INFLUENCE OF CONCEPT MAPPING TEACHING STRATEGY ON SECONDARY SCHOOL STUDENTS' ACQUISITION OF LIFE SKILLS THROUGH CHRISTIAN RELIGIOUS EDUCATION CURRICULUM IN NDHIWA SUB-COUNTY, KENYA

BY

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DECLARATION

This thesis is my original work and has not been submitted and presented in this or any other institution or university for award of Diploma or Degree.

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To my late father, Timothy, loving mum Sophia Onyango, and my late son Marx

Omondi

ABSTRACT

Christian Religious Education (CRE) is a carrier subject of Life Skills (LS) content in Kenyan secondary schools. The teaching of CRE is to enable the learner to acquire and develop a sense of self- respect and respect for others. Despite the exposure of students' to CRE curriculum, the general behavior and conduct of students in Ndhiwa Sub-County is still rated at only 40%. Concept Mapping Teaching Strategy (CMS) creates a learning environment which inspires students to think deeply about how they might apply what they have learnt to their daily lives. This study investigated the influence of Concept Mapping Strategy (CMS) on Secondary School Students' acquisition of life skills through CRE Curriculum in Ndhiwa Sub-County, Kenya. A diagrammatical conceptual framework indicating the relationship between independent and dependent variables was used. The study objectives were to: establish secondary school CRE syllabus level of life skills content coverage acquired through CMS, determine the difference in life skills acquisition between students taught CRE through CMS and those taught using traditional methods and establish the difference in life skills acquisition between students exposed to CMS when they are categorized by gender. The study adopted a Quasi Experimental Research Design involving Solomon Four Non-Equivalent Group Design. Population of the study was all 1850 Form Four CRE students in public co-educational day secondary schools. Purposive sampling technique was used to select 169 students and simple random sampling was used to determine four schools with similar characteristics to participate in the study. Two instruments namely; Curriculum Content Analysis Matrix (CCAM) and CRE Students Life Skills Test (CRESLST) were used to gather data. CRE teachers were provided with CMS guide for the purpose of teaching the experimental group. The teachers were inducted on the use of the guide and the researcher observed the implementation of the guide. The selected topic within the CRE syllabus was taught for two weeks. The face and content validity of the two instruments were examined by two CRE teachers and a team of experts at Maseno University in the Department of Education Communication, Technology and Curriculum Studies. CCAM and CRESLST were piloted for reliability and their coefficients estimated using Krippendorff's Alpha and Kuder Richardson's formula respectively. The reliability coefficient of CRESLST was .78 and that of CCAM was .73.Data was analyzed with the aid of Statistical Package for Social Sciences (SPSS) version 20.0.Qualitative data was summarized and described using frequencies, percentages, means and standard deviations. The second and third research questions were tested at $\alpha = .05$ using the t-test. Data collected through CCAM and CRESLST were analyzed using SPSS and Excel. The study results indicated that the level of LS content coverage of the CRE syllabus for the 4 years course was average at 34.56%. The results also indicated that CMS positively affects secondary school students' life skills acquisition. Finally the study revealed that students gender and their life skills acquisition is not statistically significant. The study results may be used by Kenya Institute of Curriculum Development (KICD) to interrogate teachers' pedagogical practices and life skills content coverage of the secondary CRE curriculum. The findings may be used to inform teachers to enhance on their life skills teaching approaches so as to attain the intended objectives of teaching CRE. Finally, the results can be used by educators to inform the students on the effects of their gender difference on life skills acquisition

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LIST OF ABBREVIATIONS

ADHD	Attention Deficit Hyperactivity Disorder
CCAM	Curriculum Content Analysis Matrix
CMS	Concept Mapping Strategy
CRE	Christian Religious Education
CRESLST	Christian Religious Education Students' Life Skills Test
HRE	Hindu Religious Education
IRE	Islamic Religious Education
KICD	Kenya Institute of Curriculum Development
KIE	Kenya Institute of Education
LS	Life Skills
OECD	Organization for Economic Cooperation and Development
RE	Religious Education
QASO	Quality Assurance and Standards Officer
ROK	Republic of Kenya
SEE	Social Education and Ethics
WHO	World Health Organization

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

It is important to provide students with life skills (LS) because it enables them to translate knowledge, attitudes and values into actual abilities (World Health Organization [WHO], 2003). Life skills equip the students with the ability to make right judgments (Dinama, 2012). LS are defined as the abilities that enable individuals to behave in healthy ways, given the desire to do so and given the scope and opportunity to do so (WHO, 2003).

The Kenya Institute of Curriculum Development ([KICD], 2006), defines LS as abilities which enables an individual to develop adaptive and positive behaviuor so as to deal effectively with challenges and demands of everyday life. Indicators of LS include: decision making, effective communication, self- awareness, self- control, interpersonal relationship skills, empathy, problem solving, creative thinking, peaceful resolution of conflicts (WHO, 2003)

Chesaro (2003) argues that no society can exist without LS for they aid in building relationships between people. Effective acquisition and application of LS can influence the way we feel about ourselves and others (WHO, 2003). Life skills contribute to our perceptions of self- efficacy, self-confidence, and self- esteem (WHO, 2003). They play an important role in the promotion of mental well-being. The promotion of the mental well-being contributes to our motivation to look after ourselves and others, the prevention of mental disorders, and the prevention of health and behavior problems (WHO, 2003). Every school therefore, has a responsibility to

develop the LS competencies of its students (You & Penny, 2011). The type of LS training provided to students determines the quality of adults they become to their families, communities and nation at large (Sober, 2009).

Secondary students in Kenya are provided with LS training to foster good critical thinking skills, interpersonal relationships, develop a sense of self-respect and respect for others and contribute positively to the transformation of self and society as a whole (KICD, 2006). Xaxx (2014) asserts that people with solid sense of interpersonal skills and life skills of living to be are less easily coerced by others particularly where peers pressure is intense, hence, the need for life skills education. Students are trained to acquire life skills through carrier subjects like Christian Religious Education (CRE) in secondary schools. Subjects like literature provides experiences which students can relate to through the plot or characters in a novel, play or poem vicariously. This study however, focuses on CRE as a subject.

Debate on the place and purpose of Religious Education (RE) was vigorously pursued in Britain in the 19th century and even generated a lot of research work (Lord & Barley, 1973). For more than half a century after 1870 Education Act, the main question remained to be how RE was to be offered in the country's schools. By 1944, school curriculum in Britain was conceived as two fold-secular instruction and religious instruction. Distinction was made between evangelization and education, as the former was affecting religious teaching in the country's schools.

Religious education has been an important subject of study in USA because of its role in equipping learners with LS (Eric, 1994). It was first conceived as Comparative

Religion or Science of Religion in the early years of its inception as a discipline in the 1950s. Hull (1982) notes that by the second half of the 20th century the study of religion had become a prominent and important field of academic inquiry. This made several state agencies and local school districts to create mandates and guidelines regarding the teaching of religion (Eric, 1994).For instance, California was among the first to publish the handbook on life skills, civic education and teaching about religion. The National Council for Social Studies gave a statement on its position about religion that stated that knowledge about religion was not only a characteristic of an educated person, but it was also necessary for understanding and living in a world of diversity (Eric, 1994).

In Africa, Mbiti (1969) observes that RE in Africa could be traced long before the coming of Christian missionaries who termed Africans as heathens and uncivilized. Before the advent of Christianity, religion significantly affected the traditional lives of Africans as it was the vehicle by which life skills were inculcated (Amugune, 2005). Mbiti (1969), further observes that religion provides mankind with life skills by which to live. His candid remarks on religion went as follows:

> … part of any religious system is its life skills which regulate and harmonize human life. Its religion which tells us what is right and what is wrong, what is good and what is evil, what a virtue is and what is vice. (p. 52)

In Kenya, formal teaching of Religious Education held central position since the coming of early missionaries who opened the first school in 1846 (Stanfield, 2005). According to Sifuna (1986), missionaries used schools as a means of recruiting people in the church especially children. Sifuna (1986) observes that the Bible which emphasized the doctrines of the church was the main text for teaching Religious

Education. After 1911, the colonial government began to get involved in education of Africans (Wanjie, 1992). It joined the missionaries and gave financial support to mission schools. The schools which were controlled by the missionaries became famous for good quality education (Wanjie, 1992).

Later on, several education reports and authors recommended that effective, sound, integral and meaningful education should be diversified in order to have an all-round entity (Republic of Kenya [RoK], 1976). The same report pointed out that education was expected to meet and satisfy all the needs of the learners, namely; the physical, the mental, the moral and the spiritual needs. Republic of Kenya emphasized the need of formal education in helping the students to grow holistically. It supported the teaching of CRE in the education system as a basis for the continued survival and enhancement of life. Religious Education therefore, was considered by religious organizations as not just another academic subject, but as a vehicle that was expected to affect behavioral changes among learners Koech Report (RoK, 1999).

While reviewing the goals of education in Kenya as was recommended by Ominde Commission (RoK, 1964), it was noted by (RoK, 1999) that the goals were long term and were expressed in broad values of the society, consequently, achieving them required the goals to be translated into primary and secondary level objectives. The secondary level objectives aimed at making the learner grow up morally, spiritually, physically, self-disciplined and relating well with other people. The Task Force on Student Unrest in Secondary Schools in Kenya chaired by Wangai (RoK, 2001) recommended that CRE be made compulsory in all schools. The recommendation was informed by the fact that most schools were sponsored by religious organizations and CRE had been in secondary schools curriculum since colonial times. Consequently,

Religious Education (CRE, IRE & HRE) was viewed as the subject with the highest life skills content (RoK, 2001).

CRE became very important in the curriculum in helping achieve objectives of secondary education. The secondary education syllabus, Kenya Institute of Education ([KIE], 2002) provides the following as the objectives of teaching CRE:

i.   Acquire social, spiritual and moral insights to think critically
ii.   Make appropriate decisions in rapidly changing society
iii. Appreciate and respect their own and other peoples' culture
iv.   Acquire the basic principles of Christian living
v.   Develop a sense of self-respect and respect for others
vi.   Promote international consciousness through the understanding of universal brotherhood and sisterhood
vii. Contribute positively to the transformation of self and society as a whole.
      This study however, was anchored on the third and seventh objectives .

Majority of secondary school students are teenagers and are at the stage of learning by experimenting and trying to seek freedom (RoK, 2001). In the process most of them become victims of moral decadency. As a result, they exhibit in their conduct life skills deficiency indicators such as: alcohol and drug abuse, bullying, stealing, strikes, raping, cheating in examinations among others (Poipoi, Agak & Kabuka, 2011). Kowino, Agak and Kochung (2012) observed that although the need to enable the Kenyan student arrive at moral judgment through critical thinking is well articulated in the CRE curriculum, many secondary school graduates are still unable to use their critical faculties well to make responsible choices. Mwalulu (2007) noted that it is the school leavers who are normally used by the politicians to cause mayhem in the society. Oyaro (2009) adds that Kenyan reform institutions are full of the students

who should belong to secondary schools rather than penitentiary. Peace Net- Kenya (2007) reported that students in Ndhiwa Sub- County were being used by the politicians to disrupt meetings organized by the leaders. Table 1.1 indicates part of the quarterly report on secondary schools maintainance of quality and standards with reference to cases of students' unrest within Homa – Bay County between the periods of 2010 -2015.

Table 1.1: Cases of Student Unrest in Homa- Bay County per Sub- County

Sub- County	Number of Schools involved in strike	Total number of schools in the Sub – County	% of the affected schools
Homa- Bay	00	79	00
Mbita	02	39	5.13
Ndhiwa	08	50	16.0
Rachuonyo N	00	52	00
Rachuonyo S	01	81	1.23
Suba	00	37	00

Source: Ndhiwa Sub-County Quality Assurance and Standards Office (2016)

Table 1.1 indicates that while Homa-Bay and Suba sub-counties did not report any cases of students' unrest, Ndhiwa sub-county had eight cases translating to 16.0%. Though the percentage falls below the 50% mark, it is worth noting that students' unbecoming behaviour in Ndhiwa rated highest as compared to the other sub-counties. Ndhiwa sub-county quarterly report on secondary schools maintenance of quality and standards further revealed that the general conduct and behaviour of the secondary students was only rated fair at 40.0% (Ndhiwa QASO, 2016). Moreover, the report indicated that the general behaviour and conduct of female students rated at

53.6% as compared to their male counterparts at 41.1%. However, the report never indicated the factors that may have led to this percentage disparity in terms of students' behaviour and the parameters upon which the ratings were made.

Making reference to (Ndhiwa QASO, 2016) report on the discipline and behaviuor of students by gender, this study sought to establish the difference in life skills acquisition among students exposed to CMS when they are categorized by gender. Solveig and Simon (1995) conducted a study on computer-assisted foreign language learning; Effects of context and gender on listening comprehension and motivation. Their study indicated that girls demonstrated higher achievement than boys did, indicating that girls tend to like different kinds of software than boys do. An interaction between context and gender regarding achievement was significant: Girls, but not boys, made fewer errors after a story-embedded lesson. Similarly, studies conducted by Mooch (2012), Orina (2016) among others, though not life skills based studies, indicate Girls but not boys, demonstrating a higher achievement in language related skills. They found out that girls tend to be fluent and more capable verbally than boys. This study established whether there is difference by gender of life skill competency of students exposed to CMS.

Drawing inference from the CRE curriculum set objectives, CRE is meant to impart in the learner all-round development by exposing the pupil to the knowledge and life skills, respect for authorities whether spiritual or temporary; and equipping the learner with appropriate life skills required for co-existence with others in any given human environment (Njoku & Njoku, 2015). Students do not manifest positive behaviours that depict life skills which are inculcated through CRE (Njoku & Njoku, 2015). The

attitude of such students suggests that CRE has not achieved its objectives. The desired outcomes do not manifest in some students' behaviours judging from the rate of immorality observable in schools and the society at large (Kowino, Kochung & Agak, 2012).

Effective implementation of life skills education through CRE and other carrier subjects depends on the teachers' pedagogical skills (Dinama, 2013). The skills enable the teacher to plan, implement and evaluate the teaching and learning process while transforming the subject matter into a form that will facilitate student learning (Dinama, 2013). Otewa (2015) contends that there are two major teaching strategies; traditional/expository strategy and heuristic or constructivist approach. Traditional teaching methods involves direct instruction where the teacher transfers or transmits basic information, values, skills and attitudes whereas learners are expected to memorize, copy, imitate or reproduce (Mwaka, Nabwire & Musamas, 2014). Tella, Indoshi and Thuon (2010), noted that traditional teaching strategies are instructors-centered methods that make the learners not to enjoy their lessons and therefore miss the benefits of intellectual discovery. Traditional teaching methods involves careful and meticulous planning of the curriculum and purposeful instructional procedures by the teacher in which the learners have a definite and fixed perception of their role as listeners while the teachers are expected to be talkers and custodian of knowledge (Odundo & Gunga, 2013). In the past, the teaching of CRE has been through a rote method handed over by the missionaries (Njoku, 2015). The rote methods centered on the use of memorization, dictation, discussion, lecture just to mention a few, and these methods do not give the learner the opportunity to participate actively rather make learners' passive. Rote methods according to Okafor (2001) prepare the learner to

achieve the cognitive objectives of the subject without due considerations to the affective objectives.

Heuristic/ constructivist approach to teaching refers to indirect instruction where the teachers facilitates learning by posing questions, guiding, indicating sources of information, and sharing of ideas, problems and solutions (Mwaka, Nabwire & Musamas, 2014). The constructivist approach is a high learner emphasis in which the teacher encourages the learners to actively seek their own knowledge sources to deepen and enrich their comprehension of the course material (Otewa, 2015). The mode of instruction is learner centered in which they are encouraged to display elements of scientific reasoning such as recognition of the problem, formulation of the hypothesis, construction of mental models, testing the hypothesis and reaching possible conclusions (Otewa, 2015). However, Wehrli and Nyquist (2003) assert that a single learner-centered teaching approach has its own weaknesses which can only be strengthened when different learner-centered approaches are used together in the teaching learning process. Concept Mapping Strategy (CMS) is one of the constructivist approaches to teaching.

Davies (2011) defines CMS as a more deliberate and structured way of representing the relationship between ideas. CMS is a selected combination of learner-centered teaching methods which facilitate active, reflective and meaningful learning. These selected teaching methods include; brainstorming, role play, use of game, self-awareness test and case-based small groups. Educators who look for new ways to make their teaching engaging, active, and student-centered can use CMS to achieve their teaching and learning goals (Beavers, 2014). Such learner centered-methods has

been noted (Chika, 2012) to be powerful in enhancing learning achievement. Njoku (2015) overs that CRE teachers should make appropriate selection and combination of teaching methods to ensure effective teaching of the subject as a step towards attaining desired life skills among secondary school students

Life skills are the abilities which enable the students to develop adaptive and positive behaviuor so as to effectively deal with the challenges and demands of everyday life (KICD, 2006). Secondary school students in Kenya are taught LS through CRE and other carrier subjects like literature. CRE curriculum is the main guide for teaching of life skills (KIE, 2002). The achievement of life skills education objectives is influenced by the curriculum content and instructional strategies employed by teachers (Ming' yue, 2013). CMS allows teachers to make their teaching engaging, active, and student – centered to achieve their teaching and learning goals. Literature (Peace Net-Kenya, 2007) shows that LS acquisition of students in Ndhiwa Sub – County is inadequate as evidenced by their frequent engagement in unbecoming behaviuor. This is an indication that life skills education provided to students has not achieved its objectives. It is possible that inadequate life skill training in secondary schools in the Sub – County may be due to weaknesses in the CRE curriculum or ineffective methods used to deliver its content. It may also be due to students' gender.

1.2 Statement of the Problem

Life skills are taught in secondary schools in Kenya through CRE and other carrier subjects as indicated earlier. LS enable students to develop adaptive and positive behaviours so as to effectively deal with challenges and demands of everyday life. Teachers are the implementers of the LS curriculum. Their teaching strategies towards

the life skill objectives affect the learner LS acquisition. CMS allows teachers to make their teaching engaging, active, and student – centered to achieve their teaching and learning goals. Despite exposure to LS education, the general conduct and behaviour of secondary school students in Ndhiwa Sub – County is rated at only fair (40.0%). This situation calls for interrogation to establish the status of the teaching of CRE in relation to the attainment of life skills as an output or a key objective of religious education syllabus. The researcher intended to find out if the teaching of CRE with a focus on life skills has influence on the output. The researcher then was persuaded to study an aspect of this which is to investigate the influence of CMS on Secondary school students' acquisition of life skills through CRE curriculum

1.3 Purpose of the Study

The purpose of the study was to investigate the influence of CMS on Secondary school students' acquisition of life skills through CRE curriculum in Ndhiwa Sub – County, Kenya.

1.4 Objectives of the Study

The objectives of this study were:

i. Establish secondary school Christian Religious Education syllabus level of life skills content coverage to be acquired through Concept Mapping Teaching Strategy.

ii. Determine the difference in life skills acquisition between the students taught CRE using CMS and those taught using traditional methods

iii. Establish the difference in life skills acquisition among students exposed to CMS when they are categorized by gender

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1.6 Research Questions

i. What is the level life skill content covered in the secondary school CRE syllabus which is acquired through CMS?

ii. What is the difference in life skills acquisition between students taught CRE using CMS and those taught using traditional methods?

iii. What is the difference in life skills acquisition among students exposed to CMS when they are categorized by gender?

1.7 Scope of the Study

The study was confined to Ndhiwa Sub-County. It focused on Form Four CRE students in public co-educational day schools. Form Four students had interacted with CRE curriculum the longest. Co-educational day schools provided access to both male and female students whose learning environment was assumed to be homogeneous. The study analyzed life skills' content coverage of the secondary school CRE curriculum. It further determined the influence of CMS on secondary school students' acquisition of life skills. Finally, the study determined the acquisition of life skills among students exposed to CMS when they are categorized by gender

1.8 Limitations of the Study

The fact that only public co-educational day secondary schools in Ndhiwa Sub - County were involved, limits the generalizability of the findings to the co-educational day secondary schools only. The control and the experimental groups were not randomly assigned; hence, the generalizability of the findings is limited.

1.8.1 Significance of the Study

The findings of this study may be helpful to the stakeholders in the following ways. First, the findings provide information to the Ministry of Education Science and Technology on the manner in which the CRE syllabus was being implemented at secondary schools. The research results provide feedback to teachers to enable them reflect on their methodologies in teaching CRE subject with respect to life skill acquisition of students in school. If implemented, recommendations could be used by teachers to caution secondary school students against social vices. Finally the study will form a resource base on which future researchers can develop their studies.

1.8.2 Assumptions of the Study

The study had two assumptions that; the novelty effects did not influence the outcome of the results and the co-educational secondary schools selected for the study were homogenous.

1.9 Conceptual Framework of the Study
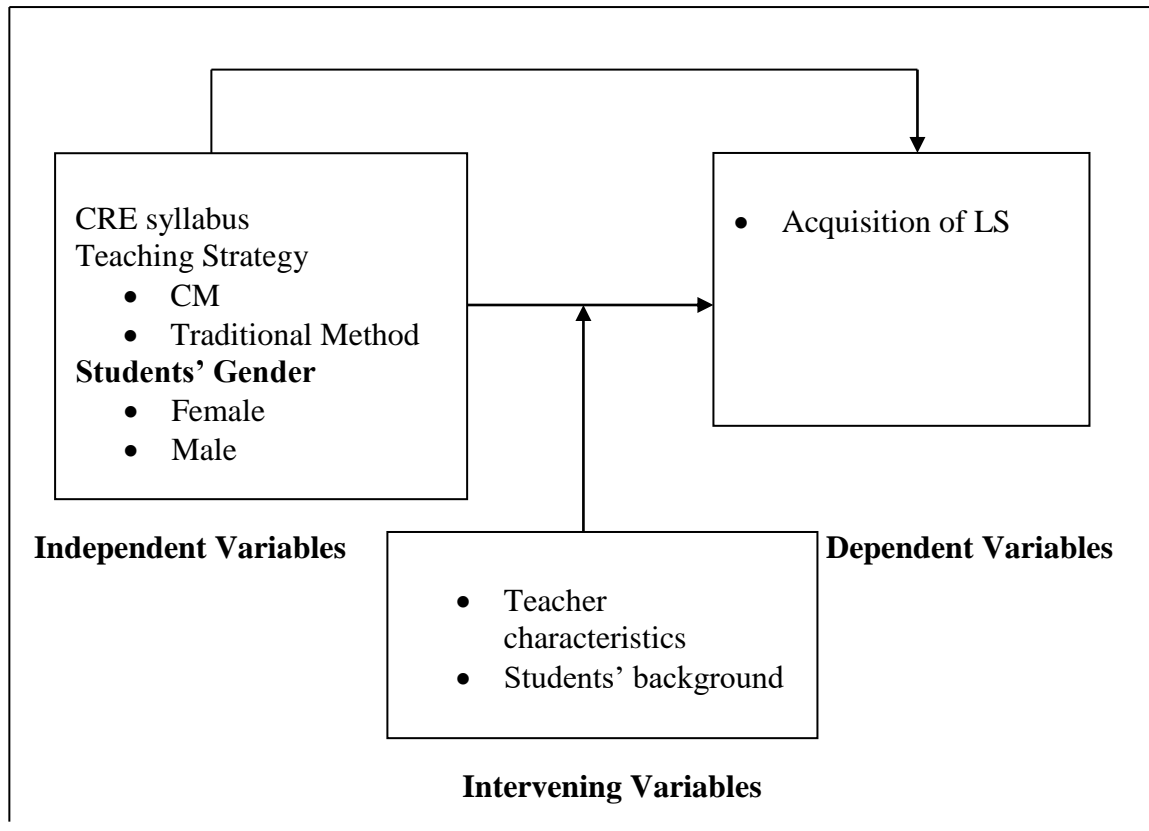
Figure 1: Conceptual Framework of the Study: Relationship between Variables

Source: Researcher (2017)

Figure 1: The Conceptual Framework shows diagrammatically how variables in the study interact. This study aimed at determining the effects of concept mapping teaching strategy on learners' acquisition of life skills through the teaching of CRE. Under normal circumstances, the teaching strategy would affect students' acquisition of Life Skills. However, learning experiences and outcome may be influenced by other factors such as teacher characteristics, students' background and government policies. The study conceptualized that Concept Mapping as a teaching strategy influences the students' acquisition of life skills.

1.10   Definition of Operational Terms

Acquisition: Here refers to the process through which students attain or realize life skills competency via the teaching of CRE.

Carrier: here refers to a subject through which life skills are taught to the students. In this study it is a learning area and subject that contribute more explicitly to prepare students for LS acquisition.

Concept Mapping Teaching Strategy (CMS): In this study, refers to selected combination of learner-centered teaching approaches which facilitate active, reflective and meaningful learning; Brainstorming, role play, self-awareness test, case based small groups and game

Christian Religious Education (CRE): in this study, it refers to one of the subjects taught in secondary school curriculum in Kenya that enhances students' life skills.

Content coverage: the scope or extent to which life skills objectives are represented in the CRE syllabus. This will be established through the syllabus content analysis.

Gender: State of being either boy or girl

Influence: in this study, refers to the effects of CMS on students' life skills acquisition. In this study, influence would be measured through CRE students' life skills test. The objective test would provide data to the researcher via performance.

Life Skills: in this study, would mean a set of human abilities acquired through the teaching of CRE that are used by students to handle problems and challenges facing them in their daily lives. In this study life skills would be limited to: life skills of learning to be (self-control, managing emotions and stress management) and life skills of learning to live together (communication skills, negotiation skills, and empathy, cooperation/teamwork and advocacy skills)

Syllabus: In this study, it refers to the secondary school CRE curriculum as provided by Kenya Institute of Curriculum Development (KICD).It will be measured in terms of content,

Teaching: in study, would refer to the process of facilitation of students' life skills acquisition by CRE teacher.

Traditional teaching methods: refers to the process where the teacher plans an instructional strategy in which the learner has fixed role as a listener while the teacher is expected to be a talker and custodian of knowledge (Odundo & Gunga, 2013)

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CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed literature on the main thematic areas of the study. It examines the life skills concepts and life skill education. Life skills education in secondary schools and its relationship with Christian religious education syllabus was also examined. Moreover, it presented instructional methods used in teaching life skills in secondary schools through CRE syllabus. CMS and its teaching tools were also reviewed. The chapter finally reviewed life skills acquisition by gender.

2.2 Life Skills Concepts

According to Wikipedia, life skills are problem solving behaviors used appropriately and responsibly in the management of personal affairs. They are set of human skills acquired via teaching or direct experiences that are used to handle problems and questions encountered in daily life (Nivedita & Singh, 2016). They are positive behaviors that encompass a mix of knowledge, behavior, attitudes and values and designate the possession of certain skills and know how to do something positively (Nivedita & Singh, 2016). The strength of positive behavior depends upon the depth of skills acquired by the individual (Subasree, Nair & Ranjan, 2014).

The OECD (Organization for Economic Cooperation and Development) adopted a more generic definition of life skills in the context of Deseco (Definition and Selection of Competency) project (Rychaen & Salganik, 2001). It defines life skills on three general criteria, namely: key competencies contribute to an overall successful life and a well-functioning society; they are instrumental to meeting important

challenges in a wide spectrum of relevant contexts, and finally; they are relevant to all individuals.

According to (Rychaen & Salganik, 2001) the key competencies are: functioning in socially heterogeneous groups, acting autonomously and using tools interactively. Competency is more than just knowledge and skills. It includes the ability to meet more complex demands by drawing on and mobilizing psychosocial resources. (Subasree & Nair, 2014).

Ravindranath, Thomas and Shareef (2012) while evaluating the importance of life skills training for corporate sector, defines life skills as a group of cognitive, personal and interpersonal abilities that help people to make informed decisions, communicate effectively, build healthy relationships, empathize with others and cope with and manage their lives in a healthy and productive manner. Ravindranath et. al. (2012), grouped life skills into two categories:

i.   Personal skills, in which positive attitude, being honest, adapting to change, and managing your time, think, solve problems and make decisions.

ii. People skills contribute in communicating with other people, team work skills which includes getting along with the team, planning and implementing assigned tasks.

Khera and Khosala (2012) in their study of core life skills of adolescents, classifies core life skills as: core affective life skills (coping with stress, empathy, interpersonal relationship and coping with emotions) and core cognitive life skills (self – awareness, critical thinking, decision making, effective communication, creative thinking and problem solving skills). Prajapati, Sharma and Sharma (2017) contend

that the world bodies such as UNICEF, UNESCO and WHO, list the ten core life skills as: self- awareness, critical thinking, creative thinking, decision making, problem solving, effective communication, and interpersonal relationship, empathy, coping with stress and coping with emotions. These life skills are capable of enabling students to avoid social problems like alcoholism, drug abuse, strikes, and bullying (Prajapati et. al, 2017).

According to (KICD, 2006) Early Childhood Development (ECD) curricula, life skills may be divided into different categories as; learning to be (personal abilities), learning to live together (interpersonal) and learning to know (cognitive abilities). Table 2.1 indicates the life skills of leaning to be and those of learning to live together with indicators of their sub-sets.

Table 2.1 Life Skills of Learning to be, Learning to Live Together and their Indicators

Life Skills							
Learning to be (Personal abilities)			**Learning to live together**				
SC	ME	SM	CS	NS	E	CT	A
Self-esteem confidence	Anger management	Time management	Verbal and non-verbal communication	Negotiation	Ability to listen to others	Respect for others	Skills of influence Persuasion
Goal setting	Dealing with grief	Positive thinking	Active listening	Conflict management	Ability to understand others needs	Assessing one's own ability	Networking
Self-awareness	Coping skills for dealing with abuse and trauma	Relaxation techniques	Expressing feelings, giving feedback and receiving feedback	Assertiveness skills	Ability to express understanding	Contributing positively to group tasks	Motivation skills
				Refusal skills		Appreciating others	

Source: (KICD, 2006) ECD Curricula

KEY

SC= Self- control NS= Negotiation Skills

ME= Managing Emotions E= Empathy

SM= Stress Management CT= Cooperation and Teamwork

CS= Communication Skills A= Advocacy Skills

However, (Bowen & Karanja, 2012) contend that the Kenyan learning institutions have been plagued with students' characters that does not indicate life skills competency. Cases of students' bullying others, theft cases, strikes, students fight dominate the learning institutions despite the teaching of religious education which is viewed as a carrier subject to life skills.

2.3 Life Skills Education

Today's students (Prajapati, Sharma & Sharma, 2017) are facing many emerging issues such as global warming, famines, poverty, suicide, population explosion as well as social, emotional, physical and psychological issues. Young minds of students are considered as the most productive members of the society due to their physical and intellectual capability (Prajapati et. al, 2017). In a study of the significance of life skills education (Prajapati et. al, 2017) observe that most students are unable to utilize their potential in an appropriate way due to lack of appropriate life skills. The students' are characterized with social problems like alcoholism, drug abuse, sexual abuse, smoking and juvenile delinquency. These anti-social acts have an adverse effect on the students (Prajapati et. al, 2017).The challenges that students are facing require immediate and an effective response from a socially responsible system of education. Education is important but to support and live life better is more important (Nivedita & Singh, 2016). Life skills education bridges the gap between basic functioning and capabilities and therefore strengthens the ability of the students to meet the needs and demands of the present society (Nivedita & Singh, 2016).

Education today is unable to prepare the students to fight with frustration, anxiety and depression (Prajapati et. al, 2017). This is because of a lot of stress put on

achievement and performance from the teachers and the parents (Subita, 2013). Sometimes when the pressure of subscribing to high expectations gets overwhelming, students fall back and are labeled by the school and society as students with ADHD (attention deficient hyperactivity disorder). The end products of our schooling system are students who have moderate to low self-esteem and self-concept, moderate to low tolerance, poor problem solvers and decision makers (Subita, 2013).

Bharath and Kishor (2010) agree that there is a die need to change in terms of philosophy of education system to be more humanistic. The emphasis should be given to creative thinking and reasoning and personal growth of the student. Every student is capable of thought and reason, a free will and capable of taking decisions (Bharath & Kishor, 2010). The educations today need to enable the student to deal effectively with the environment, make maximum use of resources, discern available opportunities and face challenges of the society through the life skills acquired (Nivedita & Singh, 2016). For the students to acquire these behavioral transformations, the education systems needs to enrich the school curriculum with a highly researched and effective life skills training program (Bharath & Kishor, 2010). It's argued that an empowered (empowered with life skills) student has the competence to cope with the challenges of life using the available resources even amidst such adversities (Bharath & Kishor, 2010).

Nivedita and Singh (2016) in their study on life skills education concluded that LF education lays the foundation for learning skills which enhance self-direction of the students. It is a way of empowering the students to build their lives and dreams. Even though life skills are taught through carrier subjects like CRE, (Nivedita & Singh,

2016) suggest that life skills education should be made part of the mainstream curriculum. This would enable the country to build individuals who believe in themselves, who are efficient leaders and who are able to understand their potentials and achieve them (Subita, 2013).

2.4 CRE Syllabus and Life Skills

There has always been a close link between religion and education. For example, the Roman education was rooted in the ideals of the Roman people. It endeavored to shape the youth in such a way that he/she was able to fit in the Roman society (Shiundu & Omulando, 1992). In traditional African communities, initiation ceremonies, rituals, beliefs, habits and practices, among others, were both religious and educative in nature. For example, during initiation, the experience that initiates were going through was to instill in them the life skill of endurance during times of hardship while the instructions were to prepare him/her for the adult life (Groenewegen, 1993). Sifuna (1990) argues that although indigenous education in Kenya varied from one community to another, the goals were almost the same. Indigenous African Education was for living. It was concentrated on the systematic socialization of the young generation into life skills which were useful to the individual and the society as a whole. Mbiti (1969) agrees with Sifuna in his book *African Religions and Philosophy* by defining religion in the African context as a way of their life.

Throughout the course of America's history, life skills education has been a component of public schooling. During the early 19th century, Americans believed that schools could perfect the good person and hence create the good society (Balch,

1993). With the ushering in of the progressive period, life skill education was to be distanced from religion and was renamed character education. Life skill education focused on teaching honor, patriotism and work ethic as a means for developing a strong sense of morality with an emphasis to teach such skills such as courage, honesty and fairness. These life skills were not considered part of the standard curriculum but teachers were expected to help students understand the importance of such life skills to the society (Ellenwood, 2007). Thus, life skill education became the hidden curriculum in schools.

Many countries are trying to maintain life skill education under the umbrella of Religious Education (RE). For example, Bastide (1996) observes that the Butler Education Act of 1944 made Religious Instruction (RI) compulsory in all state-funded schools in Britain; it was only making mandatory what was a universal practice. The Education Act was re-addressed by the Education Reform Act of 1988 which changed RI to RE to make it an inclusive subject of most religious faiths in Britain and, at the same time, enable learners to eventually make personal decisions on their faith and life. The content of RE would consist of the study of different religions, religious leaders, other religions and life skill themes.

Life skill education has been a constant thread seen throughout history. Life skill education in colonial times started with a religious basis as seen, but has shifted to more civics based with the Nation's shift towards producing educated citizenry and leaders. The gradual shift from a colonial religious life skill to a progressive patriotic life skill established the life skill education foundation present in the contemporary mission statements of public schools nationwide: the mission of schools is to produce

an educated citizenry. RE is treated as a unique subject because it is accorded a special status in the basic National Curriculum of Britain. Though RE has been given equal standing with the core subjects of the curriculum (English, Mathematics and Science), there were feelings that it would be stronger as a subject with its own statutory status rather than it being part of the National Curriculum (Subita, 2013).

Religious Education has been viewed as one of the means that shapes life skills of students and restores social order in the society. For example, in Nigeria which is portrayed in rampant fraud, corruption, bribery, stealing, robbery with violence, scandalous nepotism, political patronage, abuse of power and general indiscipline. Iheomia (1995) aptly puts it that country's national integration, political stability, economic development or educational, scientific and technological progress depends on life skills competency of its citizens. Therefore, the basic aim of life skill education in schools must be to restore sanity to the nations way of life through the entrenchment in peoples' such life skills as decision making, conflict resolution, creative thinking, critical thinking, empathy, interpersonal relations among others. Efforts to de-link RE and LS Education by many education systems have remained fruitless. This is because RE and LS are so interwoven that it is difficult to separate the two (Mbiti, 1969).

In Kenya, the formal CRE started with the coming of the missionaries with the purpose to evangelize to the people. With the dawn of independence, the first independence education commission, known as then Kenya Education Commission of 1964 chaired by Ominde (RoK, 1964), was charged with the responsibility of looking into the education system among other issues. The commission recommended that

CRE should continue being taught as it offered LS education to the youth (RoK, 1964). However, it should be treated as an academic subject and an ecumenical syllabus be applied during instruction. CRE was to be taught using a common syllabus in all Kenyan schools and not according to the various religious groups as it was earlier done. The recommendation was only effected in 1968 when the Education Act became a law. In 1976, the National committee on Educational Objectives and Policies chaired by Gachathi was constituted. The commission became more critical of Religious Education as a means of teaching life skills. The committee argued that Christianity, in particular, was rejected from a social and political view because it was seen as a pacifying tool for the colonial master (Groenewegen, 1993). It recommended the introduction of a common subject on LS education for all students irrespective of their religious affiliation with the argument that RE had not accomplished the objective of inculcating national moral consciousness (RoK, 1976). The Koech Commission's Report (RoK 1999) strongly agreed with the Gachathi report and recommended that CRE and SEE continue being taught because they would contribute to the inculcation of religious, social and ethical values to the youth. According to the report, the programmes would be aimed at equipping the youth with necessary life skills for dealing with the anti-social activities such as drug abuse and addiction, irresponsible sexual behavior and indulgence in various cults with anti-social activities and behavior such as devil worship.

Mugambi and Nasimiyu (2003) observe that the Protestant and Catholic subject panels at the Kenya Institute of Education (KIE) separately, but co-operatively, opposed the recommendation by the Gachathi led committee on grounds that one of the objectives of Christian religious education syllabus content was to inculcate life

skills education. They maintained that LS education could not be taught effectively in isolation from religion.

The Government of Kenya (2013) reported of continued acts of lawlessness like car-jacking, robbery, rape, murder, arson among others, mostly committed by young people. According to the Report of the Task Force on Student Unrest in Secondary Schools in Kenya chaired by Wangai (RoK, 2001) students indiscipline was attributed to lack of teaching of core life skills through CRE. The report argued that many students have been consumers of the CRE content, especially at primary and form one or two of secondary levels of education in Kenya. The task force recommended that CRE be made compulsory in all public schools in Kenya. Incidentally, SEE is one of the subjects that were axed from the secondary school curriculum in Kenya following the major changes in the school curriculum leaving CRE with almost the exclusive responsibility of promoting life skill development among the students. Despite the fact that CRE is the most dominant subject in the school curriculum in Kenya teaching LS education since the colonial period, incidents of life skills incompetency have been on the increase not sparing the church sponsored schools. Considering this, one is tempted to establish the life skills content coverage of CRE syllabus.

2.5 Instructional approaches and Strategies of Life Skill Education

The achievement of life skill education is influenced by the methods and strategies of life skill education activities in the classroom (Ming' yue, 2013). Methods of teaching refer to the processes or set of procedures of teaching which tend to promote specific strategies of teaching (Githua, Kirui & Mboroki, 2009). Groenewegen (1993) has classified the CRE teaching methods as transition/ traditional and facilitative methods/

constructive. The teaching strategies used by teachers are expected to expose the learners to the life skills information based on the content (Otewa, 2016).

2.5.1 Traditional Instructional Approaches

The traditional strategy (teacher-centered) are those methods whose aim is to impact knowledge, values and skills to learners (Githua et.al, 200). These methods include; lectures, narratives, text reading, audio-visual presentations and demonstrations. According to (Ayot & Patel, 1992) lecture teaching method is a process by which facts are transmitted from one note book of the instructor to the note book of the learner without passing the minds of either, further lecture is understood as the earliest form of transmission of information from a scholar to the learner. Pagan (2014) describes traditional teaching methods as "subject material reproduction" which emphasizes examination scores and final answers rather than the way the learners arrive at the answer. Traditional methods of teaching encourages learning method like rote memorization in which learners commit blocks of information to memory. Such blocks of information may include a question and its answer (Otewa, 2016).

The instructor-centered method of teaching is a challenge facing the teacher trainees (Tella et.al, 2010). The method does not allow the teacher trainees to enjoy their lessons and directly pass the same to their learners who therefore miss the benefits of intellectual discovery in that they are basically passive and expect knowledge to come from the instructor. Traditional methods of teaching does not stimulate the students' innovation inquiry and scientific thinking but encourages the students to cram facts which are always forgotten (Adeyemi, 2008). McDowell (2001) contends that they

encourage memorization and reproduction of facts with short notion of knowledge which cannot be used to solve problems in new situations of learning.

Most teachers enjoy teaching the content they are familiar with and teachers usually view themselves as teaching things which are unknown to the learners (Shulman, 2010). Teaching has been based on one-way method where teacher knowledge is central in education (Tsui, 2009). Top-down teaching according to (Freeman, 1989) makes some teachers feel comfortable and safe when they orchestrate the classroom. Thus, teachers need to rethink their roles in an educational context that is constantly changing with more resources and tools, where learners are familiar with using the teaching resources (Lankshear & Knobel, 2011). They are required to be facilitators rather than knowledge providers, while learners are no longer consumers of knowledge (Cummins & Brown, 2007). In their teaching process (Sullivan, Clarke & Clarke, 2013) contend that teachers are reluctant to pose challenging tasks to students and, on the other hand, students seemed to resist engaging with those tasks, and exerted both passive an .active pressure on teachers to over-explain tasks or to pose similar ones. Stein and Lane (1996) reported that teachers had an orientation to reducing the cognitive demand tasks. As such, the study endeavored to determine whether there is a difference between the life skills competencies of students taught CRE using CM and those taught using traditional methods.

2.5.2 Facilitative Instructional Approaches

Facilitative methods (liberative) enhance in a learner other dispositions other pure acquisition of knowledge. According to Groenewegen (1993), facilitative methods

develop in the learner ability to explain, pick differences, summarize, interpret and analyze issues and situations. Such methods include:

i. Experimental methods which expose a learner to reality. These include; enquiry, survey, self-exploratory, field trips, social action among others.

ii. Heuristic methods are those methods which allow the learner to search and find things. These are; library search, interview of a resource person and higher order question and answers.

iii. Concept mapping strategy which involves critical methods such as debate, brainstorming, role play, debate, storytelling, situation analysis, buzz groups, games among others. The use of critical faculties enhances the ability to analyze, make distinctions, identify differences, separate things and put them together.

According to (Ausubel, 1968) the most important single factor that influences' learning is what the learner already knows, therefore , the role of the teacher is to ascertain this and guide the learner accordingly. This therefore suggests that learning is an active process rather than passive process. In other words learners construct a unique mental image by combining information, in their heads with the information they receive in classrooms or from their sense organs (Otewa, 2016). As far as instruction is concerned the instructor and the learners should engage in active dialogue, such that the presented information to the learner should match the learners' current state of understanding so that the learners continually build upon what they have already learnt. The instructor should acknowledge that learners do not learn in the same way, and so they should implement a variety of teaching styles throughout a lesson for this would give different learners a chance to learn (Otewa, 2016).

2.5.3 Concept Mapping Strategy and the Teaching of Life Skills

Concept Mapping Strategy (CMS) as used in this study refers to a compound of constructivist teaching tools that facilitate active, reflective and meaningful learning. The tools refer to leaner-centered instructional approaches such as drama, brainstorming, debate, role play, storytelling, songs, dance, games and situation analysis. Randall and Cox (2015) agree CMS is a teaching approach which is well known among the instructors but is has not been fully implemented within life skills education. Instructors who adopt CMS approach value a collaborative approach to teaching and learning, one that honors students' wisdom and contributions towards life skills acquisition (Randall & Cox, 2015). CMS was therefore chosen because it enables the instructor to create life skills teaching environment encouraging students to actively engage in and take ownership of their learning experiences. The environment inspires the students to think deeply about how they might apply what they are learning to their daily lives (Randall & Cox, 2015).

For the past decade, there has been a call in education for a shift from teacher-centered methods of instruction to learner-centered pedagogy (Harris & Cullen, 2008). Educators who use a learner-centered approach view learning as a nonlinear, multidimensional and a phenomenon that occurs relationally within a social context (White, 2007). CMS shifts the instructor from the center of the learning environment to a more peripheral position. This shift is achieved by increasing students' opportunities to actively participate in the life skills classroom and engage in self-directed learning outside the classroom, as well as providing forums through which they can share and practice the learnt life skills' information with peers (Wright, 2011). Educators who use CMS in teaching life skills favor differential modalities to

facilitate life skills acquisition, in contrast to instructors who use traditional methods of teaching that rely on lecture as the primary means of instruction (Wright, 2011).

Table 2.2 indicates disadvantages, advantages and keys to success of the CMS teaching tools. Wehrli and Nyquist (2003) contend that the weakness of one teaching tool under CMS is corroborated by the strengths of another tool during the teaching learning process.

Table 2.2 CMS Selected Teaching Methods, Their Strengths, Weaknesses and Keys to their Success

Selected Method	Strengths	Weaknesses	Keys to Success
Brainstorming: a process for generating multiple ideas in which judgment is suspended until a maximum number of ideas has been generated. Options are typically analyzed, a best solution identified and a plan of action developed	• Promotes peer learning and creates synergy • Promotes critical thinking • Helps groups reach consensus	• May not be effective with large groups • Can lead to "group think"	• Stimulates thinking, creativity, inquiry and consensus • Ensures that participants adhere to the rules
Case-Based Small Group: small groups of 5-10 students. Address case based tasks, exchanging points of view while working through a problem solving process	• Learners explore pre-existing knowledge and build on what they know. • Develops leadership, teamwork, communication and collaboration skills	• Can potentially degenerate into off- task or social conversations • Unpredictable in terms of outcomes • Increases potential for inter-personal conflicts • Time-consuming	• Helps the group address conflict in constructive ways • Create safe environment for learners to participate, ask questions and make mistakes without sanctions
Game: used to bring competition, participation, drills and feedback into the learning experiences	• Actively involves learners • provides a challenge that can lead to confidence in knowing	• may demotivate those who are not competitive in nature	• Introduce the game and make the objectives clear • Choose relevant game for

	and expressing the material	• can create in-group/ out-group feelings	appropriate class
Role play: students adopt a specified role and try to behave in ways characteristics of that person	• Develops problem solving and verbal expression skills • Enables learners to experiment in a safe environment with behaviours which strike them as potentially useful and to identify behaviors which are not	• Puts pressure on learner to perform, which can create embarrassment and even resistance. • Can engender strong emotions related to past experiences and empathy	• Use realistic situations that relate to learning objectives. • Conduct a feedback/debriefing session after role plays.
Self-awareness Test: provides insight into how the student thinks, acts or scores towards a particular topic	• Provides personal relevance to the learner • Can facilitate individual insights into the need to make personal improvements	• May create embarrassment and discomfort if learners do not know whether the results would be shared	• Tie the concepts measured clearly to learning objectives • Don't force students to share

While CMS literature may be well known within the domain of secondary education, as of yet it has not been adequately addressed within the scope of life skills education. Scholars and researchers in life skill education have focused on what content should be included in the curricula (Granello, 2000) or specific teaching techniques used in class (Stinchfield, 2006), rather than comprehensive approaches toward teaching that are helpful for engaging students' life skills acquisition. Collaboration is an important aspect of CMS. Collaboration being a social process is believed to help students develop problem-solving skills, interpersonal skills, challenging their beliefs through honoring many viewpoints in the classroom and construct deeper personal understanding (Brown, 2003). Collaboration allows students to engage in self-directed learning projects outside the classroom, they are then given the opportunities to deepen their learning through sharing the life skills learnt with their classmates (Brown, 2003). As such this study endeavored to investigate the effects of Concept Mapping in the teaching of Christian Religious Education on secondary school students' acquisition of life skills in Ndhiwa Sub – County, Kenya.

2.6 CMS and Life Skills Acquisition by Gender

The Special Role Theory is one of the gender role theories that are used to account for gender differences. The theory was advanced by Eagly (1987) to explain the causes of gender development. The theory was used by Steven, Claud and Quin (1999), as cited in Orina,(2016) whereby they wanted to establish how classroom interaction influences gender differences in skills acquisition. Their study revealed that female students performed significantly poorer than their male counterparts on Mathematics test when participants were led to believe that the test would probably produce gender differences. In contrast, the two genders' performance was at par when they were led

to believe that the test would not produce gender differences (Orina, 2016). These findings indicate that stereotypes can impede performance even when the stereotypes have not been internalized or incorporated.

Eagly's Social Role Theory postulates that gender development is based on interactions. Serbin (1986) observes that teachers themselves are generally unaware of their own expectations and behaviors that effectively sustain and reinforce conformity to sex-role stereotypes, and which encourage the development of quite different academic abilities and behaviors in their male and female students. Daisy (2010 cited in Orina, 2016) correlated attitude with reading and reading with spelling in gender performance. He found that female students on the whole performed better than their male counterparts and that their reading attitudes were consistent with their spelling scores.

According to (Jones, 1989) girls have a measure of superiority over their male counterparts in language acquisition. Jones argues that women tend to speak more correctly and strive harder for correct pronunciation than men. Orina (2016) in a computer-based study on Effects of text, context, and Gender on listening comprehension and motivation found out that girls demonstrated higher achievement than boys did. However the literature reviewed did not reveal any study on the use of CMS to enhance life skills acquisition by gender through the teaching of CRE. This study, therefore, sought to establish whether there is a difference by gender of life skills of students exposed to CMS.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section gives the description of the methods and procedures to be followed in conducting the research. It includes the research design, the study population, sampling procedures, sample size, the instruments to be used, validity and reliability of research instruments, data collection and finally data analysis.

3.2 Research Design

The study involved a Quasi-experimental research using the Solomon Four Non-Equivalent Control Group Design (Gall, Borg & Gall, 2003) .The design was preferred because the Form Four classes involved in the study remained intact as the school authorities do not allow randomization process by reconstituting and disrupting classes during the administration of the treatment (Coolican, 1999; Wachanga, 2002). The design is considered sufficiently rigorous and appropriate for quasi-experimental studies (Frankel & Wallen, 2000). It assesses the plausibility of pre-test sensitization effects, that is, whatever the mere act of taking pre-test influences scores on subsequent test administration (Clark & Elen, 2006). It also ensures that administration of pre-test to two groups and post-test to all four groups (Gall, Borg & Gall, 1996; Wachanga, 2002 & Mwangi, 2007). Solomon Four- Non-Equivalent Control Group Research Design is represented by Figure 3.1:

Figure 3.1: Solomon Four Non-Equivalent Control Group Research Design

GROUP I(E_1)	O_1	X	O_2
GROUP II(C_1)	O_3	-	O_4
GROUP III(E_2)	-	X	O_5
GROUP IV(C_2)	-	-	O_6

Source: Gall, Borg & Gall (1996)

Key:

Where: O_1 and O_3 are pre-tests; O_2, O_4, O_5 and O_6 are post-tests,

(O) indicates the observations or outcomes; X is the treatment where students were taught using Concept Mapping Strategy (CMS), (----) indicates the use of non-equivalent groups, (-) means no treatment (Mugenda & Mugenda, 1999; Gall, Borg & Gall, 1996).

Group 1(E_1) is the experimental. This group received the pre-test, the treatment X and the post-test.

Group II (C_1) is the control group, it received a pre-test followed by the Control condition and finally a post-test.

Group III (E_2) received the treatment X and a post-test.

Group IV (C_2) received the post-test only.

Group II (C_1) and IV (C_2) will be taught using traditional teaching methods.

The broken line between the groups I (E_1), II (C_1), III (E_2) and IV (C_2) indicates that the groups in study will exist as intact groups.

3.3 Location of the Study

The study was carried out in Ndhiwa Sub- County (appendix D). The Sub-County is in Homa- Bay County in the republic of Kenya. It is bordered by the following Sub-Counties; Homa - Bay, Mbita, Uriri, Suba, Rongo, Awendo andNyatike. It is divided into six divisions; Kobodo, Riana, Ndhiwa, Pala, Kobama and Nyarongi. The sub-county has fifty secondary schools. It lies in the Lower Midland (LM) agro economic zone between latitude 0.73' S and longitude 34' E. It is situated at an altitude of 1200

– 1400 meters above the sea level. It receives an average rainfall of about 1300mm annually distributed in a bimodal pattern. The selection of the location of the study was informed by the prevalence of undesirable behaviuor among secondary school students despite exposure to life skill education through CRE (Peace- Net Kenya, 2007; Ndhiwa Sub- County QASO, 2016). Further, majority of the students from the co-educational schools may be residents of Ndhiwa Sub-County and therefore their life skills acquisition is necessary for the location of the study that was selected.

3.4 Study Population

The population consisted of all 1850 Form Four CRE students from public co-educational secondary schools. Form Four CRE students were picked because at this level, they are supposed to have covered adequate content of the CRE syllabus. Co-educational day secondary schools enabled the study to access both student genders. They also enabled environmental homogeneity of the learners. A summary of the study population by division is in Table 3.2

Table 3.2 Distribution of the Accessible Population by Division

Division	Number of students
Kobodo	308
Ndhiwa	424
Riana	286
Pala	290
Kobama	317
Nyarongi	225
Total	1850

Source: Ndhiwa Sub – County QASO (2016)

3.5 Sample Procedures and Sample Size

Purposive sampling technique was used to select mixed day public schools. The power of purposive sampling lies in selecting information that is rich in cases for in-depth analysis of central issues being studied (Kombo & Tromp, 2006). According to Oso and Onen (2009), purposive sampling is used to collect focused information and it selects typical and useful cases only. Simple Random sampling technique is employed in selecting the participating schools in cases where there were many schools with similar characteristics. The same was applied in schools with more than one stream (Mugenda & Mugenda, 2003). A sample size of 169 Form Four CRE students was used in this study as Kathuri and Pals (1993) recommends 100 subjects as ideal for a research in social sciences. The four schools were selected from Riana, Kobama, Ndhiwa and Kobodo divisions.81studentsacted as experimental group and the other 88 as control group. In total four classes drawn from different schools- were involved in this study. Table 3.3shows the distribution of the sample population.

Table 3.3: Description of the Sample Population

Group	Number of Students
Group I(E_1)	40
Group II (C_1)	43
Group III (E_2)	41
Group IV (C_2)	45

3.6 Instrumentation

Three research instruments namely; CRE curriculum content analysis matrix (CCAM) and CRE students Life Skill Test (CRESLST) were used to collect data. CMS Life Skills Teaching Module was too developed.

3.6.1 Curriculum Content Analysis Matrix (CCAM)

Content analysis is used to gather data by determining the presence of certain words or concepts within texts or sets of texts (Elo & Kynga, 2008)). Researchers quantify and analyze the presence, meanings and relationships of such words and concepts, then make inferences about the messages within them. Coding of appropriate topics, objectives and contents was used as listed in the Secondary School CRE Curriculum (See appendix A; i, ii, iii, iv).The study analyzed the content of the revised secondary school CRE syllabus (KIE, 2002). The content of the syllabus was examined with a view of establishing adequacy of life skill content coverage. A content analysis matrix table was adopted from Wamutitu (2008) and modified to suit this study. Topic objectives of the syllabus for each form (forms one to four) were examined with respect to their eight life skills components namely; self-control, management of emotions, stress management, communication skills, negotiation skills, empathy, cooperation and teamwork and advocacy skills. The life skills are categorized as either those of learning to live together or learning to be. Topic objectives that life skills components were awarded a point whereas those that did not were awarded a zero. The scores for the topic objectives were summated and expressed as a percentage. The percentage scores were then rated using a scale:

Low coverage = 33% and below
Average coverage = Above 33% to 66%
High coverage = above 66%.

3.6.2 CRE Students Life Skill Test (CRESLST)

The test was used to measure the learners' life skills acquisition level. It consisted of three parts; preliminary information about the respondents, multiple choice questions and defining issues life skills test (see appendix A). Both the multiple choice

questions and the defining issues life skills test measured the students' life skills knowledge and reasoning respectively. Life skills defining issue test was also used to measure how well a student could exhibit their life skills acquisition in their reasoning. There were six multiple choice questions and nine defining issues test developed from the topic that was chosen from the KICD syllabus for CRE; *Christian Approaches to Money Wealth and Poverty*. Each correct response on multiple choice questions was awarded 1 point for a correct answer and 0 for a wrong answer, while the defining issue was awarded 2 points for the right score and 0 for a wrong response.

3.6.3 Concept Mapping Strategy CRE Teachers' Guide

Wasike (2003) avers that instructional strategies are important for students' achievement of the set objectives. A CMS guide for teachers (appendix C) was developed and used in the implementation of the strategy. The teachers were trained on how to use guide for one day to make them familiar with it. The topic that was selected for teaching was *"Christian Approaches to Wealth, Money and Poverty"*. This topic was deemed relevant since it's within Form Four Syllabi (KICD, 2006) and it is rich in life skills'. Even though the study was concerned with objective five of the topic; *Life Skills,* for continuity, consistency and flow of ideas in teaching the whole topic was taught. The guide outlined the life skills to be acquired by the students and CMS teaching tools recommended for teaching each life skill. The time allocated in the syllabus for teaching the topic is 8 lessons (one lesson equivalent to 40 minutes); this means that both the control and the experimental groups were taught for two weeks. A teaching time-table was made so as to enable the researcher to observe how the teachers were implementing the CMS guide. To reduce biasness on the results of

the study, the researcher observed both the classes of the experimental and control groups.

3.7 Validity of the Research Instruments

Validity is the degree to which results obtained from analysis of data actually represents the phenomenon under study (Mugenda & Mugenda, 2003). The CRE students' Life Skills Test and the CRE curriculum content analysis matrix were examined for content and face validity. The validation was done by two CRE teachers and a team of experts at Maseno University in the Department of Educational Communication, Technology and Curriculum Studies. The opinions of the experts were used to improve the instruments before they were used in the actual study.

3.8 Reliability of Research Instruments

CRE curriculum content analysis matrix (CCAM) and CRE students Life Skill Test (CRESLST) were piloted for reliability. Reliability refers to the degree to which an instrument yields consistent results or data repeatedly (Gall, Gall & Borg, 2003).An intact class of 34 CRE students participated in the piloting. The Kuder Richard 21 formula and Krippendorff's alpha were used to estimate the reliability coefficient of the CRESLST and CCAM respectively. The KR21 formula was deemed appropriate since the test was administered once and the data was continuous (Borg & Gall, 2003).Krippendorff's alpha was chosen because it ensures that data is consistently coded, coders classify category members in the same way, or classification of a text corresponds to a standard or norm statistically (Krippendorff, 2007). Reliability coefficients were estimated using the SPSS computer package. The reliability coefficients of CRESLST and CCAM were 0.78 and 0.73 respectively. The

instruments were deemed reliable given that their coefficients were above the recommended 0.7 threshold (Fraenkel & Wallen, 2000).

3.9 Data Collection Procedure

Upon receiving a letter of approval from School of Graduate Studies, the researcher obtained a research permit from Ndhiwa Sub- County Director of Education before proceeding to gather data for the study. The students who were involved in the study were formally contacted through their principals and CRE teachers and the purpose of the study explained to them. Verbal consent of the prospective respondents was sought and granted. Dates for administering the test were set in consultation with the students. The test was administered with the assistance of CRE teachers as scheduled. The students were given one hour to take the test. The collected data was organized by teaching approach, awaiting analysis.

3.10 Data Analysis and Presentations

This study adopted the mixed methods (qualitative and quantitative) approach during data analysis. Orodho (2005) supports use of a combination of the two approaches as they reveal several dimensions of a phenomenon and deal with the shortcomings of each. The collected data was coded and keyed into the computer. Then data file was cleaned of errors. Data generated by the CRE syllabus content analysis matrix was described and summarized using frequencies percentages, means and standard deviations. The first and second hypotheses were tested using the ANOVA and the t–test. The analyzed data outputs were presented in tables and charts.

3.11 Ethical Consideration

The researcher was guided in the research by adhering to the procedures in research design during data collection and analysis so that the chance for misleading results is minimized and to ensure that the sole aim of contributing to the development of systematic and verifiable knowledge in research is maintained. The researcher was obliged to ensure that the research participant's rights and welfare were not violated before, during and after conducting the research. The researcher urged participants to provide honest, valid and reliable information.

To enhance informed consent, participants were thoroughly briefed beforehand on the research problem, the need for a scientific research on the problem, the reasons for the area of study and the benefits of the study. Their rights and risks or dangers associated with their participation were clarified and their voluntary involvement in the research was fully guaranteed. The principle of beneficence was observed and the researcher treated the information obtained with confidentiality so as to minimize the possible harm to the participants the respondents were therefore anonymous. Great care was taken to avoid identification of real participants in the study against their derived information. The raw data from the field were kept under lock and key where only the researcher could access. The processed data were kept in computer encrypted by password accessible to only the principal investigator.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the results and discussions of the study. It gives the report on the following study objectives:

i. What is the level life skill content covered in the secondary school CRE syllabus which is to be acquired through CMS?

ii. What is the difference in life skills acquisition between students taught CRE using CMS and those taught using traditional methods?

iii. What is the difference in life skills acquisition among students exposed to CMS when they are categorized by gender?

4.2 Level of life skills Content Coverage in the Secondary School CRE syllabus

The first objective of the study was to establish the coverage of life skills content in secondary school CRE syllabus. The secondary school CRE syllabus Volume three which was revised in 2002 by Kenya Institute of Curriculum (KIE) was examined. Having analyzed the syllabus content, a summary was done in terms of topics taught from forms one to four. There were a total of eight life skills that were examined. These life skills were either those of learning to be or learning to live together. They included: stress management (SM), managing emotions (ME), self- control (SE), communication Skill (CMS), negotiation skills (NS), advocacy skills (AS), empathy (E) and cooperation and teamwork (CT). They formed the eight components of all the topics that were analyzed. Each life skill was allocated 1 point if indicated in the syllabus or else a zero (0). The life skills content coverage within the CRE syllabus for each class was written in terms of topics mean score then later transformed into

percentages. The average percentage mean scores of each of the four classes were used to determine the overall life skills content coverage. The averaged percentage mean scores were then transformed into content coverage levels using the scale:

Low= less than and equal to ($\leq$) 33

Average= Greater than (>)   33% to 66%

High = Greater than (>)   66%

Table 4.1 Summary of Form One Content Analysis Matrix

Topic	Life Skills Objective Content Learning to Be / Learning to Live Together								Score	Max Score	Percent	Remark
	SM	ME	SE	CS	NS	E	CT	AS				
1	0	01	01	01	0	01	0	0	04	16	25.00	Low
2	0	01	0	0	0	0	0	0	01	56	1.79	Low
3	0	03	01	02	01	01	02	02	12	64	18.75	Low
4	0	01	0	01	01	01	01	02	07	60	11.67	Low
5	01	02	01	01	01	02	03	02	13	80	16.25	Low
6	02	04	01	02	03	04	04	03	23	80	28.75	Low
7	02	02	02	03	03	04	02	03	21	40	52.50	Average
8	02	01	0	0	0	01	01	0	05	40	12.50	Low
9	04	03	06	01	0	01	02	02	19	56	33.92	Average
Total	**11**	**18**	**12**	**11**	**09**	**15**	**15**	**14**	**105**	**492**	**21.34**	Low

Form one has nine topics going with the CRE syllabus. From Table 4.1, topic 2 (1.79%) has the least percentage of life skills content coverage as compared to topic 7 which has the highest (52.5%). The result further revealed that life skills had maximum score of 492 however, 105 scores were observed. This translated to 21.34 % and was rated as being low going by the scale used. All the topics of life skills covered through CRE in form one are below the low status (Less than 33 %) except topic seven (52.5%) and nine (33.92%). Though life skills content coverage in topics seven and nine are rated as average, only topic seven attains the 50 % mark.

Table 4.2 Summary of Form Two Content Analysis Matrix

Topic	Life Skills Objective Content Learning to Be / Learning to Live Together								Score	Max Score	Percent	Remark
	SM	ME	SE	CS	NS	E	CT	AS				
10	0	0	0	1	0	1	0	1	03	56	5.34	Low
11	0	02	01	0	0	01	1	1	06	40	15.00	Low
12	07	08	09	06	08	09	07	05	59	88	67.05	High
13	10	10	13	11	09	15	`12	10	90	120	75.00	High
14	02	01	01	01	0	01	0	02	08	40	20.00	Low
15	1	1	1	1	2	0	2	2	10	40	25.00	Low
Total	**20**	**22**	**24**	**20**	**19**	**27**	**22**	**21**	**176**	**384**	**45.83**	Average

Table 4.2 indicates that form two has six topics (topics 10 – 15 in the syllabus). The results indicate that topic three of form two syllabus has the highest percentage of life skills content coverage at (75.0%) while topic one which is topic ten in the syllabus has life skills percentage content coverage of (5.34%). Two topics that is, twelve and thirteen had life skills percentage content coverage of 67.05% and 75.0% respectively. Otherwise the remaining four topics were rated as low. Out of the possible maximum score of 384, scores observed were 176. This was equivalent to 45.83% which rates at average. This implies that it cannot yield the expected result since the required knowledge to impart life skills has not been achieved.

Table 4.3 Summary of Form Three Content Analysis Matrix

Topic	Life Skills Objective Content Learning to Be / Learning to Live Together								Score	Max Score	Percent	Remark
	SM	ME	SE	CS	NS	E	CT	AS				
16	00	00	00	01	00	00	03	01	05	48	10.42	**Low**
17	01	01	01	01	01	03	04	03	15	40	37.50	**Average**
18	0	03	02	01	02	01	02	01	12	64	18.75	**Low**
19	03	05	02	03	06	04	05	02	30	72	41.66	**Average**
20	06	07	08	04	03	04	03	06	41	80	51.25	**Average**
21	03	04	04	05	03	03	02	06	30	54	55.56	**average**
Total	**12**	**22**	**15**	**11**	**13**	**10**	**11**	**10**	**103**	**358**	**28.77**	**Low**

The results of percentage of life skills content coverage is reported in Table 4.3. Form three has six topics in total indicated in table 4.3 as 16 – 21. The highest percentage life skill content scored was (55.56 %), while the lowest scored 10.42 %. Topic 21 is leading with (55.56 %) while topic 16 scores the least mark (10.42 %). Four topics that is; 17, 19, 20 and 21 were rated at average in terms of percentage life skills content coverage. The overall life skills percentage content coverage through CRE is (28.77%), it falls short of (50 %) mark. This shows that life skills knowledge content objective is still in need in form three.

Table 4.4 Summary of Form Four Content Analysis Matrix

Topic	Life Skills Objective Content								Score	Max Score	Percent	Remark
	Learning to Be / Learning to Live Together											
	SM	ME	SE	CS	NS	E	CT	AS				
22	00	00	01	00	00	00	00	00	01	16	6.25	Low
23	04	06	04	08	06	03	06	03	40	96	41.67	Average
24	05	05	07	09	07	03	08	07	51	80	63.75	Average
25	07	06	04	01	01	03	04	02	28	56	50.00	Average
26	03	04	06	05	05	03	04	00	30	32	93.75	High
27	02	04	07	06	05	04	03	04	35	56	62.50	Average
28	03	03	06	01	`02	04	05	07	31	56	55.35	Average
Total	**24**	**28**	**36**	**30**	**26**	**20**	**30**	**23**	**216**	**392**	**55.10**	Average

Table 4.4 presents the results of data analysis of life skills content covered through secondary school CRE syllabus in form four. The results shown in table 4.4 indicate that the status of life skill percentage coverage in all the topics in form four are beyond the low status coverage except topic 22 at (6.25%).The observed scores were 216 against the maximum life skills score of 392. Overall life skill percentage content coverage in form four is (55.10%) with topic 26 attaining the highest percentage score of (93.75%). Generally form four life skills content coverage is averagely distributed across the syllabus apart from topic one.

Table 4.5 Overall CRE Life Skills Level of Coverage for Forms 1 to 4

	Topics									Average level of coverage (%)
Form	1ST	2ND	3RD	4TH	5TH	6TH	7TH	8TH	9TH	
One	25.00	1.79	18.75	11.67	16.25	28.75	52.50	12.50	33.92	**22.35**
Two	5.34	15.00	67.05	75.00	20.00	25.00				**34.57**
Three	10.42	37.50	18.75	41.66	51.25	55.56				**35.86**
Four	6.25	41.67	63.75	50.00	93.75	62.50	55.35			**53.32**
Overall	**11.75**	**23.99**	**42.08**	**44.58**	**45.31**	**42.95**	**53.93**	**12.50**	**33.92**	**34.56**

Table 4.5 reveals the overall CRE life skills percentage level of coverage in the syllabus across from form one to four. It shows that form one has the highest numbers of topics at nine. Form one has the lowest life skills percentage level of coverage at (22.35%) while form four rated the highest at (53.32%). The overall life skills percentage rating is (34.56%), though this is rated at average going by the scale used, it falls short of (50.00%) mark. Table 4.5 further reveals that there is constant positive trend in life skills content coverage from form one towards form four.

In terms of distribution, much of life skills content covered across the CRE syllabus is average given that the rating was done using the scale. Life skills content coverage is low in form one (22.35%). It should also be noted that at form one CRE is compulsory as it falls in group three subjects where it is an elective with IRE, HRE, Geography and History at form three (KNEC, 2016). This may imply that the secondary school CRE syllabus is inadequate in helping to impart affectively the life skills to be and those of interpersonal relationships. This contrasts with what was

forwarded by Curriculum Development Council (2012) that; it should empower learners with skills, attitude and knowledge that models peaceful and respectful behaviour among all members of the learning community. Furthermore to ensure holistic individual development, Kester (2008) states that life skills education syllabus must not be limited to fact based knowledge rather the syllabus must also aim at making learners acquire and manifest attitude, values and skills relevant to their daily lives, since life skills competency is demonstrated at cognitive, emotional and action levels (Brenes, 2004).

Wallen and Fraenkel (2005) opine that content analysis enables a researcher to study human behaviour in an indirect way through an analysis of communication documents. With the high content coverage of life skills content in form four, those learners who do not choose to study CRE do not sufficiently learn life skills content. Form four CRE syllabus gives more attention on learning of contemporary issues in the society. This is seen as a major setback for teaching CRE in Kenyan secondary schools. The teaching of CRE aims at enabling the students to acquire life skills so as to contribute positively to the transformation of self and the society as a whole and develop a sense of self-respect and respect for others (KIE, 2002). Results show that life skills content in form one is low and average in form two and three respectively. As demonstrated by the Catholic mirror, there is need for Kenyans to reflect on the life skills competency of students with regard to self-respect and understanding of the common good to others (Catholic Bishops, 2016).

Table 4.5 revealed that Form two and three life skills content coverage is average that is, 34.57% and 35.86% respectively. This implies that there are a significant number

of topics whose objectives if well achieved would facilitate the life skills competency of the learners. According to Characterkidz (2008) the best way to teach life skills is to make it a habit with students. The form two and three life skills content coverage seems to be well distributed. However, the continuity of the acquisition of life skill attributes is terminated, CRE being an elective subject in form three.

Generally, the life skills content analysis shows that there is need to review the CRE curriculum so that life skills objective components are equally distributed throughout the course of study within the CRE syllabus. This is because CRE is the subject which formally contains high content which ignites life skills among the students. However, CRE is an optional subject in form three and if students are to develop in life skills competency, more content on life skills should be emphasized in forms 1 and 2. There is the need to make the CRE curriculum more relevant to the needs of the student and the expectations of the society at large (Otunga, 2010; Hayward's, 2007)

4.3 Difference Between the Life Skills Acquisition of Students Taught CRE using CMS is not Statistically Different from those Taught using Traditional Methods

The second objective of the study determined whether there was a difference between the life skill level of students taught CRE using CMS and those taught using traditional methods. Data for this objective was generated using the CRE students' life skills test. The mean scores, t-test and SD were used to report the findings of objective. Pre-test mean scores of E_1 and C_1 were also used in the analysis of the data gathered.

Pre-test Analysis

Comparison of life skills pre-test mean of scores of students taught using CMS and those taught using the traditional methods

Table 4.6 Comparison of Students Life Skills Pre-test Mean Scores by Learning Methods

Group	N	Mean	SD	df	t-value	ρ-value
E1	40	5.61	2.28	81	-.336	.738
C1	43	5.79	2.52			

The results in Table 4.6 indicate that the students life skills achievement mean score (M= 5.79, SD = 2.52) of C1 was higher than that (M = 5.61, SD = 2.28) of E1. The difference between the two means was however not statistically significant at .05 level (t(81) = 4.906, p>.05). This means that the two groups, C1 and E1 were similar before commencement of the study.

The difference between the life skills pre-test mean of scores of the male and female students at the point of entry was also established.

Table 4.7 Difference in Students Life Skills Pre-test Mean Scores by Gender

Group	N	Mean	SD	df	t-value	ρ-value
Male	43	5.60	2.50	81	.392	.696
Female	40	5.81	2.30			

The t-test results in Table 4.7 reveal that indicate that the mean (M= 5.81, SD = 2.50) score of the female students was higher than that (M =5.60, SD = 2.50) of the male students. The difference between the two means was not statistically significant at .05

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level (t (81) = .392, p>.05). This is an indication that the life skill levels of the male and female students' were comparable at the point of entry.

Table 4.8 Students Life Skills Post-test Mean Scores and their Standard Deviations

Group	N	Mean Max = 24	SD
E1	40	11.41	3.73
E2	39	10.59	1.92
C1	41	8.20	2.89
C2	44	7.49	2.22

The mean scores of the experimental groups E1 (M =11.41, SD = 3.73) and E2 (M = 10.59, SD = 1.92) were higher than those of the control groups C1 (M =8.20, SD = 2.89) and C2 (M = 7.49, SD = 2.22). The results suggest that students exposed to CMS perform better than their counterparts taught using traditional teaching approaches.

The ANOVA test was conducted to establish whether the difference among the mean scores of E1, E2, C1 and C2 was significant.

ANOVA

Table 4.9 Comparison of Life Skills Post-test Mean Scores by Learning Approach

Scale	Sum of Squares	df	Mean Square	F-ratio	p-value
Between Groups	436.115	3	145.372	18.950	.000
Within Groups	1227.439	160	7.671		
Total	1663.554	163			

The ANOVA test results show that the difference in mean scores among the four groups E1, E2, C1 and C2 was statistically significant at the .05 level in favour of the experimental groups, $F(3, 160) = 18.950$, $p<.05$.

The results of ANOVA test only show differences among a group of more than three variables, it does not reveal where the differences are. There was need to conduct further analysis to reveal where the differences were. The Least Significant Difference (LSD) test was conducted to reveal where the differences were.

Table 4.9.0 LSD Multiple Comparison of Life Skills Post-test Mean Scores by Learning Approach

Paired Group	Mean Difference	p-value
E1 versus E2	0.82	.190
E1 versus C1	3.21	.000*
E1 versus C2	3.92	.000*
E2 versus C1	2.39	.000*
E2 versus C2	3.10	.000*
C1 versus C2	0.70	.243

*Significant at .05 level

The multiple comparison results reveal that there were significant differences between pair groups E1-C1 ($p<.05$), E1-C2 ($p<.05$), E2-C1 ($p<.05$) and E2-C2 ($p<.05$). However the differences between E1-E2 ($p >.05$) and C1-C2 ($p >.05$) were not statistically significant. Generally the experimental groups outperformed the control groups

Further analysis was conducted by comparing the mean scores of the control (C1 and C2 combined) and experimental (E1 and E2 combined) groups using the t-test to confirm the results of the ANOVA test. The comparison was conducted using the t-test

Table 4.9.1 Comparison of the Students' Life Skills Post-test Mean Scores between the Experimental and Control Groups

Group	N	Mean	SD	df	t-value	ρ-value
Experimental	79	11.00	2.99	162	7.306	.000*
Control	85	7.83	2.57			

The test results reveal that the mean (M =11.00, SD = 2.99) of the experimental group was higher than that (M =7.83, SD = 2.57) of the control group. The results further reveal that the difference between the means of the two groups was statistically significant at the .05 level, in favour of the experimental group(t(162) = 9.306, p<.05).

Gain analysis - groups C1 and E1

Gain analysis examines the achievement levels of E1 and C1 before and after the programme and tries to explain improvements in learning outcomes as measured by the mean scores

Table 4.9.2 Students' CAT Pre-test and Post-test Mean Scores, Standard Deviations and Mean Gains by Learning Approach

Stage	Scale	Group	
		E1 n = 40	**C1 n = 43**
Pre-test	Mean	5.61	5.79
	Standard Deviation	2.28	2.52
Post -test	Mean	11.41	8.20
	Standard Deviation	3.73	2.89
	Mean Gain	**5.80**	**2.41**

The pre-test life skill mean (M =5.61, SD = 2.28) of E1 and that (M = 5.79, SD = 2.52) of C1 were comparable before the commencement of the programme. After the treatment, the mean (M = 11.41, SD = 3.73) of E1 was higher than that (M = 8.20, SD = 2.89) of C1. The result also reveal that the mean gain of E1 (M =5.80) was higher that (M = 2.41). This means that improvement in learning outcomes of the experimental group E1 was higher than that of the control group C1.

The t-test was used to establish whether the two mean gains were statistically significant.

Table 4.9.3 Differences in Mean Gain on Life Skills Test between E1 and C1

Group	N	Mean Gain	SD	df	t-value	ρ-value
E1	40	5.80	3.15	79	4.104	.000*
C1	41	2.54	3.95			

* Significant at .05

The t-test results show that the difference between the mean gains of E1 (M = 5.80, SD = 3.15) and C1 (M =2.54, SD 3.95) was statistically significant at the .05 level, in favour of the experimental group (t(91) = 7.606, p<.05). The experimental group thus

had a higher improvement in learning outcomes as measures by the mean gain. That high improvement in the experimental group is attributed to the treatment.

The results of life skill post-test analysis revealed that the difference among the means scores of groups C1, E1, C2 and E2 were statistically significant in favour of the experimental groups. On the basis of these results the first hypothesis which stated that the difference between the life skills of students taught using CMS is not statistically different from those taught using traditional strategies was rejected

As revealed by the mean scores between the experimental groups and their SD, concept mapping strategy of teaching improves the students' acquisition of life skills. This was in agreement with the findings of studies by (Ilori, 2001; Njoku, 2015) that effective use of learner-centered teaching approaches helps in attaining religious education learning outcomes among secondary school students. Ilori (2001) emphasized the need for CRE teachers to always pay attention to the teaching approaches that caters for the needs of the students as a factor in attaining CRE learning outcomes. Concept mapping strategy presupposes that students learn faster through experience. When students are exposed to making their own findings, (Njoku, 2015) contend that they gain knowledge faster, and as such knowledge is usually permanent.

The findings of this study, further, synchronized with the submission of Nelson (2002) that constructive approach to teaching yields positive attainment of desired learning outcomes. CMS therefore supports the adage that says experience is the best teacher hence life skills knowledge can best be achieved from learners' experience.

CMS involves appealing to the students' conscience on the need to learn. This agrees with Njoku (2012) that effective use of teaching strategies helps the teacher to develop ethical and responsible students by encouraging them to acquire life skills required to operate in the society. CMS not only exposes the students on the need to be diligent with their study but also help teachers to advocate for conducive environment that would enable effective learning to take place.

The results of this study complement the observation of Obanya (2004) that learner-centered teaching approach builds in the student good attitude, respect for others; and the aura to appreciate the society and to interact properly with the teacher thereby turning the class into a better learning environment. CRE being an abstract subject could be discussed and understood better if the students are given the opportunity to share ideas and different views on conflicting issues. Furthermore, constructive teaching methods according to Njoku (2002) increases students' self – esteem, motivation and empathy.

Contrary to the findings of this study, the report of a study by Dinama (2013) showed that teachers are aware that they need a strong pedagogical and content knowledge in the teaching of religious education but they hardly practice the same. The study recommends the need for teachers to be professionally, culturally and religiously competent in religious education classrooms in order to deal with differences an effective and constructive way. Njoku (2013) supports this argument because students could be different in terms of who are hyperactive, socially inhibitive or those who are average academically relative to their classmates. However, the environment in most of religious education classrooms privilege the teachers' knowledge over those

of students rather than emphasize the extent to which students are enabled to become independent learners who are empowered.

Summarily, if teachers of CRE effectively make use of CMS while teaching, they would increase high acquisition of life skills desired objectives. Effective application of CMS would in addition provide opportunities for the learners' interpersonal and personal life skills development. It would also imbue the learners with the experiences that would warrant future success as in any endeavor of their life. Imperatively appropriate application of CMS as a teaching method is a key factor in attaining CRE learning outcomes among secondary school students in Ndhiwa Sub- County, Kenya.

4.4 Difference in Life Skills Post-test Mean Scores between Boys and Girls Taught Exposed to CMS

Experimental group - E1 and E2 combined, Control group - C1 and C2 combined; differences by gender using the t-test

Table 4.9.4 Differences by Gender in Life Skills Post-test Mean Scores of Students Exposed to CMS

Group	Gender	n	Mean	SD	df	t-value	ρ-value
Experimental	Male	42	11.06	3.01	77	.173	.863
	Female	37	10.94	3.00			
Control	Male	38	8.34	2.83	83	1.641	.105
	Female	47	7.42	2.29			

Experimental group

The mean score (M = 11.06, SD =3.01) of the males was higher than that (M =10.94, SD =3.00) of the females.

The difference between the two means was not statistically significant at .05 level

(t(77) = .043, p>.05).

This means the two groups were similar

Control group

The mean score (M = 8.34, SD =2.83) of the male students was higher than that (M = 7.42, SD = 2.29) of their female counterparts. The difference between the males and females means was not statistically significant, t(83) = 1.684, p>.05.

This means the two groups were comparable

Results of objective three of the study indicate that gender does not affect life skills of students exposed to CMS. Sarah (2016) contend that gender differences in skills, behaviors and achievement have been widely studied, however, the focus of the studies varies greatly depending on the perspective of the researcher and the area studied. The research finding of this study contrasts studies by (Wilson, Mack & Walsh, 2014; Kennedy, Lyons & Quinn, 2014) which revealed that there was great decline in female students' performance in Mathematics as compared to the male students (3% compared to 1.1% for male students). Female students tend to perceive their general learning ability levels more negatively than male (Nagy, Watt, Eccles, 2010). According to (Stoet & Geary, 2012) while stereotypes and perceptions may cause gender differences in learner achievement, the condition is never permanent. The authors suggest that when teachers fully utilize their role of guiding the learners through learner-centered approaches, the condition can be remedied.

Psychological viewpoint according to (Sarah, 2016) concurs with the findings of this study that there is no gender differences in students' cognitive abilities and therefore no difference, on average, in the potentials for females and males to achieve in learning. This idea is corroborated by (Devine, Soltezs, Nobes & Geswami, 2013). In their study on the prevalence of dyscalculia, a mathematics-specific learning disorder, they found out similar rates of dyscalculia in girls and boys in a sample of more than 1000 primary school children. The authors concluded that both genders should be considered equally when engaging them through teaching and learning process in the classroom

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1. Introduction

This chapter presents a summary of the findings, conclusions and the recommendations. It also presents suggestions for further research.

5.2. Summary of the Findings

This study investigated the effects of Concept Mapping Strategy in the teaching of CRE on secondary school students' acquisition of life skills in Ndhiwa Sub-County, Kenya. The summary of the findings were as follows:

i.   The analysis of CRE syllabus life skills content coverage revealed that the content coverage was highest at (53.32%) in form four and lowest (22.35%) in form one. The percentage average life skills content coverage in CRE syllabus is (34.56%).

ii.   The second objective of the study was to determine the difference in life skills acquisition between students taught CRE using CMS and those taught using traditional methods. The t-test results indicated that the difference between the mean gains of E_1 (M = 5.80, SD = 3.15) and C_1 (M= 2.54, SD = 3.95) was statistically significant at 0.05 in favor of the experimental group (t (91) = 7.606, p < 0.05). On this basis, the first null hypothesis was rejected.

iii.   The third objective of the study was to establish the difference in life skills acquisition among students exposed to CMS when they are categorized by gender. The t-test results revealed that the mean score (M= 8.34, SD=2.83) of the male students was higher (M= 7.42, SD = 2.26) of their female counterparts. Therefore, the difference between the males and females means

was not statistically significant, t (83) = 1.684, p> 0.05. With the two being comparable, the second null hypothesis was accepted.

5.3. Conclusions

Conclusions of the study based on the findings were:

i. The level of life skill content coverage of the CRE syllabus for secondary school was average at 34.56%. Hence, the inadequate life skills acquisition by the learners may be related to the content level, particularly in forms one and two.

ii. There is a significant relationship between the life skills acquisition of students taught CRE using CMS and those taught using traditional methods. Therefore, CMS positively affects secondary schools students' acquisition of life skills.

iii. The t-test results showed that gender of the students was not significantly related to their life skills. Hence, it was concluded that students' gender do not affect their life skills acquisition.

5.4. Recommendations

Based on the conclusions of the study, the following recommendations have been made;

a) There is need to equally distribute life skills content throughout the syllabus. The study recommends that a higher percentage of the life skills content should be taught in form one and two. Further, the study recommends that the number of lessons allocated for CRE in forms one and two be increased

b) CRE teachers should improve on their life skills teaching approaches by using CMS.

c) In teaching and learning process of life skills, the teachers of CRE should not consider gender as a factor since there is no relationship between gender and life skills acquisition.

5.5. Suggestions for Further Research

Basing on the findings of the study, the following suggestions were made for further research

i. A study to establish CRE syllabus content coverage of life skills of learning to know (cognitive abilities).

ii. A similar study should be done with other subjects to establish whether CMS has similar effects in order to reach conclusive conclusions on the efficacy of CMS.

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C.R.E SYLLABUS LIFE SKILLS CONTENT ANALYSIS MATRIX

KEY:

SM= Stress Management   CS= Communication Skills   CT=Cooper & Teamwork

ME= Managing Emotions   NS= Negotiation Skills   AS= Advocacy Skills

SE=   Self Control   E= Empathy

A(i): Form One Practicability/Functionality of the Content Matrix

S/No Topic (s)	Topic Codes/ Sub-Topics	Life Skills of Learning to Be			Life Skills of Living Together					Score	%	Remark
		S	ME	SE	CS	NS	E	CT	AS			
A	**1.1.0**											
1	1.1.0.1											
2	1.1.0.2											
B	**1.2.0**											
3	1.2.0.1											
4	1.2.0.2											
5	1.2.0.3											
6	1.2.0.4											
7	1.2.0.5											
8	1.2.0.6											
9	1.2.0.7											
C	**1.3.0**											
10	1.3.0.1											
11	1.3.0.2											
12	1.3.0.3											
13	1.3.0.4											
14	1.3.0.5											
15	1.3.0.6											
16	1.3.0.7											
17	1.3.0.8											
D	**1.4.0**											
18	1.4.0.1											
19	1.4.0.2											
20	1.4.0.3											
21	1.4.0.4											
22	1.4.0.5											
23	1.4.0.6											
24	1.4.0.7											
E	**1.5.0**											

25	1.5.0.1											
26	1.5.0.2											
27	1.5.0.3											
28	1.5.0.4											
29	1.5.0.6											
31	1.5.0.6											
32	1.5.0.7											
33	1.5.0.8											
34	1.5.0.9											
35	1.5.0.10											
F	**1.6.0**											
36	1.6.0.1											
37	1.6.0.2											
38	1.6.0.3											
39	1.6.0.4											
40	1.6.0.5											
41	1.6.0.6											
42	1.6.0.7											
43	1.6.0.8											
44	1.6.0.9											
45	1.6.0.10											
G	**1.7.0**											
46	1.7.0.1											
47	1.7.0.2											
48	1.7.0.3											
49	1.7.0.4											
50	1.7.0.5											
H	**1.8.0**											
51	1.8.0.1											
52	1.8.0.2.1											
53	1.8.0.2.2											
54	1.8.0.3											
55	1.8.0.4											
I	**1.9.0.**											
56	1.9.0.1											
57	1.9.0.2											
58	1.9.0.3											
59	1.9.0.4											
60	1.9.0.5											
61	1.9.0.6											
62	1.9.0.7											
Total												

B (ii): Form Two- Life Skills Content Analysis Matrix

S/No Topic (s)	Topic Codes/	Life Skills of Learning to Be			Life Skills of Living Together					Score	%	Remark
		S	ME	SE	CS	NS	E	CT	AS			
A	**1.1.0**											
1	1.1.0.1											
2	1.1.0.2											
3	1.1.0.3											
4	1.1.0.4											
5	1.1.0.5											
6	1.1.0.6											
7	1.1.0.7											
B	**1.2.0**											
8	1.2.0.1											
9	1.2.0.2											
10	1.2.0.3											
11	1.2.0.4											
12	1.2.0.5											
C	**1.3.0**											
13	1.3.0.1											
14	1.3.0.2											
15	1.3.0.3											
16	1.3.0.4											
17	1.3.0.5											
18	1.3.0.6											
19	1.3.0.7											
20	1.3.0.8											
21	1.3.0.9											
22	1.3.0.10											
23	1.3.0.11											
D	**1.4.0**											

24	1.4.0.1										
25	1.4.0.2										
26	1.4.0.3										
27	1.4.0.4										
28	1.4.0.5										
29	1.4.0.6										
30	1.4.0.7										
31	1.4.0.8										
32	1.4.0.9										
33	1.4.0.10										
34	1.4.0.11										
35	1.4.0.12										
36	1.4.0.13										
37	1.4.0.14										
38	1.4.0.15										
E	**1.5.0**										
39	1.5.0.1										
40	1.5.0.2										
41	1.5.0.3										
42	1.5.0.4										
43	1.5.0.5										
F	**1.6.0**										
44	1.6.0.1										
45	1.6.0.2										
46	1.6.0.3										
47	1.6.0.4										
48	1.6.0.5										
Total Percentage											

A (iii): Form Three- Life Skills Content Coverage Matrix

S/No Topic (s)	Topic Codes/ Sub- Topics	Life Skills of Learning to Be			Life Skills of Living Together					Score	%	Remark
		S	ME	SE	CS	NS	E	CT	AS			
A	1.1.0											
1	1.1.0.1											
2	1.1.0.2											
3	1.1.0.3											
4	1.1.0.4											
5	1.1.0.5											
6	1.1.0.6											
B	1.2.0											
7	1.2.0.1											
8	1.2.0.2											
9	1.2.0.3											
10	1.2.0.4											
11	1.2.0.5											
C	1.3.0											
12	1.3.0.1											
13	1.3.0.2											
14	1.3.0.3											
15	1.3.0.4											
16	1.3.0.5											
17	1.3.0.6											
18	1.3.0.7											
19	1.3.0.8											
D	1.4.0											
20	1.4.0.1											
21	1.4.0.2											
22	1.4.0.3											

23	1.4.0.4											
24	1.4.0.5											
25	1.4.0.6											
26	1.4.0.7											
27	1.4.0.8											
28	1.4.0.9											
E	**1.5.0**											
29	1.5.0.1											
30	1.5.0.2											
31	1.5.0.3											
32	1.5.0.4											
33	1.5.0.6											
34	1.5.0.6											
35	1.5.0.7											
36	1.5.0.8											
37	1.5.0.9											
38	1.5.0.10											
F	**1.6.0**											
36	1.6.0.1											
37	1.6.0.2											
38	1.6.0.3											
39	1.6.0.4											
40	1.6.0.5											
41	1.6.0.6											
42	1.6.0.7											
43	1.6.0.8											
44	1.6.0.9											
45	1.6.0.10											
Total Percentage												

A (iv): Form Four Life Skills Content Coverage Matrix

S/No Topic (s)	Topic Codes/ Sub-Topics	Life Skills of Learning to Be			Life Skills of Living Together					Score	%	Remark
		S	ME	SE	CS	NS	E	CT	AS			
A	**1.1.0**											
1	1.1.0.1											
2	1.1.0.2											
B	**1.2.0**											
4	1.2.0.1											
5	1.2.0.2											
6	1.2.0.3											
7	1.2.0.4											
8	1.2.0.5											
9	1.2.0.6											
10	1.2.0.7											
11	1.2.0.8											
12	1.2.0.9											
13	1.2.0.10											
14	1.2.0.11											
15	1.2.0.12											
C	**1.3.0**											
16	1.3.0.1											
17	1.3.0.2											
18	1.3.0.3											
19	1.3.0.4											
20	1.3.0.5											
21	1.3.0.6											
22	1.3.0.7											
23	1.3.0.8											
24	1.3.0.9											

25	1.3.0.10											
D	**1.4.0**											
26	1.4.0.1											
27	1.4.0.2											
28	1.4.0.3											
29	1.4.0.4											
30	1.4.0.5											
31	1.4.0.6											
32	1.4.0.7											
E	**1.5.0**											
33	1.5.0.1											
34	1.5.0.2											
35	1.5.0.3											
36	1.5.0.4											
F	**1.6.0**											
37	1.6.0.1											
38	1.6.0.2											
39	1.6.0.3											
40	1.6.0.4											
41	1.6.0.5											
42	1.6.0.6											
43	1.6.0.7											
G	**1.7.0**											
44	1.7.0.1											
45	1.7.0.2											
46	1.7.0.3											
47	1.7.0.4											
48	1.7.0.5											
49	1.7.0.6											
50	1.7.0.7											
Total												

Appendix B: CRE Students' Life Skill Test

You are kindly asked to answer the questions as sincerely as possible. Please respond by ticking where it is required and writing the answers in the spaces given. There are no correct or wrong answers. The information you give will be treated as confidential and will only be used for this study. You are therefore free to give additional information where you wish.

General Instructions

1. Answer all questions as honestly as possible.

2. Please tick (✓) your correct choices in multiple choices questions and write the answers in the spaces provided for the open ended questions.

3. Answer all questions as honestly as possible.

4. After completing the test, kindly hand over your answer sheet to the test administrator.

5. You have **1 hour** to answer all questions.

6. Please do not write your name or that of your school on this paper.

Preliminary

Please tick (✓)

a) Gender: Male ( )   Female ( )

b) School location: _____

Please tick (✓) your correct choices in multiple choices questions and write the answers in the spaces provided for the open ended questions.

1. John your friend has just reported to school from home and he has not been able to pay school fees, therefore he has been sent home. How would you react to John's situation?   (1 Mark)

a)   Ignore him

b)   Empathize with him

c)   Negotiation skills

d)   Pray for him

2). The following are attributes of communication skills. Which one is the odd one out?   (1 Mark)

a) Verbal and non-verbal communication

b) Refusal skills

c) Active listening

d) Expressing feeling

3. There is a water shortage in your school and you discover that there is a school water tap which is not closed and water is running. What would you do?   (1 Mark)

a)   I would not take any action and let the water running

b)   I would alert the teacher on duty

c)   Wait for others and we fetch the water

d)   Would check on what is wrong with the tap and handle the situation

4. Your CRE teacher has given your class members gifts for good performance in examinations. Some members of your class are emotive because they feel the gifts were not equally distributed. The best way of handling there is emotions is by using? (1 Mark)

a)   Relaxation techniques

b)   Goal setting skills

c)   Self-esteem techniques

d)   Anger management skills

5. My son who happens to be a student in a school where I teach wishes to be the chairperson of the students' council but the competition is very stiff. To secure the position it is good to?   (1 Mark)

a)   Let him fight for himself

b)   Talk to my fellow teachers to let him succeed

c)   Discourage him from contesting

d)   Get him any necessary assistance

6. Your classmate has been caught stealing in your classroom. Your classmates have decided that they want to teach him a lesson. Which is the most appropriate thing to do?   (1 Mark)

a)   Forgive the student

b)   Call the teacher to handle the matter

c)   Beat up the student to death

d)   Ignore what the other students are doing

7. June your classmate confides in you that James is asking her for a love relationship and this has been affecting her studies. How best would you advise her?   (2 Marks)

_____

_____

8. After receiving your continuous assessment test result, you did not pass because you had stress when you were doing the test. What would you do so that you are not stressed during exams? (2 Marks)

_____

_____

9. During your group work assignment in class, Judy your group member tells you that for good results to be attained, all the group members should engage in teamwork and cooperation. State two attributes that you need to be a team player. (2 Marks)

_____

_____

10. You have stumbled upon your end of term CRE examination paper and you have time to use this examination paper before you are caught. What do you do? (2 Marks)

_____

_____

11. Pereno, Sylvia and Iria are your classmates. They have been fighting and quarrelling over a lost and found CRE textbook. When the matter was reported to the teacher, they were advised to negotiate over the issue. How would you approach the issue to assist them solve the problem? (2 Marks)

_____

_____

12. You heard your CRE teacher tells Njuguna who is your classmate that "You need to improve on your self-control control". What would you tell Njuguna to do?

(2 Marks)

_____

_____

13. You are among the students who have gone to the kitchen to take their lunch. The teacher in-charge of the dining hall is present to communicate to the students that because of unavoidable circumstance your lunch would delay by 30 minutes. While giving the explanation, some students are making noise as they are booing at the teacher. What would you do and why? (2 Marks)

_____

_____

14. Briefly explain two circumstances where you would empathize with your classmates   (2 Marks)

_____

_____

15. Describe how well you would use your advocacy during your campaign to become the chairperson of the students' council in your school.   (2 Marks)

_____

_____

Appendix C: Concept Mapping Strategy Teachers' Guide

This is a Concept Mapping Strategy (CMS) teacher' guide meant for the teaching of life skills through CRE. You are kindly requested to use the guide in teaching the fifth topic in form four; *Christian Approaches to Wealth, Money and Poverty.* Most significantly, it is the request of the researcher that the guide be used keenly in teaching objective five; *Life Skills*. Your implementation of this guide will be treated as confidential and will only be used for the purposes if this study. Each lesson is designated to take 40 Minutes.

Sub- Topic: Life Skills

You required to plan and teach the following two categories of life skills as guided in the table below:

   i.   Life skills of learning to be (personal abilities)

   ii.   Life skills of learning to live together (interpersonal)

Life Skills	Life Skills to be Acquired	CMS Teaching Tool (s)
Learning to be: meant to equip the learners with personal confidence, building self-esteem, setting goals and developing awareness of one's rights	i. Self-control ii. Emotional management iii. Stress management	**Brainstorming**: use to introduce the lesson **Role play**: apply while building on the lesson objective **Self- awareness Test**: use to evaluate the lesson objective
Learning to live together: enables the students to interact with others effectively and meaningfully	i. Communication skills ii. Negotiation skills iii. Empathy iv. Cooperation and teamwork v. Advocacy skills	**Brainstorming:** appropriate in lesson introduction **Role play**: assign different roles to leaners to exhibit the skills intended to be acquired. Use to build on the objectives of the lesson **Case- Based small groups**: group learners in 3-5. Assign problem-solving task to build the objective **Game:** use to conclude the lesson

Appendix D: Map of the Area of the Study