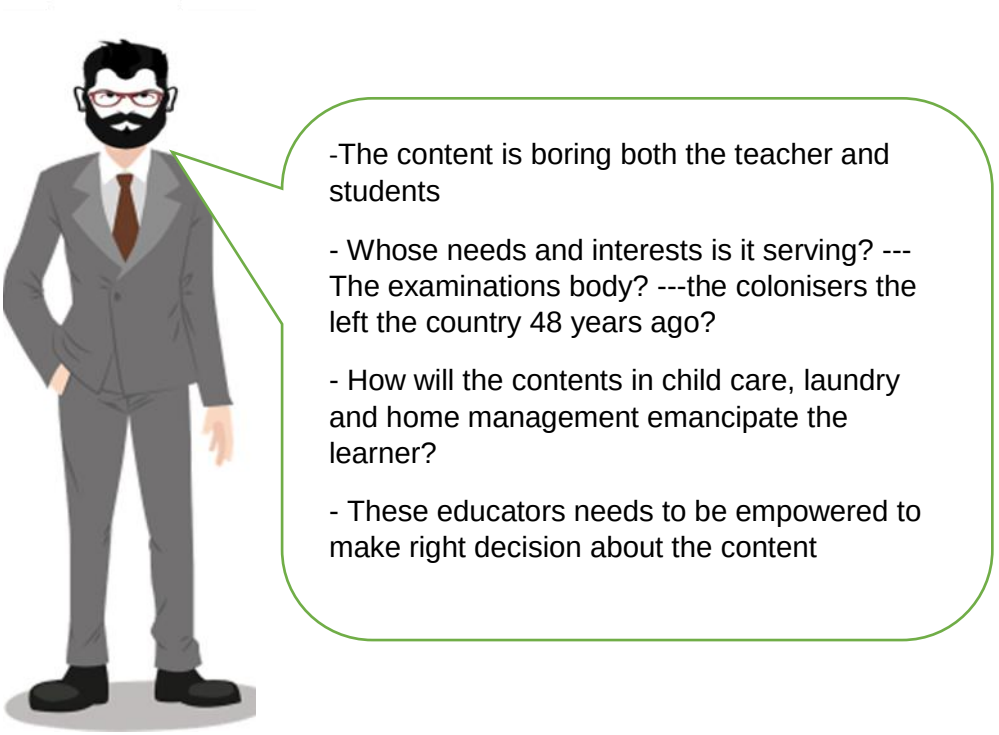


Figure 6.5 Freirean reflection of the Consumer Sciences content

The educators acknowledged that this content is necessary, however, Stenhouse (2005) asserts that the school cannot transmit the entire culture. The selection therefore must be based on what is relevant, or interesting, and that guides students towards the ultimately worthwhile. This challenges educators to take action. Educators, having learnt that they have the power to select content that is relevant and that serves the needs of the learners, is interesting to teachers and internationally recognised, eventually reflected on content best befitting Consumer Sciences in Swaziland. This move sits well in terms of Freire's humanistic view on the content, in the bureaucratic presentation by Tyler (knowledge), and with Stenhouse (skills and competence). Content needs to be of interest to the student/teacher and thus develop love and good attitude.

6.4.3 Content appropriate to Consumer Sciences

Through challenges presented by the educators on individual one-on-one interviews from both Phase One and Phase Two, with the exception of Educator 6, all educators reflected suggesting

removal of certain content that they believed was hampering the teaching of Consumer Sciences. These educators displayed a heartfelt love of the curriculum while reflecting on the educational purposes. However, they complained that this content was too lengthy, and time consuming, with some outdated or obsolete areas that restrained them from completing the syllabus. Again, during the planning before Phase Two, educators were given other curriculum documents from the SADC countries: South Africa, Lesotho, Botswana, Zimbabwe and Namibia. Educators all appreciated the South African CAPS in terms of structuring, content presentation, and documentation of teacher guide on almost all the nine curriculum concepts. They did, however, maintain that some content should be removed from this curriculum. The length of the syllabus causes the failure to expose their students to most activities that will, however, help them master the content. For example, Educator 4 noted that, *"honestly, we then dodge the students when we now brush through due to the lengthy curriculum. This is more evident with the practical lessons and unfortunately the students pay for the subject"*. Educator 1 then suggested that other unnecessary components of the content be removed, "*although the curriculum is too much other things though in these sections must be cut. It should not cover much e.g. not going too deep with for example showing development of a baby in womb, need of a pregnant mother, etc*."

Each educator's reflection resulted in the nomination of certain contents. However, most of them could not give a conclusive list. Educators were then invited for a focus group to yield a collective reflection of the curriculum content. Educator 2, Educator 8, and Educator 4 are currently studying for their Master's in Consumer Sciences education. After sharing with colleagues about the proposed discussion, all other Master's students showed interest in participating in the group discussion. There were two focus groups with 10 participants each. The group discussions therefore reflected on all the curriculum components, identifying the knowledge/information (certified reflections) they teach under each theme, the skills (public reflections) they teach, and their attitude or what they believe must be changed (own reflections).

6.4.3.1 Nutrition

This is the only theme in which educators qualified completely to give a true reflection of a content area appropriate to Consumer Sciences. This theme (nutrition in Table 6.1), together with food preparation and clothing and textiles was seen as the main focus of Consumer

Sciences. However, even though they reflected well on this theme, Educator 3, Educator 4, Educator 2 and others complained that the curriculum was not keeping pace with the changing times. It was therefore suggested that, although the curriculum is lengthy, it has to embrace new emerging issues, such as food security, genetically modified foods, and must explore dietary needs with regard to blood groups.

Table 6.1 Nutrition Knowledge, Skills and Attitudes

Information, Knowledge	Skills	Attitudes, Beliefs
Three basic food groups	Select food in relation to the food pyramid	All contents are relevant and adequately covered <u>Add:</u> Food security GMOs Diet and Blood Group
Nutrients: fats, proteins, CHO, Vitamins, Minerals		
Meal planning	Plan a variety of meals for manual workers, the sick, a pregnant mother, teenagers	
Diet and health		
Digestion and absorption		

6.4.3.2 Food preparation

Educators reflected by confirming the contents they teach under this theme and further generating skills they impart to students in food preparation. "*Food preparation is about cooking techniques. It is true everybody cooks and eat but I teach my students the science behind it particularly how best food can be prepared to minimises loss of nutrients*", Educator 8 explained. Educator 3, Educator 2 and Educator 4 shared the same view. Educator 1 added: "*the skills and knowledge I teach in food preparation can be used by the students start small businesses and make a living*". However, educators felt the knowledge and skills associated with measuring food and preparation of beverages were just general knowledge and were not beneficial to the learners. Table 6.2 shows a distribution of educator reflection on the food-preparation theme content.

Table 6.2 Food preparation knowledge, skills and attitudes

Information, Knowledge	Skills	Attitudes, Beliefs
Types of hygiene	Demonstrate good personal hygiene practices when handling food	
Measuring food	Convert metric measures into homely weights	This is general knowledge. Students already how to

		measure and convert weights
Methods of cooking	Apply the methods of cooking to appropriate food items	
Protective foods (fruit and veg)	Prepare and cook dishes using fruit and vegetables	
Energy-giving foods (cereals)	Prepare a variety of dishes using cereals	
Body-building foods(proteins)	Cook dishes using vegetable protein	
Beverages	Prepare and cook beverages	Knowledge not necessary. Their skill may be incorporated in other food preparation
Fish cookery	Cook fish dishes	
Milk cookery	Cook milk dishes and cheese dishes	
Principles of raising agents	Prepare scones using baking powder	
Cake making	Prepare a variety of cakes using rubbing-in, whisking, melting methods	
Batter making	Demonstrate skill in dishes using batters	
Sauces	Demonstrate skill in making sauces to accompany dishes	
Salads	Prepare a variety of salad dishes and dressings	
Bread making	Demonstrate skill in bread-making (yeast bread)	
Pastry making	Demonstrate skill in the use of short-crust pastry when making sweet and savoury dishes	
Protein foods - meats	Demonstrate the use and cookery of offal in different dishes	
Food spoilage		
Preservation of foods	Apply the various methods of producing preserved foods	
Table setting	Demonstrate ways and skill of setting trays and tables for a meal in the Swazi traditional way	

6.4.3.3 Health and hygiene

Health and hygiene themes concern the general care of the human body, safety, and minor ailments in the home. Reflection on this theme reveals that some content may not be necessary, or may be eliminated without causing any harm to the curriculum. Such content includes: choosing a friend, care of the skin, and HIV and AIDS. *"HIV/AIDS is done in Science and it is a core subject, so all the students are doing it. Ours and other subject is to look at how it affects farming for example in agriculture and diet related issue in Consumer Sciences"*, Educator 3 said. Educator 4, Educator 1, Educator 8 and others agreed with Educator 3. "….*but the issue of 'choosing a friend' really eish I don't know how it featured in our curriculum, it should just go*", Educator 2 said. Table 6.3 shows a distribution of educator reflection on the health and hygiene theme content.

Table 6.3 Health and Hygiene Knowledge, Skills and Attitudes

Information, Knowledge	Skills	Attitudes, Beliefs
Safety in the home		
Simple first aid	Apply first aid for the following accidents: Cuts, burns, bites, fainting, drowning, scalds and nose bleeding	
Puberty		
Choosing a friend		Irrelevant to Consumer Sciences
Care of the skin	Demonstrate the cleaning of the hands	This is general knowledge or common sense. Students have already been washing and caring for their bodies for the past 13 years
Care of the teeth		
School health services		Very old; must be updated
STIs and HIV and AIDS		This is well covered in the Integrated Sciences. Our curriculum should only cover the diet considerations for the AIDS patients
Water pollution & water - borne diseases	Prepare the rehydration solution (ORS)	

6.4.3.4 Clothing and textiles

Clothing and textiles is another theme that the reflection of educators indicated forms the main backbone of the curriculum. Educators believed that they did not give students enough time, knowledge, and skill, because time is used on other themes labelled 'useless'. *"Even at the university that what we were trained to do, clothing construction",* Educator 5 narrated, while others nodded in agreement. It also transpired that, in as much as nutrition and food preparation were equally important, educators felt the clothing theme made them stand out from other teachers. For example, Educator 7 mentioned that *"in my department everybody wants to teach the food and nutrition component but, clothing really needs the teacher to be competent in both theory and practical. Foods practical are done and completed in one day and can be repeated at any time but, with clothing, it takes the whole year and if not done properly…even someone who doesn't know a bobbin case can tell that there was something wrong with the sewing".* Educator 3 added that, as much as students love eating after the food practicals, the joy displayed by a student after successfully completed a garment to fit herself/himself cannot be described. However, even on this theme educators felt there was no longer a need to cover hand-stitching, as all sewing was now done by electric sewing machines. The same sentiment was expressed apropos of knitting and crocheting. These were seen as very old craft techniques that were, however, boring and unnecessary. Lastly, the topic of 'fibres and fabric' was approved, although the feeling was that it was too heavy for the students at their level. *"I think they should just learn the fabric construction methods and the types of fibres but not going in depth to cover processing of fibres and the properties",* Educator 5 stated. Educator 1, Educator 7, Educator 3, Educator 8 and Educator 6 agreed. Table 6.4 shows a distribution of educator reflection on the clothing and textiles theme contents.

Table 6.4 Clothing and Textiles Knowledge, Skills and Attitudes

Information, Knowledge	Skills	Attitudes, Beliefs
Sewing equipment	Demonstrate proper care, use and maintenance in operating sewing equipment. Display confidence in operating a sewing machine.	
Hand stitches	Apply the different types of hand stitches	Obsolete information. Time is long past for learners to be doing hand stitches this century. They should just learn embroidery stitches
Seams and seam finishes	Apply seams and seam finishes on samples and garment	
Disposal/ control of fullness	Apply the methods of control of fullness in garment construction	
Pockets	Attach a patch	
Fibres and fabrics		This topic is too complex for learners in secondary education, let alone at junior secondary. It must exclude the processing of these fibres because this is an industry which can never be achieved on a small scale.
Knitting and crocheting		These are very old methods of fabric construction that were replaced during industrialization. It really discourages students because this is what their grandmothers, but not their mothers, occupy themselves with
Neckline finishes	Construct and attach flat collar on a child's garment	
Armhole finishes	Attach a sleeve or armhole finish on the chosen child's garment	
Openings and fasteners	Apply button and buttonhole or centred zip fastener on a child's garment	Curriculum must not be limited to the old-fashioned fasteners but keep up with the changes in fashion

Patterns for making a simple garment	Make a garment to fit that has a minimum of six processes	
Finishing edges	Demonstrate application of edge finishes on garments	

6.4.3.5 Family Living, Laundry, Home Management and Child Care

Educator reflections from both one-on-one interviews and focus groups indicate that educators have challenges with Family Living, Laundry, Home Management and Child Care content in both knowledge taught and the related skills. Most educators unanimously reflected the challenges, further suggesting removal of these themes, mostly because they do not align well with the aims of the curriculum in Swaziland. *"I thought our purpose is to transmit knowledge, skill and understanding that these children will use in future, either after furthering their studies at university or directly after school but, laundry, child development and most of the home management is just general knowledge that for existence that cannot be used anywhere else other than passing its exam",* Educator 4 noted. Educator 3 and Educator 9 agreed with her. Educator 5 added that *"laundry people! Let's just be precise with the truth, its washing…..do we really want to teach them how to wash when they have been washing their clothes and uniforms already?"* Similarly, Educator 8 suggested removing content deemed unnecessary, "*Other things really need to be removed, and it is too broad. Family living and the pests must not be part of a curriculum, some of the pests even myself as a teacher, I can't even identify those pests. Other content are there and do exist but they just general knowledge and thus should not be taught".* Such content can discourage students from enrolling in Consumer Sciences: *"…. due to the wide covering, the students gain little understanding and some even develop bad attitude towards my subject. For example, there is some content from accounts. Yes they do need that but the accounts teacher tackle it better than we do. And, it hard to find that information from our resource books"*, noted Educator 6. Tables 6.5 and 6.6 show a distribution of educator reflections on the Family Living, Laundry, Home Management and Child Care theme content.

Table 6.5 Family Living and Laundry Knowledge, Skills and Attitudes

Information, Knowledge	Skills	Attitudes, Beliefs
Family Living		
The family and types		Obsolete information and general knowledge already understood

A home		Obsolete information and general knowledge already understood
Income and expenditure		Better covered in the commercial subjects
Marriage contracts		Not relevant. Learners are too young to understand this.
Conflicts in families		
Abuse in families		
Laundry		
Laundry equipment	Clean common laundry equipment	Common knowledge. Everybody cleans equipment. There is no need to teach it at school
Laundry cleaning agents		This must be improved such that it covers how to make these cleaning agents: soap, bleach and others for students to make a living from such production
Laundry water	Demonstrate the different ways of softening water at home (include washing soda and borax)	These are very old approaches. It is even difficult to find borax in the shops nowadays
Steps in laundry	Demonstrate how to iron, press, fold and pack garments	Common knowledge. Not necessary
Care symbols/labels on clothes	Draw and label the care symbols/labels	
Removal of some common fresh stains	Demonstrate the removal of the different fresh stains garments	
Washing and finishing of garments	Demonstrate washing and finishing of garments (include use of blue, fabric softener, and starch)	Common knowledge. Not necessary
Washing and finishing of wool and synthetic fabrics	Demonstrate the washing, hanging, ironing and finishing of wool and synthetic fabrics	

Table 6.6 Home Management Child Development Knowledge, Skills and Attitudes

Information, Knowledge	Skills	Attitudes, Beliefs
Home management		
Kitchen equipment	Demonstrate the cleaning of stoves	Common knowledge. All such equipment carries an

		instruction manual providing specific care instructions
Care and cleaning windows	Demonstrate cleaning of windows	Common knowledge
Sinks and drains	Demonstrate the cleaning of a sink and drain	Common knowledge. Remove
Refuse disposal	Demonstrate cleaning and lining of a refuse bin	
Household pests	Demonstrate cleaning of the Consumer Sciences laboratory	Common knowledge. Should be handled in agriculture under pests and animals. Some of the listed pests are no longer found. Even teachers do not know them
Child care and Development		
Menstruation and conception		
Needs of a pregnant woman	Plan meals suitable for a pregnant woman (Include traditional dishes)	We are not training these students to become pregnant. This content is way above their level. We cannot even expect them to advise their pregnant mothers
Preparation for baby's arrival (prenatal)		Irrelevant
Feeding a baby	Prepare a bottle feed	Irrelevant
Weaning	Plan and prepare weaning foods	Irrelevant
Bathing a baby	Demonstrate bathing (doll) baby	Irrelevant
Diseases and immunization	Interpret immunization at different stages (baby's clinic card and clinic chart)	Irrelevant

These contents are concerned with development of life-skills and not academic knowledge, and competences are needed to further studies at university. This therefore points back to two forces that resulted in their selection. The curriculum had two core components, cookery and clothing/needlework. These contents were incorporated later. Mabuza (2001) notes that Swaziland's esteemed indigenous education places emphasis on active involvement in the totality of society's way of life. (Sending girls to school would mean that what they were previously learning [washing, cleaning, etc.] from their mothers at home should now be taught

at school. Young girls were taught Consumer Sciences-related contents, namely, needlework, dressmaking, housekeeping, home management, hygiene, and sanitation (Dlamini, 1968). Similarly, Mgadla (2003) agrees that the traditional education did not limit itself to the acquisition of skills, but developed the whole person and these contents are simply serving that purpose.

Swaziland adopted a Consumer Sciences syllabus from her colonies and trained girls on same household work but used different or modernised methods that benefited them in developing good maids. Other studies that revised the Consumer Sciences curriculum in other countries also suggested elimination of some of these contents. Neequaye, Darkwa and Amu (2014) studied the students' perspectives on the Consumer Sciences curriculum, reporting that sixty per cent approved only science-based contents (nutrition and health; food storage and preservation) and called for removal of contents in Home Management and Laundry, after labelling them 'irrelevant' in contemporary times.

The Swaziland Education sector policy of 2011 states that the goal for secondary education is to prepare Swazi children for tertiary education. However, such content is not taught at tertiary institutions apart from in preparation of teachers' teaching of this curriculum. This content is therefore not related to any job qualification or development of any skills students can use to make a living. It runs counter to the curriculum policy document that states that the aim of this curriculum is preparing learners to be self-reliant, observant, and specifically equipped with entrepreneurial skills to present them with self-employment opportunities and a wider choice of careers. It therefore fails to serve the needs of the learner or the interests of the teacher and expectations of society. Its removal therefore paved the way for a meeting point for Tyler (professional, certified reflections), Stenhouse (conscientization, public reflections), and Freire (critical pedagogy, own reflections) as depicted in Figure 6.6. This figure demonstrates how empowering the educators developed into an attraction force [at the centre] bringing together and striking a balance between the knowledge in Consumer Sciences (certified) and the practical skills (public) understood by the community (Khoza, 2016b).

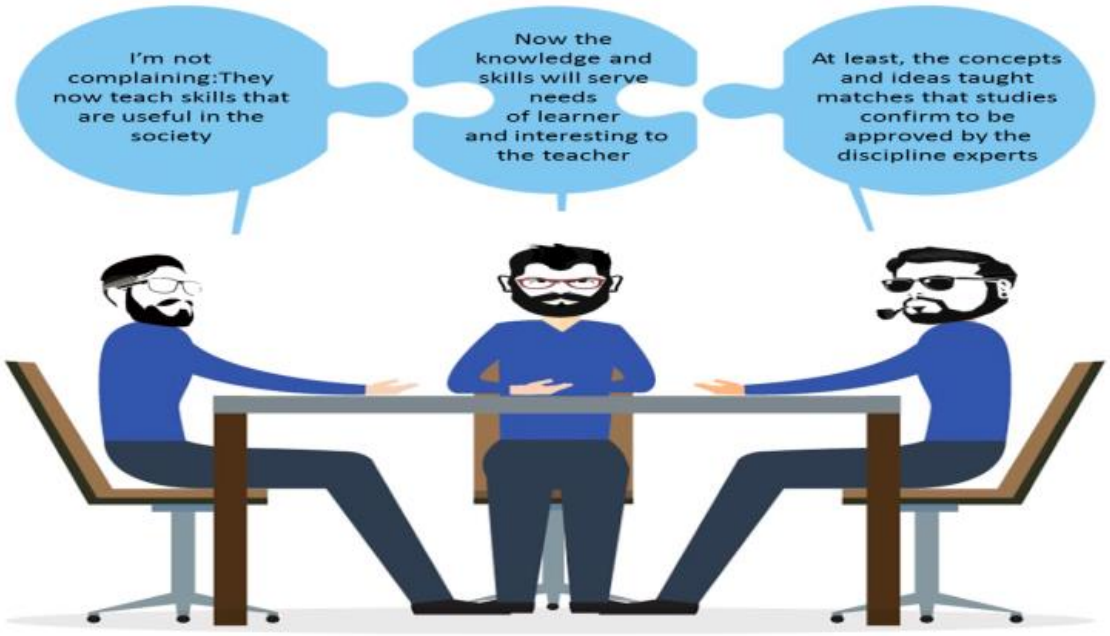


Figure 6.6 Tyler, Stenhouse and Freire's meeting point on the Consumer Sciences content

6.5 Assessment in Consumer Sciences

Assessment in Consumer Sciences is one curriculum concept that educators reflected very well from the first phase of data generation. The findings of this study indicate that the educators were quite clear on the assessment they were using and the rationale for using such assessments. Their reflections unearthed the types of assessment, reasons for assessment, and the process with which assessment is conducted in Consumer Sciences in Swaziland.

6.5.1 Assessment *of* learning

This is the assessment that Educator 5, Educator 3 and Educator 7 referred to as 'summative'. Other educators would use descriptive words indicative of assessment at the end of terms or end of the year. These assessments are exams, practical exams, and practical projects. Educator 4 noted that *"at the end, I give a mock exam for mid-term and final exam at the end of the year i.e. the theory part. For practical, garments sewn by the students are assessed and also the cookery practical there is a practical examination".* All other educators agreed that they are employing the same assessment at the same times of the year. Moreover, the year-end examinations and practical exams are set and assessed by the Exams Council. These exams must be sat on the same day and time across the country to yield standardised grades used for promotion and comparison of learners countrywide. ECOS then report results in early January

using symbols from A to G, ranking students and schools according to overall performance, per subject, and per school. *"The summative assessment, really, is not within our control because it is an external examination"*, Educator 9 noted. Educator 8 added that, owing to the protracted curriculum and the fixed dates of external examinations, they then at times teach to the test: *"at times I struggle to finish this syllabus and I have no alternatives but to teach the exam. I have taught the curriculum for 20 years now and I can predict what is likely to come out in the exam".* Educator 3, Educator 7 and Educator 1 confirmed that they have done this, but only when they were new to the school, finding pupils far behind in the syllabus.

This finding confirms Hume and Coll's (2009) notation that assessment *of* learning is driven by certified reflections based on verification of standards for ranking and judging students. The educators revealed that this is conducted through the Exams Council of Swaziland that eventually publishes results of summative assessment through local newspapers as grade symbols, making it easy to rank students and schools by performance. Other studies espoused the usefulness of assessment *of* learning, subjecting student performance to standardised criteria supported by the assessment policy of the curriculum, for example, use of percentiles that are eventually presented as symbols (Garfield & Franklin, 2011; Earl, 2003; Taras, 2005). The Consumer Sciences policy document details a clear assessment expectation and procedure offering guidelines and conduct of teachers and schools during these assessments. This suggests that the educators align themselves very well with this practice and understand clearly their role in summative assessment.

6.5.2 Assessment *for* learning

Assessment *for* learning is one assessment extensively used by the educators, and was commonly referred to as continuous assessment (CA) or formative assessment. Such assessments are either conducted during lesson presentation and overnight (quizzes, class work, and home assignment) or at the end of the week/month (topic tests and monthly tests). Once more, all educators' reflections indicate that they practise all these assessments and administer monthly tests. This has been a practice for almost all schools, which reduces any variation in educator practice. For example; Educator 3 stated that *"I ask students oral questions at the end of each lesson to find out whether or not students have mastered today's lesson or use a quiz. The school also expect that every month end I give a test".* During my observation, while Educator 3 was teaching a topic on 'family and types of families', she asked students oral

questions and gave them a quiz to write. She followed her lesson plan in doing this (Figure 6.7). It is worth mentioning that all educators during the reflective activities reflected in one word and even during the observation. All lessons had one or two assessment tasks of either oral questions or quizzes at the end of the lesson. Although some lesson plans were not specific, action research enlightened these educators on the importance of writing exactly the questions or the content of the quiz so that even if they did not attend class, the next teacher could assess the lesson the same way she would have done. For example, Educator 6's lesson planning was schematic during the first visit (Phase One): "*Evaluation: oral questions".* However, she was specific and precise in Phase Two: *"Evaluation: I will give students a quiz to label a sewing machine from their book in page 59. Using a pencil, each students will then assess own work and submit for review".* Educator 7 and Educator 9 further provided a rationale for the assessment right on the lesson plan. Their assessments were mainly designed to identify learners' weaknesses and strengths, measuring progress towards a goal.

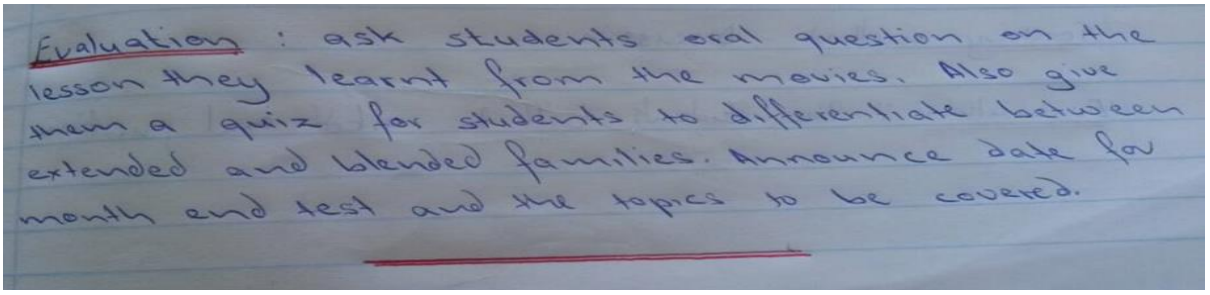


Figure 6.7. Educator 3's lesson plan on assessment

This is confirmed by Clark (2008) that assessment *for* learning is concerned with communication in the classroom. This suggests that it communicates information about student progress that will eventually be used as feedback. Educators therefore collect this information or evidence through quizzes, tests, class work, homework, and projects to present it to parents during parent meetings (Educator 3, Educator 7, Educator 9, Educator 1) or use it to qualify and justify the summative assessments (Taras, 2005). Assessment *for* learning gives educators a picture of how the learner may perform at the end of the year. In other words, a student who gains high grades in assessment for learning is expected to perform well in the assessment of learning. Black et al. (2003) also views this approach as a communication triptych of a) involvement, b) discussion, and c) feedback. Assessment *for* learning therefore adheres to public reflections in which students are continuously involved in the discussions about their progress. Focusing on the reflections of Consumer Sciences educators, it became apparent that teachers view assessment for learning as a continuous communication on the progress of the

learners. Even though the curriculum policy document does not provide educators with any guide to assessment *for* learning, nor does it specify or recommend suitable assessments, the educators had adopted good practice for continuous and regular assessment for learning. This is associated with good teaching practice (Earl, 2003; Taras, 2005; Jabbarifar, 2009; Mokua, 2010).

6.5.3 Assessment *as* learning

The study also discovered, although it did not come out clearly during the written reflective activities and interviews, that educators were driven by own reflections when administering these assessments (in class assessments, assignments, and oral questions). They have developed a habit in doing such, and although they claim it tests the objectives, my observation suggests that they were only following instructions. (This is because the educators were less concerned about assessing the whole group of student to determine whether each student had attained the objectives. However, it became obvious that only a few students answered the questions; educators would simply move on. Educators 7 and 8 asked the questions when the bell had already gone for the next period, but they felt pressed to ask at least one oral question.

Secondly, educator reflections indicate that educators had not developed a good attitude towards self-assessment, and/or using their learners to assess their teaching. Fortunately, during the planning stage for Phase Two, I shared my experience on many items I learnt from my students by allowing them to secretly assess me. During Phase Two, Educator 2 and Educator 3 were amused about the feedback they received from this assessment: *"I wasn't aware that my students note my dress code and that it affects their learning sometimes because they see me as a role model".* Educator 3 stated. Educator 2 added that *"I was shocked that some of my students think I ignore them or I ask questions to selected students who answer while they are still thinking about the question"*.

Lastly, students' self-assessment or peer assessment is conducted by all the educators but only during practical lessons. These assessments, however, do not develop into a grade. Reflections by Educators 1. 5, 7, and 8, show that they do not trust students with this exercise, labelling their students as 'dishonest' or non-objective.

This finding therefore reflects that assessment *as* learning extends the role of both educators and students to an active, engaged, and critical assessment of self and the teaching and learning

environment. However, educators demonstrated mistrust towards learners' judgement of self, while ignoring their personal assessment and its influence on their teaching. Educators therefore demonstrated lack of understanding that "learning is not just a matter of transferring ideas from someone who is knowledgeable to someone who is not" (Lorna, 2006, p. 41). However, this could be expected, as the curriculum policy document is silent on assessment *as* learning. It therefore became necessary to enlighten educators for them to continuously reflect on their own assessment and possibly provide an instructional scaffolding in self-assessment, and thus use the feedback from this monitoring to make improvements (Clark, 2008; Lorna, 2006).

It may be concluded that the educators, through certified reflections, accepted the assessment *of* learning and practised it in good faith. Secondly, that assessment *for* learning was commonly practised within their schools and across the country, helping to maintain a record and communication of student progress. However, only Educator 2 and Educator 3 had developed a habit of self-assessment through the intervention of this study. These assessments *for* learning were then reduced through own reflections to habitual practise done for no reason. Earl (2012), however, suggests that assessment *as* learning is encouraged for students and educators alike to develop the habits of mind to increase independence meta-cognitively. During the course of their reflecting, educators justified their actions.

6.5.4 Purposes of assessment in Consumer Sciences

Educators had to reflect on 'why they assess learning using formative and summative assessments' Firstly, educators revealed that they do assessment *for* and *of* learning as per expectation of the school and or Ministry of Education, through ECOS (drive from certified reflections). For example, Educator 3 noted that: *"The school administration expects a theory test monthly. However, there are many other activities in between and thus making it difficult to meet the month end expectation. Due to time I normally do one. But if I have time or after three months then I offer practical test. This is because it needs more time that is not available in the timetable. Also, there are examinations at the end of the term and at the end of the year that all schools are taking".* Educators 5, 6, 7, and 8 also agree that their schools have scheduled time for end of month tests. This suggests a strong influence from the certified reflections.

Secondly, educators administer assessments to test whether curriculum objectives have been achieved. Educator 3 reflected on the importance of topic tests, citing that they were directly measuring the objectives: "*giving out tests is more convenient. I simply turn the objectives into questions"*. Educator 2 further noted that "*I do these assessment to determine if the learners are improving, to see if objectives are met, to see the kind of children you have, screen or grade them"*. Similarly, Educator 9 added that assessment communicates feedback on the attainment of objectives: "*Summative and formative evaluation are used where necessary in my assessment as to have feedback on whether the goals and objectives of the lesson were met"*. All other educators agreed with this, stressing that assessment is a continuous communication on the objectives; it also helps them during parents' meetings to draw a clear picture of the student on the basis of the objectives. Educational objectives influence educators during assessment in Consumer Sciences; this confirms that the assessment by the educators was informed by certified reflections.

Lastly, educators used assessment to diagnose strengths and weaknesses of learners in taking instruction. Educator 8 reflected on the diagnostic part of assessment, however, lamented that, owing to shortage of time, this function of the assessment is not adequately put into practise. "*To provide learner feedback on their performance, to reinforce behaviour (studying) for passing student, to re-think or improve or strategies appropriate method for instruction. To offer feedback to parents, measure students' performance during and at the end of instruction as well as compare performance against the set objectives. However, time is not on our side, for JC really I managed to re-teach two times this year and these are difficult topic like the 'fibres'".* Educator 9 added that she assesses to see how much the pupils have assimilated and how much of a gap there is still to be filled. Then, Educator 2's reflection revealed that assessment points to the usefulness of the teaching method: *"It identify learners' weaknesses and strengths, identify which teaching methods works better for the learners".* Similarly, Educator 4 confirmed that assessment determines the strength and weaknesses, but added that it also motivates the learners and prepares them for progressing to the university: "*I make sure that the completing class (Form 3) is given the opportunity for practical so that they pass the exams with grades that can help them progress to university. I also have verbal feedback that encourages them. So I do assessment to motivate them to continue and eventually get good grades".*

Although findings of this study indicate that educators reduced in-class or assessment *for* learning employed during lesson presentation (oral questions, quiz) to an habitual activity, all educators were quick to justify why they were assessing learning. Consumer Sciences educators assess learning for reasons such as meeting the expectations of the school and/or Ministry of Education, testing the extent of achieving the curriculum objectives, diagnosing strengths and weaknesses of learners, identifying which teaching methods works, and providing feedback to learners, school administration, and parents. This finding concurs with literature that assessment is a process of viewing the curriculum or learners' strengths and weaknesses against the set educational objectives (Tyler, 2013; Mokua, 2010). These scholars, being objective and informed by their certified reflections, demand that there must be evidence in the form of grades from assessment: "*unless there is some clear conception of the sort of behaviour implied by the objectives, one has no way of telling what kind of behaviour to look for in the students in order to see to that degree these objectives are being realised*" (Tyler, 2013, p. 111). Taras (2005) added that assessment calls for feedback that points to a gap between the actual level of student performance and some direction on ways in which student work may be improved. This suggests a change of instruction or methodology of teaching to improve teaching and learning.

6.6 Chapter Summary

This chapter presented the reflections of educators on the contents (knowledge, skills and attitude) and assessment in Consumer Sciences (assessment *of /for/as* learning). The findings indicate that the contents in Consumer Sciences are dominated by influences from both certified reflections (knowledge, information, concepts, theories), and public reflections (skills, practical, competences), while educators are being controlled by these forces and thus lack clarity and the rationale for inclusion of certain contents.

Similarly, the assessment in Consumer Sciences is controlled by both certified reflections (assessment of learning), and public reflections (assessment for learning), while lacking self-assessment and peer-assessment on the part of both students and teachers. Intervention in this study through action research empowered educators to make their voices heard as makers and implementers of the curriculum. Educators, therefore, realised that they must take action in reviewing the curriculum so that it reflects the interests and needs of the learner. Teachers must understand how assessment *as* learning can improve their teaching.

CHAPTER 7
ORGANISATION OF EDUCATIONAL EXPERIENCES IN CONSUMER SCIENCES

7.1 Introduction

Generally, a curriculum may be organized either horizontally or vertically. Horizontal organisation relates to the sideways design or arrangement of elements within or in relation to other areas of study. When detailed, organisation involves careful planning of the learning environment that includes teaching strategies, instructional materials, time allocation, interaction between teacher, student, and environment, and pedagogy. Furthermore, the learning experiences to be organised may be arranged by time, human, and financial resources. Efficiency comes with availability and proper organisation, for it is not possible to be effective without careful planning and appropriate organisation. However, these resources in Consumer Sciences as a practically oriented subject are very scarce. Kunkwenzu (1997) notes that there is a serious problem in the organisation of learning experiences in African Consumer Sciences. Scholars (Mberengwa & Johnson, 2004; IFHE, 2016; Street, 2006; McGregor, 2012) who have studied the teaching of Consumer Sciences all suggest adherence to researched/certified means of organising learning experiences. This suggests adopting Tyler's (2013) definition of learning experience as the interaction between the students and the external environmental factors. Tyler maintains that the teacher has a critical responsibility (teacher role according to Thijs and van den Akker (2009) of raising these experiences for learning to take place. Organisation of learning experiences, therefore, involves arranging students in teachable groups (grouping) within a given time (time and location) to conduct some activities (learning activities), with the aid of relevant materials and resources. This chapter therefore explores the findings and discussions of Consumer Sciences educators' reflections on time, grouping, resources, learning activities, and location to answer the following research questions:

1. What are educators' reflections on the Junior Secondary Integrated Consumer Sciences curriculum?

2. Why do educators reflect on/in/for the Junior Secondary Integrated Consumer Sciences curriculum in particular ways?

3. What lesson may be learnt from the educators' reflections, for the purpose of improving the curriculum?

7.2 Teaching Time in Consumer Sciences

According to the APS Group Scotland (APSGS) definition, instructional time comprises all the time educators and students use for the purpose of attaining educational purposes. This definition embraces the study times, preparation time, actual learning time, transition time, and examination times (APSGS, 2011). Educator reflections on when are they teaching Consumer Sciences were expected to be driven by either certified reflections (allocated time, time-on-task, academic learning time and engaged time), public reflections (transition time, looping) and own reflections (perseverance, pace). The findings of this study hold that the teaching of Consumer Sciences is greatly influenced by both certified and public reflections. This suggests that educators ignore that their own teaching pace and students perseverance affect teaching. The one-on-one interviews and observations reorganised the time concept in teaching Consumer Sciences to allocated time, recommended time, looping, time wastage, rolling timetable, pace and perseverance.

7.2.1 Allocated time vs. recommended time

All educators reflected on allocated time but with different time allocated in the various schools, ranging from 35 minutes to 55 minutes per period. These periods are either as short as 35 minutes (Educator 4), lengthy at 50 – 55 minutes (Educator 9 and Educator 3) or moderately long at 40 – 45 minutes. The educator reflections state that optimal duration for teaching Consumer Sciences is between 40 to 45 minutes. This conclusion is not only based on the fact that most (six) educators were found using such a period duration, but is based on Educators 4, 9, and 3 reflecting on challenges associated with short and lengthy periods. Educator 4 observed that 35 minutes is too short, and has negative effects on the practical lessons. Even though she has double periods (70 minutes) allocated for the practical lessons, she complained that very few lessons can be completed within that time, compelling her to use her personal time to conduct those practical lessons: *"Each period is 35 minutes. Our two periods then are 70 minutes and it's difficult. Only few practical can be finished in 70 minutes. Then I normally do it on Saturdays because we always have arguments with the other teachers because our lessons normally spill over to the next class".* Similarly, reflections by Educator 9 and Educator 3 indicate that the 50 or 55 minutes is too much for the students to endure. Even though they complained that the time they had was limited and thus they are unable to complete the syllabus, I noted during observation that their students exhibited signs of exhaustion, and kept yawning and stretching themselves. This suggests that the limited time according to each educator was

calculated in relation to the number of periods allocated in that particular school. This therefore leads to the question of how much time should be allocated to the teaching of Consumer Sciences.

Educators reflected on the challenges they experienced and on the limited time they have. None of them was clear, however, on how much time is recommended for the curriculum. This suggests that it may be difficult to conclude, as they claimed, that the syllabus is too lengthy. It is possible that the allocated time does not tally with recommended time. Secondly, educators expect school administrators to allocate Consumer Sciences 'more' time without specification of how much time is adequate. In the case of Educator 4, even though she is not sure of the number of periods she should be allocated, 4 periods per week/cycle is definitely too little at 35 minutes per period: *"there is a lot of content to be covered whilst there is less time allocated for it in the timetable".* All other educators indicated that the number of periods per cycle is insufficient for covering the amount of content in Consumer Sciences. This problem in allocation of teaching time could be expected in this curriculum because both the Swaziland education policy sector for 2011 and the Consumer Sciences curriculum documents are silent about the recommended school period for secondary schools or period duration and number of periods to be allocated (allocated time) for Consumer Sciences. This explains why the educators were not satisfied with the allocated time. Similarly, the school administrators have no document guiding them on the allocation of instructional times for the curriculum. The practice of allocating too little time for teaching as gleaned from the educators' reflections, concurs with findings from studies (Loewer, 2009; Hollowood et al., 1994) that schools tend to assign minimal time to instruction. However, subjects with practical orientation such as Consumer Sciences need more periods or even double periods to allow and support teaching and learning activities, thereby increasing student engagement (Farenga & Ness, 2015; OECD, 2014). Other studies (Loewer, 2009; Kerr, 2015) therefore suggest that allocating too little time for instruction directly affects the performance of the students. This was evident in the educator reflections that this affects their teaching: *"limited teaching time hinders me from experimenting many teaching methods that can be beneficial to my students but they need a lot of time that I don't have",* Educator 3 lamented. Other educators agreed with Educator 3 while citing that they therefore use Saturdays and holidays to cover the syllabus. Notable is that all educators reflected with conviction that the allocated time is outside their control, that the

curriculum designers and school authorities are responsible for regulation of allocated time. This suggests that allocated time is influenced by certified reflections.

7.2.2 Looping in Consumer Sciences

Looping is a time concept endorsed by public reflections in the classrooms that leads to a continuous relationship and communication between students and the teacher as the teacher progresses with the students to the next level. The JC Consumer Sciences curriculum is taught from Form 1 to Form 3 and thus looping is a possibility. Educators' reflections indicate that educators practising looping finding it beneficial to both the students and themselves. Educator 7, for example, noted that looping makes each educator put more effort into her teaching, and assume sole responsibility for the performance of students as evinced by the external examinations at the end of the third year (Form 3); *"we do looping because if not, the other teacher does not put more effort or that will not be responsible as she knows that anyways next year she won't be with that class".* For the students, educators noted that looping carries benefits. Learners develop rapport with a teacher and further assert that students are likely to perform well academically when taught by the same teacher throughout. Educator 7 continued*: "we once combined students with intention of separating them later in Form 2, where they were assigned a new teacher. This arrangement affected the learners to the point that their performance dropped. They cited changing teachers as main problem...that they are not used to the teacher. However, they picked up after some time. But they don't like it really. E.g. as you teach them in JC, they want to know who will take them for FF and FN in senior secondary before selecting the subject".* Once learners develop such rapport, they wish to continue under the instruction of that teacher even in the senior phase. Similarly, Educator 4 narrated her experience suggesting how educators and students get attached through looping: *"this is a very effective practise. It develops a sense of responsibility. It also helps the students because they develop rapport with the teacher. I was once out of school for some time when I had to nurse my son in hospital. My students refused to be taken by my colleague in their project or practical. They do not believe other teachers can teach them the way I do. I also learn to understand their capabilities and personalities and that helps in my teaching".* Again, the reflection by Educator 4 suggests that both educators and students benefit from looping, and consequently, the teaching and learning process is improved. Lastly, Educators 6 and 2 observed that looping prevents unnecessary time lost during the transition period when teacher and students get to know one another.

The observation by Educators 6 and 2 concurs with findings by McLeod et al. (2003) who celebrated looping after observing that looping eliminates transition time, thus allowing the teacher to thoroughly explain concepts. In the end it is the students whose educational needs are met. Similarly, other studies (McCown & Sherman, 2002; Roberts, 2003; Bogart, 2002) report a positive influence of looping on academic achievement. Looping creates long-term relationships or interaction, and teacher-student progression in which students and their teacher remain together as a team for two to three years. Looping is therefore influenced by public reflections. Furthermore, the study yielded positive educator reflections on looping even though the Consumer Sciences curriculum policy document is silent about it. Educators acquired this practice through public reflections: it worked well for their teaching. The educator reflections on looping, therefore, have answered in the affirmative the 1913 question communicated through a memo by the U.S. Department of Education:

> "Shall teachers in graded city schools be advanced from grade to grade with their pupils through a series of two, three, four, or more years, so that they may come to know the children they teach and be able to build the work of the latter years on that of the earlier years...?" (Mahoney, 1916, p.5).

7.2.3 Time wastage

Educator reflections indicate that educators were consistent about limited time and further pointed to time wastage as another setback. This suggests that, apart from the fact that the allocated time is too short, the situation is worsened by time wastage during the second term (May to August). For example, Educator 2 noted that teaching time is shrunk by sporting activities that interrupt teaching: *"Again I teach on Saturday because much time is lost through sporting activities during the second term. My school is very good in sport and as a private school, it has almost all the sport facilities so the participation of student take long thus consuming much of the teaching time".* Educator 4 also shared the same sentiments, suggesting that the more the school wins ball games, the more they progress from circuit to regional and national competitions, resulting in more time being spent on sport: *"time is wasted yet there is this second term where a lot of time is waited on sports. My school participate strongly in football and the school soccer players are recruited from local teams in the community and that means we compete till the national competitions which means more time wasted as there would be no classes when there are ball games. The effects can be seen mostly in the clothing coursework"*, Educator 4 complained. All other educators were affected by the sports during

the second term but this hit hard on Educators 4, 2, 3, and 9, their schools being good at football and thus compete till the end of the term. Educators therefore try to cover lost time by teaching during holidays and on weekends. The educators are committed to helping their students complete the curriculum before the date for external examinations in November. These reflections concur with Mabuza's (2014) findings that teachers in Swaziland are challenged by too much time wasted on sporting activities when subjects such as Consumer Sciences demand more time for their practical work. Furthermore, during the observation session, I noted that the educators also contribute a great deal towards time wastage, although this may be insignificant compared with that lost to sporting activities. Educators waste time during transition of periods. This is mainly because the Consumer Sciences laboratories are far away from the other classes, yet students move from their normal classes to the labs. Also, Educators 8, 5 and 4 wasted much time asking same question when it was obvious that students did not have correct answers. This was also observed by Dlamini (2013), that a great deal of time is not just wasted on-the-task but on quiet spots and arrangements of learners, particularly in demonstrations for Consumer Sciences. Another study confirms that this is common in Consumer Sciences, where a student may wait the whole period for the teacher of the clothing and textile class to check one sewing process (Mantyi-Ncube, 2012). Educators fail to account for the accumulated small pieces of time lost each day. Similarly, Simelane (2007) considered this as a major problem in Consumer Sciences in which lessons are normally conducted in laboratories that are far from the mainstream classroom in which students reside. Transition time, therefore, eventually decreases the allocated time for instruction. This suggests that, while students wait, there is no progress, no instruction. The time wastage through sporting activities would, however, be expected in this curriculum, as both the Education sector policy and the Consumer Sciences curriculum policy document are silent on provision and management of sports at schools. The education sector policy only recommends provision of sports in Swaziland schools for students' health and physical fitness purposes. The policy does not specify how such should be incorporated in the school curriculum, thus leaving it to individual school administrations to reduce teaching time for sport or even suspend teaching for the whole day in preparation for oncoming sports competitions. Phase Two of the study and the Focus group discussion enlightened educators on other activities and practices they should avoid to save time, such as limiting transition time, leaving students with another teacher when absent, and developing printed notes as opposed to writing notes on chalkboards. The senior inspector

was also charged with the responsibility of sensitising the issue of sports during their regular meetings with school principals.

7.2.4 Pace and perseverance

Teaching pace and students' perseverance in handling instruction is one time concept that educators were not aware of in the first phase. During the planning for Phase Two, educators were given PISA (2013) writings on factors or indicators associated with students' drive and motivation, along with curriculum documents from neighbouring countries, for them to learn how time can affect teaching and learning negatively through teachers' pace and duration of lesson. This, therefore, accounts for own reflections in controlling the teaching speed. The educators appreciated the teaching guidance offered in the CAPS Consumer Studies and wished the Swaziland curriculum could be structured this way. For example, Educator 3 attested that*: "I think the South African curriculum is very clear, providing time durations with which a teacher is expected to finish a particular topic. I really struggled in my early years of teaching for some time I would think I am too fast or too slow"*. Educator 6 added that, owing to the nature of the syllabus, however, it was difficult to consider perseverance, and that all teachers were focused on maximizing the pace. The South African CAPS is driven by certified reflections, and confusion was expected in the Swaziland curriculum as the curriculum policy document does not provide guidelines. On the other hand, Educator 5 defended the curriculum document, saying that *"there is a scheme book where you [teacher] set the pace before time. It then gives a clear roadmap and set targets [educator was given curriculum documents from South Africa, Namibia, Zimbabwe and Lesotho.]. I believe the scheme book was meant to serve and develop something like that demonstrated in the South African curriculum. This means the pace in Swaziland is set by the teacher while in other countries it's predetermined by the curriculum body"*. Action research was therefore effective in emancipating the educators' own reflections. Since this study has proved that the educators are greatly driven by certified and public reflections, the curriculum policy document should offer some guidelines. Educators, however, need to consider students' perseverance to enhance retention (Duckworth & Seligman, 2006; PISA, 2013). This confirms that the teaching pace concept is driven by own reflections.

7.3 Grouping Learners in Consumer Sciences Classes

A study by Van den Akker (2010) that explored how a better cross-pollination between educational research and curriculum development could reinforce the information base for curriculum policy yielded the classification of students into three groups: whole class, small groups, and individuals. The participants in this study reflected on the grouping they use when teaching Consumer Sciences. The main questions were: What grouping are you using? and, How and why do you group learners? Findings of this study indicate that Consumer Sciences educators associate the practice of grouping students positively with the teaching of Consumer Sciences. This further reveals that educators were not aware that they had already grouped students according to their capabilities when they put them into different levels and labelled them Forms 1, 2 or 3. Lastly, educators may easily ignore the importance of teaching the learner as an individual. Phase Two of the action research helped them explore groupings (whole class and individual) other than using small groups. This suggests that grouping in the teaching of Consumer Sciences in Swaziland is driven by public reflections.

7.3.1 Whole class and small class groupings

All educators group learners using small groups of 4 to 7 students either in theory or practical lessons. Teachers were consistent in this grouping throughout the two phases and in all the data-generation sessions (reflective writing, observation, interviews and focus groups). For example, Educator 2 *"Normally I group students into small groups of 4 or 5 for work activities like research and presentation"*. All other educators' reflections show that they use small groups; however, the size of the groups depended on the content theme and number of students in the class. The greater the number of students the larger the group size. It was further revealed that educators normally use small-sized groups for clothing contents, and larger-sized groups for food preparation contents. For example, Educator 4 noted that *"it's done when doing cookery practical and sewing project in clothing lessons. I normally have small groups of 4/5 for cookery lessons and 2/3 students in the clothing lab because of limited resources e.g. stoves, ingredients, sewing machines etc."* Similarly, Educator 5 noted that the group size varied with the task at hand. Learners are usually grouped for demonstrations and during practical lessons. Numbers vary depending on the tasks at hand.

Although educators consistently reflected on the small groups used in Consumer Sciences, the observation session revealed that educators actually teach learners as a whole class group. This

grouping is conducted by the school according to student performance and capabilities. In all the schools I noted that Consumer Sciences was either in all the streams for JC, or grouped together with Agriculture, Geography, and the core subjects. Other streams are those of commercials [Accounts, Bookkeeping, and core subjects] and the humanities [Literature, History, and Bible Studies]. Consumer Sciences therefore falls into the applied Sciences stream. This grouping is achieved at administration level during enrolment; students' performances in these subjects in Primary Certificate determine the stream in which the student is grouped. This observation therefore establishes that public and certified reflections inform the grouping for Consumer Sciences. However, the curriculum policy document does not give guidelines on what grouping and group sizes should be used for effective teaching of the subject. This study concludes that public reflections influenced educators to group students and with lack of guidance, studies (Selby & Kagawa, 2014; Moore, 2014) established that the curriculum is more likely to fail and educator practice be subject to personal choices of individual educator. The gap between expectations ought to be detailed in educator guidelines, and what the educators unequivocally practise presents a challenge. The educators therefore fail to make legitimate curricular decisions until they recognise what should certainly be done when grouping students (Moore & Hansen, 2011). Also, the educators could not reflect on individualised grouping and therefore, the action research transformed their knowledge through the second phase.

7.3.2 Individualised grouping in Consumer Sciences

In Phase Two, educators were given scholarly works by Weimer (2002) on individualised learning or directed teaching to enlighten them on the constructivist viewpoint of teaching driven by own reflections, in which instruction from the setting of objectives is planned and organised for the learner as an individual, and not as 'learners'. Educators acknowledged having learnt something new and useful to their teaching. This was evident in the Phase Two reflective activity, with teaching and planning now engaging the three forms of grouping. For example, Educator 3 now grouped them into *"groups of six -seven students in each group, consisting of students …… Groups of five because have a large number of students in each class yet the lab is too small & have limited facilities. For theory lessons, I teach them as whole class but I do teach individuals on individual project they are doing in Form 3 coursework. This is because they do not progress in same pace. This helps the learner and those who are afraid to ask in present of their peers".* Educator 7, Educator 5, and Educator 4 had the same

reflection, indicating consideration for the learner as an individual being prepared for attainment of the lesson objectives. Educator 3 further testified that her change in focus to development of each learner has improved her teaching and interaction with learners: *"I have tried this approach and I discovered that even the students I have always thought they are shy, changed for better. These students were actually afraid of trying when they are not sure or afraid of addressing me as a teacher. But now, on a one-on-one teaching, they have nobody else to shift responsibility to"*. Educator 7 added that *"these students are really not scared of me….they are more open to me that when they are in the presence of their friends".* Other educators agreed that learners were more willing to try during the individualised learning, yet in a full class they only raise their hands when they are almost sure that the answer is correct.

This finding confirms the observations of Weimer (2002) and Balcom (2012), that individualised learning is not commonly practised in our schools. They further assert that individualised learning or directed teaching is very effective because it gives each learner special attention, presenting an approach tailored for his/her needs and interests. The teacher's role needs therefore to shift to facilitating student enquiry, giving each student the opportunity to develop or find a solution to the problem on their own. This grouping is therefore driven by own reflections focused on developing each learner individually (Staub & Stern, 2002). The challenges educators encountered in applying this grouping technique may be anticipated. The curriculum policy document does not guide educators on how to group students, thus subjecting educators to public (what everybody else is doing in the school or other schools) and certified reflections (what they learnt during teacher training). This study therefore, while acknowledging them (Glass, 2002; Adodo & Agbayewa, 2011) claim that the benefits of grouping cannot be generalised across all disciplines, but establish that it is effective in teaching Consumer Sciences. In addition, it may be deduced that the educators' key role then rests on switching between small groups and directed learning, depending on the nature of content, the students, and what enhances learning. While reflecting on the three forms of grouping, educators pronounced reasons for the practice of grouping.

7.3.3 Rationale for grouping students

Grouping is a practice by educators to organise students in a particular way for educational purposes aimed at enhancing the teaching and learning process. Findings of this study reveal that grouping benefits both the teacher and the students. For the students, Educator 2 observed

that grouping *"helps them [students] to learn to work together and learn to understand different personalities".* She further noted that: *"some students enjoy the comfort of working in their own and at their own pace with little or minimised teacher control".* Educators 4, 6, and 9 also maintained that students come to class from different backgrounds and personalities: grouping students helps them accept one another and discover how to learn together. Educator 9 expanded by citing an example in which girls and boys would normally fail to work together, but it had become the role of the teacher through collaborative activities to make learners understand their gender differences, working as a team. Grouping has been conducted mostly in group discussions and practical lessons in Swaziland Consumer Sciences. During discussions/demonstrations students learn from the other members of the group (Educators 3, 5, 6, and 7). Educator 7 further observed that students are sometime more open to their peers and thus share easily: *"I group learners so that they can brainstorm and refine their answers through the group discussions. Some learners are shy to bring forth their ideas to the entire class but may be more relaxed and willing to share their thoughts in a smaller group".* This suggests that *"some do work well in groups, they are pro-active when other are shy to act in group, so they take the back bench",* Educator 8 explained. Similarly, Educator 1 confirmed that grouping is more useful in practical lessons and that learners in a small group are more easily involved, or their participation level is enhanced. *"This encourages competition among the learners",* said Educator 1.

Furthermore, educator reflections also unearthed several benefits of grouping for the teachers. Teaching using groups in Consumer Sciences could perhaps be seen as merely a long-standing habit common to all educators. However, educators found this practice beneficial to their teaching. For example, Educator 1's reflections indicate that grouping makes large class sizes manageable: *"I group students during practical lessons to have small groups that I can attend in a small number. In large groups it enables me to assess to the pupils and individuals. This is a better alternative as working as individuals may not be possible due to lack of resources".* All other educators agree with Educator 1 that lack of teaching resources such as sewing machines and stoves makes grouping a positive response. For example, Educator 4 confirms that grouping in the case of large numbers helps teachers by reducing the assessment task*: "I normally have small groups of 4/5 for cookery lessons and 2/3 students in the clothing lab because of limited resources e.g. stoves, ingredients, sewing machines etc. It helps reduce the number of work to mark. Now we have big numbers of more than 40 and marking that work is*

really time consuming". Grouping does not only benefit the teaching and learning process but reduces the workload of the teacher.

This finding is supported by Ryan (2000), asserting that any grouping of students, whether academic or social, will eventually influence the teaching and learning process. This is because these groups are likely to develop into study groups or teams in which members of the group compete for the best (Ide, Parkerson, Haerted & Walberg, 2006; Ryan, 2000). This concurs with the findings that they learn to accept different personalities brought by others, and at the same time are encouraged to work harder and even take assistance from peers. Similarly, Santor, Deanne and Kusumskur (2000) note that grouping in the class is a perfect training for adolescents to develop their identities through peer group activities, accepting other identities or personalities. Again, Korir and Kipkemboi (2014) confirm that grouping is more useful in practical lessons such those in Consumer Sciences. Grouping enables sharing of scarce resources and classroom demonstrations and discussions.

7.3.4 Nature of groups

The grouping approach, according to Heltemes (2009), differs from school to school and from teacher to teacher. There has been switching between heterogeneous and homogeneous groupings. Findings from the reflections of educators in Consumer Sciences indicate that homogeneous grouping works well, as posited by the idiom "Birds of a feather flock together". Even though studies (Marzano et al., 2008; McCarter, 2014; Conyne, 2013; Zamani, 2016) assert that heterogeneous grouping improves social competencies of students, boosting self-esteem, building a positive relationship, and thus increasing student achievement, educators argue that this hinders student participation. Educator 4 noted that heterogeneous grouping leads to quick learners dominating discussions while slow learners assume a silent role, negating the idea behind grouping the students: *"I group them according to their abilities i.e. slow learners are put together because if mixed, instead of learning from others, they take a back seat and allow other students to dominate. However, when put together, all participate and if not clear they ask the teacher"*. Educator 7 added that it is sometimes hard to detect bullying in the class, yet most students receive some kind of bullying from peers if they fail to contribute meaningfully, or if they receive overly much praise for good work. This would indicate the superiority of homogeneous grouping in which all members of the group feel equal and accept one another.

This finding contradicts that of a Zimbabwean study by Mpofu (2002), who partly supported the finding that homogeneous grouping was a common practice with Consumer Sciences classes yet argued that teachers use heterogeneous groups for most areas of Consumer Sciences such as clothing & textile, home management, and laundry lessons. Mpofu's (2002) observation run contrary to the findings of this study, possibly because she used senior secondary students. This finding confirms the writings of certain proponents of homogeneous grouping, such as Straus (2013) and LeTendre et al. (2003). These researchers maintain that such grouping is likely to improve social interaction in the class, thus increasing academic achievement owing to the somewhat individualised set of instructions it offers to the learners. However, opponents of homogeneous grouping argue that highly capable students continue to perform well. When with less capable groups of students, such learners perform poorly in this approach. Educators 1, 3, 7, and 9's reflections suggest that it then becomes the role of the teacher to vary instructions and pace according to the needs of the group. This confirms that learners are likely to perform better in homogeneous groupings provided that the teacher plays her role well.

Correspondingly, a group of high achievers may be given more prospects for independent work/projects and group discussions than a group of low achievers that need more teacher guidance. LeTendre et al. (2003) lamented that logic, emotion, and research have, over decades, been debating the pros and cons of assigning students to groups according to their abilities. When homogeneous and heterogeneous groups of students are taught similar curricula, Heltemes (2009) posited that the advantages for homogeneous grouping with regard to academic achievement are very limited.

Opponents of homogeneous grouping claim that the more capable students make greater academic progress when separated from the others. This implies that the less capable students when segregated from their peers are more likely to receive a poor or an inferior curriculum tailored to the level of their understanding. This notion, however, runs counter to the ability grouping proponents who aver that it can lead to greater academic achievement. This was supported by Hostetter (2013), who bewailed that a homogeneous grouping of learners retards the academic progress of many students − the less capable students will have a lower self-esteem which eventually encourages school misbehaviour and dropping out. This is because

students with low self-esteem normally have lower ambitions. Ward (1987) supported that students of both high and low capability do better academically in classes in which there is wide range of academic capabilities of learners. He further invalidated any claims that either heterogeneous or homogeneous grouping can enhance academic performance. This debate on whether homogeneous or heterogeneous grouping is effective has been clarified in this study, with all educators championing homogeneous grouping.

7.4 Roles of a Consumer Sciences Teacher

According to Ndyali (2013), a teacher's role is a prescribed or expected behaviour associated with a particular position or status in the school. Since the school offers a wide range of subject and curriculum, the role of a teacher cannot be limited. The Consumer Sciences educator works with other teachers, while also being part of a separate group of subject specialists. During Phase One of the action research, findings of this study indicated that the role of the educators was influenced by both public reflections (facilitation) and certified reflections (assessor, instructor, demonstrator, and organizer).

7.4.1 Facilitation roles in Consumer Sciences

All educators' reflections emphasise their facilitation role in the classroom, which assists learners to acquire knowledge and skills. For example, Educator 2 said that her role is to *"facilitate learners as they learn and acquire knowledge".* Educator 4 added that she facilitates so that her students may improve understanding of concepts learnt: *"my role is to facilitate teaching and learning to the students. It helps them understand concepts learnt".* The educators were, however, not clear on the rationale for facilitating learning. Educator 8 and Educator 5 adopted facilitation as a demand of the curriculum. *"This curriculum demands a child –centred education and that charges me with another role of facilitating learning and this requires that the student must be ready to take charge of his/her own learning",* Educator 8 noted. Their facilitation role is greatly influenced by certified reflections, even though, according Hunter (2007) and Schwarz (2005), facilitation is rooted in public reflections in which the teacher interacts with learners, but assumes a neutral role. The educators need to be enlightened on their reasons for facilitating learning. The second phase became necessary even though the educators were blindly assuming their facilitating role.

During Phase Two, educators could clearly justify their actions with regard to the benefits of facilitating in the teaching and learning process. Educator 4 then observed that *"facilitation promotes active learning and the students then own the learning and increases chances of passing examination if they were involved. It helps them understand concepts learnt"*. Educator 8 added that *"facilitating learning requires that the student must be ready to take charge of his / her own learning and motivate them to be proactive and initiate learning activities, express their interest in the whole teaching process, be committed and involved as there is no teaching without them. The way subject matter is delivered determine how the learner will think of the subject".* These reflections suggest that facilitation improves learners' skills in synthesis and analysis. (Schwarz, 2005) maintains that actively involving learners throughout the learning process (Hunter, 2007) enables them to interact with others while learning (Molloy et. al., 2000), providing learners with a real-world environment while utilising a variety of methods (Brown, 2004).

On the other hand, while the educators seem to have adopted facilitation (reflective activity and interviews) as per the requirement of the curriculum, the observation session reveals that teachers are dominating the teaching and learning process. Educators fail to promote experiential learning that is centred on student-centred learning. Estes (2004) asserts that such educators practice during facilitation limits student's creativity and gives more opportunities to the leader. This practice matches what Brown (2004) termed "traditional participation" in which the leader (the teacher in most cases) poses questions to the participants or students and thus claims to be actively involving the students. However, (Estes, 2004; Young & Paterson, 2007) endorses both student and teacher-centred facilitation processes, and advises that educators need to clearly understand the difference between the two. The student-centred approach affords more power to the students. Educator 2 confirmed that she observed a change in student participation after switching from teacher-centred facilitation to student-centred facilitation. This had improved not only the learner-learner interaction but also the teacher-learner interaction and the way the students expressed themselves in writing. The educators also owned the role of extending education to the community, but admitted that, although they wish to be helpful, they do not have enough time, there being too many demands in Consumer Sciences.

7.4.2 Educator roles informed by certified reflections

The other set of roles educators play in teaching and learning of Consumer Sciences are more teacher controlled and dictated by the curriculum document. These roles are preparing lesson plans, assessment of students' work, preparing materials for teaching, developing students' report, and demonstrating practical skills. All educators' reflections indicate that they practise all these roles. The observation sessions proved that they played an extensive role in preparing for lessons, demonstrations, and in assessing learning. The educators believe that they are experts in the field of Consumer Sciences and thus they ought to play such roles. For example, Educator 9 said: *"students also facilitate in group presentations but I am the expert who judge what is right/wrong or relevant and the scope as I know the curriculum"*. Educator 2 added that she has the upper hand in the teaching process and thus ought to organise, guide, and evaluate learning: *"as a teacher, I have an upper hand because I am the one who knows the procedure and I am the expert so, I organize and assess learning".* The educators played this role exceptionally well even though the curriculum policy document does not provide a clear guide on the demands of this role. The curriculum does not provide a detailed assessment procedure nor concomitant expectations. This finding concurs with the works of (Lasry et al., 2014; Zeki & Güneyli, 2014) who regard the educator as an expert in full control of the teaching and learning process. Such a teacher role is driven by the certified reflections whose main focus is the delivery of content. Similarly, Lasry et al. (2014) confirm that the most common role a teacher plays is that of an instructor (Jones, 2005; William, 2013; O'Farrell, 2002), an assessor (Spiller, 2009; Tomlinson, & Moon, 2013), and an organizer (Jadhaw & Patankar, 2013; Oloruntegbe, 2011). The curriculum is followed by the teacher throughout the year, making it the blueprint for activities and techniques the teacher will use. The educators seem to be well acquainted with these roles and practise them with ease. Studies by (Richards & Rodgers, 2014; Bland, 2015) imply that, if the teacher roles are specified in detail, teachers are more likely to perform their duties without hardship.

7.4.3 Educator roles informed by own reflections

The reflections above indicate that the Consumer Sciences educators mainly practise roles driven by certified and public reflections. These educators did not recognise any personal roles, thus Phase 2 helped these educators in identifying and critically reflecting on the three main lenses in order to see whether they clearly understood their roles. The findings of this study thus hold that educator roles driven by own reflections are counsellor, motivator, and

researcher. On the role of being a researcher, Educator 2 reported that: *"I research from the school computer lab and deliver instruction to students daily".* Educator 3 and Educator 8 shared the same role. Educator 3 felt that it was her role to continuously research so that she teaches valid information. Educator 3 added that through the love she has developed for the subject and for her students, it is her role to motivate and encourage learners in both academic work and life in general: *"I love my students and they trust me, so I always motivate and encourage them to be responsible with their lives. Apart from the content in Consumer Sciences I teach, I teach them life skills".* Educators 1, 5, 7, and 8 agreed with Educator 3. They play a motherly role at school in that they teach young girls sanitation, health, and hygiene. They therefore need to be open to the students, particularly for adolescents, who need to be assisted and supported through life and body changes. The last role educators felt that was asked of Consumer Sciences teachers was guidance and counselling. Educator 4 noted that *"this subject is about caring and empathy, and we are the ones trained in counselling and supporting learners emotionally. I have thought my expertise is not welcome at the guidance office but when discussing this issue with the deputy principal last week, he also wondered why I was avoiding his office because he is aware that I teach teenage girls about most of the personal issues and he is aware that I do attend guidance and counselling related issues in our department"*. These roles are not documented in the Consumer Sciences policy document, therefore educators could easily reject such roles. However, Zvobgo (2008) confirms the findings of this study that Consumer Sciences teachers are adequately trained on counselling, thus it becomes their role to take the lead in school activities related to the guidance office. Furthermore, emerging conditions in the teaching and learning environment have added more roles for the teacher. This became obvious in the study by Nxumalo et al., (2015), who observed a shifting role of the teachers in Swaziland posed by the high HIV/AIDS prevalence rate, finding that teachers' role have gone beyond provision of academic needs to social and financial needs.

7.5 Educational Resources in Consumer Sciences

During the first phase of reflections, educators reflected on hardware resources
(certified reflections), such as prescribed textbooks, sewing machines, stoves, cookery ingredients, microwave ovens, refrigerators, cellphones, computers; and software resources

(public reflections) such as YouTube, PowerPoint and Internet. None of the participants reflected on the ideological-ware (own reflections) such as teaching strategies, personal ideologies, and the teacher as a resource person. Even with the hardware and software resources, educator reflections revealed that educators in Swaziland experience more challenges with regard to provision, use and development of teaching and learning resources in Consumer Sciences. This is fueled by Consumer Sciences in Swaziland being a practically oriented subject, thus effective teaching cannot be achieved without adequate resources. For example, Educator 3 observed that it is impossible to teach this subject without relevant resources: *"it is difficult or impossible to teach Consumer Sciences without adequate resources. These resources includes sewing machine, over lockers, fabrics, refrigerators, stoves, microwave ovens, and ingredients. These resources are very scarce in my school because the school finances are not properly managed by the principal"*. Similarly, Educator 8 noted that the resources needed in Consumer Sciences, Agriculture, and Natural Sciences are different from those of the rest of the subjects offered at school. In preparation for Phase Two, educators were given Khoza's (2012, 2015b), and Naido's (2013) articles to read, thereby expanding their conceptualization on the third ware (ideological-ware).

7.5.1 Hardware resources for Consumer Sciences

Most definitions of instructional resources refer to hardware resources. Dlamini (2013) defines instructional resources as any tools, devices, or materials that are used by teachers in transferring or delivering knowledge, skills, and information to learners or students. Similarly, Khoza (2012), Brazdeikis and Masaitis (2012), and Khoza (2016c) defined hardware resources as any machine or tool used in teaching and learning. The educators' reflections revealed a wide range of hardware resources used in Consumer Sciences. These resources comprise sewing machines, electric irons, ironing boards, pattern envelopes, laundry equipment, textbooks, stoves, microwave ovens, refrigerators, laboratories, food ingredients, fabric, charts, computers, and cellphones. Educator 2 referred to such hardware as physical resources: *"I use physical resources such as objects, images, text books, and computers to aid the delivery of the subject matter".* Educators 3, 4, and 7 use resources such as fabrics, refrigerators, microwave ovens, computers and ingredients. The other educators, while reflecting on the resources used in Consumer Sciences, tended to ignore resources such as sewing machines, overlockers, stoves, and refrigerators. When further asked during the one-on-one interviews, it became

evident that the educators felt these resources are taken for granted in Consumer Sciences, therefore did not see any need to discuss such basic resources.

However, these resources are in short supply in all the schools, with the exception of schools attended by Educators 2 and 7. These two schools, however, are privileged in being either an urban school (Educator 7) or a private school (Educator 2). *"I am fortunate to teach in a school of the elite where learners have laptops and I use e-learning. They therefore manage to work on their own. And in terms of sewing machines and cookery equipment, they are in adequate supply. Each student has his /her own equipment. They all have access to the internet"*, Educator 2 explained. Other educators demonstrated a serious problem with regard to provision of hardware resources in schools, further justifying the need for grouping students during practical lessons as a result of equipment shortages. Educator 3 noted that *"we are living in a digital generation but as we lack the basics for teaching the subject, it will be difficult if not impossible to acquire computers and computer programs for our school when we lack the basics such as sewing machines, over-lockers and stoves".* Educator 5 added that the subject bill paid by parents for Consumer Sciences is high, yet there are never enough resources to use in teaching. Other educators acknowledged the problem and further lamented that this is what makes the life of a Consumer Sciences teacher difficult. Again, all educators have a conviction that they need to use ICT in teaching the subject, however, schools at which Educators 3, 7, and 8 are employed do not provide such. It is worth noting that all schools are equipped with computer laboratories. Educators' reactions indicate that computers are mainly used for basic computer lessons, and not by other subject teachers. For example, Educator 7 does not have access to the facility: *"even though we really need the computers but it is not a priority so it is hard to convince the administrators. It is something or resource you can just borrow and return it. I therefore use my cell phone in most cases to download whatever information and videos that I need from YouTube".* Educator 8 shared the same sentiment that even though computers are useful in the teaching of Consumer Sciences, *"the administrators believes that is only for ICT classes".* This lack of hardware resources, including computers, for Consumer Sciences confirms Lau and Albion's (2010) findings. These researchers explored the rate of adoption of ICT by Consumer Sciences teachers in Hong Kong. They observed a barrier to adoption of ICT mainly owing to lack of hardware resources in the Consumer Sciences classrooms. Their study and other studies (Munandar, 2013; Ningsih, 2013; Horn & Barsness, 1975) confirm the findings of the present study that hardware resources in Consumer Sciences include other

equipment and facilities needed to teach the subject, such as sewing machines, labour-saving devices, models, real objects and cooking facilities. Also, the shortage of hardware, together with confusion of the administrators on whether or not to provide computers for the educators, may result from a loophole in the Consumer Sciences curriculum policy document. The policy is silent on the resources needed for the subject. Educator 5 therefore foresees a problem in external examinations: *"our curriculum does not list any of the resources as opposed to the other documents you showed us particularly the South African CAPS curriculum that list all the needed resources including references or books. This failure to provide the recommended resources gives us problem during the external examinations when examiner uses a certain book as guide or students provide correct answers but only to find that they are not in the books examiner used".* Educator 5's reflection suggests that hardware resources must be recommended by the curriculum documents. Munandar (2013) and Ningsih (2013) also assert that hardware resources are tools, devices, and machines approved by curriculum experts and departments of education. Certified reflections influence their selection and thus must be specified.

7.5.2 Software resources in Consumer Sciences

The findings of this study indicate that, even though educators reflected the challenges in sourcing hardware resources deemed basic to Consumer Sciences and the computers, educators use Internet, PowerPoint presentations and videos to aid their teaching. The rationale for using such software, according to Educators 3 and 7, is that we are now living in a technology generation in which students understand computers and TV better than the teacher. Educator 5 added that lack of textbooks as resources makes Internet user-friendly and cheaper. This was supported by Educator 9, who noted that *"these Consumer Sciences textbook are very expensive for the parents and thus downloading information from internet is very cheap and the internet provide up to date information".*

Furthermore, Educator 2 commented that software such as *"PowerPoint presentation and other downloads from the internet helps in accommodating all learners with different learning abilities".* Educator 4 added that these software resources help learners to visualise information, particularly items not readily available locally: *"these books and teaching aid we have are outdated so I normally use the computer lab and the internet to look for something that is within their time. I download such and present it using my personal computer or printed*

pictures depending on the teaching method I have selected for that particular topic. Nowadays we have good video clips on YouTube that helps students visualise information presented. My school is close to town but most of the content is just jargon to the students unless I bring it to class". These reflections concur with NCTE (2007) that educational software is essential in teaching and learning and can enhance and speed up teaching and learning. However, the educators felt that there is a need for development of more subject-specific computer software for use in teaching Consumer Sciences. Educator 1 observed that *"our problem is the unavailability of funds, otherwise we ought to, as teachers, inspectorate and government develop programs and software so to use them with computers when teaching. We need such an initiative. A presentation, but it must start with the university so that the teachers graduate with the technology*". She further acknowledged that the curriculum policy document does not give any guidelines on the use and provision of such software but *"educators try whatever they can to incorporate some technology in teaching".* Software, according to Brazdeikis and Masaitis (2012) are resources presented in the form of the content itself such as digital content, email files, and PDF documents, Internet documents and social media. However, all educators noted that their students are not allowed to bring cellphones to class, nor to use social media in class.

7.5.3 Ideological-ware for Consumer Sciences

Ideological-ware represents self-acquired competences necessary for facilitating teaching and learning (Davies et al., 2008; Khoza, 2012). The action research has made educators aware that there is personal ideology and attitudes that drive both hardware and software resources (Hoadley, 2012). Educator 2 then began to see herself as a resource: *"my school have enough teaching material but in order for my students to do well and pass, I need to be always on toes in selecting these resources. Apart from myself as a resource I do need guest speakers or take students to resourceful figure people to learn from them".* Educators 5, 6 and 8 share the same sentiment. This fits in well with Crosby (2000) and Etiubon's (2015) definition of a resource being a person or groups of persons, an organisation or a body of knowledge, skills, tools, or a strategy for potential utility of learner empowerment. This viewpoint suggests that the teacher himself/herself is a resource. Educator 7 added that *"we all have access to these resources [hardware and software] in my school but then it depends on how each teacher uses them to be effective in teaching".* The teacher must use his/her own teaching/learning strategies, theories of teaching/learning, experiences, competencies and everyday/general knowledge to

select resources suitable for the learner and the content. This was also confirmed by Educator 4: *"I am the one who know and plans what resources are needed".* Educators use different ideologies to teach Consumer Sciences. This is natural, as the curriculum policy document does not specify any ideological-ware for any topic or theme in the curriculum.

7.5.4 Financial management

Educators' reflections on hardware resources in Swaziland is influenced strongly by management of financial resources in the Consumer Sciences department. Educator 8 noted that what has worsened the situation in schools is that school principals tend to misuse monies paid for the subject. This frustrates the smooth running of the Consumer Sciences departments, negatively affecting the teaching Similarly, Educator 3 noted that *"these resources are very scarce in my school because the school finances are not properly managed by the principal. For example, when taking students for an educational tour, they need to pay extra money because the money paid for the subject is only enough for practical lessons".* Educator 4 added that apart from the mismanagement of finances, acquiring monies to buy resources from the principal is an enormous challenge, suggesting that principals are reluctant to release funds. *"This is a serious problem really. Having the Consumer Sciences bill being handled by the administration is another problem because even now we have problem with numbers and when you ask for funds, the administration gives us an unwelcoming response".* Educators 3, 7, and 9 agreed with Educator 4.

On the other hand, Educators 1 and 6 revealed that Consumer Sciences teachers are not exempt from habits of mismanaging and embezzling school finances. Some teachers take advantage of monies entrusted to them, buying personal groceries on the pretence of their being for teaching purposes. Educator 1 noted that, as much as educators blame principals, there are school principals who have registered serious accusations against educators who buy teaching resources for Consumer Sciences. *"There is also a confusion and an argument between the teachers and the principals when they suspects that there is something fishy in the buying process. But other principals also do not check these things and their records. Some teachers do take school ingredients for their own use....to their families".* The Manzini regional inspector, who was also a participant in this study, lamented that some principals call her office every time the Consumer Sciences teacher intends to purchase items, asking confirmation of

whether what is on the shopping list accurately represents ingredients used for the subject. Principals suspect educators of using the Consumer Sciences funds to buy personal items.

This finding concurs with Thenga's (2012) observation that financial management remains a challenge in many schools, owing to school administrators lacking proper training. Such mismanagement is likely to affect teaching and learning as per the reflections of Consumer Sciences educators (Mestry, 2004). Possible causes of this is that there is no policy document restricting principals from diverting subject funds to other school projects. Furthermore, this activity is mostly associated with fraud and dishonesty. Rangongo, Mohlakwana and Beckmann (2016) also agree that the principals, teachers and school governing body members are perpetrators of various financial mismanagement activities in which "lack of knowledge of legislation and skills, poor monitoring and control of funds, unavailability of financial policies in schools, omission to act against culprits, and lack of honesty, openness and trustworthiness" (p. 1) were cited as key causes. During the focus group discussion, educators proposed that HODs keep proper financial record books for government auditors to be able to deal with such cases. Table 7.1 presents a sample format deemed useful in demonstrating cash flows in the department, thus exposing possible mismanagement by the principal. This instrument is expected to function under three conditions: 1) that the HOD, principal, and visiting regional inspector endorse the financial record book after every purchase, 2) that auditors check this record against the principal's records, and 3) that monies paid by parents at the end of the year be transferred for use the following year. This recommendation was based on the assumption that some principals buy their family groceries, recording purchases as Consumer Sciences expenditures.

Table 7.1. Proposed Financial Record Instrument

Consumer Sciences Department Cash Flow for the year 2017		
Date		
06-Jan	Opening balance	2000
	Income:	
	Form 1 [100 students x E200]	40000

	Form 2 [30 students x E200]	6000	
	Form 3 [30 students x E200]	6000	
			52000
	Total income		54000
10 -Mar	Less purchase		10000
			44000
15-Jun	Less purchases [fabrics]		12000
			32000
03-Jul	Sewing machine (x2)		4000
			28000
03-Aug	Practical exam		6000
			22000
10-Nov	Final exam practical		12000
05-Dec	Balance c/f		10000

Consumer Sciences Department Cash Flow for the year 2018

06-Jan	Balance b/f	10000	
	Income:		
	Form 1 [# students x E200]	xxxx	
	Form 2 [# students x E200]	xxxx	
	Form 3 [# students x E200]	xxxx	
			xxxxx

7.6 Learning Activities in Consumer Sciences

Learning activities differ from other school activities in that they are deliberate, producing a predetermined learner outcome. Since there are many school activities whose purpose is not learning, Wersch et al. (2003) suggest that educators reflect on which learning activities are guaranteed to produce the intended change in behaviour. Consumer Sciences educators' reflections of learning activities were registered. The findings of this study indicate that teacher-centred activities dominated the teaching of Consumer Sciences in Swaziland. Few educators practised student-centred activities, while none embraced subject-centred activities. Phase Two of this study saw educators adopting student-centred learning activities as they were encouraged during the planning session for Phase Two. Educators were introduced to several approaches and examples of interesting student-centred activities including role-play, jig-saw puzzles, problem-solving and other forms of collaborative learning.

7.6.1 Teacher-centred learning activities

All educators in this study confirmed that they were actively applying teacher-centred activities even though they are fully aware that the curriculum advocates for student-centred approaches to teaching. The findings also reveal that even those educators who at times use student-centred approaches, admit that these activities are planned and directed by them as teachers. For example, Educator 2 recalled that the curriculum document is not specific on learning activities and thus she has the responsibility of selecting, based on her experience: *"….the curriculum however, does not specify what activities need to be done for each content or topic to be covered adequately. I therefore decide depending on the nature of the topic or my past experience".* The educator, through experience, or trial and error, has developed a series of learning activities suitable for each topic. Educator 4 added that she applied learning activities such as reading, research work, and presentations, but all these activities are directed by the teacher: *"I normally instruct students to read ahead, I give them sub topics and then they have to research and present their findings. Presentations help the students to master the content as they know they will be expected to share with peers. However, some become too shy at first with fear of being laughed at by their friends. I decide myself on which activities can promote active learning such as research activities".* Educators 3, 5, and 8's reflections were similar to this. Educator 3 then added that it is the responsibility of the teacher to plan, select, and implement learning activities depending on the teacher's interest, the topic and the learning environment: *"I as a teacher it is within my responsibility to decide on what learning activities will be suitable for this group and topic. For example, I can tell if the learners can learn better e.g. through field trip. The environment also contribute a great deal. In this school I really have no stress teaching about fibres because their parents are cotton farmers and easily understand cotton as a natural plant fibre".* The educators' practices were confirmed during the observation sessions in which teachers would come to class with pre-planned and completely prepared activities for the topic.

The reflections above indicate that Consumer Sciences educators in Swaziland employ own or teacher-centred learning activities such as assigned readings, teacher-planned presentations, research work, demonstrations and taking notes from chalkboard − this despite the Consumer Sciences policy document advocating for a student-centred approach to teaching (ECOS, 2017a). However, this call does not specify or guide educators on exactly the learning activities that could be used, thus educators are left with the responsibility of planning and selecting them

(Educator 3). Even though most educators incorporate some student-centred approaches such as role play, research work, and debates, this study reveals that most of those activities are teacher directed. The students are thus seen as passive learners who take instruction (Pepler, 2015; Froyd & Simpson, 2008; O'Neill, & McMahon, 2005). These activities are stimulated by own reflections of the teacher. Such activities reflect mostly the teachers' teaching styles, habits, and perceived approaches of understanding the content (Golji & Dangpe, 2016). The teacher is more likely to select activities that she personally feels can help her understand. The findings thus are confirmed by Sercu and Bandura (2005) that teachers frequently employ teacher-centred activities when presenting the subject matter. It is further confirmed that, even though most activities are interpreted as student-centred, they are in reality teacher initiatives.

7.6.2 Student-centred learning activities

The findings of this study explore reflections of educators with regard to student-centred learning activities, revealing that educators employ student debates, role-play, presentations, and educational tours. Educator 1's reflections indicate that she normally uses brainstorming and poster presentation to involve students. She believed that learners should be active participants in the class − teaching should not be a funnel approach, with students at the receiving end: *"lecturing method is discouraged but individualised activities such as brainstorming. Lecture is good for mature students. Each child must participate. We need to get ideas from them. I believe students are not just empty vessels. We need a participatory kind of instruction not the funnel. I teach using posters developed together with the learners not already made posters".* Similarly, Educator 7 agreed with Educator 1 that development of posters helps involve students in their learning. In addition, Educator 7 also uses matching activities and group presentations as other student-centred activities: *"matching on chalkboard, group presentations, making of posters for some topics e.g. food groups. Creating posters with the students help to get learners more involved in the teaching and learning process and to break away from the formal 'teacher talks and learners listen' routine which learners may find boring sometimes".* Other learning activities than student-centred learning are less interesting to the learners. Educators 2 and 3 also emphasised that students learn better if they are performing activities that are of interest to them. Educator 3 pronounced *that "activities such as educational tours, problem solving and reading are very effective in my teaching. I noted that student love tours because students may learn what has been taught in a bit friendly and interesting environment. I think our students are tired of the old teaching traditions where the*

teacher stand in front of them and lecture but they want to be actively involved. They want activities where they will take control and experiment".

On the other hand, the rest of the educators were fully aware of the usefulness of student-centred learning activities. However, they do not employ them for reasons of time and lack of expertise in the development of such activities. For example, Educator 5's reflection reveals that she normally employs teacher-centred learning activities and uses student-centred activities sparingly: *"to be learner-centred, more time is needed yet as I have said before, the time allocated for the subject isn't enough".* Greitzer (2002), however, confirmed that, in teaching environments in which the student-centred approach seems unpractical, such activities may be employed with little additional time, provided the teacher spends more time planning and organizing it. This observation was, however, expected, the Consumer Sciences curriculum policy document not providing any guidance or suggesting any learning activities, although it advocates for student-centred approaches: *"a learner-centred approach method is to be used for learners with the use of all available resources"* (ECOS, 2017a, p. 2). Educators 4 and 8 even explicitly stated that they lack guidance in this regard. *"I mostly use teacher-centred learning activities and rarely student-centred depending on the lesson. The syllabus in most topics does not give a clear guide of what activities to use so as a teacher I then decide depending on what I know or how I was also taught",* Educator 8 remarked. Educator 5 agrees with Educator 8: *"our subject do not have standardised and recommended learning or class activities, so I decide myself on which activities can promote active learning such as research activities".* This finding confirms what other studies (McGregor, Smith, & Robinson, 2002) have observed, that educators fail to employ student-centred learning activities because they are concerned that they will not be able to finish the syllabus should these activities be included, particularly in large classes. As much as the educators are enthusiastic about shifting to student-centred approaches, they are more concerned with subject content. Smith (2000) also acknowledges some challenges with these student-centred activities, advising educators to employ more cutting-edge preparation and work collaboratively with learners so that they can accept responsibility for their learning. The educators prior to Phase Two of the action research were given articles to read on collaborative learning; and a demonstration of how student retention is maintained in most of the student-centred activities despite the pace of learning being decreased. This approach offers more advantages than covering much content with little retention. The educators demonstrated enthusiasm and interest in collaborative learning and

contracted to put it into practise. On the second observation session, Educator 2 was teaching a topic on 'Digestion' to the Form 3 class. Figure 7.1 shows a presentation by Educator 2's students using collaborative learning.

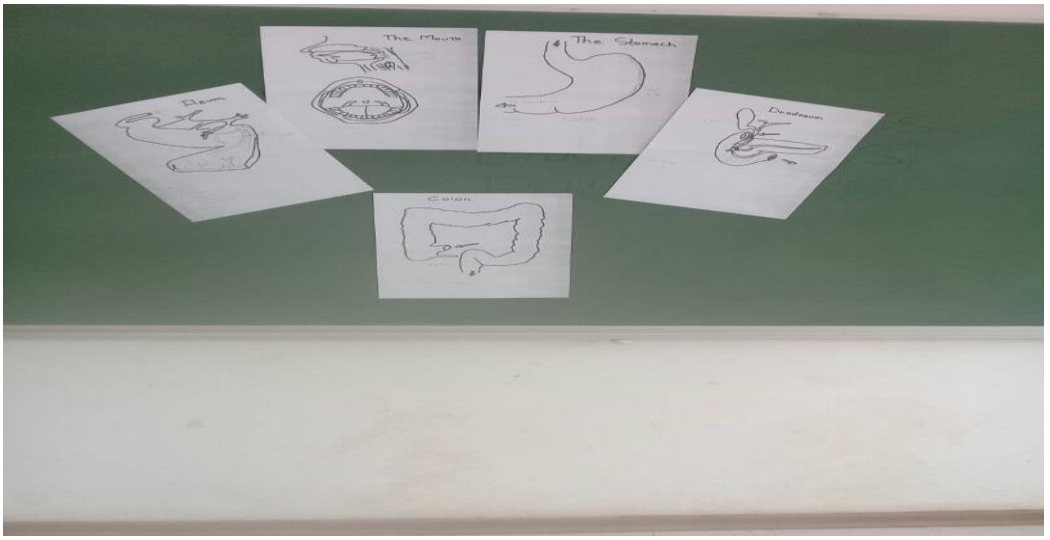


Figure 7.1 Digestion process through collaborative learning activity.

Educator 2 grouped her students into fives, each group representing parts of the digestive tract: mouth, stomach, duodenum, ileum and colon. Each group then cut out drawings of the various parts of the digestive tract, studying their functions and roles during digestion of food. The learners then acted the part of that organ as though a particular part of the digestive system, presenting it to their peers. This play collectively constitutes the whole digestion process from the mouth to the colon. Educator 2 was thrilled to see her students being active and defending their role: *"I really spent time planning this activity and the logics on how eventually students will put it together and learning occurs. My playful students found this play very interesting and discovered later that we are learning through it. For example, those who studied digestion in the mouth presented a convincing role of the mouth for the other students to know why other parts of the alimentary canal would fail to complete the digestion process without the teeth, the tongue and the salivary amylase found in the mouth".* Educator 2's experience is consistent with constructivists' vote for student-centred learning through discovery and independent learning (Carlile & Jordan 2005). Better academic performance is guaranteed if educators consistently engage students in activities that are of interest to them. These learning activities therefore eliminate the passivity in traditional teaching and learning approaches.

7.7 Teaching Environment for Consumer Sciences

The environment in which teaching and learning takes place creates a different atmosphere that can either motivate learners or provide a barrier to learning. Since location is thought of as an atmosphere, (Meriläinen, 2006) argues that good atmospheres must be developed or selected for a favourable learning situation. Studies (Ellis, 2001; Lundberg et al., 2008; Duensing et al., 2006; Fortune et al., 2011) assert that traditionally, learning took place face-to-face. However, advancements in technology have presented new learning environments: online and hybrid learning environments, with the hybrid being guaranteed to yield better academic performance as it incorporates the best of both face-to-face and online environments.

However, reflections of the Consumer Sciences educators reveal that the educators teach only in face-to-face learning environments. Online learning needs resources such as computers and Internet that is beyond the jurisdiction of the educators; therefore the intentions of this study in transforming learning environment could not succeed. The educators demonstrated willingness to use the online and hybrid learning environment. This is, however, not affordable, as the government and local school authorities are responsible for provision of necessary facilities for such. For example, Educator 4 blamed the high cost of data in Swaziland, citing this as a barrier to online learning: *"I hope one day our country will be offered cheap data services so that the students can be able to access my teaching online".* Similarly, Educator 8 supports online learning but cited poor facilities as barriers: *"Online learning is just impossible for my school environment. It would be nice to have such as each learner can learn at her own pace and at her conducive time and place".*

Notably, Educator 2 is the only educator whose school is a private school. Students have access to the Internet but these students are not using that opportunity effectively: *"I have tried sending students to view some documents online but only to find that they were chatting with friend on social media".* This suggests, however, that Educator 2 is merely expecting that students find information. This practice contradicts the practice of online learning that provides real-time instruction and collaboration between students and teachers via the Internet (Baldwin-Evans, 2006; Wang, 2007). Educator 2 was then enlightened, through reading, on how the online environment was conducted. This intervention failed because her school lacks virtual learning environments that promote online communication and interaction between teacher and student. Poe and Stassen (2002) therefore argue that online learning does not eliminate the

student-teacher communication but enhances interaction, elaboration, active learning, as well as equal learning opportunities. Educator 2's school should also develop a suitable online learning environment for it to be useful.

Apart from the learning environment/atmosphere, location may be thought of as a building, a classroom, a laboratory, a games room or a sports field in which learners gather to receive instruction (Vanhala, 2008; Earthman, 2008). All other educators reflected on the geographical location in which they are teaching. Only Educator 7 and Educator 2 are teaching in urban areas − all others are teaching at rural schools. Capita (2012) found that there are variables of location, whether urban or rural and that variables are determined by the economic status of the neighbourhood in terms of quality of roads to school, shopping centres, and accessibility to other resources such as the national libraries. This explains why the educators do not have access to online learning facilities. These variables affect the teaching-learning process (Mege, 2014).

Furthermore, location may be thought of as a building in which learners gather to receive instruction (Ellis, 2001; Lundberg et al., 2008). All educators teach Consumer Sciences in the classroom and in the laboratory. For example, Educator 2: *"I teach in the classroom for the theory lessons with an aid of digital projector but practical lessons are taught in the lab either food and nutrition lab or clothing lab".* Educators 3, 4, 5, and 9 agree with Educator 2 that Consumer Sciences is best taught in either a Clothing lab or a Food and Nutrition lab. *"Consumer Sciences is a practical skill oriented subjects and thus most lessons I conduct then in the lab even if it's not a practical lesson because the subject is blocked with History and Woodwork. The History students remain in the class when the Woodwork to wood work lab and the Consumer Sciences students come to or lab. The lab has a good arrangement where the learners seat in the units and face the teacher next to the chalk board"*, Educator 3 explained. Educator 5 added that even if it is a theory lesson, it is more effective to teach in the lab where all resources and teaching aids are within reach. *"A learning environment should allow both the teacher and the students to be comfortable. This is more important for students with certain challenges e.g. eye problem and the student wants to sit in place where she can see clearly. I teach Consumer Sciences in normal classroom with students facing the teacher but I also teach in laboratory mostly for my practical lessons. Sometimes even with theory*

lesson, I do need to use the laboratory e.g. when teaching them about kitchen equipment, definitely they must be in the laboratory where the equipment is within reach".

Moreover, all the educators during the observation session were found teaching in the laboratory. For example, Educator 8 had each student sitting at a desk facing the front. Students seemed to know positions or seats assigned to them. This arrangement must have been designated by the teacher*, "…..Winile, when have you started sitting next to Nolwazi or you want to make noise with friends……come sit here in front"*, Educator 5 shouted at her student. This suggests that the teaching occurs in the laboratory either in the Food and Nutrition lab or Fashion and Fabrics lab. The teachers remain in the lab and the students walk out of their classroom to the lab at the Department of Consumer Sciences. This is a common practice in Consumer Sciences (Manwa & Motsi, 2010). However, the Consumer Sciences curriculum policy document does not specify the learning environment conducive for teaching the subject and is silent on laboratories, classrooms, space and technologies that teachers should use to implement this curriculum. This resulted in teachers using their own discretion. Teaching and learning therefore takes place through trial and error. Compared with other curricula in the region, the South African CAPS is clear on specifying a learning environment that guides the teacher, and thus academic performance is enhanced. Also, this location, whether in the classroom or laboratory promotes face-to-face, peer-to-peer/teacher interaction, voice-to-voice and socialization within the learning environment; thus it is driven by public reflections (Gleeson et al., 2007; Jbeili, 2003). Educators 3, 4, and 8 looked forward to the provision of online facilities. The Ministry of Education and Training, through the Swaziland Education and Training Sector policy of 2011 has committed itself to future provision of computerised learning environments. Until that time, educators will continue using face-to-face learning environments. Both sections 8.3.4.3 "*Integrate information and communication technology (ICT) in the secondary school curriculum* (p. 36) *and* 9.4.1" offer and promote basic computer skills and Internet facilities as technology is continuing to advance (p. 47), indicating the Ministry's commitment to align the Swaziland curriculum with the blended learning environment.

7.8 Chapter Summary

The findings of this study indicate that educators reflected on challenges while organising the teaching of Consumer Sciences. First, there is insufficient time for teaching the subject. Time

allocated does not allow the teacher to cover content; time is lost during the second term, and daily while changing subjects. Educators therefore teach on Saturdays and holidays to cover the work. Secondly, hardware resources such as computers, sewing machines, and stoves are inadequate. This compels educators to group learners together while teaching so as to share these resources. Educators demonstrated willingness to use computers and software to aid their teaching. This, according to the educators, will shift their traditional face-to-face learning environments to online and hybrid learning environments. Lastly, most of these elements of organisation, such as activities, resources and grouping, are greatly influenced by financial resources management not professionally managed by the school principals and the heads of Consumer Sciences departments.

CHAPTER 8
SUMMARY AND THEORY

8.1 Introduction

The main goal of this study was to explore educators' reflections on the Junior Secondary Integrated Consumer Sciences curriculum. Relevant literature has been explored to conceptualise and categorise educator reflections that resulted in the development of a Microscopic Curriculum Framework that guided the data generation and analysis. Having presented the findings and discussed them in Chapters 6 and 7, this chapter summarises the educators' reflections with the purpose of theorising and answering directly the following research questions:

1. What are educators' reflections on the Junior Secondary Integrated Consumer Sciences curriculum?

2. Why do educators reflect on/in/for the Junior Secondary Integrated Consumer Sciences curriculum in particular ways?

3. What lessons may be learnt through the educators' reflections for the purpose of improving the curriculum?

This chapter therefore presents a complete exploration of the entire study, with emphasis placed on my reflection of the educator reflections (findings of the study) based on observations, data analysis, and literature reviewed.

The topic "*Educators' reflections on the Junior Secondary Integrated Consumer Sciences curriculum*" utilised a qualitative research approach based on the critical paradigm that laid down the rules and regulations, established and defined the boundaries, and guided me on how to act within those boundaries in order to be successful. This paradigm became critical for this study for two reasons: one being that Consumer Sciences is a social science. Literature has proved that the critical paradigm provides a powerful and influential framework in social sciences by extending the interpretivist mandate to understand the society, critiquing it and taking action. Secondly, it liberates participants from historical, and structural social phenomenon. Participants feel free to give their own views of the situation and of the world they live in. The findings of this study demonstrate the critical paradigm clearly through all the curriculum concepts in which educators were freed from believing that they were merely at the receiving end of the curriculum. The study assured them that they were the key

stakeholders in the curriculum, in that they are parents, planners, implementers and evaluators of the curriculum. The educators felt suppressed by the very curriculum they are teaching. They needed some changes, particularly with the curriculum content that they felt was not serving the public and the learner. Educators found the curriculum too broad and all-embracing, making it difficult for them to complete within the given time. Thus, the critical paradigm empowered teachers to take their position on the curriculum development process. Educators saw clearly that some external and authoritative hand was dictating their curriculum. Through this study, however, they learnt that even the senior inspector was waiting for educators 'reflections' in order to make any changes. In the absence of educator reflections, the inspectorate tried to review the curriculum. However, the Curriculum Planning Committee at the National Curriculum Centre demanded a mandate from the educators, calling for educator reflections that suggested the need for such a review. In addition, educators exclaimed in amazement that they were the ones to play a major role in curriculum issues: "*I am shocked to learn that government is waiting for our contributions yet I was thinking they are the ones forcing us to manage such an unworkable curriculum*". These educators did not know that they had any say in their needs.

Moreover, apart from enlightening the Consumer Sciences educators and taking action, a critical paradigm has been used extensively by the Consumer Sciences curriculum studies (McGregor & Murnane, 2010; McGregor, 2009). This paradigm has enlightened Consumer Sciences educators through their reflections, to take action in the light of changing their practice. Such an examination is better achieved by employing a self-reflective enquiry undertaken by the educators in their social situations in order to advance their own social and educational practices. The study therefore made use of action research for the educators to be actively involved in reflecting on their practices with the aim of improving the JC Consumer Sciences curriculum in Swaziland. This quest to understand their world and then improve practice served as motivation to continue with the study. The educators' positive attitude towards involvement in the study qualified other studies (Hopkins, 2002; Koshy, 2005; Power & Naysmith, 2005). These researchers claim that action research helps educators to understand, evaluate, and change for the purpose of improving educational practice.

However, reflecting on the educators' reaction based on the public reflection point of view, action research appeared tedious and time-consuming. I noted that, although action research

is very useful in exploring the practitioner's own practice, as with the educators' reflections, this is a major drawback that offers the possibility of frightening participants. Nevertheless, I noted that action research is capable of correcting its drawbacks. It is able to ground research in the realities of classroom practice by closing-up the knowledge-to-practice gap, and that motivated the educators. Another stronghold was the assurance that voices of the educators who are minority in the curriculum development could 'walk-their-talk' by putting into practise their beliefs. They could accomplish this by dealing with their own problems they face them in their day-to-day teaching of Consumer Sciences.

Furthermore, literature (Hine, 2013; Seider & Lemma, 2004; Somekh & Zeichner, 2009) holds that action research goes beyond bringing about change in the classroom; it influences educational policy. The findings of this study, through educator reflections, provides the educator with the mandate of ensuring that the Curriculum Planning Committee effects changes in the curriculum document. Again, a recommendation was made during the Focus Groups that the Swaziland JC Integrated curriculum be aligned with the South African CAPS Consumer Studies to provide necessary and adequate guidance to educators. The Senior Inspector of Consumer Sciences, in an interview, contracted that she would ensure that this was effected before she retires in June 2018. A draft of curriculum policy document demonstrating clearly the teaching strategies, pace, and removal of some least useful content is awaiting completion and approval by the Consumer Sciences Subject Panel in 2018. The information generated by practitioners/educators during the course of the study adds a great deal of data needed in policy development. Rust and Meyers (2006, p. 73) confirm that an educational query through action research becomes a "powerful vehicle for communicating the ways in which education policies affect the complex realities" by "highlighting areas and opportunities for policy reform" (p. 84).

In addition, unlike many scientific methods used in teaching, action research supports use of many methods, not only one single view of doing things. This study therefore utilised four data-generation methods of one-to-one semi-structured interviews, reflection activity, observation, and focus group discussions. The data-generation process was framed by the ten curriculum concepts (rationale, content, educational purposes, time, grouping, location, teacher role, resources, learning activities and assessment by Thijs and van den Akker (2009). The action research was provided in two phases, therefore it challenged

educators to reflect on all ten curriculum concepts, mainly using the reflective activity, observation, and one-on-one semi-structured interviews, in order to triangulate findings that eventually led to the development of the Tri-Star theory.

8.2 The Tri-Star Curriculum Theory

This research work gathered educator reflections through interviews, observations, reflective activity, and focus groups. As a researcher and a participant, I also reflected on teacher reflections throughout the literature review, data generation, and data analysis. This process helped me eliminate possible bias, and to structure subsequent questions and themes, making the data analysis process transparent. Kremenitzer (2005) and Ortlipp (2008) also recommend keeping a researcher reflective journal to facilitate flexibility in examining personal assumptions, beliefs, and subjectivities. Reflection on the study findings led to the development of a curriculum structural organ (propositions of each curriculum concept) observed under the Microscopic Curriculum Framework. A literature review provided a background and backbone for the concepts explored in relation to the phenomenon of a study, drawing them together through the research methodologies and design, further grounding them in the critical paradigm. Consequently, the study identified curriculum concepts envisioned by Thijs and van den Akker (2009) on which educator reflection should be based. Evolution in the study of reflections has produced a three-dimensional view of all educator experiences. This therefore led to the development of a triptych of certified (Tyler, 2013), public reflections (Stenhouse, 2005) and critical approach/ own reflections (Freire, 1972) to the curriculum, that guided the study. Studies by (Khoza, 2013; Mpungose, 2016; Thijs & van den Akker, 2009; Zuma, 2016) suggest that a curriculum must balance the three major influences so that the objective process and critical approaches complement one another. The needs of the discipline or subject, society, and individual are therefore represented in the curriculum. It is worth noting that each form of reflection is inconsistent with the others, thus Figure 8.1 represents a symmetrical three-pointed star (Tri-Star). Although there is a common centre, the three points face out in different directions. The symmetrical nature indicates that the certified, public and own reflections are expected to carry equal weight and that any curriculum design must strive for balance of the three, thus the theory is anchored on Archimedes' law of buoyancy. Since educator practice is continuous, failure to uphold one curriculum preposition will cause over-reliance on others. The symmetrical Tri-Star theory is developed from literature, suggesting that the certified, public, and own reflections must be represented in all the curriculum concepts

for the teaching and learning of Consumer Sciences to be effective. Similarly, this study's Microscopic Curriculum Framework has been designed to critically view each of the ten curriculum concepts (Rationale, educational purposes, content, learning activities, time, teacher's role, resources, location, grouping and assessment) as categorised by Van den Akker (2010). Each of these curriculum concepts has three propositions outlining the certified, public, and own reflections.

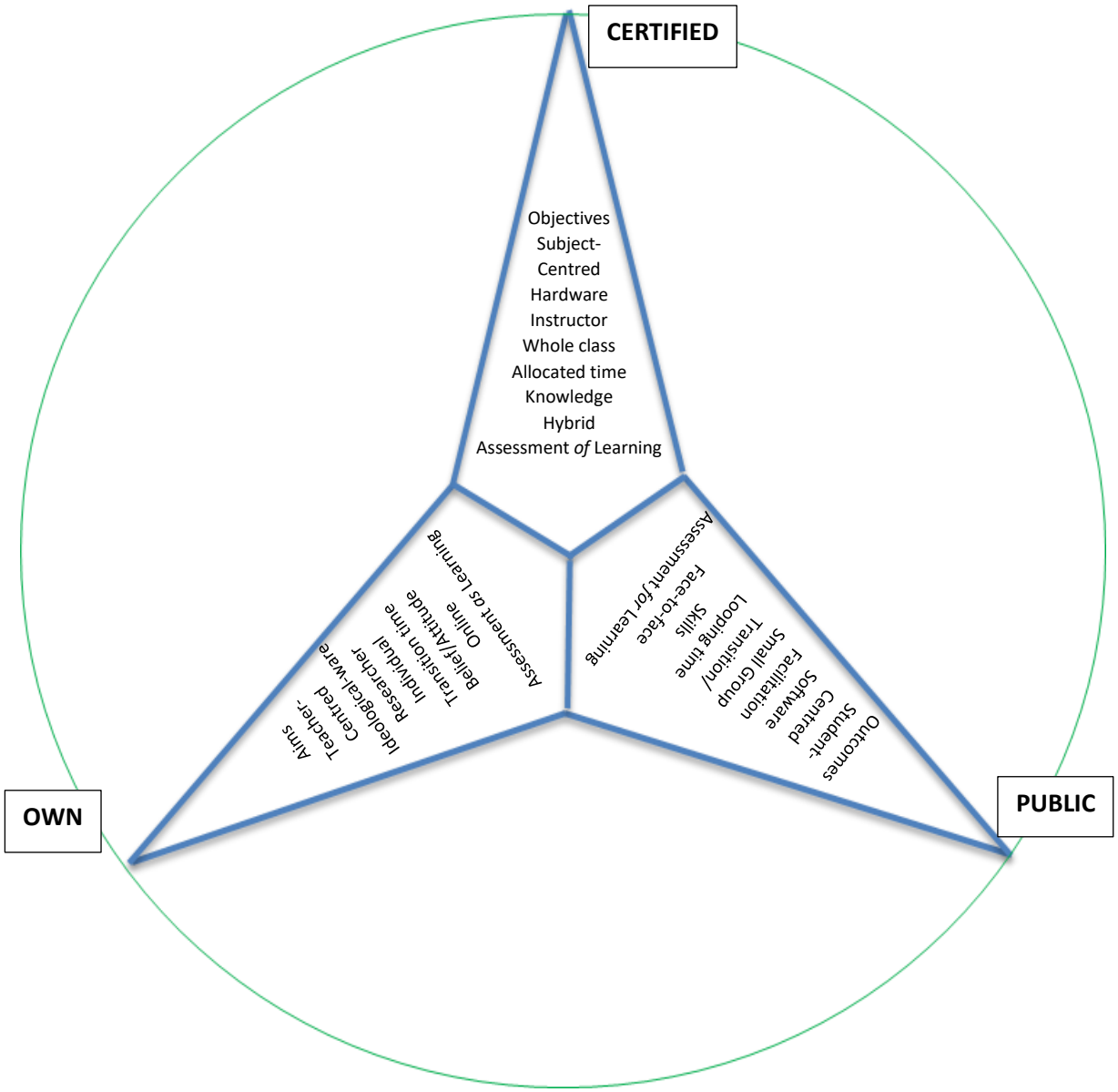


Figure 8.1. Tri-Star Theory (Symmetrical)

In exploring the influences of certified, public, and own, the Tri-Star theory helps in analysis of reflections, explaining the findings of the study relative to literature. Subsequently, it aids in

recognising similarities, trends, and inconsistencies that eventually answer the research questions of what, how, and why educators reflect in a particular way. The Tri-Star theory therefore claims that a) certified reflections present the international standards approved by experts in the field that research has found effective and consistent, b) public reflections present the socially constructed needs and expectations derived through exposure and interactions with peers and colleagues, c) own reflections present habits, affective and personal dispositions explaining the rationale for practise, and d) all three serve as checkpoints for quality and effectiveness. If one form of reflection is ignored, therefore, curriculum enactment will not be effective. Since these three forms are complementary, they exist in a limited circular boundary, such that should one reflection be ignored, educators will depend too heavily on influences from the other two. This then led to an asymmetrical or tailed tri-pointed star as observed in the findings of this study (Figure 8.2). Figure 8.2 presents the educator reflections as observed in Phase One of the action research. The schematic representation of this phase presents a tri-pointed star indicating that some propositions were not recognised by the educators. Specifically, educators ignore their own needs in the curriculum, and follow the needs and interests of the public. Thus the tri-pointed star is tailed towards the public reflections. This represents the reflections of the Consumer Sciences Educators on the JC Integrated Consumer Sciences Curriculum, in which educators were greatly influenced by public reflections, followed by certified reflections.

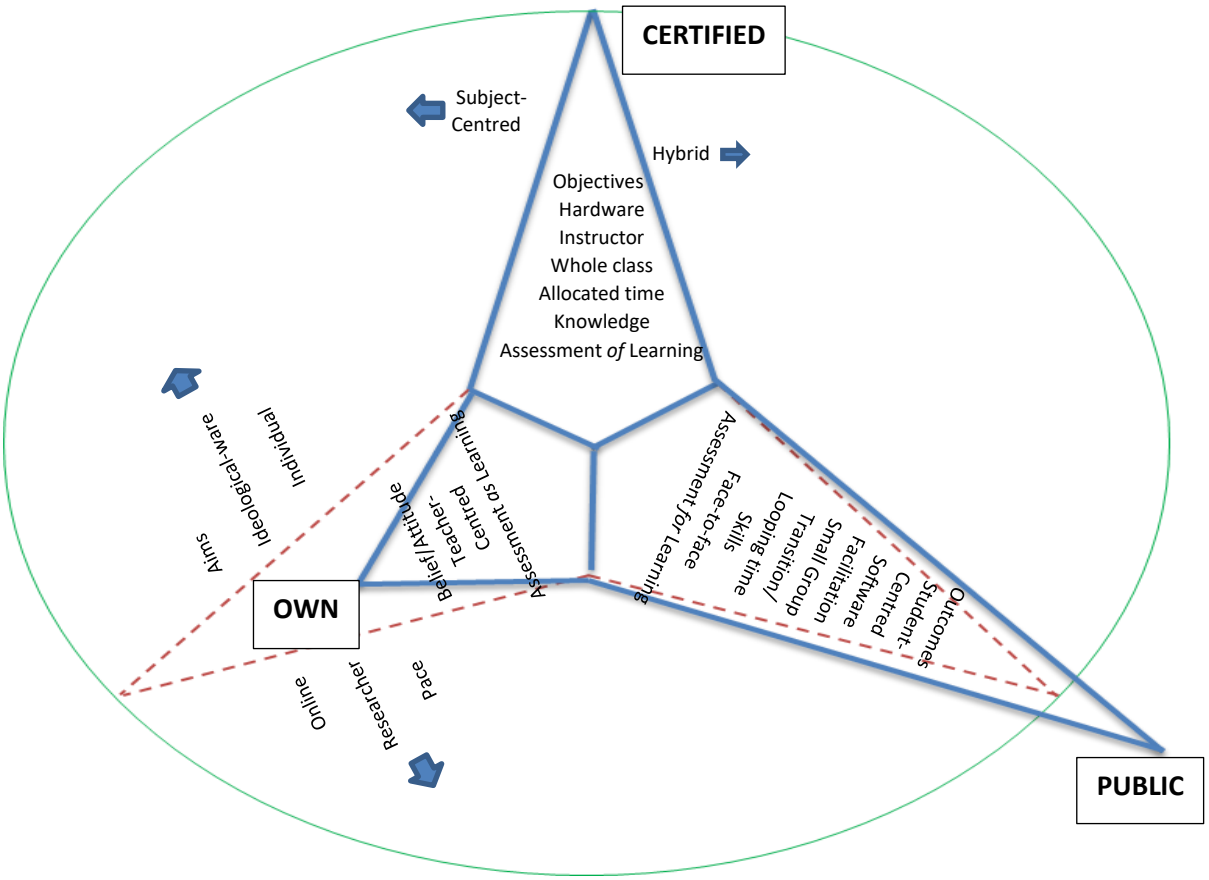


Figure 8.2. Tailed Tri-Star Theory

The dotted lines represent displacement from the symmetrical tri-pointed star, either extension (over-emphasis) or avoidance, as in the case of own reflections. Furthermore, the Tri-Star curriculum theory also explains the effects of any interventions. If educators are trained to follow a certain process, they will be able to do so, but they will need an intervention to sustain this. Interventions aimed at developing educators, such as in the case of action research grounded in a critical paradigm in this study are capable of amending the tri-pointed star of the Tri-Star theory. The tri-pointed star balances on the Archimedes' law of buoyancy, suggesting that if one reflection shrinks, the other one or two will expand in equal volume in line with the displacement of the former. Empowering or enlightening the educators (the own) through action research stretched the star points to retain an almost symmetrical star for public and own reflections, and further attaining the expected target for the own reflections. The action research has therefore been effective, although change could not be attained for subject-centred learning activities (certified), online learning environment (public) and hybrid learning environment (certified). Figure 8.3 therefore demonstrates such.

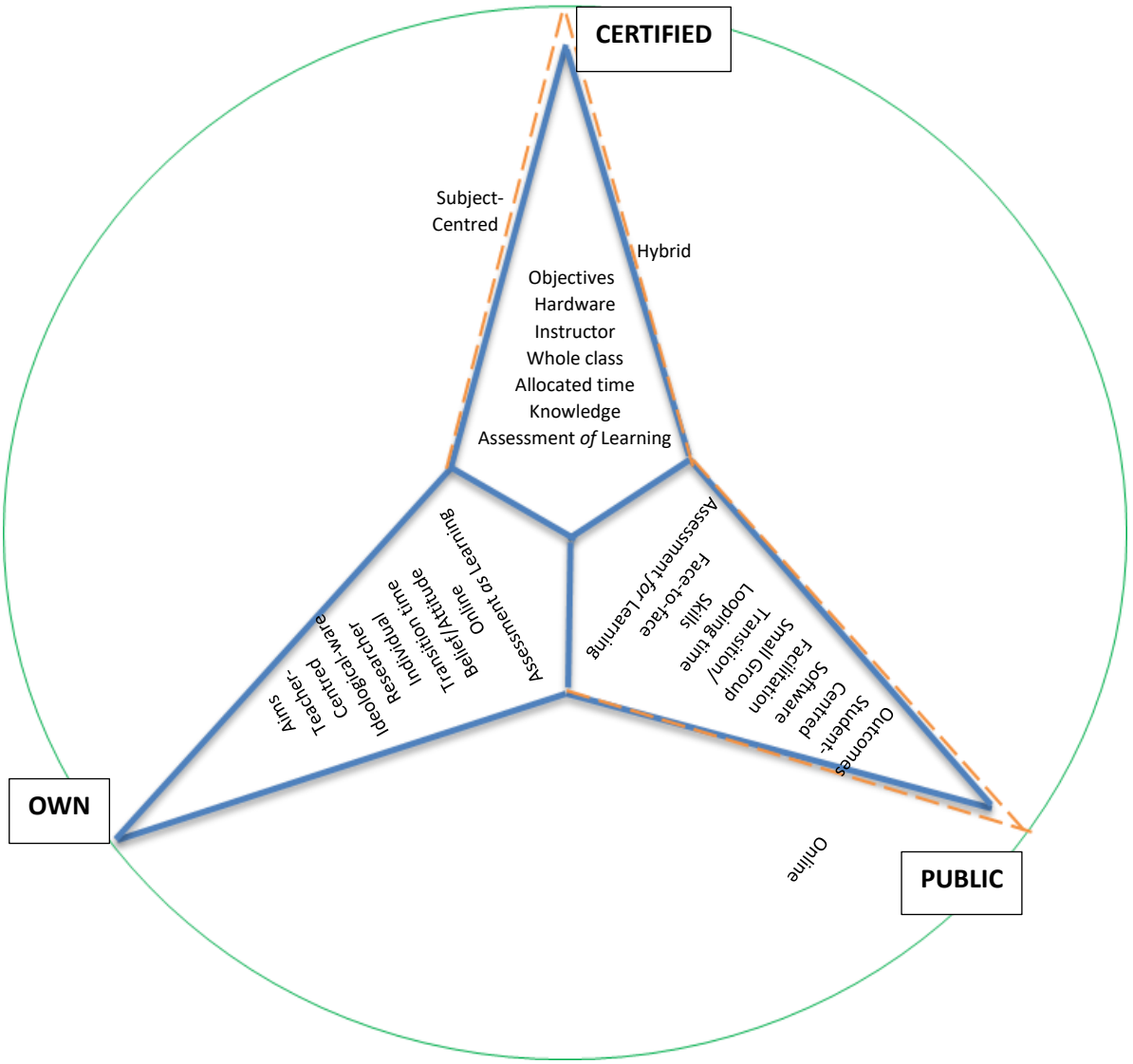


Figure 8.3. Repaired Tri-Star Theory

The Tri-Star theory therefore has served as a useful model for explaining expectations (from literature), actual observations with transformation through action research, and the implications of each curriculum concept.

8.2.1 Educational purposes in Consumer Sciences

Educational purposes mark a set of teaching intentions in Consumer Sciences (Kennedy et al., 2006). These purposes: aims, objectives, and learning outcomes, indicate order of generality or broadness, with aims being the most general (Noddings, 2007). An aim gives educational direction, normally presented in vague terms such as learn, know, understand, appreciate, and study. (Khoza, 2016a, b; Mpungose, 2016; Schiro, 2013) assert that these statements of teachers' intentions demand own reflections. Objectives, on the other hand, provide formal or

semi-formal educational intentions relative to content, and are rooted in certified reflections (Queen, 2017). These are generated in relation to the teachers' intentions rather than to students' intention (Khoza, 2013; Mpungose, 2016; Nkohla, 2016). Objectives should rather be stated in behavioural terms, thus learning outcomes represent competences in terms of observable behavioural change that may be appraised (Wagenaar, 2008). Khoza (2016a) and Freeman (2005) suggest that these competences and skills emphasised in learning outcomes serve the expectations of the public and thus are driven by public reflections.

However, educator's reflections were greatly influenced by public reflections as they enforce learning outcomes. This was attributed to the fact that Consumer Sciences is a practical subject, thus the educator's main goal was to foster a skill either in practical cookery or sewing. Educators' teaching and educational purposes were presented as learning outcomes. However, these educators could not distinguish between learning outcomes and objectives, therefore presented learning outcomes as objectives. Through action research, educators were transformed, thereafter being able to differentiate clearly learning outcomes from objectives. This was demonstrated in their presentation of their educational purposes apropos of aims, objectives and outcomes. The educators had a list of objectives taken from the policy document. These objectives, however, lacked in the affective domain. They were dominated by cognitive and psychomotor domains. It also became clear that teaching was geared towards assessment.

Specifically, the learning outcomes in Consumer Sciences are concerned with development of skills in sewing garment processes such as fasteners, openings, pockets, collars, hemming, sleeve construction, seams, pleats, and darts; food preparation skills of preparing food for vulnerable groups (elderly, toddlers, pregnant mothers, nursing mothers, the sick, convalescents), making cakes, scones, batters, and desserts. These learning outcomes were presented as evidence of what the learners have to achieve. Teaching was therefore controlled by learning outcomes presented as objectives, and focused on preparing students for the external national examination. Therefore, the educational purposes in teaching Consumer Sciences were greatly influenced by both public (outcome) and certified reflections (objective).

Furthermore, educators were not aware of their aims when teaching Consumer Sciences. Educators could not differentiate between aims and objectives. The intervention, through action research, enabled them to understand this difference. Teachers further expressed their aims that

tallied with the aims of Consumer Sciences in Swaziland stated in the policy document. This requires appreciation of the vital role in improving the quality of life within the family, a very important unit for social and economic development. Teachers must understand and develop habits and practices that promote optimal physical, mental, and emotional health. These findings imply that an integrated curriculum is skewed towards development of competences aimed at serving the needs of the public requiring skills for self-employment. Educators are informed by public reflections yet guided by certified reflections (objectives). This will foster learning outcomes for learners, using the objectives as an outline. Finally, through own reflections (aim, values), the educator continuously reviewed the question of power "what do the people want? Where is the discipline heading to? And what is my intention?" The Tri-Star theory is therefore satisfied.

8.2.2 Content and learning experiences

Content is the collection of the facts, concepts, principles, and theories to be transmitted to the learner (Villegas & Lucas, 2002). Content may be based on knowledge and facts approved by experts in the field (certified reflections) relevant to the development of the discipline, thus preparing students for employment. Such content (information, knowledge and facts) is presented as themes or lists of topics to be covered; it supports a performance-based curriculum. On the other hand, content may be socially constructed through experimentation in the classroom, that will fit the skills and competences needed by the society (public reflections), widely used in competence-based curriculum. Lastly, content may present the humanistic view. This bureaucratic presentation of content (knowledge) and (skills and competence) may be of interest to the student/teacher and thus develop love for the work and a good attitude towards the learners.

Educators reflected on the content, showing clear understanding of the knowledge, facts, skills, and competences required in teaching the subject, thus further categorising it using the seven components/themes used in the curriculum policy document. Consumer Sciences includes content such as consumer education and resource management; housing, furnishings, equipment, interior design and care; individual and family development; nutrition and food; and textiles and clothing. Educators teach the skills within the framework of the themes provided in their curriculum document. Even the practical skills conducted or taught are suggested or recommended in the curriculum.

Educators thereafter, through reflections, offered the view that this subject is practical and skills-oriented, and that whatever content knowledge they have in Consumer Sciences is eventually developed into a skill. These skills are what they are known for in the community, society recognising the skills they teach.

Regarding the attitudes they developed towards the content, educators reflected on content coverage issues that they presented as challenges preventing them from giving their best on what they were trained to teach. These challenges include that the curriculum is too broad, all-embracing, having intentional repetition, and thus limiting teachers from exposing students to many other activities and teaching methodologies. The educators, therefore, through focus groups, recommended removal of certain content. Educators are unable to complete the syllabus; learners are not adequately exposed to the content for better retention. The Tri-Star theory is therefore satisfied through empowering the educators to assume their roles as stakeholders of the curriculum and reflect on the subject matter with regard to the needs of both the public and the discipline. The dominance of public reflections implies that such a teacher is likely to enable learners to learn through a skill in a social environment (groups). Learners will [in cookery lessons] create meals as found in their community, or design and sew clothes [in textile lessons] commonly worn in their society or by friends.

8.2.3 Teaching time in Consumer Sciences

According to APSGS (2011) definition, instructional time comprises all the time educators and students use for the purpose of attaining educational purposes. This definition embraces the allocated time (McLeod et al., 2003; OECD; 2014; Gerwertz, 2008), engaged time (Berliner, 1990; Savage & Savage, 2009; Saloviita, 2013), time-on-task (Scheerens & Hendriks, 2014; Laster & Johnson, 2001; Brodhagen & Gettinger, 2012), transition time (Ylimaki, 2013; Pollard & Pollard, 2014), waiting time (Scheerens & Hendriks, 2014; Mantyi-Ncube, 2012), perseverance (Bausell, 2010; Duckworth & Seligman, 2006) and pace (Bausell, 2010; Johnston, 2009; Roxburgh, & Carbone, 2013). Educator reflections on their teaching of Consumer Sciences, according to the Tri-Star theory, were expected to be driven either by certified reflections (allocated time, time-on-task, academic learning time, and engaged time), public reflections (transition time, looping), and own reflections (perseverance, pace). These instructional times influence each other directly, eventually affecting the performance of

learners.

The findings of this study hold that the teaching of Consumer Sciences is greatly influenced by both certified and public reflections, resulting in a tailed tri-pointed star of the Tri-Star theory. This suggests that educators ignore the way in which their own teaching pace and students' perseverance affects teaching. The one-on-one interviews established that educators are concerned with allocated time, and that this time is insufficient for them to finish the syllabus. Teachers therefore need more time allocated for the teaching of Consumer Sciences; however, no one has clarity on recommended time, the curriculum document being silent on that issue. The average teaching time educators find adequate for teaching Consumer Sciences is 45 minutes per period. There should be at least six periods a week excluding waiting times, transition, and teachers' pace. Educators' pace is irregular, pointing to the possibility of failing to cover the whole content or finishing it too early with the danger of learners not grasping the subject matter. Moreover, these times range from 35 minutes to 55 minutes. It is my submission that 55 minutes is too long a period for the learners, who often struggle to concentrate beyond 45 minutes. On the other hand, allocating too little time for instruction directly affects the performance of the students. I noted that the allocation of time is outside the control of the educators, it being the domain of the deputy principals. The curriculum policy document fails to guide these decision-makers along these lines.

Furthermore, looping in Consumer Sciences offers a continuous relationship and communication between students and the teacher, as the teacher progresses with the students to the next level. The JC Consumer Sciences curriculum is taught from Form 1 to Form 3 and thus looping is a possibility. Looping benefits both the teacher and the learners. It helps students develop rapport, and guarantees better classroom interactions and better academic performance, while developing some form of responsibility for each teacher. Teachers therefore assume responsibility for the class. The teacher will do her best to ensure that her learners excel in the external examinations. This also gives the administration some guidance on teachers that will soon need some in-service or professional assistance in their teaching.

Time allocated for teaching Consumer Sciences is inadequate. Moreover, much time is allocated to sporting activities during the second term. The love of sport by the administrators and the availability of good athletes in the school account for a large amount of time spent

indulging sporting activities. In addition, Consumer Sciences educators also waste time during transition between periods. This is mainly because the Consumer Sciences laboratories are far away from the other classrooms, students having to move from their regular classrooms to the labs.

In Phase Two, educators were given PISA (2013) writings on factors or indicators associated with students' drive and motivation, along with curriculum documents from neighbouring countries for them to learn how time can negatively affect teaching and learning through teachers' pace and duration of lesson. The educators esteemed the South African CAPS Consumer Studies, recommending that the Swaziland curriculum be structured similarly, to help them reflect on their own teaching pace. For example, Educator 3 attested that: "*I think the South African curriculum is very clear, providing time durations with which a teacher is expected to finish a particular topic. I really struggled in my early years of teaching for some time I would think I am too fast or too slow*". The second phase of the action research therefore awakened the educators to the need for own reflection on the teaching time concept.

These findings imply that, as the educators are mostly influenced by certified and public reflections, they tend to see themselves being obliged to teach in a particular period (allocated) and thus the more time allocated to the subject, the more likely they will be to finish the syllabus. However, with great influence from certified reflections challenging them to cover content and prepare learners for external examinations, they are compelled to use their spare time and teach during weekends. On the other hand, recognising own reflections (teaching pace) and student perseverance makes them realise that looping, time wastage, transition time, waiting time (public reflections) can affect the allocated time. Acquiring more time only to waste it is worse than simply not acquiring it.

8.2.4 Grouping learners in Consumer Sciences classes

A study by Van den Akker (2010) that explored how a better cross-pollination between educational research and curriculum development could reinforce the information base for curriculum policy yielded classification of students into three groups: whole class (NEA, 2017; Blatchford et al., 2002), small groups (Kirk, 2000; Temitope & Christy, 2015; Black, 2002) and individualised, whether homogeneous or heterogeneous, depending on the nature of content and educator preferences. Since grouping is conducted to adequately manage a class, a

good literary enquiry would be on determining the best procedure (homogeneous or heterogeneous) for grouping learners in each classification (whole class, small group, individualised). However, literature fails to give conclusive evidence on which is guaranteed for better results. This was evident in Mpofu's (2002) study that notes that, although homogeneous grouping was a common practice with Food and Nutrition classes, Consumer Sciences teachers normally use heterogeneous groups for Clothing & Textile, Home Management and Laundry lessons.

The grouping of learners for Consumer Sciences in Swaziland is mostly homogeneous as colourfully depicted in the adage 'birds of a feather flock together' in ability grouping. Even though studies (Marzano et al., 2008; McCarter, 2014; Conyne, 2013; Zamani, 2016) assert that heterogeneous grouping improves social competencies of students, boosting self-esteem, building a positive relationship between the majorities and thus increasing student achievement, the educators argue that it hinders student participation, while homogeneous grouping works well for them. Heterogeneous grouping is thus least practised as it leads to quick learners dominating discussions and the slow learners assuming a silent role, much against the purpose of grouping the students. Since proponents of homogeneous (Straus, 2013; LeTendre et al., 2003) and heterogeneous (Marzano et al., 2008; McCarter, 2014; Conyne, 2013; Zamani, 2016) grouping in literature do not reach a concession, such debates on effectiveness of either have been clarified in this study, with all educators championing homogeneous grouping. However, the nature of the subject has great import. Heltemes (2009) notes that this differs between schools and teachers. There has been an amount of switching between heterogeneous and homogeneous groupings. This suggests therefore that homogeneous grouping is preferred for Consumer Sciences, but possibly not for other subjects. Educators in different fields therefore must arrive at the most beneficial procedure for grouping learners so that they may enjoy the benefits of grouping.

Consumer Sciences educators are greatly influenced by public reflections in grouping their learners, using small groups of 4 to 7 students, either in theory or practical lessons. This grouping benefits both the teacher and the students in the social interactions within the class; and thus the tri-pointed star is tailed to the point of public reflections. For the students, grouping helps them to learn to collaborate, to appreciate different personalities, to enjoy the comfort of working at their own pace, with little or minimised teacher control. Thus grouping is more

useful in practical lessons. Learners in a small group are more readily engaged, or their participation level is enhanced. In addition, this encourages competition among the learners. A class is composed of students from different backgrounds and personalities. Grouping students in Consumer Sciences is used as a unifying tool that helps the learners accept one another.

The usefulness of grouping in Consumer Sciences cannot be ignored, owing to lack of resources that compels educators to group students. Grouping has been conducted mostly for group discussions and practical lessons in Swaziland's Consumer Sciences. During discussions/demonstrations students learn from the other members of the group. They are more open to their peers, and thus share learning easily with them. A teacher who values student-student class interaction is more likely to put students into small groups. Group work also significantly reduces the marking load for the teacher. This grouping is thus dependent on the individual teacher's preference, in collaboration with the learners. However, although educators consistently reflected on the small groups used in Consumer Sciences, the observation session revealed that educators actually teach learners as one group. Grouping is conducted by the school according to student performance and capabilities. It is used then to identify each level of the Junior Secondary education, namely, Forms 1, 2 and 3. Apart from grouping the students by level/ability and by subject, Consumer Sciences is most often grouped with Agriculture, Geography, and the core subjects. This grouping is conducted at administration level during enrolment. Students' performances in these subjects in Primary Certificate determine the stream into which student is grouped.

Although educators wished to divide classes into small groups, there are circumstances encouraging educators to group students either into small groups (such as lack of resources, reduced workload and influence from peers that learners in Consumer Sciences practical lessons are better handled in small groups); or whole class groups (as per administration and national classification criteria). In Phase Two, educators were enlightened through the scholarly works by Weimer (2002) on individualised learning or directed teaching, grounded in the constructivist view of teaching. This is driven by own reflections, in which instructions from the setting of objectives are planned and organised for the learner as an individual, rather than 'learners' as one group. Educators implemented this grouping, and discovered that learners were more willing to try during the individualised learning, yet in a full class they only raise their hands when they are relatively certain that their answer is correct.

8.2.5 Role of a Consumer Sciences teacher

A role is an expected behaviour or an accountability with which an educator is charged (Ndyali, 2013; Tsang & Kwong, 2016). Since there are numerous roles within and outside school, roles commonly understood as educator roles are those related to teaching and learning, thus supporting students' learning (Harden & Crosby, 2000; Harrison & Killion, 2007). Studies (Alabi & Keswet, 2015; Banda & Mntambo, 2016; Gamawa, 2015) claim that a teacher has numerous roles that keep changing owing to changing dynamics of teaching, socially and technologically. Educators' roles are classified into six (Harden & Crosby, 2000; Biggs, 2003). Such roles are driven by own reflections (teacher as a researcher), public reflections (people's teacher/community teacher, catalyst/facilitator teacher), and certified reflections (bread winner/resource provider teacher, curriculum master, judge/assessor, pedagogue/ instruction deliver). Studies (Brown, 2004; Estes, 2004) report that teacher roles driven by public reflections in a curriculum dominated by facilitation are likely to promote experiential learning through student-centred learning approaches. Additionally, studies on students (Jones, 2005; William, 2013; O'Farrell, 2002; Spiller, 2009; Tomlinson, & Moon, 2013) see the teacher as bread winner/resource provider, teacher, and curriculum master, and judge/assessor, pedagogue/instruction deliverer as an expert in the field who serves as the watchdog for the curriculum and is rooted in curriculum-centred teaching. On the other hand, for both the expert and the facilitator to continue to be valid and resourceful, the teacher must continually research (teacher as a researcher). However, the JC Consumer Sciences curriculum and the Swaziland National Policy sector of 2011 does not specify the key teacher roles that underpin the teaching of Consumer Sciences.

Educators' reflections demonstrate clearly that educators in Consumer Sciences facilitate learning for learners to acquire knowledge and skills. The educators were, however, not enlightened on why they were facilitating learning. They were doing so because everybody is doing so (public reflections). Again, the curriculum document generally demands some facilitation: *"This curriculum demands a child –centred education and that charges me with another role of facilitating learning and this requires that the student must be ready to take charge of his/her own learning",* Educator 8 noted. This points to the facilitation role being influenced by certified reflections, even though Hunter (2007) and Schwarz (2005) found it to be rooted in public reflections, in which the teacher interacts with learners but assumes a neutral

role. Again, this implies that if the educators are not enlightened on their rationale for facilitating learning, peer influences and habitual practices may control them.

The other set of roles Consumer Sciences educators play are more curriculum controlled, such as preparing lesson plans, assessment of students' work, preparing materials for teaching, developing students' reports, and demonstrating practical skills. The educators believe that they are experts on the content of Consumer Sciences, and thus they are the rightful personnel to play such roles. Therefore, an educator informed by certified reflections believes in studying much content in her field, planning on how to deliver it and eventually assessing whether learners have acquired such. This expert is therefore an instructor (Jones, 2005; William, 2013; O'Farrell, 2002), assessor (Spiller, 2009; Tomlinson, & Moon, 2013), and organiser (Jadhaw & Patankar, 2013; Oloruntegbe, 2011). The curriculum document becomes the blueprint for all activities. However, these educators do not read or possess reading material empowering them on these professional roles. They rely on workshops in which they also subject themselves to opinions. Their actions therefore result in the tri-pointed star being skewed towards the direction of public reflections. This implies that if an educator follows public reflections, she will uphold democracy in the classroom dominated by discussions, and thus involve herself in community needs. Similarly, this educator enjoys cluster meetings and workshops which the cluster leader or regional inspector facilitates.

Furthermore, educators did not recognise their roles driven by own reflections, as counsellor, motivator, and researcher. Phase 2 of the action research therefore helped these educators in identifying and critically contemplating the three main lenses of reflection in order to see whether they clearly understood their roles. This is crucial for these educators. Zvobgo (2008) asserts that Consumer Sciences teachers are effectively trained on counselling and thus career guidance and counselling in schools must be manned by them. Educators practised these roles, citing that they were initially not aware that the schools needed their services.

8.2.6 Educational resources in Consumer Sciences

A resource is a person or group of persons (Khoza, 2015a; Davies et al., 2008), an organisation or a body of knowledge, skills, tools, and strategies used to support learning (Harden & Crosby, 2000; Adipere, 2010). Khoza (2013) identified three types of resource: hardware (educational tools, devices, and machines), software (materials used by teachers and students to enhance or communicate hardware and speed up teaching and learning) and ideological-ware (theories and

competences necessary for facilitating teaching). Educators informed by certified reflections mostly select tools, devices, and machines approved by curriculum experts (Munandar, 2013; Ningsih, 2013) while software resources supplement the hardware resources by enhancing communication and display, thus driven by public reflections. Clearly, both hardware and software resources promote active learning, and create interest and enthusiasm in the classroom. However, their selection demands the teacher's own ideology (ideological-ware) on promotion of learning, and ideological-ware being greatly influenced by own reflections (Khoza, 2016a; Khoza, 2015c; Govender & Khoza, 2017).

The teaching of Consumer Sciences is mostly dominated by use of hardware resources, thereafter selected software, thus tailing the tri-pointed star, stretching it strongly towards public reflections. Resources are prescribed textbooks, sewing machines, electric irons, ironing boards, pattern envelopes, laundry equipment, textbooks, stoves, microwave ovens, refrigerators, laboratories, food ingredients, fabric, charts, computers and cellphones [hardware]; and software resources: YouTube, PowerPoint, and Internet. The educators were not clear on the ideological-ware such as teaching strategies, personal ideologies and the teacher as a resource person. However, these hardware and software resources are in short supply, therefore the educators in Swaziland experience more challenges with regard to provision, use and development of teaching and learning resources for Consumer Sciences; yet the study established that it is impossible to teach a practically oriented subject like Consumer Sciences without these resources. The importance of computers and the Internet makes teaching and learning interesting and real for both educators and learners. However, even though the educators can make use of such, the Ministry of Education and the school administration do not provide such. Educators therefore use their personal devices. This lack of hardware resources including computers for Consumer Sciences is common. Lau and Albion (2010) also noted some barriers in the rate of adoption of ICT by Consumer Sciences teachers. The administrators however, perceive resources for Consumer Sciences as those for cooking and sewing such as sewing machines, labour-saving devices, models, real-objects, and cooking facilities. Also, the shortages in resources and confusion within the administrators on whether or not to provide computers and Internet for the educators is the result of a loophole in the Consumer Sciences curriculum policy document that does not specify the resources needed for the subject.

Phase 2 of the action research helped educators identify themselves as resources persons whose personal ideology and attitudes combined with self-acquired competences is applied in selecting and using effectively other resources. This implies that, even in a school where educators have access to these resources [hardware and software], the effectiveness of the resources then depends on how each teacher uses them in teaching. Educators therefore reflected strongly on one scarce resource, the financial resource. The educators bemoan the fact that school administrators misappropriate and embezzle monies paid for the subject. This frustrates the smooth running of the Consumer Sciences departments which eventually leads to shortage of resources. On the other hand, Consumer Sciences teachers cannot be spared from accusations of mismanaging and embezzling school finances. Some teachers take advantage of the available funds, buying their personal groceries on the pretext that ingredients are for teaching purposes. Such mismanagement is more likely to affect teaching and learning as per the reflections of Consumer Sciences educators (Mestry, 2004). Possible causes of this is that there is no policy document restricting principals from diverting subject funds to other school capital projects. The complaint is of fraud and dishonesty being pervasive.

Using the Tri-Star theory, an educator informed by certified reflections possesses procedures and user manuals of hardware resources and would want learners to master first the operation of the sewing machine, using this to support learning. However, complaints persist of shortage of such resources.

8.2.7 Learning activities in Consumer Sciences

A learning activity is distinguishable from other activities such as sporting activities, religious activities and cultural activities (Vermette et al., 2010) as it is organised, planned and prepared action or exercise in the classroom undertaken for the purpose of promoting teaching and learning (Monnet, 2006). The Tri-Star theory classifies learning activities into teacher-centred (dominated mostly by teacher activities, plans and instruction), student-centred (dominated by greater student participation, involvement, being more democratic) and content/subject-centred activities (instructional or curriculum-centred activities whose focus is learning skills and content). Teacher-centred activities, according to (Pepler, 2015; Froyd & Simpson, 2008) are designed after teacher's own teaching styles and preferences and thus driven by own reflections; while student-centred activities encourage educators to engage learners in the selection of goals, activities, demonstrations through dialogue and democracy, and thus being

influenced by public reflections. Studies (O'Neill & McMahon, 2005; Carlile & Jordan 2005; Greitzer, 2002) advocate for a paradigm shift from content-centred and teacher-centred to student-centred learning activities (public reflections) with the view that it creates interest and enthusiasm (O'Brien, 2015) for both the learner and the teacher.

The Swaziland JC Consumer Sciences curriculum categorically recommends a student-centred approach (ECOS, 2017a). Educators, however, engage more teacher-centred activities with minimum student-centred activities, while none embraced subject-centered activities. All educators actively apply teacher-centered activities much against their better judgement, knowing that the curriculum advocates for student-centred approaches to teaching. The own or teacher-centred learning activities employed by the educators are assigned reading, teacher-planned presentations, research work, demonstrations and taking notes from chalkboard. In these learning activities, students are rendered as passive learners who take instruction (Pepler, 2015; Froyd & Simpson, 2008; O'Neill, & McMahon, 2005). Furthermore, even the few teachers that at times use student-centered approaches, admit that these activities are planned and directed by them as teachers.

On the other hand, for student-centred learning activities, educators employed with minimum rigour students' debates, role-play, presentations, and educational tours. Phase Two of the action research introduced educators to several approaches and examples of interesting student-centred activities including role-play, jig-saws, problem-solving and other forms of collaborative learning. The educators adopted collaborative learning and discovered that it offers more benefits than covering much content with little retention. The educators demonstrated enthusiasm and interest in collaborative learning, contracting to put it into practise.

8.2.8 Teaching environment for Consumer Sciences

Location is defined in terms of a space, place, building, a classroom, a laboratory, a games room or a sports field where learners gather to receive instruction (Earthman, 2008; Mege, 2014). Other studies (Joutsenvirta & Vehkalahti, 2006; Capita, 2012) view it as an atmosphere for learning. In addition, school location has variables such as schools situated either in rural or urban areas (McCracken & Barcinas, 1991; Chen & Fan, 1999; Ramos et al., 2016; Zhang et al., 2015; Capita, 2012). These studies suggest that teaching and learning location provides a

learning environment. Learning environments are classified into class face-to-face, online, and blended learning environments. The face-to-face environment promotes peer-to-peer/teacher interaction, voice-to-voice and socialization driven by public reflections (Gleeson et al., 2007) while learning environments dominated by online through distance learning are driven by own reflections, promoting individualised learning. Studies (Finn & Bucceri, 2004; Bonk & Graham, 2006) suggest that effective learning is guaranteed through certified reflections that combine research-proven methods from both online and face-to-face environments to give birth to a hybrid learning environment.

However, reflections of the Consumer Sciences educators reveal that the educators only teach in face-to-face learning environments, thus tailing the tri-pointed star towards public reflections. Online learning demands resources such as computers and the Internet that is beyond the jurisdiction of the educators to provide; thus the intentions of this study in transforming them could not succeed. The educators demonstrated willingness to use the online and hybrid learning environment; however, this is not affordable as the government and local school authorities are responsible for provision of necessary facilities for such. This finding implies that these educators support a learning environment in which teacher-student and student-student classroom interactions will be the norm.

Furthermore, as location may be thought of as a building in which learners gather to receive instruction (Ellis, 2001; Lundberg et al., 2008), the educators teach Consumer Sciences in the classroom and mostly in the laboratory. The teachers remain in the lab and the students migrate from their regular classroom settings to the lab. This is a common practice in Consumer Sciences (Manwa & Motsi, 2010). However, the Consumer Sciences curriculum policy document does not specify the learning environment conducive for teaching the subject and is silent on laboratories, classrooms, space, and technologies to be used. Educators in Phase 2 of the action research, through reading, were guided on how the online environment was conducted. This intervention failed because the schools lacks virtual learning environments that promote communication and interaction between teacher and student online.

8.2.9 Assessments in Consumer Sciences

Assessment is a process of collecting relevant educational data or information and analysing it for the purpose of examining the strengths and weaknesses of the programme (Tyler, 2013;

Mokua, 2010). Hume and Coll (2009) categorized assessment into three forms. The study identifies the assessment *of* learning (suggesting the summative assessment done by the teacher at the end of the programme for the purpose of comparing, ranking, and judging students according to their performance), assessment *for* learning (formative assessment concerned with activities that teachers, together with students, undertake for purposes of communicating information about student progress that will eventually be used as feedback) and assessment *as* learning (a metacognition process that occurs when students personally monitor their own learning and use the feedback from this monitoring to make improvements as a result of self-assessment/monitoring). However, studies (Earl, 2003; Taras, 2005; Black et al., 2003; Dixson & Worrell, 2016) recommend a shift from assessments driven by certified reflections (assessment of learning) to that driven by public reflections (formative or assessment for learning).

Educators demonstrated a clear understanding of all the assessments although they could not practise the assessment *as* learning, citing lack of value of self-assessment. They had not developed a good attitude towards self-assessment and/or using their learners to assess their teaching. Fortunately, through action-research intervention, educators implemented assessment *as* learning during the Phase 2 of action research and were amused about the feedback they received from this assessment. Assessment *for* learning is one assessment extensively used by the educators and was commonly referred to as continuous assessment (CA) or formative assessment, thus tailing the tri-pointed star towards public reflections. These assessments are either conducted during lesson presentation and overnight (quizzes, class work, and home assignment) or end of week/month (topic tests and monthly tests). These assessments help teachers determine whether their students are being prepared for assessment *of* learning offered at the end of the year by the Exams Council of Swaziland. These assessments are exams, practical exams, and practical projects. This finding implies that an educator following public reflections teaches skills presented as learning outcomes, and thus she needs immediate feedback from quizzes and monthly tests to inform her on how learners will likely perform in external examinations (assessment *of* learning).

8.3 Addressing the Research Questions

Abbas (2016) notes that every study has either an explicit or implicit purpose statement. More specifically, there are research questions that ought to be answered explicitly. The research

questions concern the nature of the educator reflections, the reasons behind their actions, and the lessons that may be learnt from the educator reflections. Table 8.1 displays in detail the way/s in which the research findings address the questions.

Table 8.1 Addressing research questions

	RESEARCH QUESTIONS		
Curriculum Concepts	**What are educators' reflections on the Junior Secondary Integrated Consumer Sciences curriculum?**	**Why do educators reflect on/in/for the Junior Secondary Integrated Consumer Sciences curriculum in particular ways?**	**What lessons are learnt from the educators' reflections for the purpose of improving the curriculum?**
Educational Purposes	Teaching of Consumer Sciences emphasises learning outcomes, although educators present them all (aims, outcome and objectives) as objectives. Educators do not articulate the aim of teaching Consumer Sciences which is mainly to appreciate the vital role of improving the quality of life within the family, this being an important unit for social and economic development.	This subject in Swaziland is classified along with agriculture and woodwork as a practical subject. Educators concentrate on imparting skills to the learners. In addition, the educators, during tertiary education, were taught the importance of objectives that were eventually used in the assessment. They were competent at reciting Tyler and Taba's models of curriculum development.	Educators who do not understand the aim of their teaching cannot appreciate the vital role of improving the quality of life within the family. This is a very important unit for social and economic development. In addition, it may be seen that training educators only on objectives fails to allow flexibility of thought for teachers. Educators therefore fail to implement any change in the discipline, teaching topics for the purpose of passing exams.
Content	Reflection reveals content as knowledge, facts, skills, and competences from resource management: housing, furnishings, equipment, interior design and care; individual and family development; nutrition and food; and textiles and clothing. Educators believe that knowledge or information on Consumer Sciences must eventually be demonstrated practically as a competency or skill.	Consumer Sciences educators are known as hands-on teachers within the school and the community. The skills or practical orientation of the subject are rooted in an old stereotype of 'cooking and sewing'. Furthermore, educators are workshopped every year only on practical topics and never on theory-/knowledge-based information. There is a general belief that educators can	It may be learnt that, even though educators understand that they are curriculum stakeholders, they are not ready to initiate any change, feeling unempowered and in the minority. Government bodies need to remind and encourage educators to observe their roles and provide a platform for such.

	Educators love the subject but feel intimidated by the breadth of its scope and intentional repetitiveness, which they feel is beyond their control.	advance their knowledge independently; however, special attention must to be offered in training them on acquisition of skills. Lastly, the high unemployment rate in Swaziland has seen government developing an interest in the competences acquired through Consumer Sciences that promote self-employment.	
Role of teacher	The role of the educators is preparing lesson plans, assessment of students' work, preparing materials for teaching, developing students' reports, and demonstrating practical skills. These roles are practised through facilitation. However, educators are not clear why they are facilitating learning. Furthermore, educators are community teachers. They believe in teaching both the learners at school and their parents in the community about nutrition, health, and sewing of clothing. Educators are afraid of taking up their roles as counsellors and lack the rationale and facility to act as researchers	The curriculum policy document demands facilitation of learning and a child-centred curriculum. The educators' job description is not available. Roles of each subject teacher, apart from delivering instruction, are not prescribed and documented.	The educators driven by certified reflections are more likely to concentrate on instructional delivery and assessment for objectives to be met. Also, one learns that educators' roles must be written and communicated, otherwise they will be ignored. School administrators need to understand the capabilities and individual roles for the various subject teachers in the school.

Time	Educators are concerned with allocated time. There is insufficient time allotted to completion of the syllabus. Educators are not clear on the recommended time in the curriculum document, it being silent on that issue. Furthermore, looping in Consumer Sciences is a common practice that offers advantages to both the teacher and the students. Much time is given to sporting activities during the second term. Educators waste time during transition of periods.	Both the Swaziland education policy sector for 2011 and the Consumer Sciences curriculum documents are silent about the recommended length of school period for secondary schools or period duration and number of periods to be allocated (allocated time) for Consumer Sciences. This allows administrators the leeway to use their discretion in time allocation. Also, Consumer Sciences laboratories are distant from the other classes. Students have far to go to attend Consumer Sciences classes, thus extending the waiting and transition time.	It may be learnt that government's failure to regulate teaching and sporting time affects the teaching and learning process.
Resources	Hardware and software resources supporting the teaching of Consumer Sciences are prescribed textbooks, sewing machines, electric irons, ironing boards, pattern envelopes, laundry equipment, textbooks, stoves, microwave ovens, refrigerators, laboratories, food ingredients, fabric, charts, computers and cellphones, and software resources; YouTube, PowerPoint and Internet. In addition, it is impossible to teach this subject without key hardware such as stoves and sewing machines. Availability of resources is greatly influenced by financial resources. Monies paid for	Almost all content in Consumer Sciences is accompanied by a practical lesson that requires hardware resources, mainly stoves and sewing machines. Also, monies paid for each subject are paid into one school account. The principal remains the signatory at the bank; yet there is no policy document or government instrument checking misappropriation of funds for other projects, leaving room for under-funding of certain subjects.	It may be learnt that educational resources are used to aid learning as well as being a medium for delivering instruction or skills acquisition. Another lesson learnt is that dishonesty and mismanagement of school funds cause adverse effects on teaching and learning.

	Consumer Sciences are not properly managed.		
Location	Educators only teach in face-to-face learning environments in the classroom, mostly in the laboratory. Educators demonstrate strong willingness to use an online and hybrid learning environment as they feel that this develops interest among learners.	The Swaziland Education and Training Sector policy of 2011 have committed government to provision of computerised learning environments in future. However, currently the educators do not have access to such, therefore face-to-face learning environments are the only option. Moreover, Consumer Sciences being a practical subject, most practical content requires equipment for the laboratories; for this reason most lessons are in the lab. Lastly, educators, including the other teachers in the schools have developed the conviction that, as there is always cooking and sewing in Consumer Sciences the subject has to be taught in the laboratory.	It may be gleaned from the educator reflections that conducive learning environment changes over time, and that the needs of the learner are crucial in creating a learning environment.
Learning activities	Educators apply teacher-centred activities such as assigned reading, teacher-planned presentations, research work, demonstrations, and taking notes from chalkboard. These educators are fully aware that the curriculum policy advocates for student-centred activities and they are aware of the benefits but prefer teacher-centred activities.	Student-centred learning activities place emphasis on the needs and interests of the learner and the learning process as opposed to the teaching process. These activities therefore require a great deal of time in planning and performing. Educators always complain of limited time. Again, the educators lack expertise in the development of most learning activities.	It may be gathered that the teaching strategies used at school have a way of manifesting as habits in educators, regardless of the numerous methods learnt through teacher training. Teacher trainers, through teaching practise, therefore need to enforce new and student-centred activities, otherwise educators will revert to what has worked for them, albeit now teaching a new generation.

	Student-centred learning activities employed with minimum rigour take the form of student debates, role-play, presentations, and educational tours.	Lastly, educators are mostly influenced by public and own reflections (habits), teaching activities in a similar fashion to their own teachers decades ago when they were at school. The curriculum policy document does not give educators any guidance on learning activities to use.	
Grouping	Educators associate the practice of grouping students positively with the teaching of Consumer Sciences. They were not aware that they have already grouped students according to their capabilities when they have placed them at various levels and labelled them Forms 1, 2 or 3. Lastly, educators easily ignore the importance of teaching the learner as an individual. Educators group learners using small groups of 4 to 7 students either for theory or for practical lessons. Homogeneous grouping is preferred for Consumer Sciences.	The groups are influenced by content themes and the number of students in the class. The greater the number of students the larger the group size. Large class sizes and limited equipment is also responsible for educators' practice of grouping. Lastly, it has become a common procedure to group learners for practical lessons. Educators have also discovered through experience that grouping benefits them as well as the learners: it reduces the workload for marking, and enhances participation. Some students learn better from peers in a group, therefore they continue with it as it proves beneficial.	Although individualised learning, rooted in constructivism, is championed for effective learning, it may be concluded from these findings that it is an expensive option for a practically oriented subject such as Consumer Sciences.
Assessment	Educators were quite clear on the assessment they were using and the rationale for using such assessments.	The curriculum policy document provides a detailed guideline for assessment. There is a separate booklet compiled by the inspectorate in 2007 on the assessment of practical	Educators informed by certified reflections are keen for feedback and confirmation.

		lessons and practical examinations. This enhances educators' proficiency in assessments. Also, the educators attend workshops every year and assessment is always part of the workshop themes. Lastly, educators are greatly influenced by certified reflections and thus value assessment which verifies whether objectives have been achieved.	

8.4 Recommendations

From the findings of the study, literature explored, and analyses made, the last question to answer is: "What should education stakeholders and future researchers do in order to enjoy and appreciate the findings?" The exploration of educators' reflections has unearthed numerous gaps in the curriculum and highlighted or shed light on possible options that may be explored to improve the Consumer Sciences Curriculum. This study therefore outlines recommendations worth implementing for effective teaching and learning of Consumer Sciences.

First, the action research has been effective in developing the own reflections of educators who were able to challenge the curriculum issues that were oppressing them. It is therefore recommended that researchers actively engage educators in educational research and that action research be used in teaching Consumer Sciences.

Second, the Ministry of Education, through the inspectorate and the auditors, should work collaboratively with educators to develop an instrument that will control and regulate procurement of new equipment and stop the abuse of department funds. Departments should keep separate bank accounts. Monies paid towards purchase of equipment and ingredients to use in Consumer Sciences must be accounted for. Government auditors must verify correct procedure every time they visit schools.

Third, the study has pointed out the negative effect of using instructional time on sporting activities. Sports at schools should serve the health and physical fitness purposes only. It is therefore recommended that sports time must not exceed that of a regular period each day. School administrators and sports teachers must adhere to their set times.

Fourth, educator reflections indicate that the curriculum content is too lengthy, offering repetition and obsolete information. The National Curriculum Centre and the Exams Council of Swaziland must remove such content as per recommendation of the focus groups in this study.

Fiftly, the education ministry should take urgent steps to advance and promote the use of technology in education. Educators and learners must gain access to modern ICT to augment the teaching and learning process.

For further studies, the intergration nature of Consumer Science curriculum needs to be explored further. Since the curriculum was crafted from natural sciences, art and cookry, it

recommended that other scholars explore the curriculum in relation to other curricular within each country. In addition, the own, public and certified reflection has proved to be useful in understanding educators' practices. It is therefore recommended that other researchers extend it scope to other disciplines. Lastly, it can be of great significance for this study to be used as Phase one for a quantitative study that will involve majority of the Consumer Science educators in Swaziland.

8.5 Concluding Statement

This section presents the overall conclusion about the research study entitled, "Educators' reflections of the Swaziland junior secondary integrated Consumer Sciences curriculum: towards development of a unique content area". The research phenomenon centred on reflections of educators in their everyday teaching of Consumer Sciences at junior secondary level. The study used inferences from literature, theoretical frameworks, and research design and methodology to explore, understand and categorise reflections and how these has informed findings; and to produce pertinent findings. A Microscopic Curriculum Framework was therefore developed using three forms of reflections as lenses to judge findings in the light of the ten curriculum concepts as enshrined in the curricular spider web. The curricular spider web proved to be a comprehensive viewpoint for scrutinising curricular issues. The research study was informed by a qualitative research approach constituting an action research, utilised four data generation procedures: reflective journal, observations, one-to-one semi-structured interviews, and a focus group discussion. This section articulates the final statements, which summarises the chapter, signifying the salient points of the study holistically.

It became evident that educators in Consumer Sciences have various unfounded conceptions of an integrated curriculum. They are therefore stuck in the nature of this curriculum thus failing to make necessary changes to the curriculum. The educators, although they were emancipated through this study, pointed out that that someone in upper echelons or government body was responsible for their curriculum issue. If they feel powerless in curricular issues, self-development (own reflections) will be compromised. They therefore practise or implement the curriculum based on public reflections of what they have seen other teachers doing. For example, for the time, assessment, grouping and content concepts, educators were driven by public reflections to conform to the need of the public or demonstrate practices that promote interactions. At the same time, content, being the main consideration for this study, needs major redesign regarding determination of a unique content that will keep

the discipline relevant to the expectations of the society, maintaining international standards for the discipline while developing the educators in the process. It may therefore be concluded that educators are not happy with the content they are teaching, owing to numerous topics and sections that are either obsolete or extend the colonialist focus to developing household workers. Educators nowadays perceive the subject as a professional course for training and preparing learners for professional employment.

Furthermore, since the subject is practical-oriented, teaching time, and learning activities are greatly influenced; thus educator reflections report associated challenges, mostly because the curriculum policy document needs to provide clear guidelines to help educators. It may thus be concluded that a curriculum policy's ability to guide educators is key to a successful curriculum implementation. It was further established that poor provision of educational resources and time have negative effects on the teaching of Consumer Sciences. Thus, for effective teaching, such resources must be availed. Consumer Sciences instruction needs relatively more instructional time compared with other subjects. In addition, educators suggest that practical lessons demand more time; the subject should not be awarded average time, along with other subjects. However, having lamented that the allocated time is insufficient to cover the content, much time is lost to sporting activities that even the Ministry of Education fails to control. This time wastage is out of the educators' control, however, Consumer Sciences educators also waste a great deal of time during demonstrations where the educators are not clear with subject matter or as a result of poor planning and classroom arrangement. Educators must be competent, and observe a clear planning guideline prior to the teaching episode.

In addition, both literature and findings of this study confirm that looping benefits both the educator and the students as they bond over the years. The continuous relationship and communication can eliminate waiting times and misunderstandings. On the part of the educator, it may be concluded that looping develops some sense of responsibility to every educator. Success or failure of the students at the end of the three-year JC Consumer Sciences programme may be entirely attributed to the educator's sole effort, and thus it may be used for appraisals. Lastly, teaching pace and student perseverance are time concepts that the educators seem not to consider sufficiently. Such time concepts do, however, affect the allocated time and quality of time educators and students spend while exploring the curriculum. All educators are concerned with completing the syllabus as early as possible yet recording maximum

retention, therefore, allocated time must be adequate, and teacher's pace be kept at levels that will not affect students' perseverance in taking instruction. Sadly, the curriculum policy document does not give any guidelines on these time concepts. Both the own and certified reflections, therefore, have not been observed in this curriculum, thus rendering it to public reflections that lead to time wastage and failure to observe the interests of the both the educator and the students. It may be concluded that the educators reflected in this way because: a) both the Swaziland education policy sector for 2011 and the Consumer Sciences curriculum documents are silent about the recommended school period for secondary schools or period duration and number of periods to be allocated (allocated time) for Consumer Sciences, This gives administrators leeway to use their discretion on time allocation; b) Consumer Sciences laboratories are far away from the other classrooms, yet students move from their normal classrooms to the labs, thus wasting time, lengthening the waiting and transition time. Government's failure to regulate teaching and sporting time affects the teaching and learning process.

Lastly, the study reveals that educators were not aware that they had already grouped students according to their capabilities when they put them at different levels and labelled them Forms 1, 2 or 3. Educators ignore the importance of teaching the learner as an individual (Weimer, 2002; Balcom, 2012). Phase Two of the action research helped teachers explore other groupings (whole class and individual) rather than concentrating only on small groups. This suggests that grouping in the teaching of Consumer Sciences in Swaziland is driven by public reflections. Furthermore, ability grouping/homogenous grouping seems to promote the teaching and learning of Consumer Sciences. This mode of grouping is critical for Consumer Sciences practical lessons in which skills and understanding are developed at varied student pace. The aim of such lessons is development of a skill and thus 'hoppers' cannot be yoked along with 'cheaters' if maximum retention is desired. Studies (Kirk, 2000; Temitope & Christy, 2015; Ryan, 2000; Korir & Kipkemboi, 2014) embrace numerous benefits of the group learning process both for teachers and he students themselves. However, this study highlights that educators also enjoy teaching a manageable group, reducing assessment loads. In response to reasons for educators to reflect this way, it became evident that the groups are influenced by content, theme, and number of students in the class − the greater the number of students the larger the group size. Larger class sizes and limited equipment are also responsible for educators' practise of grouping. To conclude, it has become a common habit to group learners for practical lessons. Educators also discovered through experience that grouping

benefits them as well as the learners. Grouping reduces the workload for marking, and enhances participation. Some students learn better from peers in a group, thus they continue with groupwork as it is beneficial. Although individualised learning, rooted in constructivism, is championed for effective learning, it may be concluded from these findings that this may be somewhat expensive for a practical-oriented subject like Consumer Sciences.

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APPENDICES

Appendix 1: Phase One Reflective Activity

Educator Code**: _____**

This Reflective activity is for reflections of your experiences of the JC Consumer Science curriculum in Swaziland schools. Your reflections will be guided the following curriculum concept questions. Reflection can be 'reflection-on-action (what am I doing? Why am I doing this, how?), 'reflection-in-action' (what have I done? Why did I do this?) And 'reflection-for-action' (How better could I have done it? What are possible consequences of what I have done?) ***Please reflect on each of these curriculum concepts and write on a separate paper. Feel free to express yourself.**

CURRICULUM CONCEPTS	REFLECTIONS
1. Rationale for teaching JC Consumer Science (CS): why do you teach CS?	
2. Educational Purpose: What are your Goals for teaching CS?	
3. Content: What content do you teach in CS?	

4. Time: What Teaching time do you use in CS. When do you teach? Why?	
5. Grouping of students. What grouping do you use? Why group students?	
6. Activities: What Learning activities do you organise? Why?	
7. Resources: What Resources do you use, why?	
8. Teacher role: what is your role as CS teacher?	
9. Location/environment: where do you teach?	
10. Assessment? How? Why? Purpose?	

Appendix 2: Phase Two Reflective Activity

Educator Code**:** _____

This Reflective activity is for reflections of your experiences of the JC Consumer Science curriculum in Swaziland schools. Your reflections will be guided the following curriculum concept questions for Own, Public and Certified reflections**. ***Please reflect on each of these curriculum concepts and write on a separate paper. Feel free to express yourself.**

Curriculum Concepts	**Own Reflections**	**Public Reflections**	**Certified Reflections**
1. Rationale			
2. Educational Purpose			
3. Content			
4. Time			

5. Grouping			
6. Learning Activities			
7. Resources			
8. Teacher role			
9. Location/environment			
10. Assessment			

3Appendix 3: Participants' Consent Forms

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

CONSENT FORM FOR PARTICIPATION IN RESEARCH

(by interview, focus group, reflective journal)

Educators' Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.

Date 20-08-17

Dear Anne Dlamini

You are being invited to participate in a research study on Educators' Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.

This research will require about 1-2 hours of your time. During this time, you will be interviewed about your experiences with this curriculum. The interviews will be conducted wherever you prefer (e.g. in your home), and will be tape-recorded. There are no anticipated risks or discomforts related to this research.

Several steps will be taken to protect your anonymity and identity. While the interviews will be tape-recorded, the tapes will be destroyed once they have been typed up. The typed interviews will NOT contain any mention of your name, and any identifying information from the interview will be removed. The typed interviews will also be kept in a locked filing cabinet at the University of KwaZulu-Natal. All information will be destroyed after 5 years time.

Your participation in this research is completely voluntary. During focus groups, you will be afforded with lunch packs and transport allowance. However, you may withdraw from the study at any time for any reason. If you do this, all information from you will be destroyed.

If you require any information about this study, or would like to speak the researcher, please call Dumisa Mabuza +26876806348, dumisamabuza@gmail.com or the researcher supervisor Dr. S. B Khoza at the University of KwaZulu-Natal Edgewood Campus (P/bag X03, Ashwood, 3605), +27 31 260 7595/3619 +27 79 517 4399, khozas@ukzn.ac.za. You may also contact the Research Ethics Office through: Ximba Phumelele HSSREC Research Office, Tel: 031 260 3587
E-mail: ximbap@ukzn.ac.za

I ...Anne Dlamini.....

being over the age of 18 years hereby consent to participate as requested in the ..... for the research project on ....August.....

1. I have read the information provided above.
2. Details of procedures and any risks have been explained to my satisfaction.
3. I agree to audio recording of my information and participation.
4. I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.
5. I understand that:
   - I may not directly benefit from taking part in this research.
   - I am free to withdraw from the project at any time and am free to decline to answer particular questions.
   - While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
   - Whether I participate or not, or withdraw after participating, will have no effect on any treatment or service that is being provided to me.
   - I may ask that the recording/observation be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.
6. I agree/do not agree* to the tape/transcript* being made available to other researchers who are not members of this research team, but who are judged by the research team to be doing related research, on condition that my identity is not revealed. ** delete as appropriate*
7. I have had the opportunity to discuss taking part in this research with a family member or friend.
8. **Please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:**

	willing	Not willing
Audio equipment	✓	
Photographic equipment		✓
Video equipment	✓	

Participant's signature.....Dlamini.....**Date**...21/08/2017

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name.....Dumisa Mabuza.....

Researcher's signature.....Dlamini.....**Date**..21-08-2017

UNIVERSITY OF KWAZULU-NATAL

INYUVESI YAKWAZULU-NATALI

CONSENT FORM FOR PARTICIPATION IN RESEARCH

(by interview, focus group, reflective journal)

Educators' Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.

Date 20-08-17

Dear Bongiwe Simelane

You are being invited to participate in a research study on Educators' Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.

This research will require about 1-2 hours of your time. During this time, you will be interviewed about your experiences with this curriculum. The interviews will be conducted wherever you prefer (e.g. in your home), and will be tape-recorded. There are no anticipated risks or discomforts related to this research.

Several steps will be taken to protect your anonymity and identity. While the interviews will be tape-recorded, the tapes will be destroyed once they have been typed up. The typed interviews will NOT contain any mention of your name, and any identifying information from the interview will be removed. The typed interviews will also be kept in a locked filing cabinet at the University of KwaZulu-Natal. All information will be destroyed after 5 years time.

Your participation in this research is completely voluntary. During focus groups, you will be afforded with lunch packs and transport allowance. However, you may withdraw from the study at any time for any reason. If you do this, all information from you will be destroyed.

If you require any information about this study, or would like to speak the researcher, please call Dumisa Mabuza +26876806348, dumisamabuza@gmail.com or the researcher supervisor Dr. S. B Khoza at the University of KwaZulu-Natal Edgewood Campus (P/bag X03, Ashwood, 3605), +27 31 260 7595/3619 +27 79 517 4399, khozas@ukzn.ac.za. You may also contact the Research Ethics Office through: Ximba Phumelele HSSREC Research Office, Tel: 031 260 3587
E-mail: ximbap@ukzn.ac.za

I Bongiwe Slmelane

being over the age of 18 years hereby consent to participate as requested in the ..... for the research project on August.....

1. I have read the information provided above.
2. Details of procedures and any risks have been explained to my satisfaction.
3. I agree to audio recording of my information and participation.
4. I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.
5. I understand that:
   - I may not directly benefit from taking part in this research.
   - I am free to withdraw from the project at any time and am free to decline to answer particular questions.
   - While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
   - Whether I participate or not, or withdraw after participating, will have no effect on any treatment or service that is being provided to me.
   - I may ask that the recording/observation be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.
6. I agree/do not agree* to the tape/transcript* being made available to other researchers who are not members of this research team, but who are judged by the research team to be doing related research, on condition that my identity is not revealed. ** delete as appropriate*
7. I have had the opportunity to discuss taking part in this research with a family member or friend.
8. **Please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:**

	willing	Not willing
Audio equipment	✓	
Photographic equipment		✓
Video equipment	✓	

Participant's signature.....**Date**.24-8-17

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name.....Dumisa Nlabza.

Researcher's signature.....**Date**.24-08-2017

UNIVERSITY OF KWAZULU-NATAL

INYUVESI YAKWAZULU-NATALI

CONSENT FORM FOR PARTICIPATION IN RESEARCH

(by interview, focus group, reflective journal)

Educators' Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.

Date 20-08-17

Dear Nkhombe

You are being invited to participate in a research study on Educators' Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.

This research will require about 1-2 hours of your time. During this time, you will be interviewed about your experiences with this curriculum. The interviews will be conducted wherever you prefer (e.g. in your home), and will be tape-recorded. There are no anticipated risks or discomforts related to this research.

Several steps will be taken to protect your anonymity and identity. While the interviews will be tape-recorded, the tapes will be destroyed once they have been typed up. The typed interviews will NOT contain any mention of your name, and any identifying information from the interview will be removed. The typed interviews will also be kept in a locked filing cabinet at the University of KwaZulu-Natal. All information will be destroyed after 5 years time.

Your participation in this research is completely voluntary. During focus groups, you will be afforded with lunch packs and transport allowance. However, you may withdraw from the study at any time for any reason. If you do this, all information from you will be destroyed.

If you require any information about this study, or would like to speak the researcher, please call Dumisa Mabuza +26876806348, dumisamabuza@gmail.com or the researcher supervisor Dr. S. B Khoza at the University of KwaZulu-Natal Edgewood Campus (P/bag X03, Ashwood, 3605), +27 31 260 7595/3619 +27 79 517 4399, khozas@ukzn.ac.za. You may also contact the Research Ethics Office through: Ximba Phumelele HSSREC Research Office, Tel: 031 260 3587
E-mail: ximbap@ukzn.ac.za

I ..... Welile M khombe .....

being over the age of 18 years hereby consent to participate as requested in the ..... for the research project on ...August.....

1. I have read the information provided above.
2. Details of procedures and any risks have been explained to my satisfaction.
3. I agree to audio recording of my information and participation.
4. I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.
5. I understand that:
   - I may not directly benefit from taking part in this research.
   - I am free to withdraw from the project at any time and am free to decline to answer particular questions.
   - While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
   - Whether I participate or not, or withdraw after participating, will have no effect on any treatment or service that is being provided to me.
   - I may ask that the recording/observation be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.
6. I agree/do not agree* to the tape/transcript* being made available to other researchers who are not members of this research team, but who are judged by the research team to be doing related research, on condition that my identity is not revealed. ** delete as appropriate*
7. I have had the opportunity to discuss taking part in this research with a family member or friend.
8. **Please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:**

	willing	Not willing
Audio equipment	✓	
Photographic equipment		✓
Video equipment	✓	

Participant's signature.....MKhombe.....**Date**..20-08-2017.....

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name.....Dumisa Nlabuza.....

Researcher's signature.....**Date**..20-08-2017.....

UNIVERSITY OF KWAZULU-NATAL

INYUVESI YAKWAZULU-NATALI

CONSENT FORM FOR PARTICIPATION IN RESEARCH

(by interview, focus group, reflective journal)

Educators' Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.

Date 20-04-17

Dear Thobile Mhlanga

You are being invited to participate in a research study on Educators' Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.

This research will require about 1-2 hours of your time. During this time, you will be interviewed about your experiences with this curriculum. The interviews will be conducted wherever you prefer (e.g. in your home), and will be tape-recorded. There are no anticipated risks or discomforts related to this research.

Several steps will be taken to protect your anonymity and identity. While the interviews will be tape-recorded, the tapes will be destroyed once they have been typed up. The typed interviews will NOT contain any mention of your name, and any identifying information from the interview will be removed. The typed interviews will also be kept in a locked filing cabinet at the University of KwaZulu-Natal. All information will be destroyed after 5 years time.

Your participation in this research is completely voluntary. During focus groups, you will be afforded with lunch packs and transport allowance. However, you may withdraw from the study at any time for any reason. If you do this, all information from you will be destroyed.

If you require any information about this study, or would like to speak the researcher, please call Dumisa Mabuza +26876806348, dumisamabuza@gmail.com or the researcher supervisor Dr. S. B Khoza at the University of KwaZulu-Natal Edgewood Campus (P/bag X03, Ashwood, 3605), +27 31 260 7595/3619 +27 79 517 4399, khozas@ukzn.ac.za. You may also contact the Research Ethics Office through: Ximba Phumelele HSSREC Research Office, Tel: 031 260 3587
E-mail: ximbap@ukzn.ac.za

I ...Thobile Mhlanga.....

being over the age of 18 years hereby consent to participate as requested in the ..... for the research project on ..August.....

1. I have read the information provided above.
2. Details of procedures and any risks have been explained to my satisfaction.
3. I agree to audio recording of my information and participation.
4. I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.
5. I understand that:
   - I may not directly benefit from taking part in this research.
   - I am free to withdraw from the project at any time and am free to decline to answer particular questions.
   - While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
   - Whether I participate or not, or withdraw after participating, will have no effect on any treatment or service that is being provided to me.
   - I may ask that the recording/observation be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.
6. I agree/do not agree* to the tape/transcript* being made available to other researchers who are not members of this research team, but who are judged by the research team to be doing related research, on condition that my identity is not revealed. ** delete as appropriate*
7. I have had the opportunity to discuss taking part in this research with a family member or friend.
8. **Please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:**

	willing	Not willing
Audio equipment	✓	
Photographic equipment		✓
Video equipment	✓	

Participant's signature..T.Mhlanga.....**Date**..23/08/2017

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name.....Dumisa Mabuza.....

Researcher's signature.....**Date**..23-08-2017

UNIVERSITY OF KWAZULU-NATAL

INYUVESI YAKWAZULU-NATALI

CONSENT FORM FOR PARTICIPATION IN RESEARCH

(by interview, focus group, reflective journal)

Educators' Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.

Date 20 - 08 - 17

Dear Dlamini Dalisile

You are being invited to participate in a research study on Educators' Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.

This research will require about 1-2 hours of your time. During this time, you will be interviewed about your experiences with this curriculum. The interviews will be conducted wherever you prefer (e.g. in your home), and will be tape-recorded. There are no anticipated risks or discomforts related to this research.

Several steps will be taken to protect your anonymity and identity. While the interviews will be tape-recorded, the tapes will be destroyed once they have been typed up. The typed interviews will NOT contain any mention of your name, and any identifying information from the interview will be removed. The typed interviews will also be kept in a locked filing cabinet at the University of KwaZulu-Natal. All information will be destroyed after 5 years time.

Your participation in this research is completely voluntary. During focus groups, you will be afforded with lunch packs and transport allowance. However, you may withdraw from the study at any time for any reason. If you do this, all information from you will be destroyed.

If you require any information about this study, or would like to speak the researcher, please call Dumisa Mabuza +26876806348, dumisamabuza@gmail.com or the researcher supervisor Dr. S. B Khoza at the University of KwaZulu-Natal Edgewood Campus (P/bag X03, Ashwood, 3605), +27 31 260 7595/3619 +27 79 517 4399, khozas@ukzn.ac.za. You may also contact the Research Ethics Office through: Ximba Phumelele HSSREC Research Office, Tel: 031 260 3587
E-mail: ximbap@ukzn.ac.za

I ..DLAMINI BLALISILE.....

being over the age of 18 years hereby consent to participate as requested in the ..... for the research project on ...AUGUST.....

1. I have read the information provided above.
2. Details of procedures and any risks have been explained to my satisfaction.
3. I agree to audio recording of my information and participation.
4. I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.
5. I understand that:
   - I may not directly benefit from taking part in this research.
   - I am free to withdraw from the project at any time and am free to decline to answer particular questions.
   - While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
   - Whether I participate or not, or withdraw after participating, will have no effect on any treatment or service that is being provided to me.
   - I may ask that the recording/observation be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.
6. I agree/do not agree* to the tape/transcript* being made available to other researchers who are not members of this research team, but who are judged by the research team to be doing related research, on condition that my identity is not revealed. ** delete as appropriate*
7. I have had the opportunity to discuss taking part in this research with a family member or friend.
8. **Please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:**

	willing	Not willing
Audio equipment	✓	
Photographic equipment	✓	
Video equipment	✓	

Participant's signature.....**Date**..21/08/2017.....

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name.....Dumisa Malaza.....

Researcher's signature.....**Date**..21-08-2017.....

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

CONSENT FORM FOR PARTICIPATION IN RESEARCH

(by interview, focus group, reflective journal)

Educators' Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.

Date 20-08-17

Dear Mgeti Dlamini

You are being invited to participate in a research study on Educators' Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.

This research will require about 1-2 hours of your time. During this time, you will be interviewed about your experiences with this curriculum. The interviews will be conducted wherever you prefer (e.g. in your home), and will be tape-recorded. There are no anticipated risks or discomforts related to this research.

Several steps will be taken to protect your anonymity and identity. While the interviews will be tape-recorded, the tapes will be destroyed once they have been typed up. The typed interviews will NOT contain any mention of your name, and any identifying information from the interview will be removed. The typed interviews will also be kept in a locked filing cabinet at the University of KwaZulu-Natal. All information will be destroyed after 5 years time.

Your participation in this research is completely voluntary. During focus groups, you will be afforded with lunch packs and transport allowance. However, you may withdraw from the study at any time for any reason. If you do this, all information from you will be destroyed.

If you require any information about this study, or would like to speak the researcher, please call Dumisa Mabuza +26876806348, dumisamabuza@gmail.com or the researcher supervisor Dr. S. B Khoza at the University of KwaZulu-Natal Edgewood Campus (P/bag X03, Ashwood, 3605), +27 31 260 7595/3619 +27 79 517 4399, khozas@ukzn.ac.za. You may also contact the Research Ethics Office through: Ximba Phumelele HSSREC Research Office, Tel: 031 260 3587
E-mail: ximbap@ukzn.ac.za

I ..... Ngeti Dlamini .....

being over the age of 18 years hereby consent to participate as requested in the ..... for the research project on ..... August .....

1. I have read the information provided above.
2. Details of procedures and any risks have been explained to my satisfaction.
3. I agree to audio recording of my information and participation.
4. I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.
5. I understand that:
   - I may not directly benefit from taking part in this research.
   - I am free to withdraw from the project at any time and am free to decline to answer particular questions.
   - While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
   - Whether I participate or not, or withdraw after participating, will have no effect on any treatment or service that is being provided to me.
   - I may ask that the recording/observation be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.
6. I agree/do not agree* to the tape/transcript* being made available to other researchers who are not members of this research team, but who are judged by the research team to be doing related research, on condition that my identity is not revealed. ** delete as appropriate*
7. I have had the opportunity to discuss taking part in this research with a family member or friend.
8. **Please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:**

	willing	Not willing
Audio equipment	✓	
Photographic equipment		✓
Video equipment		✓

Participant's signature..... N Dlamini .....**Date**..... 20/08/17 .....

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name..... Dumisa Mabuza .....

Researcher's signature..... D Mabuza .....**Date**..... 20-08-17 .....

UNIVERSITY OF KWAZULU-NATAL

INYUVESI YAKWAZULU-NATALI

CONSENT FORM FOR PARTICIPATION IN RESEARCH

(by interview, focus group, reflective journal)

Educators' Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.

Date 20-08-17

Dear Hobsile Khumalo

You are being invited to participate in a research study on Educators' Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.

This research will require about 1-2 hours of your time. During this time, you will be interviewed about your experiences with this curriculum. The interviews will be conducted wherever you prefer (e.g. in your home), and will be tape-recorded. There are no anticipated risks or discomforts related to this research.

Several steps will be taken to protect your anonymity and identity. While the interviews will be tape-recorded, the tapes will be destroyed once they have been typed up. The typed interviews will NOT contain any mention of your name, and any identifying information from the interview will be removed. The typed interviews will also be kept in a locked filing cabinet at the University of KwaZulu-Natal. All information will be destroyed after 5 years time.

Your participation in this research is completely voluntary. During focus groups, you will be afforded with lunch packs and transport allowance. However, you may withdraw from the study at any time for any reason. If you do this, all information from you will be destroyed.

If you require any information about this study, or would like to speak the researcher, please call Dumisa Mabuza +26876806348, dumisamabuza@gmail.com or the researcher supervisor Dr. S. B Khoza at the University of KwaZulu-Natal Edgewood Campus (P/bag X03, Ashwood, 3605), +27 31 260 7595/3619 +27 79 517 4399, khozas@ukzn.ac.za. You may also contact the Research Ethics Office through: Ximba Phumelele HSSREC Research Office, Tel: 031 260 3587
E-mail: ximbap@ukzn.ac.za

I ..... Hlobisile Khumalo .....

being over the age of 18 years hereby consent to participate as requested in the ..... for the research project on ...August.....

1. I have read the information provided above.
2. Details of procedures and any risks have been explained to my satisfaction.
3. I agree to audio recording of my information and participation.
4. I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.
5. I understand that:
   - I may not directly benefit from taking part in this research.
   - I am free to withdraw from the project at any time and am free to decline to answer particular questions.
   - While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
   - Whether I participate or not, or withdraw after participating, will have no effect on any treatment or service that is being provided to me.
   - I may ask that the recording/observation be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.
6. I agree/do not agree* to the tape/transcript* being made available to other researchers who are not members of this research team, but who are judged by the research team to be doing related research, on condition that my identity is not revealed. ** delete as appropriate*
7. I have had the opportunity to discuss taking part in this research with a family member or friend.
8. **Please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:**

	willing	Not willing
Audio equipment	✓	
Photographic equipment	✓	
Video equipment	✓	

Participant's signature.....Khumalo.....**Date**.....22-08-2017.....

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name.....Dumisa Mabuza.....

Researcher's signature.....**Date**.....22-08-2017.....

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

CONSENT FORM FOR PARTICIPATION IN RESEARCH

(by interview, focus group, reflective journal)

Educators' Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.

Date 20-08-17

Dear Lusanda Simelane

You are being invited to participate in a research study on Educators' Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.

This research will require about 1-2 hours of your time. During this time, you will be interviewed about your experiences with this curriculum. The interviews will be conducted wherever you prefer (e.g. in your home), and will be tape-recorded. There are no anticipated risks or discomforts related to this research.

Several steps will be taken to protect your anonymity and identity. While the interviews will be tape-recorded, the tapes will be destroyed once they have been typed up. The typed interviews will NOT contain any mention of your name, and any identifying information from the interview will be removed. The typed interviews will also be kept in a locked filing cabinet at the University of KwaZulu-Natal. All information will be destroyed after 5 years time.

Your participation in this research is completely voluntary. During focus groups, you will be afforded with lunch packs and transport allowance. However, you may withdraw from the study at any time for any reason. If you do this, all information from you will be destroyed.

If you require any information about this study, or would like to speak the researcher, please call Dumisa Mabuza +26876806348, dumisamabuza@gmail.com or the researcher supervisor Dr. S. B Khoza at the University of KwaZulu-Natal Edgewood Campus (P/bag X03, Ashwood, 3605), +27 31 260 7595/3619 +27 79 517 4399, khozas@ukzn.ac.za. You may also contact the Research Ethics Office through: Ximba Phumelele HSSREC Research Office, Tel: 031 260 3587
E-mail: ximbap@ukzn.ac.za

I ..... Lusanda Simelane .....

being over the age of 18 years hereby consent to participate as requested in the ..... for the research project on ....August.....

1. I have read the information provided above.
2. Details of procedures and any risks have been explained to my satisfaction.
3. I agree to audio recording of my information and participation.
4. I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.
5. I understand that:
   - I may not directly benefit from taking part in this research.
   - I am free to withdraw from the project at any time and am free to decline to answer particular questions.
   - While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
   - Whether I participate or not, or withdraw after participating, will have no effect on any treatment or service that is being provided to me.
   - I may ask that the recording/observation be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.
6. I agree/do not agree* to the tape/transcript* being made available to other researchers who are not members of this research team, but who are judged by the research team to be doing related research, on condition that my identity is not revealed. ** delete as appropriate*
7. I have had the opportunity to discuss taking part in this research with a family member or friend.
8. **Please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:**

	willing	Not willing
Audio equipment	✓	
Photographic equipment		✓
Video equipment		✓

Participant's signature.....L. Simelane.....**Date**.....23-08-2017.....

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name.....Dumisa Mabuza.....

Researcher's signature.....D Mabuza.....**Date**.....23-08-2017.....

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

CONSENT FORM FOR PARTICIPATION IN RESEARCH

(by interview, focus group, reflective journal)

Educators' Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.

Date 20 - 08 - 17

Dear Hlengiwe Maggula

You are being invited to participate in a research study on Educators' Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.

This research will require about 1-2 hours of your time. During this time, you will be interviewed about your experiences with this curriculum. The interviews will be conducted wherever you prefer (e.g. in your home), and will be tape-recorded. There are no anticipated risks or discomforts related to this research.

Several steps will be taken to protect your anonymity and identity. While the interviews will be tape-recorded, the tapes will be destroyed once they have been typed up. The typed interviews will NOT contain any mention of your name, and any identifying information from the interview will be removed. The typed interviews will also be kept in a locked filing cabinet at the University of KwaZulu-Natal. All information will be destroyed after 5 years time.

Your participation in this research is completely voluntary. During focus groups, you will be afforded with lunch packs and transport allowance. However, you may withdraw from the study at any time for any reason. If you do this, all information from you will be destroyed.

If you require any information about this study, or would like to speak the researcher, please call Dumisa Mabuza +26876806348, dumisamabuza@gmail.com or the researcher supervisor Dr. S. B Khoza at the University of KwaZulu-Natal Edgewood Campus (P/bag X03, Ashwood, 3605), +27 31 260 7595/3619 +27 79 517 4399, khozas@ukzn.ac.za. You may also contact the Research Ethics Office through: Ximba Phumelele HSSREC Research Office, Tel: 031 260 3587
E-mail: ximbap@ukzn.ac.za

I ...HLENGIWE MAGAGULA.....

being over the age of 18 years hereby consent to participate as requested in the ..... for the research project on .....AUGUST.....

1. I have read the information provided above.
2. Details of procedures and any risks have been explained to my satisfaction.
3. I agree to audio recording of my information and participation.
4. I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.
5. I understand that:
   - I may not directly benefit from taking part in this research.
   - I am free to withdraw from the project at any time and am free to decline to answer particular questions.
   - While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
   - Whether I participate or not, or withdraw after participating, will have no effect on any treatment or service that is being provided to me.
   - I may ask that the recording/observation be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.
6. I agree/do not agree* to the tape/transcript* being made available to other researchers who are not members of this research team, but who are judged by the research team to be doing related research, on condition that my identity is not revealed. ** delete as appropriate*
7. I have had the opportunity to discuss taking part in this research with a family member or friend.
8. **Please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:**

	willing	Not willing
Audio equipment	✓	
Photographic equipment		✓
Video equipment		✓

Participant's signature.....**Date**...20/08/17...

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name.....Dumisa Mabuza.....

Researcher's signature.....**Date**...20-08-17

[4]Appendix 4: Letter to the Director of Education

The Director of Education
Ministry of Education and Training
Mbabane

12 December 2016

Dear Sir/Madam

Graduate Thesis: **Educators' Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.**

Mr Dumisa Mabuza is a PhD in Education (Curriculum Studies) student at the University of KwaZulu-Natal, South Africa. Mr. Mabuza enrolled for graduate studies on July 2016 and will graduate after successfully complying with all requirements that include conducting a research under supervision.

He is therefore proposing to conduct his research "***Educators' Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.***" and the data will be generated with Consumer Science educators (High school teachers, Regional inspectors and retired teachers) in Manzini and Hhohho regions through:

- face-to-face interviews,
- reflective journals and
- Focus groups.

Any help afforded to him regarding permission to access the schools and the educators would be most appreciated. Please find overleaf, list of schools and departments to be engaged.

Yours Sincerely,

Simon Bheki Khoza, PhD. ***(****Adviser)*
Academic Leader: Research & Higher Degrees
Senior Lecturer: Curriculum Studies & Ed Technology
Room A124, School of Education
Edgewood Campus (P/bag X03, Ashwood, 3605)
University of KwaZulu-Natal
+27 31 260 7595/3619; +27 79 517 4399 khozas@ukzn.ac.za

Appendix 5: Permission to Conduct Study

The Government of the Kingdom of Swaziland

Ministry of Education & Training

Tel: (+268) 2 4042491/5
Fax: (+268) 2 404 3880

P. O. Box 39
Mbabane, SWAZILAND

3rd February, 2017

Attention:
Head Teachers

Mater Dolorosa High School	Mbabane Central High School	Lobamba National High School
St. Francis High School	Timphisini High School	Swazi National High School
Zombodze National High School	Mjingo High School	Mhubhe High School

THROUGH
Hhohho & Manzini Regional Education Officers

Dear Colleagues,

RE: REQUEST FOR PERMISSION TO COLLECT DATA FOR UNIVERISYT OF KWAZULU-NATAL STUDENT – MR. DUMISA MABUZA

1. Reference is made to the above mentioned subjects.
2. The Ministry of Education and Training has received a request from Mr. Dumisa Mabuza, a student at the University of KwaZulu-Natal, that in order for him to fulfill his academic requirements at the Midland State University, he has to collect data (conduct research) and his study or research topic is: *Educator's Reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards Development of a Unique Content Area.* The population for his study comprises of consumer science teachers from the above mentioned schools, regional inspectors and consumer science pioneer who rare retired. All details concerning the study are stated in the participants' consent form which will have to be signed by all participants before Mr. Mabuza begins his data collection. Please note that parents will have to consent for all the participants below the age of 18 years participating in this study.
3. The Ministry of Education and Training requests your office to assist Mr. Mabuza by allowing him to use above mentioned schools in the Hhohho and Manzini regions as his research sites as well as facilitate him by giving him all the support he needs in his data collection process. Data collection period is one month effective from February 2017 to allow schools to settle down after opening in January 2017.

DR. SIBONGILE M. MTSHALI-DLAMINI
DIRECTOR OF EDUCATION AND TRAINING

MINISTRY OF EDUCATION TRAINING 2017 -02- 03 MBABANE

cc: Regional Education Officers – Hhohho and Manzini
Chief Inspector – Secondary
9 Principals/Head Teachers of the above mentioned schools.
Dr. Simon Bheki Khoza – Research Coordinator

Page 1

Appendix 6: Ethical Clearance

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

13 March 2017

Mr Dumisa Mabuza 216072198
School of Education
Edgewood Campus

Dear Mr Mabuza

Protocol Reference Number: HSS/0199/017D
Project title: Educators' reflections of the Swaziland Junior Secondary Integrated Consumer Science Curriculum: Towards development of a Unique content area

Full Approval – Expedited Application

In response to your application received 3 March 2017, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL.**

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

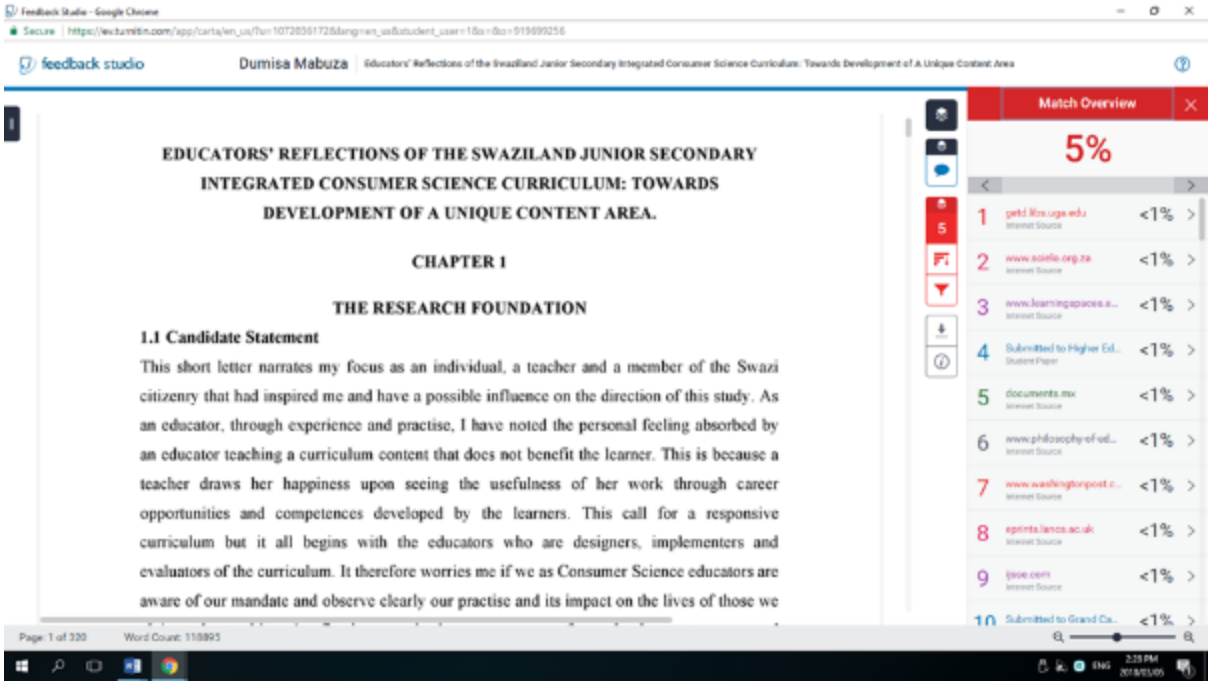
.....

Dr Shenuka Singh (Chair)
Humanities & Social Sciences Research Ethics Committee

/pm

cc Supervisor: Dr SB Khoza
cc. Academic Leader Research: Dr Thabo Msibi
cc. School Administrator: Ms Tyzer Khumalo

Appendix 7: Turnitin Report



Appendix 8: Interview Protocol

Educator Code: _____

This Reflective activity is for reflections of your experiences of the JC Consumer Science curriculum in Swaziland schools. Interviews and were guided the following curriculum concept questions:

1. GOALS:

1.1 Why are you a Consumer Science educator?
1.2 What are your intentions for teaching Consumer Sciences
1.3 Why do you think the consumer science curriculum is ideal for Swazi pupils
1.4 Considering the current goals of this curriculum and the needs of the society; what goals do you feel the curriculum should focus on or be eliminated, why?

2. CONTENT:

2.1 What content are you teaching I Consumer Sciences?
2.2 Why are you teaching that content?
2.3 With reference to the Themes in the Consumer Science curriculum, what sections do you find obsolete and why?
2.4 In your own experience, what subject matter should be taught to produce an ideal person educated in consumer sciences?

3. ORGANISATION

3.1 Activities

3.1.1 Which activities/tasks are you using to educate pupils in Consumer Sciences?
3.1.2 Why are the said activities used in our classroom/school?
3.1.3 What other activities should consumer science pupils be engaged to
3.1.4 Why are the activities /tasks not implemented
3.1.5 What activities do you use that is not effective or benefiting the pupils? Why?

3.2 Resources

3.2.1 What resources are you using as a Consumer Sciences educator?
3.2.2 What resources should be incorporated in the teaching of consumer sciences?
3.2.3 Why do you need/ use those resources in your teaching?
3.2.4 How do availability and costs of resources in Consumer Sciences influence the teaching of Consumer Sciences?

3.2 Educator Role

3.3.1 How do you facilitate learning of Consumer Sciences?
3.3.2 What roles are you/ expected to/ should be performed by an Consumer Science Teacher?

3.4 Accessibility

3.4.1 How do you access the teaching of Consumer Sciences?
3.4.2 How do you access teaching materials for Consumer Sciences?
3.4.3 How best could teaching artifacts for CS be accessed?

3.5 Location

3.5.1 Where are you teaching (Location) Consumer Sciences?
3.5.3 Why are certain environments suitable for teaching COS?
3.5.4 What situations/atmosphere would you like to integrate into the teaching of Consumer Science?

3.6 Time

3.6.1 When are you teaching (Time allocation) Consumer Sciences?
3.6.2 What time structures do you use when teaching Consumer Sciences?

4. ASSESSMENT:

4.1 How do you assess learning of Consumer Sciences?
4.2 Why do you assess learning?
4.3 Consumer Science as a practical oriented subject, how best could the practical examinations be handled?

Appendix 9: Extract from Focus Group Transcriptions

Intentions of Teaching Consumer Science

Educator 6…I wish them not to just learn in class and pass but when they grow up it become useful to their lives because I believe it is also working for me now because it is not teaching them how to cook, saw but I can be able to do most of the things because of it and it opens up your mind and even if you did not go to the university it opens up your mind and empower you so that you can do other things and start some business and keep life going. Educator 4 added……I want them to know that home economics is not what you always wrote about so that they can spread the true gospel about the subject not the catering and sewing for the whole four years and as they learn the subject they remove the idea on their mind that it is for cooking and sawing and they learn the science of cooking fabrics and clothes. Educator 1 said….I want the students to learn that home economics encompasses all the other subjects and hey experience it daily so that as they learn at school they may have the idea that this is the thing we learn at school we don't understand that its home economics because we have mentality that it a cooking and sewing subject.

Is there any Content which Is Now Obsolete?

Educator 7….I think some of the concepts have to be reviewed.eg fashion and fabrics the moderation which they do in the garments of children its actually like they are teaching principles of sewing, not fashion and fabrics because when you talk about fashion, it is a change in things, what we asked in HODs meeting was that why are they marking our kids wrong when they put a centered zip which is at the same time decorative, they say in their syllabus there is nothing like that. Educator 9….A centered zip is used in skirts these days from top and is reaches the bottom that zip is also decorative. Educator 8……They say it is not what is required but that is fashion. When you sew a trouser they only want you to use the old way for sewing it when in fact fashion is changing, it comes back now and again. Educator 3….So some concepts need to be changed and the technological aspect of it. The enamel, some of those things will no longer be in use, but when you talk about them some students don't know about them as they know electric pots. Educator 5…..We stick to the old things when they are supposed to be removed in the subjects as they will end up no longer in use and they will be history. Educator 1…..in fashion and fabrics there are a lot of things which you find that the children said that you can use a frill here they are observing the things outside but the books say you cannot finish this using a frill and the clothes they are wearing has got the frill which means that to the children u are saying that what they are observing is against the book so they cannot learn outside and it's no longer reality and i think they should be a revision in that some of the things which are unnecessary they should not consider it when writing and the time at schools which is the problem. Educator 2…..the allocation of the time is a problem for the subject it has got minimal time which is 35-70minutes you find that it has 3-4 hours per week for example in form 1 you have to do the scarf, the child dress and some practicals and the theory is very long yet it does not go alone it has to be with the practicals which results to us being interpreted wrongly like we are not doing our job. Educator 6…..yes you find that at the end of the year form1 has not done even one practica…

Appendix 10: An extract of Interview Transcription for Educator 6

Q…if u talk empowerment or transformation how would you see if the learners have been empowered or the transformation has taken place???

Educator 6…that hard to respond, but there are basic assessments that will show if they understand. They need to pass the assessment. That gives directions. Also need to measure if they have developed interest in starting their own businesses using the skills they have acquired. tor school events they could do something

Q….you said assessment is an expectation, whose expectation???

Educator 6…"It could be leaners because the learners themselves have some goals at the beginning of the lesson so if the assessment produces lower marks then that would mean the objective wasn't met. Maybe it was met to a certain degree. Again the child in class has own expectations. If not the assessment must give reflection of what the child see of him?"

Q….What kinds of assessment?

Educator 6….. "One reason is to see if the learners are improving.....see if objectives are met.....see the kind of children you have, screen or grade them. Will see different capabilities e.g. some good in research, mastering information etc. i normally use tests, presentations (research anything and present) and the presentations are graded. In practical's used then practical exams and quiz. The students then research and present in class although the research tasks are either done as groups or individually. Other form of assessment i use is sending them to different organisations that concerns content matter in consumer sciences

Q…..u talked about meeting the specified objectives, who determine the objectives?

Educator 6….. "it if a given in the curriculum e.g. management of diabetes. So if ask question that will require the child to show understanding of the dietary related illness. I can add own objectives because adding objectives does not mean changing the curriculum but linking different aspect in one thing e.g. we just moving from consumer to food and nutrition bit can add objectives that can make the child view the curriculum holistically."