CHAPTER ONE

INTRODUCTION

Background to the Study

During adolescence, young people undergo physical, mental, and emotional changes brought about by increased hormonal function. These biological changes might be associated with increased interest in sexual behaviour leaving majority of adolescents vulnerable. These unhealthy sexual behaviours among adolescent in African countries are still on increase (Hussein et al. 2018), and has become an area of interest for global public health researchers aiming to find innovative approaches to promote better healthy sexual outcomes. According to Mbizuo and Zaidi (2010), many governments have pursued strategies to address the specific sexual and reproductive needs of adolescents since the 1994 International Conference on Population and Development (ICPD) which placed adolescents' sexual and reproductive health on the global policy agenda. However, Secor-Turner, Kugler, Bearinger and Sieving (2009) reported that the large relative proportion of adolescent rate of HIV, unplanned pregnancy, maternal mortality and unsafe abortion indicate needs for greater improvement.

Sexual development is characterized by the acquisition of skills used to control feelings of sexual arousal and to manage the consequences of sexual behaviour, as well as by the development of new forms of sexual intimacy (World Health Organization, 2016). Mlyakado (2013) posited that adolescence period is a period of susceptible risky sexual behaviours such as engaging in underage sexual intercourse, polyamory (intimate relationships with more than one partner, with the consent of all partners involved), participating in unprotected sex, and exposing themselves to potential sexual assault environments.

According to United Nations Fund for Population Activities (UNFPA) (2016), adolescence is a period of transition between childhood and adulthood and it is characterized by physiological, emotional and sexual development. It is also regarded as a period of individual autonomy, growing sense of identity and self-esteem. Adolescence can be one of life's most complex stages, when young people take on new responsibilities and experiment with independence.

An adolescent is defined by the World Health Organization (WHO) (2010) as a person aged 10 to 19 years. They are commonly referred to as the "next" or "future generation" and they require protection and care, services, opportunities, support, and recognition (United Nations International Children's Emergency Fund, 2011). At this stage, curiosity about sexuality increases, they start showing sexual interest in opposite sex. When engaged in production, adolescents thrive and contribute to communities and families. The adolescent stage has been categorized into three with differential developmental milestones. These are the early (10-13 years), middle (13-16 years) and the last adolescence (16-19 years) stages. WHO (2010) posited that when adolescents are encouraged, they can pave a brighter future for themselves and their brighter future families.

Adolescents' and youths' sexual and reproductive health deserve considerable attention and resources. Young people need to be empowered and equipped among others with the skills and capacities to address pressing global challenges such as sexual and reproductive health issues. Zimmerman and Farrell (2017) stated that substance use, which contributes to unhealthy sexual behaviour, has been found to be common and increasing among middle stage adolescents. These behaviours could adversely affect their future health outcomes, increasing their chances of contracting Sexually Transmitted Infections (STIs) including HIV and AIDS; dropping out of school due to unplanned pregnancies and contracting Human Papilloma Virus (HPV) which contributes to contracting cervical cancer

(Makuzaet al, 2015). These health problems could be brought to the lowest minimum through sexual health education.

Vanwesenbeeck, Westeneng, De Boer, Reinders, and Van Zorge (2016) opine that sexual health education has great potential for providing the knowledge and skills necessary for adolescents to make safe choices related to sex. It can reduce misinformation and increase critical thinking, communication and self-confidence. These could lead to young people making smarter choices regarding their sexual relationships. There are so many teaching methods that have been recognized, developed and used in sexual health education to impact knowledge that helps adolescents to reduce their chances of engaging in risky sexual behaviour. These teaching methods according to WHO (2010) include: lecture, discussion, Socratic, demonstration teaching methods among others. Over the past few years, some of these different teaching and learning methods have been used and tested, often with the aim of developing skills for healthy sexual behaviour which are more of didactic (teacher-centred / teacher directed) methods.

Apart from the teaching methods mentioned above, different arms of governments have carried out some strategies by organizing programmes for secondary schools for promoting healthy sexual behaviour of adolescents (Mbizuo & Zaidi, 2010). Despite the various sexual health educational initiatives, the delivery and implementation of sexual health education is still not perfect in developing countries. Irresponsible adolescent sexual health behaviour and the resultant adverse health effects are on the rise in developing countries (Haruna, Hu & Chu, 2018).

The inadequate comprehensive adolescents' sexual well-being, knowledge and skills make them more likely to engage in unhealthy sexual behaviour. According to research done by Envuladu, Anke, Zwanikken and Zoakah (2017), one quarter of Nigerian adolescents are sexually active with age of sexual debut ranging from 10 to 15 years. In Southwestern Nigeria according to Salami, Ayegboyin and Adedeji (2014), 27.4 percent unintended

pregnancy among adolescents in a secondary school all ended in abortion while other studies recorded about 60 percent. Okonofua (2011); and WHO (2011) reported that Nigeria records yearly abortion rate of 25 abortions/1000 women more than a quarter of which are from adolescents resulting from unintended pregnancy. In the southeastern part of Nigeria, about 32 percent of the cases of unsafe abortion were among adolescents who had unintended pregnancy (WHO, 2011). Evidence from studies has shown that those who are pregnant as students either dropout of school or are dismissed from school, majority of whom may never get back to school again while others are forced by their parents into child marriage as a result of the pregnancy (Nnebue, Chimah, Duru, Ilika, & Lawoyin 2016; UNICEF, 2014). UNICEF (2015) reported that of recent, Nigeria has been identified as a hot spot zone where child marriage is at its highest. Child marriage is a major problem in Nigeria. The rate of unintended pregnancy and Sexual Transmitted Infection (STI) among adolescents is increasing, becoming a major problem in Nigeria and could link to inadequate implementation of sexual health education. This poses danger to the lives of adolescents contributing to the overall maternal mortality in Nigeria. These alarming statistics have resulted in appeals for public health interventions to address the increasing level of STIs (including HIV and AIDS) and other risk sexual behaviours, and to improve and implement sexual health education initiatives.

The suspectected inadequate implementation of sexual health education in school could as well be due to factors like social and cultural attitudes that do not allow open discussion and teachers' resistance to teaching sexual health matters properly. At times they omit mentioning some aspects they feel that it is so private in mentioning in an open classroom in the name of protecting the children from erotic thoughts. Furthermore, the existing, widely employed rote learning does not support the effective delivery of sexual health education (Hussein et al, 2018). Again, many teachers teach as they themselves were

taught, using traditional teaching methods in which the instructor is the deliverer of factual information.

Today's students are the ever-changing mass-media generation. Passive learning that worked in the past may not meet these generation students' needs for various reasons. Cummings in Susan (2009) argued that today's students are the product of mass-media influences, and their learning styles are different from students of the past. Adequate knowledge of sexual health education could help to protect adolescent's sexual health. Therefore, students' centered method is recommended in today's teaching and learning. Constructivist teaching method is one of the teaching methods in education that is centred on learners.

Durmus (2016) opined that constructivist teaching method is based on the belief that learning occurs as learners are actively involved in a process of meaning and knowledge construction as opposed to passive receiving of information. The constructivist view of learning has had a most noticeable influence on curriculum in education since 1980 (Owusu, 2015). This view has important consequences for the development of new teaching and learning methods that focus on students' understanding in education rather than recall of facts and formulae. Roberts (2018) opined that constructivist teaching method is a method of teaching based on the constructivism learning theory. According to the theory, students learn by building on their previous knowledge and experiences and by actively engaging in the learning process, instead of receiving knowledge passively through lectures and memorization. Specific learning methods to education that are based on constructivism include the following; constructionism, guided instruction, problem-based learning, inquiry-based learning, anchored instruction, cooperative learning, reciprocal peer teaching, jigsaw among others. This study made use of cooperative learning method.

Cooperative learning method concentrates on learning how to think and understand. Education works best when it concentrates on thinking and understanding, rather than on rote

learning. According to Eskay (2012), cooperative learning is the instructional use of small groups so that students work together to maximize their own learning and each other's learning. Eskay concluded that the effect of cooperative learning on academic achievement and social development were determined by the quality of group interaction. Riley and Anderson (2006) reported that students who were exposed to cooperative learning situations showed an increase in self-study habits in a Web-based graduate-level course.Hsiung (2012) was of the opinion that cooperative learningmethodmeans a variety of educational approaches focusing on individuals working together to achieve a specific learning outcome.

Different types of cooperative learning methods are being used in teaching different subjects(Massey, 2003). They are student team'sachievement divisions (STAD), team game tournaments (TGT), teams assisted individualization (TAI), jigsaw, jigsaw II, cooperative interpreted read and composition (CIRC), learning together, group investigation, to mention but few.According to Gupa, Jain and Pasrija (2014), all the methods incorporate almost the same way of implementation, individual accountability, and equal opportunities for success, but a different ways of team rewards and some methods are specifically meant for specific subjects.

For this study, emphasis wason learning together of cooperative learning methods.Here, Students worked in four or five heterogeneous groups within an intact class (Johnson &Johnson in Eskay, Onu, Obiyo &Obidoa 2012). After the group discussion as opined by Eskay, Onu, Obiyo and Obidoa, a leader was chosen to present group's result to the entire class; groups construct their own knowledge through negotiation of meaning in their group discussion and receive reward (cooperative incentive) together which is contrary to traditional teaching method.

According to Hussein, et al. (2018), traditional teaching method is a teaching method that are teacher-centred, textbook-driven, transmission-oriented and with practice problems done by learners individually. In this traditional classroom setting, the teacher takes charge of

a lot of the intellectual work in that classroom. The teacher plans the scope and sequence, pre-synthesizes and pre-packages most of the learning (Brooks & Brooks cited in Owusu, 2015). This traditional teaching method in this study will be regarded as the conventional learning method. To the best knowledge of the researcher as a teacher in Anambra state as at the time of this study, traditional teaching method was the dominant teaching method in view to complete the termly scheme of work within the stipulated time thereby ignoring whether required knowledge is achieved or not.

Knowledge is a familiarity, awareness, or understanding of someone or something, such as facts, information, descriptions, or skills, which are acquired through experience or education by perceiving, discovering, or learning. According to Encyclopedia of Children's Health (2011), knowledge can be referred to as a theoretical or practical understanding of a subject. However, sexual health knowledge is the knowledge of the level of sexual health risk within the individuals' community and knowledge of sexually transmitted infections, their transmission and their prevention. According to Morris (2007), sexual health knowledge is viewed as the understanding of the facts and information, awareness and familiarity with physical, emotional, mental, psychological, spiritual, legal and societal dimensions of sexuality which encompasses self-esteem, values, choices, and responsibility across the lifespan. Sexual health knowledge also includes an understanding of facts on the anatomy and physiology of human reproductive system, processes of reproduction, problems of HIV and STIs, unintended pregnancy and abortion, infertility and cancer resulting from STIs and sexual dysfunction. Sexual health knowledge acquisition can enhance cognitive development, promote and raise awareness, and encourage positive sexual health attitudes.

An attitude is defined, according to Richard and Perloff (2016), as a mental and emotional entity that inheres in, or characterises a person. It is a complex and an acquired state through experiences. Attitude is an individual's predisposed state of mind regarding a value and it is precipitated through a responsive expression toward a person, place, thing, or

event which in turn influences the individual's thought and action (Richard & Perloff, 2016). Sexual health attitude is a person's beliefs about sexuality shown by the person's behaviour and is based on cultural views and previous sexual experience (Psychology Dictionary, 2013). Effective sex education provides adolescents with an opportunity to explore the reasons why people have sex, and to think about how it involves emotions, respect for self and other people and their feelings, decisions as it relates to their sexual health which is also part of this study.

Some factors could determine sexual health knowledge and attitudes. These are gender and location. Gender is generally assumed to impact upon the growth, demonstration and manifestation on adolescents. According to Zoller and Gerard(2011), Studies during 1970s and 1980s in the United States regularly found girls' self-concept more vulnerable during early adolescence, especially in urban areas. In their various studies, Eskin, (2003); Qadir and Sugumar (2013); Uzaina and Parveen (2015); and Rathee (2015) on sexual health among gender reported contradictory findings which did not find sex differences among adolescents' sexual health. Prakash and Devi (2015) reported that males were more sexually active while other findings like Connie, Lesley and Andrea (2011) found that females reported more positive attitudes than males. Nwaorgu et al. (2008) in their study noted that gender and location (urban and rural residence) had a significant effect on students' reproductive health knowledge. Therefore, these moderator variables, gender and location was considered in this study to determine their influence among adolescents' sexual health knowledge and attitudes. This research work was then to determine the effect of cooperative learning methodon sexual health knowledge and attitudes of adolescents in Anambra state secondary schools.

Statement of the Problem

Unsafe sex is a common practice among adolescents in Nigeria resulting in unintended pregnancies, which may eventually end in unsafe abortion, child marriage and Sexual Transmitted Infections (STIs). Ordinarily, secondary school students are supposed to have fair knowledge of sexual health because careful examination of Nigerian secondary school curriculum on health education and even on related areas like Biology reveals that there are learning experiences on human sexuality education for the students.But the problem is whether these topics or learning experiences are adequately taught with appropriate methods so that adequate knowledge is imparted and positive attitudes developed by these students.

From the researcher's personal observation as a health educator in Anambra state, the delivery of sexual health education to students in Nigeria, mostly in Anambra state, is characterized by rote learning and memorization, which are limited to lecturing method with little or no room for proper discussion among students. The assumption being that all students can learn at the same pace and are active listeners (Hussein et al. 2018). However, according to Hussein**,** the inability of adolescents to acquire adequate knowledge regarding sexual health is due to the method of teaching used. Inadequate sexual health knowledge may expose the students to major sexual and reproductive health challenges such as unintended pregnancy resulting in unsafe abortion, HIV and AIDS among others.

Health educators have been exposed to several teacher-centred methods of teaching health issues during their professional training such as lecture, discussion, Socratic, demonstration teaching methods among others. They have been also exposed to in-service training like workshops and conferences. All in effort to make sure they impart positively on the sexual health of the students. Yet there are still sexual health challenges among secondary school adolescents. This may be because the teacher-centred methods of teaching are still unable to enhance logical thinking and behaviour and create social skills and commitment in

a manner that will bring positive sexual health attitude of adolescents (Behrangi & Aghayari, 2004).

It is as a result of these that this study was designed to determine the effectof cooperative learning method on sexual health knowledge and attitudes ofadolescentsin Anambra state secondary schools.

Purpose of the study

The main purpose of the study was to determine the effect of cooperative learning method on sexual health knowledge and attitudes ofadolescents in Anambra state secondary schools. Specifically, the study determined;

1. the mean sexual health knowledge scores of adolescents in Anambra state secondary schools before and after being exposed to cooperative learning method and those in the control group;
2. the pre-test, post-test sexual health knowledge mean scores of male and female adolescents in Anambra state secondary schools exposed to cooperative learning method and those in the control group;
3. the pre-test, post-test sexual health knowledge mean scores of urban and rural adolescents in Anambra state secondary schools exposed to cooperative learning method and those in the control group;
4. the mean sexual health attitudes score of adolescents in Anambra state secondary schools before and after being exposed to cooperative learning method and those in th econtrol group;
5. the pre-test, post-test sexual health attitudes mean scores of male and female adolescents in Anambra state secondary schools exposed to cooperative learningmethod and those in thecontrol group;

6. the pre-test, post-test sexual health attitudes mean scores of urban and rural adolescents in Anambra state secondary schools exposed to cooperative learning method and those in the control group.

Significance of Study

The findings of the study will be beneficial to the following groups of people; health educators and other school health practitioners; health education planners; Federal and State Ministry of Health and Education and future researchers.

To the health educators and other school health practitioners, the findings of the study will hopefully be a veritable means of enhancing teaching and learning outcomes in sexual health education. The findings will make them aware of teaching method that will yield better result in teaching human sexuality to adolescents in secondary schools and so motivate them and others to include the method in the curriculum for use by health educators and health care providers.

Health education planners will benefit from the findings of this study as they may use the result as reference point to support curriculum innovations, modifications and other curricula development decisions. The findings will help them in providing a teaching method that is learner centered within the school setting which represents an effective public health strategy to enhance the sexual health knowledge and attitudes of adolescents.

The findings of this study will be a veritable means for different arms of government in making policies in the education sector for the improvement of school – based interventions, by organizing in – training, seminars for the managements of secondary school about learners' centered method of teaching that will yield better result for the sexual health behaviour of secondary school adolescents.

Finally, it is hoped that the findings of this research will serve as baseline data for further research on how best to help students improve their learning skills to achieve optimum sexual health.

Scope of the Study

This study was delimited only to cooperative learning method. The dependent variables of the study were the knowledge of and attitude towards the following areas of sexual health education: Sexual development, reproduction, sexually transmitted infections (STIs), family planning, and relationships. The moderator variables of the study were the socio - demographic characteristics of the subjects which included gender and location of the students in Anambra state secondary schools.

The group of students in the study were middle adolescents between the ages of 14-16 years of age who were in senior secondary schools in Anambra state. Senior secondary two (SS2) students were considered to be appropriate since those in SS1 may not have concluded their registration to qualify them as bonafide students of the school and the SS3 students are in the examination class and needed to concentrate in the examination preparations. The study was also delimited to Awka educational zone of Anambra state.

Research Questions

The following research questions guided the study:

1. What are the sexual health knowledge mean scores of adolescents in Anambra state secondary schools before and after being exposed to cooperative learning method and those in thecontrol group?
2. What are the pre-test, post-test sexual health knowledge mean scores of male and female adolescents in Anambra state secondary schools exposed to cooperative learning method and those in the control group?
3. What are the pre-test, post-test sexual health knowledge mean scores of urban and rural adolescents in Anambra state secondary schools exposed to cooperative learning method and those in the control group?

4. What are the sexual health attitudes mean scores of adolescents in Anambra state secondary schools before and after being exposed to cooperative learning method and those in the control group?
5. What are the pre-test, post-test sexual health attitudes mean scores of male and female adolescents in Anambra state secondary schools exposed to cooperative learning method and those in the control group?
6. What are the pre-test, post-test sexual health attitudes mean scores of urban and rural adolescents in Anambra state secondary schools exposed to cooperative learning method and those in the control group?

Hypotheses

The following null-hypotheses were formulated and tested at 0.05 level of significance:

1. The effect of cooperative learning method and that of control group on the mean sexual health knowledge scores of adolescents in Anambra state secondary schools will not differ significantly using their post-test mean scores.
2. The effect of cooperative learning method on the mean sexual health knowledge scores of male and female adolescents in Anambra state secondary schools will not differ significantly using their post-test mean scores.
3. The effect of cooperative learning method on the mean sexual health knowledge scores of urban and rural adolescents in Anambra state secondary schools will not differ significantly using their post-test mean scores.
4. The effect of cooperative learning method and that of control group on the mean sexual health attitude scores of adolescents in Anambra state secondary schools will not differ significantly using their post-test mean scores.

5. The effect of cooperative learning method on the mean sexual health attitude scores of male and female adolescents in Anambra state secondary schools will not differ significantly using their post-test mean scores.
6. The effect of cooperative learning method on the mean sexual health attitude scores of urban and rural adolescents in Anambra state secondary schools will not differ significantly using their post-test mean scores.
7. There was no significant interaction effect of gender and location on the mean sexual health knowledge scores of adolescents exposed to cooperative learning method.
8. There was no significant interaction effect of gender and location on the mean sexual health attitude scores of adolescents exposed to cooperative learning method.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter presents review of literature related to this study. It was handled specifically under the following sub-headings:

Conceptual Framework

Cooperative Learning Method

Sexual Health Knowledge

Sexual Health Attitude

Adolescent

Theoretical Framework

Constructivism Theory

Theoretical Studies

People's view on Sexual Health Knowledge and Attitudes

Cooperative Learning Method as one of the Methods Based on Constructivist Teaching Method.

Implementation of Cooperative Learning Method in the Classroom.

Major Types of Cooperative Learning Method.

Guide for Learning Together of Cooperative Learning Method.

Basic Elements of Cooperative Learning.

Traditional Teaching Method (TTM).

Cooperative Method and Traditional Ideas about Teaching and Learning.

Empirical Studies

Studies on Effects of Cooperative Learning Method on other areas of studies done outside Nigeria.

Studies on Effects of Cooperative Learning Method done within Nigeria.

Studies on Effects of Teaching Methods on Sexual Health Knowledge and

Attitudes of Adolescents done outside Nigeria.

Studies on Effects of Teaching Methods on Sexual Health Knowledge and Attitudes of Adolescents done within Nigeria.

Summary of Reviewed Related Literature

Conceptual Framework

The major concepts in this work were discussed here below:

Cooperative Learning Method

Cooperation in its simplest term refers to the process of working together based on mutual understanding to achieve a specific purpose. According to Hsiung (2012), cooperative learningmethod means a variety of educational approaches focusing on individuals working together to achieve a specific learning outcome. It is one of the specific methods in education that are based on constructivist teaching method. Eskay (2012) said that cooperative learning is the instructional use of small groups so that students work together to maximize their own learning and each other's learning. Susan (2009) opined that cooperative learning is an instructional programme in which students work together in small groups to promote academic achievement of educational curricula.

Cooperative learning was regarded as a learning strategy by Chabra and Tabassum (2010). According to them, cooperative, student-centered learning has been widely explored and is becoming a frequently used instructional strategy. Many practitioners have reported that cooperative learning strategies enhance academic achievement (Ajaja & Eravwoke 2010). However, some educators still consider cooperative learning to be ineffective. The reason for this might be improper implementation of this widely used strategy because many reports tell of greater student achievement when cooperative learning strategies are used and properly implemented. Students must be given the opportunity to develop self-confidence, and group learning contingencies appear to promote this. Self-directed learning emerges when students work with peers (Gupta & Pasrija, 2011). Cooperative learning strategies did not simply

enrich reading and writing abilities of students, but that their problem-solving abilities emerged as well. Some of the strategies included group rewards. Eskay (2012) concluded that the effect of cooperative learning on academic achievement and social development were determined by the quality of group interaction. Riley and Anderson (2006) observed that students who were exposed to cooperative learning situations showed an increase in self-study habits in a Web-based graduate-level course. Cooperative learning is a mode of learning in which students of different levels of ability work together in small groups to achieve a purpose (Akinbobola 2006). It involves the use of a variety of learning activities to improve their understanding of a subject (Slavin 1992). Students in a group interact with each other, share ideas and information, seek additional information, and make decisions about their findings to the entire class (Kort 1992).

Cooperative learning method according to the researcher is the instructional use of small groups of class members (split into groups of two−five members) after receiving instructions from the teacher work together to maximize their own learning and each other's learning. The group members then work through the assignment until all members of the same group have successfully understood and completed a given task.

Sexual Health knowledge

Knowledge is a familiarity, awareness, or understanding of someone or something, such as facts, information, descriptions, or skills, which is acquired through experience or education by perceiving, discovering, or learning. According to Oxford dictionary (2010), Knowledge can refer to a theoretical or practical understanding of a subject. It can be implicit (as with practical skill or expertise) or explicit (as with the theoretical understanding of a subject); it can be more or less formal or systematic. According to International Planned Parenthood Federation (IPPF) (2006), it is the sum or range of what has been perceived, discovered, or learned, the facts, feelings or experiences known by a person or group of people. Knowledge is information that provides guidance for action, and is made up of data,

information, experience and expertise. Knowledge through experience or education is the theoretical or practical understanding of a subject; what is known in a particular field or in total; facts and information; or awareness or familiarity gained by experience of a fact or situation. It is the psychological result, or principles of perception and learning and reasoning. Microsoft Encarta (2009) subscribed knowledge as general awareness or possession of information, facts, idea, truth or principles learned throughout the familiarity or understanding gained through experience or study. Stewart in Cormier (2008) posited that knowledge represents positions from which people makes sense of their worlds and their place in them, and from which they construct their concepts of agency, the possible, and their own capacities to do. Knowledge in this study means the confident understanding of a subject with the ability to use it for a specific purpose appropriately.

Sexual health knowledge is knowledge of the level of sexual health risk within the individual's community and knowledge of the sexually transmitted infections, their modes of transmission and their prevention (Morris, 2007). Sexual health knowledge is also viewed as the understanding of facts and information; awareness and familiarity with physical, emotional, mental, physiological, spiritual, legal and societal dimensions of sexuality which encompasses self-esteem, values, choices, and responsibility across the lifespan. It is facts understood on the various dimensions of health using cognitive processes; perception, learning, communication, association and reasoning. Sexual health knowledge also includes an understanding of facts on the anatomy and physiology of human reproductive system, processes of reproduction, problems of HIV and STIs, unintended pregnancy and abortion, infertility and cancer resulting from STIs and sexual dysfunction. Adequate sexual health knowledge invariably will influence the development of good sexual health attitudes. In this study, sexual health knowledge is viewed as knowledge of the understanding of a state of physical, emotional, mental and social well-being in all aspect of sexuality and not merely the absence of disease, dysfunction or infirmity as regard to sexual relationship.

Sexual Health Attitude

Richard (2016) define attitude as a mental and emotional entity that inherent in, or characterizes a person. According to Richard, it is an individual's predisposed state of mind regarding a value and it is precipitated through a responsive expression toward a person, place, thing, or event which in turn influences the individual's thought and action. Eagly and Chaiken (2017) opined that an attitude can be a positive or negative evaluation of people, objects, events, activities, or ideas. It could be concrete, abstract or just about anything in your environment. Eagly and Chaiken, defined an attitude as a psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour. Park (2007) viewed attitude as acquired characteristics of an individual that are not learnt from text-books but are acquired by social learning. Once the attitude is formed, it is difficult to change and it is the duty and responsibility of parents, teachers, religious leaders and elders to ensure that healthy behavour are developed by young people. Attitude has three components which are the cognitive or knowledge element, the affective or feeling element and tendency to action. In this study, the researcher is going to be more concern with attitude being the tendency to action. One's attitude can be towards persons, things, situations and issues. The actions of individual reflect his/her habits of thought and established beliefs about themselves and others even in relation to sexual health.

Sexual health attitude are a person's beliefs about sexuality shown by a person's behaviour and are based on cultural views and previous sexual experience (Psychology Dictionary, 2013). McCloskey (2012) opines that sexual health attitude is determined by multiple influences which include parents, friends, teachers, environment and culture but the most important influence is said to be the individual. There is need to critically examine thoughts, behavours and sometimes to adopt beliefs to new realities that will result in positive change necessary for sexual health. This study will promote critical consciousness, because the leaners themselves constructed the knowledge (constructivist teaching method) and

discussed the factors that will enable them practice the sexual health knowledge acquired with view of developing attitudes that will shape their sexual health positively. Sexual health attitude in this study refers to tendency to put to action all the sexual health knowledge acquired to enhance a positive sexual health life style.

Adolescent

An adolescent is defined by the World Health Organization (WHO) (2010) as a person aged 10 to 19 years. They are commonly referred to as the "next" or "future generation" and they require protection and care, services, opportunities, support, and recognition (United Nations International Children's Emergency Fund, 2011). Saewyc (2011) define adolescent as a young person who is developing into an adult; one who is in the state of adolescence. Strasburger, Wilson, and Jordan (2014) was in opinion that adolescent is one who is emotionally or intellectually immature. Kim and Ganella (2015) defined adolescent as a person who is no longer a child but not yet an adult. At this stage, curiosity about sexuality increases, they start showing sexual interest in opposite sex. When engaged in production, adolescents thrive and contribute to communities and families. The adolescent stage has been categorized into three with differential developmental milestones(WHO, 2010). These are the early (10-13 years), middle (13-16 years) and the last adolescence (16-19 years) stages. WHO (2010) posited that when adolescents are encouraged, they can pave a brighter future for themselves and their future families.For the purpose of this work, the researcher defined adolescent as young one who is developing into an adult, one that aged between 14and 17 years old.

Theoretical Framework

The theory that was used to explain the key concepts in this study was identified and discussed as follows:

Constructivism theory

The theoretical framework for the study was constructivism theory. There are many flavours of constructivism, but one prominent theorist is Vygosky (1986). Lev vygotsky believed that knowledge is first constructed in a social context and collaborated with other individuals or groups. This is known as "social constructivism". Hein (1991) described constructivism as the idea that learners construct knowledge individually and socially and, further, that one constructs meaning as one learns. Many constructivists believed that learning is more effective when social parameters are used than when acquired through isolated learning techniques (Derry, 1996; Gagnon & Collay, 1990; Prawat, 1996). The constructivist pedagogy centers on social interaction and learning that is meaningful. Proponents of the constructivist learning theory hold that learning occurs when students are actively involved in learning. They also hold that meaning is constructed through participation in engaging learning activities. They further embrace the belief that knowledge must be applied to real-world settings. Students thrive when they become part of a student-centered, social learning environment. As they interact socially, they use prior knowledge and learn from each other. Costa and Kallick (2004) wrote that principles of constructivism promote self-directed learning. They stated that questioning emerges within the constructivist environment and that students strive to make meaning of learning. The authors further believed that constructivist teaching methods would increase cognition. Social settings provide students with opportunities to overcome fear of failure. Costa and Kallick also stated that student discussions and communication enhanced learning. Vygotsky (1986) found that a child's intellectual growth is contingent upon social means. However, traditional classroom practices do not allow for a great deal of social interaction. These practices might actually hinder the development of thought, language, and intellectual growth. Vygotsky wrote: Thought and language which reflect reality in a way different from that of perception are the nature of

human consciousness. Words play a central part not only in the development of thought but in the historical growth of consciousness as a whole.

Vygotsky believed that thought and language was integral to development of the consciousness as a whole. Even though he wrote in the early part of the last century, his theories promote an understanding of social development in the modern era. His theories support active learning where social interaction is vital for appropriate human development (Derry, 2004). Glasserfeld (1997), a proponent of constructivism, wrote that human mental functioning is found within social interactions. Students must interact to increase mental functioning. However, traditional methods of classroom instruction, which are mainly teacher- directed information delivery, do not allow for increased socialization and construction of new meaning. If all instruction is teacher centered, higher-order thinking may not emerge. Dewey also believed that responses made by others help one to see one's place within a group setting. He noted that education should promote individual interest and personal interest in shared activities. Dewey wrote, "I believe that education is a regulation of the process of coming to share in the social consciousness". When students can enhance individual interest, learning will occur. If students have a high interest level in what they are learning, they will take charge of their own learning. So in cooperative learning method, students are in charge of their own learning because it is learner centered method. There is high-order thinking and group sharing promotes social consciousness as Dewey believed in constructivisim theory.

This does not always happen with traditional methods of delivery; thus, students are not successful. If humans are social individuals from the start, as Dewey noted, then passive learning will not be effective as a way to engage and truly educate students. Dewey (2001) advocated that education should promote individual interest through shared activities. Social constructivist theories provide the foundation and the stage upon which cooperative learning techniques can unfold within various learning environments. Constructivist scholars

maintained that self-directed learning is promoted through social activity and social situations. Social activity is the main practice in cooperative learning method where there are group activities and interactions among each group members. Social learning environments are enhanced and chances are given to the students to examine, think critically, and solve problems in a social setting.

Theoretical Studies

The researcher looked at people's opinion on the key concepts as it relates to the study. This was done under the following:

People's view on Sexual Health Knowledge and Attitudes

The high increase in the rate of sexual health problems among young people in Nigeria is alarming (Odo, Efiong, Nwagu, Nnamani & Atama, 2018). This suggests the need for adequate knowledge towards adolescents' sexual and reproductive health. Adolescents' sexual health needs and problems are yet to receive adequate knowledge especially in the developing countries like Nigeria, despite the recognition of youth-friendly reproductive health services as a way of improving their access and utilization of sexual reproductive health services in order to achieve quality sexual reproductive health.It has been reported by Khajehei, Ziyadlou and Ghanizadeh (2012)that lack of knowledge about sexual health is one of the main explanatory factors for current problems with sexual healrh in the entire wild world.

Regmi, Teijlingen, Simkhada, and Acharya (2010) opine thatsexual health knowledge encompasses knowledge of contraception, planning pregnancy, issues around pregnancy choices (including abortion, screening, testing and treatment for sexually transmitted infections) and help with sexual wellbeing. According to United Nations Programme of Action cited by Jitendra, Anjana and Gopal (2015), sexual health knowledge is defined as "knowledge regarding a state of complete physical, mental and social well-being and not

merely the absence of disease or infirmity, in all matters relating to the sexuality system. Sexual health knowledge therefore implies that people are able to have a knowledge of a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so". Good sexual health knowledge indicates sufficient knowledge of key sexual health topics and issues. The topics should reflect those of primary importance for protecting and promoting sexual health.

So many people have different view of what sexual health knowledge is all about: in a study conducted by Jitendra, Anjana and Gopal (2015) participants were asked to express their views on knowledge regarding sexual health. The result indicated that the participants had variable understanding of good knowledge on sexual health, and more than half of them identified it as the ability of a person to perform sexual activity and procreate. However, some younger rural men believed that it is the absence of any disease or symptoms in reproductive organs. One of the rural participants said that the more the number of offsprings, the better the sexual and reproductive health of the father. Two-thirds of participants had correct knowledge about the male reproductive organs and functions especially among urban residents. Most of the rural participants felt the need of better knowledge regarding sexual health and were willing to acquire the more. The majority of the participants according to Jitendra et al reiterated the deficiency of correct and easily accessible sexual health information sources. The present study through cooperative learning method exposed the subjects with variety of topics in sexuality education to acquire more knowledge to sexual health to better their sexual health attitude.

Sexual health attitudes are complex and their outcomes have wide practical implications. People are starting sexual activity earlier, have more sexual partners, use contraception more (but not consistently), and sexually transmitted infections and unplanned pregnancy are increasing. Findings from the National Survey of Attitudes and Lifestyle cited

by Khajehei, Ziyadlou and Ghanizadeh (2012) illustrate that there is a wide variability in sexual lifestyles by age, gender, relationships and residence—and that this is normal. Research continues to confirm that people do not always behave rationally or in an organized or planned manner with their sex lives, and people do and will take risks intentionally or unintentionally (Khajehei, Ziyadlou and Ghanizadeh). Referring to the main aim of this present study, cooperative learning method is thereby used to determine the sexual health knowledge and attitudes of adolescents in Anambra state secondary schools.

Cooperative LearningMethod as one of the Methodsbased on

Constructivist Teaching Method

Durums (2016) stated that there are specific methods to education that are based on constructivist teaching method, they include the following: constructionism, guided instruction, problem-based learning, inquiry-based learning, anchored instruction, cooperative learning, reciprocal peer teaching, jigsaw among others. This constructivist teaching method, according to Roberts (2018) is a method of teaching based on the constructivism learning theory. Dumus (2016) opined that Constructivist teaching is based on the belief that learning occurs as learners are actively involved in a process of meaning and knowledge construction as opposed to passive receiving information. Robert further stated that constructivist teaching uses guided discovery, discussions on thoughts and ideas as well as activities to help students learn. Nili (2014) viewed Constructivist Teaching Method as the road to higher achievement in teaching and learning. The current study focused on cooperative learning of constructivist teaching method, but generally all methods of constructivist teaching method anchors on constructivist notion of how knowledge is constructed and attitude affected.

Implementation of cooperative learning methodin the classroom

Gupta and Pasrija (2011) stated in a general term that there are key steps for successful implementation of cooperative learning method. These are pre-instructional planning, introducing the activity to students, monitoring and intervention, assessing and processing. The teacher should first explain what the learning method is all about and discuss various researches done on it and relate the findings to the lives of students. The teacher should start as early in the term as possible to give students time to develop interpersonal skills that are needed for effective classroom group. Also, talk about situations that students can benefit from. The group size should be small. It should involve a combination of sexes, cultural groups, high, medium, and low achieving students, and students with behaviour problems and motivation levels.

Gupta and Pasrija further stated that the classroom needs to be rearranged. Groups can choose their own working spots as long as they sit face-to-face and knee-to-knee. They should encourage group to create a group spirit by developing a group identity, assign roles and make expectations of group behaviour clear from the beginning, and walk around the room to observe how group members are functioning. At the end of the lesson, each group will give feedbacks on how well they had performed. Research has shown that children who work in cooperative groups do better on tests, especially with regard to reasoning and critical thinking skills than those that are not (Gupta and Pasrija).

Keyvan, Sefa, and Christian (2013) said that it is a fundamental principle of cooperative learning that group members are Linked together in such a way that they cannot succeed unless everyone succeeds, they will actively assist each other to make sure that the assignment is done and the purpose of the group achieved. They acquire this by providing help and cooperation to each other, sharing resources, and encouraging each other's efforts. As a result, group members who work in cooperative groups outperform students who work by themselves or in competition with each other (as seen in competitive conventional

classrooms) (Keyvan, Sefa, & Christian). Keyvan, Sefa, and Christian further said that cooperative learning is one of the two ways of organizing the learning environment of a classroom, the other being competitive. In cooperative learning environment, the goals of separate individuals become so linked that there is a positive correlation between them; on the contrary, in a competitive conventional environment, the goals of the students are so linked that there is a negative correlation between their goal attainments. The current study applied the key steps for successful implementation of cooperative learning method in the class activities.

Major Types of Cooperative Learning Method

The major types of cooperative learning method as recorded by Education Research Service cited in Massey (2003) are; Student Teams Achievement Divisions (STAD); Team Game Tournaments (TGT); Teams Assisted Individualization (TAI); Jigsaw; Jigsaw II; Cooperative Interpreted Read and Composition (CIRC); Learning Together; Group Investigation. Education Research Service provides a brief description of each of the eight cooperative learning methods as follows:

Student Team Achievement Division (STAD): The STAD method developed by Robert Slavin combines a group study task structure with a cooperative incentive structure in which students receive a group reward for individual learning.

Team Game Tournament (TGT): The TGT method developed by Robert Slavin and Edward DeVries uses a group study task structure with a cooperative incentive structure in which students receive a group reward for individual learning. TGT, like STAD, is designed for use in teaching material with one right answer such asMathematics, science, and social studies.

Team Assisted Individualization: This method developed by Robert Slavin, Marshall Leavey, and Nancy Madden uses a group study task structure with a cooperative incentive structure in which students receive a group reward for individual learning. TheTAI method differs from the other methods in that it was designed to be used in Grades two and eight for Mathematics.

Jigsaw: Developed by Elliot Amason, Jigsaw uses a task specialization task structure and an individual incentive structure. This method of cooperative learning was designed for material that comes from reading such as Literature, Social Studies, or Science in Grades three-twelve.

Jigsaw II: The variation on the original Jigsaw, Jigsaw II was developed by Robert Slavin. Jigsaw II can be used under the same circumstances for a subject and grade as the original Jigsaw. The difference between Jigsaw and Jigsaw II is that Jigsaw II uses a cooperative structure in which students receive a group reward for individual learning.

Cooperative Integrated Reading and Composition (CIRC): This method developed by Robert J. Stevens, Nancy Madden, Robert Slavin, and Anna Marie Famish uses a group study task structure with a cooperative incentive structure in which students receive a group reward for individual learning. This method was designed for teaching Reading, Composition, and Languages.

Group Investigation: This method developed by Shlomo Sharan uses a task specialization structure with a cooperative incentive structure in which students receive agroup reward for a group product. This method is useful in most subjects and designed to encourage creative thinking with group and self-organization.

Learning Together: Learning together strategy of cooperative learning was originally developed by David Johnson and Roger Johnson at the University of Minnesota (Johnson and Johnson in Eskay, Onu, Obiyo &Obidoa 2012). Students work in four or five heterogeneous groups on a group assignment sheet. During discussion, if students ask the teacher a question, the teacher will refer such students to their groups to find answer. After the group discussion, a leader is chosen to present group's result to the entire class, and groups receive reward together. Scores are based on both individual performance and the success of the group, but individual do not compete with one another. The learning together strategy of cooperative learning provides a conceptual framework for teacher to plan and tailor cooperative learning strategy according to their circumstances, students' needs, and school contexts (Ghazi, 2003).

This method uses a group study task structure with a cooperative incentive structure in which students receive a group reward for a group product. Learning together involves the highest degree of cooperation between students and can be used for most subjects. This method involves a whole class instruction. Assignment sheets are completed cooperatively by the group and handed in as a group product. Students receive rewards based upon the whole group. In this present study, the researcher specifically made use of learning together type of cooperative learning.

Guides for Learning Together Type of Cooperative Learning as stated inKaul (2010)

1. Design an effective cooperative learning exercise:

A. Specify the outcome and purpose of the exercise as follows: Product/ Performance (that is, group creates something); discovery exercise / Lab (that is, group does collaborative research using an inductive or deductive process); processing of content (that is, group reads and discusses some text); Jigsaw method (each member learns one part of a multi-faceted whole and then they take turns sharing their piece with the other members of the group).

B. Choose an Effective Task Structure: Size and membership of the group (be purposeful in your group selection); time of the task; arrangement of desks/workspaces; roles (if so, which?); Manager, Reporter, Reader, Consensus builder, Recorder, Researcher, or any you think that fit the task

C. Teach the process skills that you want to see performed. Take the time before and during the activity to teach students the following; how to use the process that you have given them (that is, how to perform each of the roles, or how to do inquiry, etc.), how to give their opinions (that is, I think, I feel, my idea, this is only my opinion, etc.), how to listen (that is, wait for others, active listening), how to clarify what they heard by asking questions, how to resolve conflict when there is a disagreement.

D. Select an assessment/incentive approach best fitting the goals of the exercise, for instance: Group self-assessment form (good for low pressure, complex reasoning situations);

group process evaluation rubric (reinforces that success comes from effort toward, how we get there and how well we work together); group product evaluation (reinforces putting it all together, but may miss emphasis on the process elements); individual group-member evaluation rubric (reinforces individual accountability, but does not promote interdependence); informal group vs. group competition (this can be motivating, especially for tasks that are more for fun, but make sure the purpose is clear. Never grade or give any kind of meaningful reward based on group or individual competition); no assessment (promotes intrinsic motivation, but may not provide enough motivation for tasks that are less inherently interesting, or students who need a little external incentive).

2. Manage your cooperative exercise effectively:

A. Provide good directions: Be clear, get 100percent attention, check for comprehension and have students wait until all is understood before any group begins; expect 100percent comprehension before starting (if they do not understand the directions, what are they going to be doing?)

B. Monitor and provide feedback: Move from one group to the next providing help and clarification; have a well-established cue to stop students to be able to interject ideas, clarify the task, or micro-teach (the shorter the interruptions the better); use your words/conspicuous feedback to help clarify successful performance. Be as concrete and specific as possible; use your attention and focus purposefully (per social learning model).

C. Choose appropriate consequences to unwanted behaviours, such as: Think in terms of the; social learning model, what are the other groups learning by your action/intervention with the group you are working with? Use the principle; activity is a positive reinforcement, inactivity is a negative reinforcement, reward with more work, students should never be penalized with more or different work! If a group is having trouble working together, keep the locus of choice on students, and provide interventions that provide choices and consequences. All the while keeps your intervention anger free and your attention on the

groups that are on task; intervention 1. What is the problem? (Clarify any misunderstanding); intervention 2. How are you going to solve your problem? (When I come back what will I be seeing from this group); intervention 3. Given a clear understanding of the task and a second opportunity to get it together, the behavior is a result of choice, so at this point it might be appropriate to withdraw the students' opportunity to take part in the activity; intervention 4. (Optional) members write how they are going to solve their problem for the next time, and/or another chance after a few minutes.

3. Debrief the process after the activity: This time will create or reinforce your concept of; a good group member and be motivational to students at all ability levels. It is well worth the time investment; ask your students for examples of other students in their group they observed doing a good job of those things in your; good group member, concept (e.g., things that you consider important to making a successful group such as positive attitude, consistently making an effort, being cooperative, doing their role, working through conflict, working through a problem, or whatever you think makes a group learn, succeed at the task, and function well). Ask for one specific area at a time, and encourage students to give specific examples of what they saw that was so valuable; This exercise provides students opportunity to compliment one another which makes both complimenter and complimented feel good, and builds community in the class; it provides for groups to hear how other groups functioned (that is., better, worse, different approach), so that they can hear very specific behaviors that will help them in their efforts in the future.This guide for learning together type of cooperative learning guided the researcher in preparation of her lesson plan on sexuality education. Only the points as it relates to the present study were picked.

Basic elements of cooperative learning

Cooperative learning involves more than students working together on a lab or field project. It requires teachers to structure cooperative interdependence among the students.

These structures involve five key elements which can be implemented in a variety of ways as developed by Grosser 2014. The five key elements differentiate cooperative learning from simply putting students into groups to learn (Johnson et al., 2014).

Positive Interdependence: Teachers should know when they have succeeded in structuring positive interdependence when students perceive that they "sink or swim together." This can be achieved through mutual goals, division of labor, dividing materials, roles, and by making part of each student's grade dependent on the performance of the rest of the group. Millis (2002) was in opinion that group members must believe that each person's efforts benefit not only him- or herself, but all group members as well.

Individual Accountability: The essence of individual accountability in cooperative learning is "students learn together, but perform alone." (Roger & Johnson 2008). This ensures that no one can "hitch-hike" on the work of others. A lesson's goals must be clear enough that students are able to measure whether (a) the group is successful in achieving them, and (b) individual members are successful in achieving them as well.

Face-to-Face (Promotive) Interaction: According to Kagan in Gull and Shehzad (2015), important cognitive activities and interpersonal dynamics only occur when students promote each other's learning. This includes oral explanations of how to solve problems, discussing the nature of the concepts being learned, and connecting present learning with past knowledge. It is through face-to-face, promotive interaction that members become personally committed to each other as well as to their mutual goals.

Interpersonal and Small Group Social Skills: In cooperative learning groups according to Grosser, students learn academic subject matter (task work) and also interpersonal and small group skills (teamwork). Thus, a group must know how to provide effective leadership, decision-making, trust-building, communication, and conflict management. Given the

complexity of these skills, teachers can encourage much higher performance by teaching cooperative skill components within cooperative lessons. As students develop these skills, later group projects will probably run more smoothly and efficiently than early ones.

Group Processing**:** After completing their task, students must be given time and procedures for analyzing how well their learning groups are functioning and how well social skills are being employed. Group processing involves both task work and teamwork, with an eye to improving it on the next project (Grosser 2014).The present study placed these basic elements as a guide in learning process before any meaningful interaction takes place. Teachers took note of that.

Traditional teaching method (TTM)

According to Hussein, et al (2018), traditional teaching method is a teaching method considered to be the one that will mainly be teacher-centred, textbook-driven, transmission-oriented and with practice problems done by learners individually. The teaching and learning environment that is described in the preceding sentence will be considered in the current study as the traditional teaching method (TTM), which largely characterised lessons conducted by the teacher in a control group. The researcher observed that in a TTM learning environment, learners do not play an active role in the lesson. Learners sit and passively receive the knowledge transmitted by the teacher to them. In this setting, according to Liu (2005), learners are observed to be doing the tasks assigned to them by the teacher individually.

This traditional teaching method is in contrary to cooperative learning method of constructivist teaching the present study is talking about which is learners'- centred instead of teacher-centred. The present study used traditional teaching method as a control group, conventional study.

CooperativeMethod and traditional ideas about teaching and learning

Cooperative method of learning as stated by Bimbola and Daniel (2010) stands in contrast to traditional teaching practice in the classroom. Traditionally, learning has been thought to be nothing but a repetitive activity, a process that involves students imitating newly provided information. The cooperative learning practice, on the other hands, helps learners to internalize and transform new information. Transformation of information occurs through the creation of new understanding that results from the emergence of new cognitive structures. Teachers may allow transformations but may neither mandate nor prevent them. There is deep understanding in cooperative learning, unlike the repetition of prescribed behaviour in traditional teaching. The act of transforming ideas into broader and more comprehensive images abounds in cooperative learning but lack in traditional teaching method.

The distinctions between the traditional teaching methods and the cooperative-based learning are reflected in the table below, (Applefield, Huber & Moallen, 2001).

Table 1:A comparison between traditional and cooperative-based classrooms

The traditional classroom	**The cooperative-based learning**
Begins with parts of the whole by emphasising basic skills.	Begins with the whole and expand to parts.
Strict adherence to fixed curriculum.	Focus is on pursuit of learner questions and interests.
Textbooks and workbooks-oriented.	The use of primary sources and manipulative materials.
Teacher is a provider and learners are passive recipients.	Learning is interactive and builds on what learners already know.
Teacher assumes a directive and authoritative role.	Teacher interacts and negotiates with learners.
Assessment is via testing and emphasis on correct answers.	Assessment is via learner works observations, points of view and tests.
Knowledge is inert.	Knowledge is dynamic and changes with experiences. Process is as important as product Learners.
Learners work individually and independently.	Learners work in groups to facilitate self-construction of knowledge.

The table 1 above shows that there are significant differences in basic assumptions about knowledge, learners, and learning between traditional and cooperative learning method. It is important to stress that learners in the traditional classroom are also constructing knowledge but it is just a matter of the emphasis being on the learner and not on the teacher.

In terms of the current study, learners' errors will be observed during a cooperative-based learning because learners will be given opportunities to be the constructors of their knowledge. This is in line with the last point in the table above on the cooperative learning section of the table. As learners verbalize their knowledge during active participation in the group discussion their errors will manifest.

However, in the traditional teaching method (TTM) and learning environment, learners' errors could be observed after instruction through post-lesson activities because the teacher is the main player during instruction (Applefield, Huber, & Moallen, 2001). Constructivists counter that because, in studies where students were compared on higher-order thinking skills, constructivist students seemed to outperform their peers. With the present study, inference was drawn after the experiment on traditional teaching method and that of cooperative learning approach.

Empirical studies

This section reviewed some available empirical research on effect of cooperative learning method and on sexual health knowledge and attitudes of adolescents done both within and outside Nigeria.

Studies on effects of Cooperative Learning method on other areas of study done outside Nigeria

A study was conducted by Susan (2009) on effect of cooperative learning and traditional strategies on academic performance in middle school language arts. Based on constructivism theory, this quasi-experimental study examined the effects of cooperative learning versus traditional teaching strategies on the academic performance of 216 sixth grade language arts students in north central Georgia, aged from 11 to 13 years. The single stage convenience sample was divided into a control group that was instructed using traditional strategies; and a treatment group that was instructed using cooperative learning methods. Pre and posttest scores from a standardized 73-item language arts benchmark test

was used to assess the overall impact of instructional techniques across student use of conventions, literary elements, sentence structure, context clues, and vocabulary.

ANOVA results indicated that the cooperative learning group made significantly greater gains than were observed for the traditional instruction group. It is recommended that educators pay added attention to the differential effects of teaching methods and strategies for specific student groups. The study contributes to positive social change by informing research-based selection of educational practices and techniques as tools for enhancing student achievement through strategic teacher training.

The present study applied the same cooperative learning method, the same design – quasi experimental pretest and posttest with control group, and used the same theory (constructivism). Also the control group used traditional teaching method as used in the above study. On the contrary, the present study determined the effect of cooperative learning method on sexual health knowledge and attitudes of adolescents in Anambra state, Nigeria but Susan used the learning method on academic performance in 6th grade language arts students in north central Georgia. Again, the age range of the above study was 11-13 years, but the present study's age range was 14-18 years' adolescents.

Another study was conducted by Gupa, Jain and Pasrija (2014) on gender related effects of cooperative learning methods (Stad and Tai) on Mathematics achievement. The purpose of this study was to determine how the adoption of cooperative learning as an instructional strategy for teaching mathematics influences students' achievement. The study also determined how moderating variables like gender affect students' achievement in mathematics when cooperative learning is used as an instructional strategy. So, the investigators aimed at studying the effect of cooperative learning methods that is team assisted individualisation (TAI) and student team's achievement division (STAD) on the mathematics achievement among ninth graders in relation to gender. This is an experimental study with 3x2 factorial designs. Students of ninth standard of the schools affiliated to

Haryana Board in Rohtak city constituted the population of the study. 144 students of ninth standard (74 boys and 70 girls) selected through multi-stage random sampling technique were taken as a sample for the study out of which 52 students taught through TAI formed experimental group-1 (E1; 46 students taught through STAD formed experimental group-2(E2) and 46 students taught through conventional method of teaching formed control group (C). Sample of the students were also equated on the basis of socio-economic status and achievement in the subject concerned. Achievement test in mathematics developed and standardized by the investigators was used to assess the achievement of the subjects. Lesson plans, worksheets, check-outs and formative tests were developed for both the strategies TAI and STAD separately to carry out the teaching and learning process in all the three groups for ten weeks only. At the end of the experiment, achievement test in mathematics was given to the subjects. Data were analyzed by using ANOVA and t-test to determine the performance by comparing the mean scores of all the groups.

Data analysis revealed that boys and girls' students taught through cooperative learning methods, TAI and STAD outscored significantly the control group on post-test showing the obvious supremacy of cooperative learning over conventional method of teaching. Hence, the ultimate result of the study indicated that cooperative learning was found more effective instructional paradigm for mathematics as compared to conventional method of teaching.

The researcher in the present study adopted the same cooperative learning method, used gender also as one of the moderating variables but used different type of cooperative learning (learning together) instead of TAI and STAD as used in Gupa et al's study. Again the present study used ANCOVA in comparing the mean scores but the reviewed study used ANOVA. The present study was carried out in Anambra state, Nigeria, while the reviewed study was done in Rohtak city. The effect of cooperative learning on the above study was on

Mathematics achievement but was on sexual health knowledge and attitude in the present study.

Keyvan, Sefa, and Christian (2013) conducted a study on effects of cooperative learning on students' achievement and attitudes in secondary school Mathematics. The main purpose of this study was to identify the effects of cooperative learning on students' mathematics achievement and attitudes towards mathematics in selected secondary schools in Bangladesh. A total of 80 students (40 from Boys' school and the other 40 from Girls' school) of grade nine participated in this study where quasi-experimental design was administered. Data were analyzed using independent-sample test.

The results showed that cooperative learning had significant effects on mathematics achievement and attitudes towards mathematics. It was found that students' performance in mathematics and attitudes towards mathematics were affected by exposure to the cooperative learning. The findings of this study have shown a great improvement in mathematics achievement and attitudes towards mathematics. Therefore, cooperative learning can be successfully used to promote student' performance in mathematics in secondary schools in Bangladesh.The reviewed study was carried out in Bangladesh, while the present study was carried out in Nigeria although the two studies used the same cooperative learning method. The same secondary school students as used in the reviewed study, the same design (quasi-experimental) were used also in the present study.

A study on effects of cooperative learning on students' academic achievement was done in Lahore, Pakistan by Gull and Shehzad (2015). Multiple teaching methods are used by teachers in order to improve learning of students. The most popular is lecture method, while very effective is cooperative learning method. The main purpose of the study was an effort to determine effect of cooperative learning method on students' achievement in subject of Education. Quasi experimental design, with pre and posttest of control and experimental group was used to achieve target of the study. Sample of the study consisted of 63 female

students enrolled in grade 12 of a public college. An achievement test was used as a pre-test, the students were then divided in experimental and control groups. Multiple cooperative learning activities were performed with experimental group by using three common methods of cooperative learning that is, STAD, TGT and Jigsaw II. The control group was taught by lecture method only. After eight weeks a post test was administered on both experimental and control group in order to identify difference in achievement. The independent sample t-test was used to measure the mean scores difference between achievement scores of control and treatment groups on pre-test.

The results showed that there was no significant difference between the two groups (p=.825) leading to assumption that both groups were on equal level of achievement before intervention. Same test was applied to find out difference between two groups before and after intervention. The results showed that there was a significant difference in scores of control and experimental group in post-test. In addition to this paired sample t-test was conducted to compare the effect of intervention on achievement scores of experimental group. The results showed that there was significant difference between scores of experimental group before and after intervention (p=.000). It can be concluded from results that cooperative learning activities had a positive effect on academic achievement of students enrolled in the subject of Education. The teachers can use this teaching method in their classes.

The present study adopted the same quasi experimental design, with pre and post-test of control and experimental group as used in the above study by Gull and Shehzad. The types of cooperative learning that is, STAD, TGT and Jigsaw II that were used in the reviewrd study was not used in the present study, rather learning together type of cooperative learning methods was used. Eight weeks was the duration of the reviewed experimental study, but the duration of the present study was six weeks. Lecture method which is referred to as

traditional teaching method used in the control group in the reviewed study was also used as control group in the present study.

Gull and Shehzad (2014) conducted a study on the effects of cooperative learning on the academic achievement and knowledge retention. This experimental study investigated the effects of cooperative learning on the achievement and knowledge retention of 110 first-year primary education students toward the psychology subject over the eight weeks of instruction at Giang University. These tertiary students were divided into two matched groups of 55 to be taught by the same lecturer. In the experimental group, cooperative learning was employed, while in the control group, lecture-based teaching was used.

The results showed that after approximately eight weeks, students who were instructed using cooperative learning achieved significantly higher scores on the achievement and knowledge retention posttests than did students who were instructed using lecture-based teaching. The study supports the effectiveness of cooperative learning in Vietnamese higher education.Gull and Shehzad's study used two matched groups for both experimental and control groups, the present study used two matched groups as well, two senior secondary two (SS2) students from urban schools for both control and experimental group, and two SS2 students from rural schools for control and experimental groups also. The reviewed study used students from tertiary school but the present study used students from secondary school. The same cooperative learning method that was used above was applicable in the present study.

A study was conducted in 2018 by Mehmet on the effect of using jigsaw cooperative learning method in teaching Computer literacy on students' achievement and retention. The main purpose of this study was to investigate the effect of using jigsaw technique of cooperative learning method on sixth grade students' achievement in teaching computer literacy lesson. Fifty-five sixth grade students from two class of a public school in Turkey participated in this study. With a quasi-experimental pretest–post-test research design, one

class assign to experimental and the other to control group randomly. While the experimental group (n=33) instructed with jigsaw technique of cooperative learning method, the control group (n=22) followed the regular curriculum with traditional instructional methods. Both groups were administered to an achievement test, as pre, post and retention test. A t-test analysis was used to analyses research data. The results of post-test indicated that students in experimental group had significantly higher achievement scores than students in the control group. However, no significant difference found between the groups on retention test scores.

Mehmet used jigsaw cooperative learning method in teaching Computer literacy on students' achievement and retention, while the present study used learning together type of cooperative learning method in sexual health knowledge and attitudes of adolescent students. Both studies (reviewed and present) are quasi-experimental pretest–post-test research design with control group.

Studies on Effect of Cooperative Learning Method done within Nigeria.

Eskay, Onu, Obiyo and Obidoa (2012) conducted a study on use of peer tutoring, cooperative learning, and collaborative learning: Implications for reducing anti-social behaviour of schooling adolescents. The study investigated the use of peer tutoring, cooperative learning, and collaborative learning as strategies to reduce anti-social behaviour among schooling adolescents. The study was a descriptive survey study. The area of study was Nsukka education zone in Enugu State of Nigeria. The sample of the study was 200 teachers randomly sampled from the four towns that make up the zone. The instrument for data collection was questionnaire. The data were analyzed by the use of mean and standard deviation. The major findings of the study indicate that teachers are aware of peer tutoring, cooperative learning, and collaborative teaching as strategies for reducing anti-social behaviour of schooling adolescents and that to a large extent, they are applying these strategies in their classrooms. The study reviewed was a descriptive survey study but the present study was a quasi-experimental design. The area of the reviewedstudy was Nsukka

education zone in Enugu State of Nigeria while the present study was in Awka education zone, Anambra state, Nigeria. Eskay et al used peer tutoring method of cooperative learning while the present study used learning together type of cooperative learning.

Bukunola and Idowu (2012) carried out a study on effectiveness of cooperative learning strategies on Nigerian junior secondary students' academic achievement in basic science.The study investigated the effectiveness of cooperative learning strategies on Nigerian Junior Secondary students' academic achievement in basic science. Quasi experimental pretest – posttest – delayed posttest control group design was used by the researchers to carry out the study at Omu-Ijebu, South-west, Nigeria. The treatments were at two levels: cooperative learning methods (learning together and jigsaw II) and conventional lecture method, which was the control group. The moderating variable was anxiety (high and low). Total number of one hundred and twenty students (120) obtained from the intact classes of the three selected junior secondary schools in south-west Nigeria participated in the study. Achievement Test for Basic Science Students (ATBSS) and Basic Science Anxiety Scale (BSAS) were the main instruments used to collect data from students. Descriptive statistics and Analysis of Covariance (ANCOVA) were used to analyze the data collected. Also Multiple Classification Analysis (MCA) was used to determine the magnitude of the mean achievement scores of students exposed to the different treatment conditions.

The results of this study among others indicated that there were significant main effects of treatment on all the dependent measures. The reviewed study was carried out in Nigeria and used learning together of cooperative learning method so also with the present study. The above study used anxiety as a moderating variable and was done on students' academic achievement in basic science, but the present study used gender and location as moderating variables on sexual health knowledge and attitudes of adolescents.

Furthermore, Kolawole (2008) conducted a study on effects of competitive and cooperative learning strategies on academic performance of Nigerian students in

mathematics. This study investigated the effects of the cooperative and competitive learning on academic performance of students in mathematics in order to find out which one of them is the more effective learning strategy. The sample of the study was 400 Senior Secondary Schools III, Mathematics students made up of 240 boys and 160 girls randomly selected from four out of five States in South West Nigeria. Quasi experimental design was adopted for the study. Two instruments were used namely Mathematics Pre-Test Achievement Test (PTAT) and Post-Test Achievement Test (PAT) to collect data. The data collected in this study were subjected to Z-test analysis at 0.05 level of significance.

The findings revealed that cooperative learning strategy is more effective than competitive learning strategy and that boys performed significantly better than girls in both learning strategies. Based on the findings, cooperative learning strategy should be introduced in our secondary schools in Nigeria.Kolawole's study was done in Nigeria and used quasi experimental design so also with the present study. His study compared cooperative learning with competitive learning, but the present study used traditional teaching method as a control group over that of cooperative learning method. The study was done on students' mathematics but the present study was done on students' sexual knowledge and attitudes.

Studies on Effect of Teaching Methods on Sexual Health Knowledge and Attitudes of Adolescents done outside Nigeria

A study was conducted by Hussein, et al (2018) on; Improving Sexual Health Education Programmes for Adolescent Students through Game-Based Learning and Gamification. This study investigated the extent to which game-based learning (GBL) and gamification could improve the sexual health knowledge and attitude of adolescent students. Hussein et alconducted a randomized control trial of GBL and gamification experimental conditions. It was aimed to determine learning performance through sexual health literacy tests and assess students' Motivation, Attitudes, Knowledge gain, and Engagement (MAKE) using the MAKE model. Hussein et almade a comparison with traditional teaching as a

control condition in order to establish differences between the three teaching conditions. The sexual health education topics were delivered in a masked fashion, 40-minaweekforfiveweeks. A mixed-method research approach was used to assess and analyze the results for 120 students from a secondary school in Dar Es Salaam, Tanzania. Students were divided into groups of 40 for each of the three teaching methods: GBL, gamification and the control group (the traditional teaching method).

The average post-test scores for GBL (Mean = 79.94, SD = 11.169) and gamification (Mean=79.23, SD=9.186) were significantly higher than the control group Mean = 51.93, SD = 18.705 ($F(2, 117) = 54.75$, $p = 0.001$). Overall, statistically significant differences ($p \leq 0.05$) were found for the constructs of Motivation, Attitude, Knowledge, and Engagement (MAKE). This study suggests that the two innovative teaching approaches can be used to improve the sexual health knowledge and attitudes of adolescent students. The methods can potentially contribute socially, particularly in improving sexual health behaviour and adolescents' knowledge in regions plagued by years of sexual health problems, including human immune deficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS).

The reviewed study was on adolescents' students, so also with the present study. The objective of the study above was to investigate the extent to which two teaching methods could improve sexual health knowledge and attitudes of adolescent students and the present study also investigated the extent to which a teaching method could improve sexual health knowledge and attitudes of adolescent students. The reviewed study above made a comparison with traditional teaching method as a control condition in order to establish differences, so also the present study.

Another study was conducted by Xinli, et al (2013) on the effect of comprehensive sexual education programme on sexual health knowledge and attitude among college students in Southwest China. The purpose of the study among others was to evaluate whether a comprehensive sexual education programme for college students in Southwest China (a)

improved their sexual health knowledge in reproduction, contraception, condom use, sexually transmitted diseases, and HIV; and (b) altered participants' attitudes towards premarital sex and monogamy. The programme used diverse teaching methods, provided six sessions over a period of nine weeks of sexual health topics to college students (aged 18-26 years) in Southwest China. Sexual health knowledge and sexual attitudes of 80 comprehensive sexual education class students (education group) and 92 general mental health education class students (control group) were measured at base-line, the end of course (posttest), and 3 weeks after the end of course (follow-up). Because students self-enrolled in one course or the other, instead of being assigned randomly, the 2 groups were examined.

There were significant gender differences, with a larger proportion of males (57.5%) in the experimental group than in the control group (27.2%) in their sexual health knowledge. First, baseline demographic equivalences between the experimental group and the control group were examined using frequency distributions. Second, repeated-measures analyses of covariance (ANCOVAs) were used to compare changes over time in knowledge and attitudes between the experimental group and the control group. These tests used a 3 (time point) × 2 (experimental group) mixed-factorial design.

The results among others showed that our novel comprehensive sexual education programme had several significant and positive effects on young adults' sexual health knowledge, including reproductive health, contraception, condom use, and HIV and AIDS. In contrast, the programme did not alter students' attitudes about premarital sex or monogamy.Xinli, et al's study used more than one teaching methods, but the present study used only one teaching method with a control group. Gender used as independent variable was also used in the present study. From the age limit of the above study, the subjects are above secondary school students' age but the present study limited to secondary school students.

Mahnaz, Ashraf and Tayebeh (2015) conducted a study on effect of peer education in school on sexual health knowledge and attitude of girl adolescents. The study evaluated the effect of organizing interactions using peer education in schools on the knowledge about and attitude toward sexual health. It was an interventional study conducted on 282 teenage girls from high schools of Isfahan. They were divided into two groups of intervention and control. Peer education in the intervention group was done through 35 trained teenagers during normal communications in school. Before the training knowledge and attitude of students in both groups were evaluated; then peer education was conducted for six weeks through normal communications on the intervention group and then afterward the knowledge and attitude of the students were evaluated again. Independent *t*-test and paired *t*-test were used to analyze the data.

Among other results, the mean scores of knowledge and attitude toward all sexual health dimensions during puberty in the intervention group were significantly higher after the intervention ($P< 0.05$).Comparing the mean scores of overall knowledge ($t = 1.10$, $P = 0.27$) and aspects of physical health ($t = 0.96$, $P = 0.34$), healthy behaviorus ($t = 0.94$, $P = 0.35$) and social mental changes ($t = 0.82$, $P = 0.41$) between both groups before the trainings showed no significant differences. In addition, there was a significant difference between the mean scores of knowledge and attitude toward all the aspects of sexual health of both the studied groups($t = 1.002$, $P = 0.31$), attitude toward aspects of physical health ($t = 1.02$, $P = 0.31$), healthy sexual behaviours ($t = 0.79$, $P = 0.43$), and social mental changes ($t = 0.43$, $P = 0.67$).Scores of knowledge and attitude were improved in the intervention group after the trainings; but the control group showed no significant difference after the trainings in this regard. The results showed that using formal peer education in schools could enhance the knowledge and attitude toward aspects of physical health, sexual behaviours, and social and mental changes among female adolescences and could be applied in schools.Mahnaz et al's study used peer education as a method of teaching, but the present study used cooperative

learning method. The training in the above study was done under six weeks so also the present study. The reviewed study used only girls as respondent but the present study used both boys and girls.

Mona, Mahin, Robab and Ali (2015) conducted a study on the impact of an educational programme on knowledge and attitude of female sex workers in preventing high risk sexual behaviours. This study aimed to determine the effect of an educational programme on the knowledge and attitude of female sex workers toward preventing high-risk sexual behaviours. Pretest-posttest, one-group study was conducted on 40 female sex workers, imprisoned in Mashhad Vakil Abad prison in 2013. The subjects were selected via census sampling. Data were collected using a questionnaire including demographic characteristics, as well as knowledge- and attitude-related data. An educational programme was designed after the pretest and conducted in four 70-minute sessions. Four weeks after the educational programme, post-test was performed. Data were analyzed by Friedman and Wilcoxon tests, using SPSS version 16.

There was a significant difference in the mean and standard deviation of knowledge and attitude scores before, immediately after, and four weeks after the educational programme, based on Friedman test ($P<0.001$). The effect size was 53percent for knowledge and 19percent for attitude four weeks after the intervention, which were considered moderate and weak, respectively, based on Cohen's criteria. A positive significant increase was found in the mean scores of knowledge and attitude of female sex workers immediately and four weeks after the programme ($P<0.001$). Considering the increased knowledge and improved attitude of female sex workers in this study, it is necessary to design and implement educational programmes in prisons. The above study used quasi-experimental, so also will the current study. The sex used in the above study was girls only, but the present study used both sex – boys and girls.

Malleshappa, Krishna and Nandi (2011) carried out a study to determine the effectiveness of a reproductive health education intervention programme in improving the knowledge of adolescent girls aged between 14-19 years in Kuppam mandal, chitoor dt, Andhra Pradesh. The study was carried out over a period of eight months and 656 girls in the age group of 14-19 years were randomly selected from three high schools in Kuppam mandal, chittoor dt, Ahhra Pradesh. The reproduction health education package developed in consultation with parents, teachers and adolescents was used to educate the girls. A 50 item structured questionnaire was used to test the knowledge of all the participants about the reproductive health before and after the education session. The data was tabulated and analyzed using SPSS version 11.0 for windows. Findings were described in terms of proportions and percentages; chi square statistics was used to test the effect of intervention. It was observed that reproductive health knowledge score improved significantly after intervention. There was a significant increase in overall knowledge regarding menstrual cycle, ovulation, fertilization and pregnancy by 44.5 per cent, ($P>0.001$); knowledge regarding contraception improved remarkably from 33.7 per cent to 97.4 per cent ($P<0.0001$), and there was a significant improvement in the knowledge about transmission prevention of STIs ($P<0.0001$). Among the aims of Mona et al's study was to use a reproductive health education intervention programme to improve the sexual health knowledge of adolescent, the present study also finds out the effects of cooperative learning method on the sexual health knowledge of adolescent. In the reviewed study, structured questionnaire was used to test the knowledge of all the participants and data were analyzed using SPSS version, the present research also took the same formats.

Najarkolaeii, et al (2013) conducted a study titled 'promoting sexual abstinence intention among female university students: a quasi-experimental study. The study was carried out at the University of Tehran, Iran, using the quasi-experimental design. The

objective was to determine the effectiveness of theory-based educational intervention for sexual abstinence among female university students. Though this study primarily investigated effectiveness of an educational intervention it also reports on sexual health knowledge of the students. The intervention group received educational intervention in addition to routine education while control group only received routine education. The two groups are compared to determine the effectiveness of the educational intervention.

Results showed significant difference in the intervention group before and after treatment with regard to the variables of knowledge, perceived susceptibility and perceived benefit. The knowledge score in the pre-test was at the intermediate level but reached a desirable level after the intervention which was not so in the control group. Despite similarity of the two groups (intervention and control = 59) at baseline, there were significant differences between knowledge, perceived susceptibility and perceived benefits at follow up time after 3 months. Also these variables showed improvement after 3 months in the intervention. Mean knowledge scores for the intervention group was 3.69 at pre-test and 4.62 post-test while that of control group is 3.59 at pre-test and 3.53 at post-test. The authors concluded that educational intervention could improve knowledge, perceived benefits and self-efficiency of female students regarding HIV and AIDS.

Najarkolaeii, et al's work was quasi-experimental study and reported on sexual health knowledge of the students so also the present study. The respondents used in the above study were university students but the present study used secondary school students. The study was carried out in Iran but the present study was done in Nigeria. The teaching method used in the reviewed study was theory-based educational intervention but the present study usedcooperative learning method.

Chi, Winter and Meeus (2013) studied the effect of comprehensive sexual education on sexual knowledge and attitude among college students in southwest China. The purpose

of the study was to evaluate a comprehensive sexual education programme for college students in southwest China. The programme used diverse teaching methods providing six sessions over a period of nine weeks about sexual health knowledge and attitudes to college students aged 18-26years in southwest China. Sexual health knowledge and sexual attitudes of 80 comprehensive sexual education class students (education group) and 92 general mental health education class students (control group) were measured at baseline, at end of intervention (post-test) and three weeks after the end of intervention (follow-up).

There were significant effects of the programme on sexual health knowledge (reproductive health, contraception, condom use and HIV and AIDS); positive attitudes towards sexual minorities. Chi, et al, noted that these changes might require further reinforcement. In contrast, the programme did not alter students' attitudes about premarital sex or monogamy. The results recommend sex education and more research.Chi et al's study used diverse teaching methods but the present study used one teaching method with a control group. Again, the above study reviewed was done in china among college students but this study was done in Nigeria among secondary school students. The above study used quasi experimental design so also the present study.

A study on sexual behaviour, knowledge and attitudes of non-medical university students towards HIV and AIDS in Malaysia was reported by Jahanfar, Sann and Rampai (2009). It was a cross sectional study that surveyed the sexual and drug use behaviour, knowledge and attitudes of HIV risks among 530 undergraduate students of University of Technology Petronas in Perak. Respondents were made up of 239 (55.3%) males while 237 (44.7%) are females. The mean score for knowledge was 24.74 (SD 4.62). The range was 0-34 with median score of 25. More than 26 percent of data were below the 25 percentile and more than 57 percent were classified as those with high level knowledge and there was no significant difference between males and females in terms of level of knowledge.

The report noted that despite high level of HIV knowledge among the students there were still some misconceptions regarding HIV transmission and prevention. Furthermore, 41 percent of the students were classified as having negative attitude towards HIV and AIDS. Females were found to have better attitudes than males. There was a significant correlation between level of knowledge and score of attitude. The report concluded among others that there was the need to employ peer education intervention programmed to clarify the misconception among university students.The study above was a survey research but the present study was aquasi-experimental. The above study was carried out in Malaysia, while the present study was done in Nigeria. The present study used the same statistical analyses used in the above study, mean and also used both sex as used above.

Studies on Effect of Teaching Methods on Sexual Health Knowledge and Attitudes of Adolescents done within Nigeria.

In Nigeria however, studies have been conducted on methods of teaching sexuality education on sexual health knowledge and attitudes of adolescents: Makata (2013) conducted a study on effect of two methods of teaching sexuality education on sexual health knowledge and attitudes of secondary school students in Enugu State, Nigeria. The purpose of the study was to determine the mean gain sexual health knowledge and attitudes scores of secondary school students in male, female, urban and rural schools after lecture and Socratic Questioning teaching methods. The study was guided by twelve research questions and six null hypotheses. Quasi experimental design was used and the population consisted of 16,510 senior secondary school students in Enugu State. The sample consisted of 310 senior secondary two students in intact classes selected by multi stage sampling procedure. Two instruments, Sexual Health Knowledge Test (SHKT) and Sexual Health Attitudes Questionnaire (SHAQ), which were validated and with reliability coefficient of (0.93) for SHKT and (0.88) for SHAQ were used for data collection. The SHAQ

questionnaire contained forty attitudinal statements on a four points scale. Student t-test and ANOVA were used to test the hypotheses.

The result of the study among others showed that there was a significant difference ($p<0.01$) in the sexual health knowledge (SHK) mean gain scores of the students in relation to the two teaching methods. The SHK mean gain score for lecture group was significantly higher (9.25) compared with that of the Socratic Questionnaire method group ($X=7.25$). There was no significant difference ($P>0.05$) between male and female students, but there was a significant difference ($P<0.001$) between urban and rural students for the two teaching methods. On the contrary, there was no significant difference ($P>0.05$) in the sexual health attitude (SHA) mean gain scores of students for the two teaching methods. The SHA mean gain score for lecture group was higher (13.98) compared with that of the Socratic Questionnaire method group ($X=10.02$). There was a significant difference ($P<0.001$) in urban and rural schools for the two teaching methods. It was recommended among others that public and private school health educators should intensify efforts to use lecture method for health instruction of adolescents to help improve their sexual health knowledge and attitudes. The current study adopted the same research design as used above, quasi- experimental research design, and used the same statistical tools to analyze data. The above study was done in Enugu state, Nigeria while the present study was done in Anambra state, Nigeria. The same instrument as used above reviewed study to collect data on sexual health knowledge (SHKT) and attitude (SHAQ) was also used in the present study, although the methods of teaching used differ.

Ibe (2014) conducted a study on effect of peer health education on sexual health knowledge and attitudes of tertiary institution students in Imo State, Nigeria. The study was designed to determine effects of peer health education on sexual health knowledge and attitudes of tertiary institution students in Imo state by comparing their scores after

intervention. In line with the purpose, the study was guided by six research questions and eight hypotheses. Quasi-experimental pre-test-post-test without control research design was employed to study effects of peer health education on 200 tertiary institution students drawn from a University, Polytechnic and College of Education in Imo State, Nigerian. The 200 peers that participated in the study were drawn using a multi-stage sampling procedure. The instrument for data collection were the peer Education Sexual Health Knowledge test and attitude questionnaire (PESHKAT) that were designed and used for pre-test and post-test. Twenty students nominated by their peers were trained by the researchers as peer health educators, who after their training facilitated peer health education sessions for the subjects for six weeks. Analysis of data was carried out using ANCOVA. Factorial design was used for the interaction effects.

The findings of the study among others revealed that peer health education improved sexual health knowledge and attitudes of the subjects as depicted by the generally positive mean gain scores recorded. Age group 16-20 years had highest means gain score (X= 22.31) of sexual health knowledge than the rest, while age group 26-30 years had the highest means gain score (X = 10.59) of sexual health attitude. Males had higher mean gain score (X =9.77) of sexual health attitudes. Those subjects in their first year of study (100 level students) had highest mean gain score (X = 25.71) of sexual health knowledge and also had the highest mean gain score (X =14.12) of sexual health attitude. Only level of study was significant for both sexual health knowledge and sexual health attitudes ($p<0.01$). There was no significant interactive effect of age, gender and level of study on both sexual health knowledge and attitudes of the subjects. Peers health education improved both the sexual health knowledge and sexual health attitudes of the subjects.

Ibe's study was on effect of peer health education on sexual health knowledge and attitudes which was the same with the present study but differs in the method of teaching, peer

health education against cooperative learning. Quasi-experimental pre-test post-test research design without control was used in the above reviewed study, the present study used control group. The reviewed study was done among tertiary institution in Imo state, Nigeria while the present study was carried out among secondary school students in Anambra state, Nigeria.

Summary of ReviewedRelated Literature

The purpose of this study was to determine the effect of cooperative learning methodon sexual health knowledge and attitudes among adolescents in Anambra state secondary schools. Pertinent literature was reviewed in relation to variables of interest and it covered the concepts; theoretical framework; theoretical studies and empirical studies. The reviewed literature proved that cooperative learning methodis a popular concept in the field of education in teaching and learning.

One theory was used in the theoretical framework, constructivism theory. In theoretical studies, review was done on cooperative learning method as one of the methods based on constructivist teaching method. The constructivist teaching methods reviewed suggested that there is a close relationship between constructivism and cooperative learning methods. Also in the theoretical studies, review was done on implementation of cooperative learning method in the classroom, basic elements of cooperative learning, traditional teaching method and cooperative method and traditional ideas about teaching and learning which made the researcher more interested in cooperative learning method. Major types of cooperative learning methodwere also reviewed and one type was chosen and used in the present study,learning together of cooperative learning methods. Review was also done on guide for learning together type of cooperative learning method in the classroom which the present research followed.

It also looked at how to implement reformed instructional strategies to help

adolescents curtail, if not eliminate, the numerous mistakes they made in their sexual health under traditional method of teaching sexuality education. Furthermore, it is necessary for teachers to select learner centred method in teaching and learning instead of teacher centred which provides a theoretical foundation for this study.

In empirical studies reviewed, several studies were done on cooperative learningmethod both outside and within Nigeria, but they were done outside the field of the present study, sexuality health education. Studies done using so many teaching methods on sexual health knowledge and attitudes of adolescents were also reviewed but none of them used cooperative learning method. Again, some of the studies reviewed here were done outside the country, Nigeria, and those done in Nigeria were outside Anambra state. However, in Anambra state as well as Nigeria, there are no published reports to the best knowledge of the researcher on the effect of cooperative learning method on sexual health knowledge and attitudes of secondary school students. It is based on these lapses that this study was designed to explore the effect of cooperative learning method on sexual health knowledge and attitude of adolescents considering gender and location.

CHAPTER THREE

METHOD

The research method for this study was presented and discussed under the following sub-headings: Research design, area of the study, population of the study, sample and sampling technique, instrument for data collection, Validation of the instrument, reliability of the instrument, method of data collection, training of research assistants, experimental procedure, control of extraneous variables, and method of data analysis.

Research Design

The design of this study was quasi-experimental design, pre-test, post-test controlled group design. It is a design where observations are made in the study groups before and after interventions and subjects are assigned to groups without complete randomization. According to Akubueze (2010) and Shuttleworth (2008), the quasi-experimental research differs from true experimental research because it lacks randomization or proper control. Similar studies by Mba, Obi and Ozumba (2007) in Item South East Nigeria and Makata (2013) in Enugu state, Nigeria had been done using this design and it was successful. Therefore, the researcher deemed it best for this study.

Table 2: Design of Experiment

Teaching Method	Pre-test	Treatment	Post-test
Experimental group	P_1	X_1	P_2
Controlled group	P_1	X_2	P_2

KEY:

X_1 = Treatment for cooperative learning method group.

X_2 = Treatment for control group.

P_1 = Pre-test with Sexual Health Knowledge Test (SHKT) and Sexual Health Attitude Questionnaire (SHAQ).

P_2 = Post-test with SHKT and SHAQ.

The design can also be termed 2x2 factorial design which has three independent variables (teaching method, gender and location). Each independent variable/factor had two levels, the factor teaching method had two levels, namely experimental group and controlled group method, the factor gender had male and female and the factor location had urban and rural as in table 2.

Table 3: 2x2 Factorial Designs

Teaching Method	**Location**	**Urban**		**Rural**	
	Gender	**Male**	**Female**	**Male**	**Female**
Experimental group		X_1	X_1	X_1	X_1
Controlled group		X_2	X_2	X_2	X_2

Area of the Study

The study was carried out in Anambra state. Anambra state is one of the 36 states of the Federation, and it is situated on a generally low elevation on the Eastern Bank of River Niger. It was created in 1991. Anambra state is bounded in the north by Enugu state, in the East, by Abia state, in the south by Delta and in the West by Kogi state. Due to the nature of the state, people of various socio economic backgrounds live in it and it is characterized by different forms of social activities to meet the needs of its varied residents.

The state is known for its industrial centres and markets, with about 75 percent of its population involved in agriculture (United Nation Fund State Population and Development Programmes (UNFPA), 2016). It is located in the South-East geo-political zone of Nigeria. The position of the state makes it a focal point for transport and trade in Nigeria. The big markets in the state attract traders from other states and other West African countries. According to UNFPA, Anambra state has a land mass of 4,416 square kilometers and a population of 4.03 million giving a population density of 912 per square kilometer.

The language of the indigenous people is Igbo; it has both urban and rural settings. The inhabitants of the urban areas are mainly civil servants and business men while the rural areas are predominantly inhabited by farmers, petty traders and craftsmen. The people of Anambra state have common cultural values and beliefs but different dialects. In terms of religion, Christianity and traditional religion are two main religions of the people. Anambra state comprised 21 local government areaswith a total of 261 secondary schools and 131,790 students in government owned secondary schools (Post Primary Schools Management Board, PPSMB, 2018). There are six education zones in Anambra state – Aguata, Awka, Nnewi, Ogidi, Onitsha and Otuocha.

Awka education zone which was specifically used in this study have five Local Government Areas (LGA), namely; Awka North, Awka South, Dunukofia, Aniocha and Njikoka LGA. Total number of senior secondary two students under Awka education zone are 4,929 (male = 2,180, female = 2,749). Due to the nature of the zone, people of various socio economic backgrounds live in Awka education zone in Anambra state and it is characterized by different forms of social activities to meet the needs of its varied residents.

The researcher observed high rate of drop-outs among Awka education zone in Anambra state secondary school students due to unintended pregnancy, unsafe abortion, and some questionable characters among adolescents. This could be as a result of different forms of social activities to meet the needs of its varied residents. These activities include watching of films which may be pornographic, hanging out at entertainment centres among others. The adolescents are affected by these society structures and are exposed to varied information sources, sexual behaviours and activities as dictated by the environment. These limit the efficiency in adolescents and prevent them from developing a sexual healthy character, developing their talents as well as their mental and emotional growth.

Population of the Study

The population of this study consisted of 20,342 (male= 9,062 and female= 11,280) senior secondary 2 (SS 2) students in Anambra state. According to Post Primary Schools Management Board (PPSMB) Anambra state office (2019), Anambra state had 261 (co-educational schools = 199 and non-co-educational schools =62) governments' owned secondary schools (Appendix G, page132). SS2 students were considered to be appropriate since those in SS1 may not have concluded their registration to qualify them as bonafide students of the school and the SS3 students are in the examination class and need to concentrate in the examination preparations.

Sample and Sampling Technique

The sample size for this study comprised one hundred and fourty (140) SS2 students from the sampled intact classes in four government secondary schools in Awka education zone in the state, two co-educational schools from urban and two co-educational schools from rural settings (Appendix G pages 132). The researcher used only co-educational secondary schools from Awka education zone to ensure uniformity in gender disparity.

The first stage involved sampling of Awka education zone in the state using purposive sampling techniques. This is because the researcher is very conversant with the area and this gave room for easy coordination of the study. There are five Local Government Areas (LGA) under Awka education zone, namely; Awka North, Awka South, Dunukofia, Aniocha and Njikoka LGA.

The second stage involved sampling of schools in Awka education zone using simple random sampling technique with replacement. The schools in the zone were already clustered into urban and rural schools according to the areas of their location by the state Ministry of Education. Two schools from urban and two schools from rural areas were sampled. One school from urban and one school from rural areas were given treatment with cooperative learning method and the other two schools were used as control group.

The third stage involved sampling of classes from each of the sampled schools. In a sampled school, a single intact SS 2 class was sampled from the stream using simple random sampling technique. In a sampled school with only one SS2 class, that class was considered to be an experimental class. These processes lead to the sampling of four classes that were used for this study. The sampled intact classes were exposed to treatment with cooperative learning method or the control groupas the case may be.

Instrument for Data Collection

The instruments for data collection were two structured instruments known as Sexual Health Knowledge Test (SHKT) and Sexual Health Attitude Questionnaire (SHAQ) (Appendix A, pages 96). These instruments were developed by the researcher through review of literature, use of text books, interviews of experts and the researcher's experience.

The SHKT consisted of 25 multiple choice questions with options A-E with only one correct answer, which was used to assess sexual health knowledge of the students. The students were asked to circle the correct option from options A-E in any of the questions. The SHAQ comprised twenty (20) attitudinal statements which wereequally used to assess sexual health attitude of the students. It was rated on the five points Likert type scale, with scales of Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D), and Strongly Disagree (SD). Only one option was ticked (√) among other options in one question. The SHKT and SHAQ were used for pre-test and post-test. The pre-test was used to establish the baseline sexual health knowledge and attitudes of the students before the treatment. The post-test was used to determine the effect of the teaching method after the treatment.

Validation of the Instrument

The face and content validity of the instruments were established through the judgments of three experts, one from the Department of Human Kinetics and Health Education and two from the Department of Educational Foundations. They were given the purpose of the study, research questions and hypotheses along with the research instruments.

The experts determined the relevance of each item in the test instrument and questionnaire as guided by table of specification on SHKT (Appendix E, page 108) in line with the purpose, research questions, and hypotheses. They also justified the relevance of the subject matter, clarity and appropriateness of the language. The constructive suggestions and contributions were used to modify the final draft of the instrument. The modified instrument is seen in Appendix A, page 101. The lesson plans used for the treatment were also validated by two experts in the field of Health education (Appendix D page 107).

Reliability of the Instruments

In order to determine the reliability of the instruments, SHKT and SHAQ, the researcher administered twenty copies each of the instruments to twenty SS II students in Urban Secondary School, Oji-River, Enugu State who are not part of the research population. The data obtained from the trial testing of the two instruments SHKT and SHAQ were used to estimate their reliability. The internal consistency reliability of Sexual Health Knowledge Test (SHKT) was determined using the Kuder – Richardson, Kr20. This formula was considered appropriate as it is applied to items that are dichotomously scored such as multiple choice items. The calculated Kr20 estimate obtained was 0.83 (Appendix H, page.138). For the Sexual Health Attitude Questionnaire (SHAQ), Cronbach's Alpha was used to determine the reliability coefficient and the value obtained was 0.82 (Appendix H, page138).

Method of Data Collection

Data were collected using the "Sexual Health Knowledge Test (SHKT) and Sexual Health Attitude Questionnaire (SHAQ)" instruments. The pre-test was administered to the subjects by the researcher after explaining to them the rules guiding the completion of the pre-test instrument and also the need to adhere to the stated instruction. The essence of the pre-test was to establish the baseline knowledge and attitudes of the subjects before the experiment. The teaching for both the experimental and control groups took place once a week for a period of one hour each and lasted for six weeks. The post-test was administered

to the two groups a week after the teaching and the instruments were reshuffled and renumbered. The post-test was to provide a platform for the assessment of sexual health knowledge and attitudes of the subject after the experiment.

The pre-test and post-test were completed under examination conditions to allow for objective assessment of their performance. A marking scheme/guide (Appendix B page 103) developed by the researcher in line with the test guided the scoring of the test items.

Experimental procedure

The briefing of the research assistants (Health education teachers gotten from the sampled schools) was done by the researcher. The research assistants helped the researcher in controlling, organising and handling the teaching proper in the classroom. On the first visit of the researcher to the schools, a health educator was identified and instructed on the mission of the researcher.

The researcher first of all established rapport with the research assistants that were used in the study by discussing some of these unhealthy behaviours of adolescents and the resultant effect and efforts already made by teachers to curtail the behaviours. When the rapport has already been established, the training then commenced.Lesson plan (Appendix F page 101) was developed and validated by an expert in the field of health education which guided the training. The training lasted for two days of about two hours to acquaint them with necessary methods in the use of cooperative learning method. The time and the venue schedule for the training were suggested by the trainees (research assistants) at a central place to enhance their full participation.

The training employed discussion, questioning and demonstration methods. Suggestions were welcomed and light refreshment with transport fare was provided by the researcher to boost their interest. Lesson plan were given to the trainees to prepare for their training ahead of time. The training was based on: Meaning of cooperative learning method; implementation of cooperative learning method in the classroom; major methods of

cooperative learning method; cooperative learning guide for learning together method and basic elements of cooperative learning.

The treatment lasted for six weeks, one period of one hour a week and was accommodated within the school extra class periods that took place every Monday, Wednesday and Thursdays after normal school periods as the case might be. The treatment looked at application of cooperative learning method in learning sexuality education. The research assistants shared students into smaller groups of not more than five in a group in the experimental class. In the control group, the students were not shared.

Students in the two groups (experimental and control groups) were exposed to the same topics of sexuality education but in different ways, cooperative learning method and traditional teaching method. This lasted for a period of six weeks. The first week of the first visit were not counted. The students in the cooperative learning group were instructed on what cooperative learning method was all about and how they were going to embark on the learning activities. With the help of the research assistants, the researcher grouped the classes involved and tag them with any name of their choice according to the guideline for learning together of cooperative learning method, such as worthy group, excellent group, intelligent group and so on. The grouping was done heterogeneously (mixed with boys and girls, bright and less bright students) as it was said in basic elements of cooperative learning. Time arrangement was done and assigning of the following heads among each group were also done; manager, reporter, recorder and so on. Anybody in the group is eligible to handle the post.

Moreover, the teacher can choose any member of any group at any time which should be unknown to him/her to do the reporting in the general class. This made all members of the group to be ready at all time. Rules that guided the class and punishments for the defaulters were also clearly made known to both the teachers and the students. The rules and the resultant punishments were suggested by the students involved for the smooth running of the

programme. Topic of the first lesson with the specific objectives were made known to them for proper guide and preparations against first week lesson discursion and light refreshment was done that first day to boost their interest in the programme.

From the second visit which was now counted as the first week, the main activity took off. The lesson plan that was prepared according to cooperative learning method was strictly used (Appendix F, page 101). There was also lesson plan prepared for the control group (Appendix I, page 141). In the first week, the researcher or the research assistant on entering into the class exchanged pleasantry and asked the students how they were doing. Then she/he did introduction to the topic once more and then allowed the students to disperse to their various groups. On coming back after the group interactions, the recorder handed over their records which included their suggestions and their arguments, and the reporter reported the outcome of their group discussion. After all the groups have finished presenting, the researcher or the research assistant summarised and copy note for them. Assignment and the next topic with its specific objectives for discussion were given to them. Cooperative incentive was given to the group that did very well.

During teaching and learning in the classroom, the students were given 30mins to learn together in their various groups, helped each other and then come up with their summary, arguments, and questions in the larger group for the class discussion. It was expected that each student should participate actively for none of them knew who will be called up to report for the group. During that 30mins of group discussion, the researcher or the research assistant moved round to monitor what each group was doing and offered corrections where necessary.

On the second week, the researcher or the research assistant threw light on the previous lesson before reintroducing the topic of the day. As usual the students were dispersed to their heterogeneous groups to learn the lesson. They maintained that group throughout the lesson period but were rotating leadership, recorder and the presenter. The

teacher as usual summarised at the end of the presentation by all the groups and incentive given to the best group. Questions and further discussion in the general class were welcomed. Assignment and the next topic for discussion with its specific objectives were given to them. Cooperative incentive was given to the group that did very well.

The above procedure was followed for the rest of the remaining four weeks. Then the following week was for the post-test.

Control of extraneous variables

The following measures were taken to control extraneous variables that were likely to affect the results of the experiment.

1. To maintain homogeneity of instruction, the teaching was done by the use of lesson plans provided by the researcher herself.
2. Effects of pre-test and post-test: In order to minimize influence of memory and forgetfulness, the time interval between pre-test and post-test were seven weeks, six weeks training plus one-week post-test exercise which was deemed not too short or too long. The pre-test items were reshuffled and renumbered before use for the post-test.
3. Efforts were made to make sure that the training will be carried out at a stretch so that the training was not punctuated by the holiday period, that is stopping and to continue after the holiday.

Method of Data Analysis

For the SHKT, the tests score was total number of question answered correctly, the responses were scored as four marks for each correctly answered question using the SHKT marking scheme/guide (Appendix C, page 105). For the SHAQ, the five point Likert type were used. Positive statements had a maximum of five points for strongly agree; four points for agree; three points for undecided; two points for disagree and

minimum of one point for strongly disagree and the reverse will be the case for negative statements.

The generated data were collected and analysed using statistical package for social science (SPSS) for windows version 21. The research questions were answered using mean. The hypotheses were tested at 0.05 level of significance using Analysis of Covariance (ANCOVA) because the independent variable under study is just one, cooperative learning method, therefore ANCOVA took care of initial and final differences.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

This chapter presents the summary of analyses of data generated for this study and summary of major findings.

Research Questions

Research Question 1: What are the sexual health knowledge mean scores of adolescents in Anambra State secondary schools before and after being exposed to cooperative learning method and those in thecontrol group?

Table 4: Pre-test and Post-test Mean Sexual Health Knowledge Scores of Adolescents Exposed to Cooperative LearningMethod and those in the Control Group.

Source of Variation	N	Pretest $\overline{X}$	SD	Posttest $\overline{X}$	SD	$\overline{X}$ Difference
Cooperative Learning Method	65	59.77	14.02	95.26	3.87	35.49
Control Group	75	64.00	11.72	68.21	11.89	4.21

Table 4 reveals the pre-test and post-test sexual health knowledge mean scores of adolescents exposed to cooperative learning method to be 59.77 and 95.26 with a gained mean of 35.49 and SD of 3.87, while those in thecontrol grouphad 64.00, 68.21, 4.21and 11.89 as mean pre-test, post-test, gained mean and SD scores respectively. Both the post-test mean scores and gained mean scores of adolescents exposed to cooperative learning were greater than that of those exposed to control group.

Research Question 2: What are the pre-test, post-test sexual health knowledge mean scores of male and female adolescents in Anambra State secondary schools exposed to cooperative learning method and those in thecontrol group?

Table 5: Pre-test and Post-test Mean Sexual Health Knowledge Scores of Male and Female Adolescents Exposed to Cooperative LearningMethod and those in theControl Group.

Source of Variation	Gender	N	Pretest $\overline{X}$	SD	Posttest $\overline{X}$	SD	$\overline{X}$ Difference
Cooperative Learning Method	Male	41	57.56	13.53	94.83	4.02	37.27
	Female	24	63.54	14.32	96.00	3.54	32.46
Control Group	Male	49	63.55	9.94	67.27	10.54	3.72
	Female	26	64.85	14.69	70.00	16.74	5.15

Table 5 shows the pre-test and post-test sexual health knowledge mean scores of 57.56 and 94.83 for male and 63.54 and 96.00 for female adolescents exposed to cooperative learning method. The male adolescents had a gained mean score of 37.27 and SD of 4.02 while their female counterparts had 32.46 and SD of 3.54. On the other hand, male adolescents in thecontrol grouphad 63.55, 67.27, 3.72 and 10.54 as their pre-test, post-test, gained mean and SD scores respectively, while their female counterparts had 64.85, 70.00, 5.15 and 16.74 as pre-test, post-test, gained mean and SD scores respectively. This shows that the gained mean scores of male and female adolescents exposed to cooperative learning were greater than those of their counterpart in the control group.

Research Question 3: What are the pre-test, post-test sexual health knowledge mean scores of urban and rural adolescents in Anambra State secondary schools exposed to cooperative learning method and those in thecontrol group?

Table 6: Pre-test and Post-test Mean Sexual Health Knowledge Scores of Urban and Rural Adolescents Exposed to Cooperative LearningMethod and those in theControl Group.

Source of Variation	Gender	N	Pretest $\overline{X}$	SD	Posttest $\overline{X}$	SD	$\overline{X}$ Difference
Cooperative Learning Method	Urban	39	62.77	13.24	95.69	4.14	32.92
	Rural	26	55.27	14.20	94.62	3.38	39.35
Control Group	Urban	53	65.36	11.60	69.58	12.06	4.22
	Rural	22	60.73	11.62	64.91	11.04	4.18

In Table 6, the analysis shows the pre-test and post-test sexual health knowledge mean scores of 62.77 and 95.69 for urban and 55.27 and 94.62 for rural adolescents exposed to co-operative learning method. Urban adolescents had a gained mean score of 32.92 and SD of

4.14 while their rural counterparts had 39.35 and SD of 3.38. On the other hand, urban adolescents in thecontrol grouphad 65.36, 69.58, 4.22 and 12.06 as their pre-test, post-test, gained mean and SD scores respectively while their rural counterparts had 60.73, 64.91, 4.18 and 11.04 as pre-test, post-test, gained mean and SD scores respectively. This indicates that the gained mean scores of urban and rural adolescents exposed to cooperative learning were greater than their counterpartsin the control group.

Research Question 4: What are the sexual health attitude mean scores of adolescents in Anambra State secondary schools before and after being exposed to cooperative learning method andthose in the control group?

Table 7: Pre-test and Post-test Mean Sexual Health Attitude Scores of Adolescents Exposed to Cooperative LearningMethod andthose in the Control Group.

Source of Variation	N	Pretest $\overline{X}$	SD	Posttest $\overline{X}$	SD	$\overline{X}$ Difference
Cooperative Learning Method	65	58.72	8.28	68.83	8.04	10.11
Control Group	75	58.99	6.69	66.32	6.26	7.33

Table 7 reveals the pre-test and post-test sexual health attitude mean scores of adolescents exposed to co-operative learning method to be 58.72 and 66.83 with a gained mean of 10.11 and SD of 8.04 while those in the control grouphad 58.99, 66.32, 7.33 and 6.26 as mean pre-test, post-test, gained mean and SD scores respectively. Both the mean post-test score and gained mean score of adolescents exposed to cooperative learning were greater than those of their counterparts in the control group.

Research Question 5: What are the pre-test, post-test sexual health attitude mean scores of male and female adolescents in Anambra State secondary schools exposed to cooperative learning method and those in the control group?

Table 8: Pre-test and Post-test Mean Sexual Health Attitude Scores of Male and Female Adolescents Exposed to Cooperative LearningMethodandthose in theControl Group.

Source of Variation	Gender	N	Pretest $\overline{X}$	SD	Posttest $\overline{X}$	SD	$\overline{X}$ Difference
Cooperative Learning Method	Male	41	59.00	7.79	68.37	8.64	9.37
	Female	24	58.25	8.95	69.63	6.99	11.38
Control Group	Male	49	60.31	7.04	66.51	6.26	6.20
	Female	26	56.50	5.25	65.96	6.38	9.46

Table 8 shows the pre-test and post-test sexual health attitude mean scores of 59.00 and 68.37 for male and 58.25 and 69.63 for female adolescents exposed to cooperative learning method. The male adolescents had a gained mean score of 9.37 and SD of 8.64 while their female counterparts had 11.38 and SD of 6.99. On the other hand, male adolescents in the control grouphad 60.31, 66.51, 6.20 and 6.26 as their pre-test, post-test, gained mean and SD scores respectively while their female counterparts had 56.50, 65.96, 9.46 and 6.38 as pre-test, post-test, gained mean and SD scores respectively. This shows that the gained mean scores of male and female adolescents exposed to co-operative learning were greater than those of their counterparts in the control group.

Research Question 6: What are the pre-test, post-test sexual health attitude mean scores of urban and rural adolescents in Anambra State secondary schools exposed to cooperative learningmethod and those in the control group?

Table 9: Pre-test and Post-test Mean Sexual Health Attitude Scores of Urban and Rural Adolescents Exposed to Cooperative Learning Method andthose in the Control Group.

Source of Variation	Gender	n	Pretest $\overline{X}$	SD	Posttest $\overline{X}$	SD	$\overline{\overline{X}}$ Difference
Cooperative Learning Method	Urban	39	57.62	6.62	68.54	7.93	10.92
	Rural	26	60.38	10.21	69.27	8.34	8.89
Control Group	Urban	53	59.13	7.06	66.75	6.28	7.62
	Rural	22	58.64	5.85	65.27	6.25	6.63

In Table 9, the analysis shows the pre-test and post-test sexual health attitude mean scores of 57.62 and 68.54 for urban and 60.38 and 69.27 for rural adolescents exposed to cooperative learning method. Urban adolescents had a gained mean score of 10.92 and SD of 7.93 while their rural counterparts had 8.89 gained mean score and SD of 8.34. On the other hand, urban adolescents in the control grouphad 59.13, 66.75, 7.62 and 6.28 as their pre-test, post-test, gained mean and SD scoresrespectively while their female counterparts had 58.64, 65.27, 6.63 and 6.25 as pre-test, post-test, gained mean and SD scores respectively. This indicates that the gained mean scores of urban and rural adolescents exposed to cooperative learning were greater than those of their counterparts in the control group.

Hypotheses Testing

1. The effect of cooperative learning method and that of control group on the mean sexual health knowledge scores of adolescents in Anambra state secondary schools will not differ significantly using their post-test mean scores.

Table 10:ANCOVA Summary of the Mean of Sexual Health Knowledge Scores of Adolescents Exposed to Cooperative LearningMethod and that of Control Group.

Source	SS	df	MS	F	P
Corrected Model	28929.983	2	14464.991		
Intercept	18917.096	1	18917.096		
Pretest	3454.438	1	3454.438		
Group	27911.030	1	27911.030	480.215	.000
Error	7962.703	137	58.122		
Total	950256.000	140			

Table 10 shows that there was a significant difference between the mean sexual health knowledge scores of adolescents in Anambra state secondary schools exposed to cooperative learningmethod and the control group.F, (1,137) = 480.215, $P<0.05$. The null hypothesis of no significant difference between the two groups was therefore rejected.

2. The effect of cooperative learning method on the mean sexual health knowledge scores of male and female adolescents in Anambra state secondary schools will not differ significantly using their post-test mean scores.

Table 11:ANCOVA Summary of the Mean of Sexual Health Knowledge Scores of Male and Female Adolescents Exposed to Cooperative LearningMethod.

Source	*SS*	df	*MS*	*F*	*P*
Corrected Model	1142.936	2	571.468		
Intercept	26538.332	1	26538.332		
Pretest	915.886	1	915.886		
Gender	123.983	1	123.983	.475	.492
Error	35749.750	137	260.947		
Total	950256.000	140			

In Table 11, it was observed that there was no significant difference between the mean sexual health knowledge scores of male and female adolescents in Anambra state secondary schools

exposed to cooperative learningmethod.F,(1,137) = .475, *P*>0.05. The null hypothesis of no significant difference was therefore accepted.

3. The effect of cooperative learning method on the mean sexual health knowledge scores of urban and rural adolescents in Anambra state secondary schools will not differ significantly using their post-test mean scores.

Table 12:ANCOVA Summary of the Mean of Sexual Health Knowledge Scores of Urban and Rural Adolescents Exposed to Cooperative LearningMethod.

Source	SS	Df	MS	F	P
Corrected Model	1115.937	2	557.969		
Intercept	25480.790	1	25480.790		
Pretest	1112.121	1	1112.121		
Location	96.985	1	96.985	.371	.543
Error	35776.748	137	261.144		
Total	950256.000	140			

It was observed in the above table that there was no significant difference between the mean sexual health knowledge scores of urban and rural adolescents in Anambra state secondary schools exposed to cooperative learningmethod.F,(1,137) = .371, *P*>0.05. The null hypothesis of no significant difference was therefore accepted.

4. The effect of cooperative learning method and that of control group on the mean sexual health attitude scores of adolescents in Anambra state secondary schools will not differ significantly using their post-test mean scores.

Table 13:ANCOVA Summary of the Mean of Sexual Health Attitude Scores of Adolescents Exposed to Cooperative LearningMethod and that of Control Group.

Source	*SS*	Df	*MS*	*F*	*P*
Corrected Model	2026.678	2	1013.339		
Intercept	3341.673	1	3341.673		
Pretest	1807.165	1	1807.165		
Group	242.327	1	242.327	6.347	.013
Error	5230.293	137	38.177		
Total	644862.000	140			

Table 13 shows that there is a significant difference between the mean sexual health attitude scores of adolescents in Anambra state secondary schools exposed to cooperative learningmethod and the control group.F, (1,137) = 6.347, $P<0.05$. The null hypothesis of no significant difference between the two groups was therefore rejected.

5. The effect of cooperative learning method on the mean sexual health attitude scores of male and female adolescents in Anambra state secondary schools will not differ significantly using their post-test mean scores.

Table 14:ANCOVASummary of the Mean of Sexual Health Attitude Scores of Male and Female Adolescents Exposed to Cooperative LearningMethod.

Source	*SS*	Df	*MS*	*F*	*P*
Corrected Model	1858.942	2	929.471		
Intercept	3199.289	1	3199.289		
Pretest	1854.673	1	1854.673		
Gender	74.591	1	74.591	1.893	.171
Error	5398.029	137	39.402		
Total	644862.000	140			

The analysis in Table 14 shows that there was no significant difference between the mean sexual health attitude scores of male and female adolescents in Anambra state secondary

schools exposed to cooperative learningmethod,F,(1,137) = 1.893, *P*>0.05. The null hypothesis of no significant difference was therefore accepted.

6. The effect of cooperative learning method on the mean sexual health attitude scores of urban and rural adolescents in Anambra state secondary schools will not differ significantly using their post-test mean scores.

Table 15:ANCOVA Summary of the Mean of Sexual Health Knowledge Scores of Urban and Rural Adolescents Exposed to Cooperative LearningMethod.

Source	SS	Df	MS	F	P
Corrected Model	1795.758	2	897.879		
Intercept	3273.683	1	3273.683		
Pretest	1795.588	1	1795.588		
Location	11.407	1	11.407	.286	.594
Error	5461.214	137	39.863		
Total	644862.000	140			

In Table 15, it was observed that no significant difference exists between the mean sexual health attitude scores of urban and rural adolescents in Anambra state secondary schools exposed to cooperative learningmethod,F,(1,137) = .286, *P*>0.05. The null hypothesis of no significant difference was therefore accepted.

7. There was no significant interaction effect of gender and location on the mean sexual health knowledge scores of adolescents exposed to cooperative learning method.

Table16: Summary of Analysis of Covariance of Mean Sexual Health Knowledge Scores of Adolescents Exposed to Cooperative Learning Method by Gender and Location.

Source	*SS*	*Df*	*MS*	*F*	*p-value*	*P ≤ 0.05*
Corrected Model	25947.488	7	3706.784	44.704	.000	
Intercept	663652.765	1	663652.765	8003.708	.000	
Gender	29.106	1	29.106	.351	.555	
Location	232.532	1	232.532	2.804	.096	
Group	19490.809	1	19490.809	235.061	.000	
Gender * location * Group	137.467	4	34.367	.414	.798	Not-Sig
Error	10945.198	132	82.918			
Total	950256.000	140				

Table 16shows that at 0.05 level of significance, 1df numerator and 140df denominator, the calculated F is .414 with P-value of .798 which is greater than 0.05. This shows that there was no statistically significant interaction effect of gender and location on the mean sexual health knowledge scores of adolescents exposed to cooperative learning method. The null hypothesis was therefore accepted.

8. There was no significant interaction effect of gender and location on the mean sexual health attitude scores of adolescents exposed to cooperative learning method.

Table17: Summary of Analysis of Covariance of Mean Sexual Health Attitude Scores of Adolescents Exposed to Cooperative Learning Method by Gender and Location.

Source	*SS*	*Df*	*MS*	*F*	*p-value*	*P ≤ 0.05*
Corrected Model	415.458	7	59.351	1.145	.339	
Intercept	461672.842	1	461672.842	8907.505	.000	
Gender	37.399	1	37.399	.722	.397	
Location	6.241	1	6.241	.120	.729	
Group	195.428	1	195.428	3.771	.054	
Gender * location * Group	189.654	4	47.413	.915	.457	Not-Sig
Error	6841.514	132	51.830			
Total	644862.000	140				

In Table 17, it was observed that at 0.05 level of significance, 1df numerator and 140df denominator, the calculated F is .915 with P-value of .457 which is greater than 0.05. This

shows that there was no statistically significant interaction effect of gender and location on the mean sexual health attitude scores of adolescents exposed to cooperative learning method. The null hypothesis was therefore accepted.

Summary of the Findings

From the analysis, the following findings were made:

1. The adolescents exposed to cooperative learning method had better sexual health knowledge mean score and their standard deviation showed homogeneity of responses than their counterparts in the controlgroup.
2. The male adolescents exposed to cooperative learning method had better sexual health knowledge gained mean score than their female counterparts exposed to the same method.But the female adolescents' standard deviation showed homogeneity in responses than their male counterparts.
3. The rural adolescents exposed to cooperative learning method had better sexual health knowledge gained mean score and their standard deviation showed homogeneity of responses than their urban counterparts exposed to the same method.
4. The adolescents exposed to cooperative learning method had better sexual health attitude mean score than their counterparts in the control group.But the standard deviation of those adolescents in the control group showed homogeneity of responses than their counterparts in the experimental group.
5. The female adolescents exposed to cooperative learning method had better sexual health attitude gained mean score and their standard deviation showed better homogeneity of responses than their male counterparts exposed to the same method.
6. The urban adolescents exposed to cooperative learning method had better sexual health attitude gained mean score and their standard deviation showed better homogeneity of responses than their rural counterparts exposed to the same method.

7. The effect of cooperative learning method and that of control group on the mean sexual health knowledge scores of adolescents in Anambra state secondary schools differ significantly using their post-test mean scores.
8. The effect of cooperative learning method on the mean sexual health knowledge scores of male and female adolescents in Anambra state secondary schools did not differ significantly using their post-test mean scores.
9. The effect of cooperative learning method on the mean sexual health knowledge scores of urban and rural adolescents in Anambra state secondary schools did not differ significantly using their post-test mean scores.
10. The effect of cooperative learning method and that of control group on the mean sexual health attitude scores of adolescents in Anambra state secondary schools differ significantly using their post-test mean scores.
11. The effect of cooperative learning method on the mean sexual health attitude scores of male and female adolescents in Anambra state secondary schools did not differ significantly using their post-test mean scores.
12. The effect of cooperative learning method on the mean sexual health attitude scores of urban and rural adolescents in Anambra state secondary schools did not differ significantly using their post-test mean scores.
13. There was no statistically significant interaction effect of gender and location on the mean sexual health knowledge scores of adolescents exposed to cooperative learning method.
14. There was no statistically significant interaction effect of gender and location on the mean sexual health attitude scores of adolescents exposed to cooperative learning method.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

This chapter discussed the results of the study, its conclusions, implications of the study, recommendations, limitation of the study and suggestions for further research. The discussion is done under the following headings:

i. Effect of cooperative learning method on sexual health knowledge of the subjects.

ii. Effect of cooperative learning method on sexual health attitudes of the subjects.

Effects of Cooperative Learning Methodon Sexual Health Knowledge of the Subjects

Findings of the study showed that cooperative learning method had a general positive effect on the sexual health knowledge of the subjects as evidenced by the positive values of gained mean scores of the sexual health knowledgeand their standard deviation showed closeness of responses than their counterparts in the controlgroup.This finding was not surprising because cooperative learning method encompasses attention, memory and motivation as derived from Social Learning Theory (SLT) upon which Lev Vygosky in the framework of this study was based. Students thrive more when they become major part of the learning, which is learner-centered. As they interact socially, they use prior knowledge and learn from each other. This finding corroborates with findings of other related studies earlier conducted. Gupa, Jain and Pasrija (2014) reported obvious supremacy of cooperative learning method over control group. Hence, the ultimate result of the study indicated that cooperative learning was found more effective instructional paradigm for mathematics as compared to control group. Again, Gull and Shehzad (2015) in their study on effects of cooperative learning on students' academic achievement concluded from results that cooperative learning activities had a positive effect on academic achievement of students enrolled in the subject of Education; that teachers can use this teaching method in their classes. Also Gull and Shehzad (2014) in their study on the effects of cooperative learning on the academic achievement and

knowledge retention reported that using cooperative learning achieved significantly higher scores on the achievement and knowledge retention posttests than the control group.

Xinli, et al. (2013) on the effect of comprehensive sexual health education programme on sexual health knowledge and attitude among college students in Southwest China with diverse teaching methodsfound out among other results, that comprehensive sexual health education programme had several significant and positive effects on young adults' sexual health knowledge; including reproductive health, contraception, condom use, HIV and AIDS. Although the above study used diverse teaching method but the present study used cooperative learning method. Also Mahnaz and Tayebeh (2015) reported that using formal peer education in schools enhanced the knowledge and attitude toward aspects of physical health, sexual behaviours, social and mental changes among female adolescences and could be applied in schools.The study used peer education as a method of teaching but the present study used cooperative learning.

The male adolescents exposed to cooperative learning method had the highest gained mean score ($\overline{X}$= 37.27) in sexual health knowledge and SD of 4.02 while their female counterpartsexposed to the same method had 32.46 gained mean score and SD of 3.54. This showed that male adolescents exposed to cooperative learning had gained more knowledge than their female counterparts. The finding was not surprising because, the presence of male counterparts may hinder the females from freely discussing sexual matters. Females usually feel shy and uncomfortable in discussing such culturally perceived sensitive topic. This could be a hindrance to the females from acquiring more accurate information to back up their discussion among their groups during group shearing, making them to have limited sexual health knowledge than their male counterparts.The higher gained mean score (X= 37.27) ofmales can also be linked to the fact that males are naturally more open to discuss the issues that are related to sexualitythan females. These might likely be the cause of their higher mean gain knowledge on the subject matter.

In the Nigerian culture however, experience shows that females are relatively shy to discuss sexual matters while the males feel exited doing so because it is believed that it makes them feel superior to their female counterparts.Nevertheless, the standard deviation of females exposed to cooperative learning showed more closeness of responses compared to their male counterparts exposed to the same cooperative learning. These findings are in line with the findings of Makata (2013) and Ibe (2014), although Ibe employed peer health education and Makata employed Socratic and lecture methods of teaching sexuality education and the present study used cooperative learning method. Xinli, et al. (2013) recorded that there were significant gender differences in their study with a large proportion of males (57.5%) in the experimental group than in the control group (27.2%) in their sexual health knowledge. Other studies that studied girl adolescents alone recorded that there was a significant difference between the mean knowledgeand attitudes scores towards aspect of healthy sexual behaviours. For example, Mahnazand Tayebeh (2015) recorded that the mean knowledge scoresfor all sexual health dimensions during puberty in the intervention group were significantly higher after the intervention ($P<0.05$). Again, Mona, et al. (2015) recorded a positive significant increase in the mean scores of knowledge and attitude of female sex workers after the programme ($P<0.001$). Furthermore, Malleshappa, et al. (2011) also recorded a significant increase in overall sexual health knowledge scores of adolescent girlsregarding menstrual cycle, ovulation, fertilization and pregnancy by 44.5 per cent, ($P>0.001$).

Urban adolescents exposed to cooperative learning had a gained mean score of 32.92 in sexual health knowledgeand standard deviation of 4.14 while their rural counterparts had gained mean score of 39.35 and standard deviation of 3.38. There was no significant difference between the mean sexual health knowledge scores of urban and rural adolescents in Anambra state secondary schools exposed to cooperative learning and control group. F, $(1,137) = .371$, $P>0.05$. The rural adolescents exposed to cooperative learning method had

better sexual health knowledge gained meanand their standard deviation showed betterclosenessof responses than their urban counterparts with the gained mean of 32.92 and standard deviation of 4.14 (Table 6). The findings were surprising as the students were in the same class, used the same curriculum and were exposed to the same intervention and it is expected that the adolescents from urban areas exposed to cooperative learning method would have better knowledge than those in the rural areas, but the reveres was the case. These differences might be as a result of stimuli outside the school setting such as alternative sources of information and the environment which could influence their knowledge. On another note, the intervention might also be a motivating factor for some of the students in the rural area to study more about human sexuality outside the school set up. Moreover, the scores of standard deviation of rural adolescents exposed to cooperative learning showed closeness of responses more than their urban counterpartsexposed to the same method. Makata (2013) recorded that students exposed to Socratic questioning and lecture teaching methodsfrom the rural area had higher mean gain scores than those of their counterparts from the urban area exposed to the same methods of teaching.

There was no evidence of significant interaction effect of gender and location of study on sexual health knowledge of the subjects observed ($F = 0.414$, $P = 0.798$). This showed that when the two factors are combined, their interactions have no significant effect on the dependent variable. Hypothesis 7 was therefore accepted because $P>0.05$. This was similar to the work of Ibe (2014), who recorded no significant interaction effect of gender, age and level of study on sexual health knowledge of university students ($F = 0.15$, $P = 0.70$).

Effects of Cooperative Learning Methodon Sexual Health Attitudes of the Subjects

The findings of this study revealed to a large extent a positive effect of cooperative learning method on sexual health attitudes of the subject. The improved sexual health attitudes of the subjects as reported was not a surprise and can be linked to improved learning

offered by cooperative learning method. This was to establish that there is a positive link between increase in health knowledge and resultant improved health attitudes.

Students taught with cooperative learning method had a better sexual health attitudes gained mean score of 10.11 and standard deviation of 8.04(Table 7). There was a significant difference between the mean sexual health attitude scores of adolescents in Anambra state secondary schools exposed to cooperative learning method,F(1,137) = 6.347, $P<0.05$. This finding was not surprising because one cannot compare learner-centered with teacher-centered method of teaching and learning. Cooperative learning method encompasses attention, memory and motivation. The result was similar to the findings of Keyvan, Sefa, and Christian (2013) where the results showed that cooperative learning had significant effects on mathematics achievement and attitudes toward mathematics.But the scores of the standard deviation of the adolescents exposed to control group showed more closeness of responses than their counterparts in the cooperative learning. This could be as a result of attitudinal differences among the adolescents.

The male adolescents exposed to cooperative learning method had sexual health attitudes gained mean score of 9.37 and the standard deviation of 8.64 while their female counterparts had gained mean score of 11.38 and standard deviation of 6.99(Table 8). The hypotheses result showed that there was no significant difference between the mean sexual health attitude scores of male and female adolescents exposed to cooperative learning method,F,(1,137) = 1.893, $P>0.05$ (Table 14). What it means is that females had better attitudinal change in sexual health matters more than their male counterparts exposed to cooperative learning methods. This result was not surprising because females by their nature are more poised for attitudinal change in health related issues. That could also be the reason why the standard deviation of the female'sadolescents showed better closeness of responses than their male counterparts.

Females show emotions more than males and therefore will be more responsive in the affective domain than their male counterparts. These findings could be explained by the culture, gender and sexual attitudes relationship. Socialization process, division of labour and gender roles relating to sexuality, reproduction and care-giving create major but different impressions in the psyche of males and females and this start quite early in life. Females are prone to develop positive sexual health attitudes more easily than males in the African societies in particular.Moreover, the earlier puberty experience for the females would have given them an edge in developing sexual health attitudes.These findings are in line with the findings of Makata (2013) and Ibe (2014), that females had higher sexual health attitudes scores than the male counterparts of their respective studies even though with different teaching methods.

Urban adolescents exposed to cooperative learning had a gained mean score of 10.92 in sexual health attitude and standard deviation of 7.93 while their rural counterparts had a gained mean score of 8.89 and standard deviation of 8.34(Table 9). There was no significant difference that existed between the mean sexual health attitude scores of urban and rural adolescents in Anambra state secondary schools exposed to cooperative learning method.F,(1,137) = .286, P>0.05.The findings were not surprising because urban students were expected to be exposed to the stimuli from the environment with information from the mass media, the internet and the likes which might not be available in the rural areas, though they were exposed to similar interventions.These findings were at variance with that of Makata (2013) who recordedsexual health attitudesgained mean score of 27.38 for rural students against 4.55gained mean scoressexual health attitude of their urban counterparts after being exposed to intervention programme. Although she used Socratic and lecture teaching methods but the present study used cooperative learning method.

There was no evidence of significant interaction effect of gender and location of study on sexual health attitude of subjects observed (F = 0.915, P = 0.457). This showed that when

the two factors are combined, their interaction has no significant effect on the dependent variable. Hypothesis 8 was therefore accepted because P>0.05. This was also similar to the work of Ibe (2014), who recorded no significant interaction effect of gender, age and level of study on sexual health attitudes of university students (F = 0.15, P = 0.70).

Conclusions

Cooperative learning method is a method that is particularly useful in communicating health issues of concern, especially those that are culturally sensitive such as sexual health issues. This study determined the effects of cooperative learning method on adolescents' sexual health knowledge and attitudes in Anambra state secondary schools. This was also similar to the work of Ibe (2014), who recorded no significant interaction effect of gender, age and level of study on sexual health attitudes of university students (F = 0.82, P = 0.37), but her independent variables are gender, age and level of study and the current study used gender and location of study as independent variables in Anambra state secondary schools.

The findings of this study have established the fact that cooperative learning method has positive effect on sexual health knowledge and attitudes of adolescents in Anambra state secondary schools. A general increase in both sexual health knowledge and attitudes mean scores of subjects were observed after cooperative learning method indicating improvements in those variables. There was statistical significant difference in both the gained mean scores of sexual health knowledge and attitudes of subjects of different locations and gender. Once the right knowledge and attitudes are developed, the students will enjoy a more lasting if not permanent positive sexual behaviour. It was also established that gender of the students and location of the schools influenced sexual health knowledge and attitudesof the students in Anambra State after sexual health instruction intervention.

Cooperative learning method is one of the teachingmethods in education that enhances logical thinking and behaviour and creates social skills and commitment in a

manner that will bring positive sexual health attitude of our adolescents because, it is purely based on learners unlike teacher-based method of teaching and learning.

Implications of the Study

This study has shown from its findings that cooperative learning method have positive effect on sexual health knowledge and attitudes of adolescents in Anambra state secondary schools, as reflected in the positive mean gain scores of sexual health knowledge and attitudes of the subjects. Cooperative learning can therefore be employed as a variable method for addressing low sexual health knowledge and attitudes of adolescents with particular reference to Anambra state secondary schools. Gender and location of study have implication on the effect of cooperative learning on sexual health knowledge and attitudes.

The rural adolescents exposed to cooperative learning method had better sexual health knowledge gained mean score and their standard deviation showed better homogeneity of responses than their urban counterparts exposed to the same method. This implies that health education teachers should not neglect the capacity of these students no matter the location of their schools in planning for their teaching and learning.

The male adolescents exposed to cooperative learning method had better sexual health knowledge gained mean score than their female counterparts exposed to the same method. This implies that when planning for cooperative learning in future, gender disaggregated groups willbe recommended because it will yield better outcome more than the groups with both males and females together in group discussion.This is because, it will loosen some of the inhibitions that negatively affect femaleparticipation when it comes to discussion on things pertaining to sex and sexuality education. The findings of this study will make the relevant authorities of government, educational institution and non-governmental organization working with adolescents in the area of sexual health to be aware of, and sensitive to cooperative learning strategies with view of utilizing the strategies for positive outcomes.

Recommendations

A number of recommendations that arose from this study are stated below:

1. There is need to include cooperative learning method in handling sexual health education in the school curriculum at all levels of education in Nigeria. This will expose our adolescents to open discussions about sexuality education thereby getting accurate sexual health information which will improve sexual health attitudes for risk reduced behaviour.
2. Using cooperative learning method will be more progressive if grouping is gender based (females grouped together and males grouped together). This will loosen some of the inhibitions that negatively affect females in particular when it comes to discussions on sex and sexuality.
3. As a result of significant differences between students in sexual health knowledge and attitudes in urban and rural schools, schools and education policy makers should bear in mind the location differences in sexual health knowledge and attitudes of students observed in this study so as to make policies which will ensure that students irrespective of location of their schools will benefit maximally from health instructions in the state.
4. Updating health instructors' knowledge on use of cooperative learning method as a means of instruction should be a priority issue to policy makers by making policies to ensure periodic organization of refresher courses on instructional methods for these health instructors to improve their skills.

Suggestions for Further Studies

The following areas are suggested for further studies:

1. Effect of cooperative learning method and another method of teaching on adolescents' sexual health knowledge and attitude.
2. Effect of cooperative learning method on sexual health knowledge and attitudes oftertiary institution students in Anambra state.
3. Effect of cooperative learning method on sexual health knowledge and attitudes of adolescents in other south EasternStates secondary schools.

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APPENDIX A

INSTRUMENT FOR DATA COLLECTION

SEXUAL HEALTH KNOWLEDGE TEST (SHKT) ANDSEXUAL HEALTH ATTITUDE QUESTIONNAIRE (SHAQ) FOR SS2

Dear Respondent,

I am a PhD research student of the Department of Human Kinetics and Health Education, Nnamdi Azikiwe University, Awka. I am carrying out a study on 'Effect of Cooperative Learning Method on Sexual Health Knowledge and Attitudes of Adolescents in Anambra State Secondary schools'. You are please requested to answer the following questions objectively by choosing the most appropriate option A-E.

You are requested to work independently and to avoid guess work. The information that will be obtained is solely for research purposes and your confidentiality is assured.

Thank you for your cooperation.

Yours faithfully,

Igwilo Sabina N.

PLEASE READ CAREFULLY AND ANSWER AS DIRECTED

Time: 1 hour.

SECTION A: DEMOGRAPHIC DATA

Instruction: circle the most appropriate option from A-B

1. Gender:
   a, male
   b, female

2. Location of school:
   a, urban
   b, rural

SECTION B: KNOWLEDGE TEST

Instruction: circle the most appropriate option from A-E

(1) Sexually transmitted infections (STI's) and HIV are caused by _____
   a) food
   b) bacteria and virus
   c) lack of fluids
   d) lack of blood
   e) excess body fluid

(2) A nuclear family consists of the mother, father and _____
   a) brothers
   b) sisters
   c) children
   d) grand mother
   e) nephews

(3) People having sexual intercourse can best prevent getting a sexually transmitted disease (STD) by using;
   a) condoms (rubbers).
   b) contraceptive foam
   c) the pill.
   d) withdrawal (pulling out).
   e) none of the above.

(4) The scope of sex education includes one of the following;
   a) sexuality and sexual health Education
   b) cure of health problems
   c) identifying the different ages
   d) identifying micro organisms
   e) all of the above

(5) Puberty is a transition stage between
   a) boyhood and fatherhood
   b) girlhood and motherhood
   c) childhood and motherhood
   d) childhood and adulthood
   e) adulthood and fatherhood

(6) A teenager is a person between the ages of _____
   a) 2 – 10years
   b) 13 – 19years

c) 10 – 19years
d) 1 – 19years
e) 20 – 30 years

(7) The male sex gamete is _____
a) fluid
b) spermatozoa
c) penis
d) testis
e) discharge

(8) The female sex gamete is _____
a) fallopian tube
b) follicle
c) ovum
d) ovary
e) oviduct

(9) Fertilization in humans during reproduction takes place in the
a) ovary
b) ovary wall
c) womb
d) oviduct/fallopian tube
e) vulva

(10) It is possible for a woman to become pregnant;
a) the first time she has sex (sexual intercourse).
b) if she uses withdrawal method of birth control.
c) if she has sexual intercourse standing up.
d) if sperm get near the opening of the vagina, even though the man's penis does not enter her body
e) all of the above.

(11) The male sex cell is contained in the _____
a) ovary
b) testicles
c) sperm
d) penis
e) vagina

(12) The female egg is released once every
a) two months
b) day
c) year
d) month
e) quarter

(13) All infections which can be transmitted through genital contact are called _____
a) man-woman disease
b) sexually transmitted infections
c) male transmitted infections
d) female diseases
e) serious diseases

(14) All of these may be consequences of uncontrolled sexual contacts except _____
a) deafness
b) gonorrhea

c) genital itching
d) HIV and AIDS
e) syphilis

(15) As a teenager _____ is the best for you
a) involvement in pre-marital affairs
b) total abstinence
c) use of condom at wish
d) use of alum after sex
e) all of the above

(16) As they enter puberty, teenagers become more interested in sexual activities because;
a) their sex hormones are changing.
b) the media (TV, movies, magazines, records) push sex for teenagers.
c) some of their friends have sex and expect them to have sex also
d) all of the above.
e) none of the above.

(17) The act of planning how many children a couple can maintain, educate and care for is called _____
a) census
b) family education
c) family planning
d) planning well
e) depopulation

(18) All these are methods of family planning except
a) inter-uterine device
b) use of condom
c) use of contraceptives pills
d) Billings method
e) use of waist bands

(19) The full meaning of AIDS is
a) Acquired Imminence Deficiency Syndrome
b) Acquired Immunity Deficiency Syndrome
c) Acquired Immune Deficiency Syndrome
d) Acquired Immunity Deficient Syndrome
e) Acquired Immunization Deficient Syndrome

(20) Which of these is an advantage of sex education?
a) early pregnancy.
b) Infertility.
c) Promiscuity.
d) Creates awareness about sex and sexuality.
e) Procuring abortion.

(21) Testosterone hormone is produced in the
a) uterus
b) ovaries
c) oviduct
d) cervix
e) testes

(22) Oestrogen is secreted by the _____
a) new born
b) adult females

c) adult male
d) old men
e) none of the above

(23) Which of the following is the main problem in sex education?
a) Wrong objective
b) Right attitude
c) Wrong attitude
d) Anti-social behavour
e) Wrong information

(24) One effect of HIV is the damage to the body's _____system
a) blood
b) immune
c) sexual
d) skeletal
e) hormonal

(25) Who is to be blamed for any sexually transmitted infection contracted by a teenager?
a) Mother
b) Father
c) Partner
d) Classmate
e) Self

SECTION C:SEXUAL HEALTH ATTITUDE QUESTIONNAIRE FOR SS2

Ticks (✓) in the appropriate column that best suits your answer using strongly agree (SA), agree (A), undecided (U), disagree (D), strongly disagree (SD).

NO	STATEMENTS	SA	A	U	D	SD
1.	Health is more important than sexual pleasure					
2.	Birth control is not very important.					
3.	Unmarried people should not have sex (sexual intercourse)					
4.	It is all right for two people to have sex before marriage if they are in love.					
5.	It is all right to demand sex from a girlfriend or boyfriend					
6.	Having a good time is to get drunk and have sex with anybody around					
7.	Sexual relationships create more problems than they're worth					
8.	There is nothing wrong with an abortion if the girl herself wants it					
9.	Family planning is part of being responsible					
10.	People should have sex only if they are married.					
11.	Sexual relationships make life too difficult.					
12.	The knowledge of my reproductive structure is of no use					
13.	I am not satisfied with my sexual behavior (sex life)					
14.	A sexual relationship is one of the best things a person can have.					
15.	People should not have sex before marriage					
16.	Family relationships cause more trouble than they're worth.					
17.	Lack of sex education is not a problem in the society					
18.	Sexually, I feel like a failure					
19.	I do not know much about my own physical and emotional sexual responses					
20.	Women should behave differently from men all the time					

APPENDIX B
MARKING GUIDE FOR SEXUAL HEALTH KNOWLEDGE TEST ANDSEXUAL HEALTH ATTITUDE QUESTIONNAIRE

SEXUAL HEALTH KNOWLEDGE TEST

1. B
2. C
3. A
4. A
5. D
6. B
7. B
8. C
9. D
10. E
11. B
12. D
13. B
14. A
15. B
16. A
17. C
18. E
19. C
20. D
21. E
22. B
23. C
24. B
25. E

SECTION C:SEXUAL HEALTH ATTITUDE QUESTIONNAIRE

Strongly agree	5
Agree	4
Undecided	3
Disagree	2
Strongly disagree	1

APPENDIX C

HEALTH EDUCATIONSCHEME ADAPTED FROM FEDERAL MINISTRY OF EDUCATION ON HEALTH SCIENCE CURRICULUM FOR SENIOR SECONDARY TWO (S.S 2) ON SEXUAL HEALTH

WEEK	TOPICS	CONTENTS	OBJECTIVES
1.	Family and Family life	Meaning of the family Types of family characteristics of the family. Problems of family	By the end of the lesson, students should be able to Define family State types of family Enumerate characteristics of family List problems of family.
2.	Introduction to sex education	Meaning of sex education Scope and objectives of sex education Importance of sex education Problems of lack of sex education	By the end of the lesson, students should be able to State meaning of sex education Mention the objectives of sex education Mention the importance of sex education Outline the problems of lack of sex education
3.	Puberty and adolescence, their characteristics and problems reproductive systems, male and female	Meaning of puberty and adolescents characteristics of adolescents Problems of adolescent	By the end of the lesson, students should be able to Define puberty, reproduction and adolescents State characteristics of adolescents Enumerate problems of adolescents Enumerate the parts of the male and female reproductive systems State the functions of the male and female reproductive systems Enumerate some problems of male and female reproductive systems List sex hormones

4.	Family planning and safe motherhood	Meaning of family planning Benefits of family planning Sources of family planning services	By the end of the lesson, students should be able to Explain family planning State one Benefits of family planning State three sources of family planning services in the community
5.	Contraceptives and family planning techniques continues	Meaning and methods of family planning Examples of different methods of family planning in males and females Meaning of contraceptives Advantages and disadvantage and their relative reliability	By the end of the lesson, students should be able to Explain methods of family planning Name methods of family planning Identify different types for males and females' family planning methods Describe their uses Define contraception Enumerate their advantages and diastases and their relatives reliability
6	Sexually transmitted infections Abstinence	Meaning of sexually transmitted disease Examples of STI's: HIV/AIDS, Syphilis, Gonorrhea, Candidacies, Human Papilloma Virus etc. Sign and symptoms, and methods of prevention of STI's, Meaning of abstinence, How to abstain	By the end of the lesson, students should be able to Define sexually transmitted infections Give three examples of sexually transmitted infections Enumerate two signs and two symptoms, two methods of prevention Give meaning of abstinence Describe how boys and girls can abstain from sex before marriage.

APPENDIX D

VALIDATION OF LESSON PLANS

This is a validation of lesson plans on sexual health using cooperative learning method for SS2 students. The topic of the study is 'Effect of cooperativelearning method on sexual health knowledge and attitudes of adolescents in Anambra state secondary school. The selected SS2 students will be taught with the attached lesson plans.

Kindly go through the adapted Health Education Scheme and lesson plans drafted and carefully make your suggestions accordingly.

Thank you for your co-operations.

Igwilo, Sabina N.

NAME: ----------

SIGNATURE: ----------

DATE: ----------

APPENDIX E

TABLE OF SPECIFICATION ON SHKT

Content Area	Knowledge (38%)	Comprehension (48%)	Application (8%)	Analysis (2%)	Synthesis (4%)	Evaluation (0%)	Total (100%)
Family and Family life	3	3	1	2	1		10
Introduction to sex education	4	3	2	2	2		13
Puberty and adolescence	5	3	2	2	3		15
Family planning and safe motherhood	4	2	4	1	1		12
Contraceptives and family planning techniques continues	5	3	2	2	3		15
Sexually transmitted infections Abstinence	4	4	3	3	1		15
Total	25	18	14	12	11		80

APPENDIX F

WEEK 1: LESSON PLANS FOR COOPERATIVE LEARNING METHOD

SUBJECT: **HEALTH EDUCATION**

CLASS: **SS 2**

AVERAGE AGE OF STUDENTS: **15 YEARS**

DURATION: **40 MUNITES**

TOPIC: FAMILY AND FAMILY LIFE

SPECIFIC OBJECTIVES: At the end of the lesson students should be able to:

1. **Cognitive Domain;**

a. State types of family
b. Enumerate characteristics of family
c. Mention two problems in a family.

2. **Affective Domain;**

a. Appreciate the concept family**.**
b. Recognize problems in the family.

3. **Psychomotor Domain;**

a. Copy down the board summary.

Entry Behaviour: it is expected that students can

- Name 3 members of a family
- Mention 2 functions of family

TOPICS/ CONTENTS DEVELOPMENT	**TEACHER'S PERFORMANCE ACTIVITIES**	**STUDENTS' PERFORMANCE ACTIVITES**	**INSTRUCTIONAL MATERIALS**	**INSTRUCTIONAL APPROACH AND SKLILLS**
STEP 1: Set Induction	Teacher asks students to mention members of their family	Students listen and answer question		Questioning
STEP 2: **FAMILY AND FAMILY LIFE** Meaning of the family Types of family Characteristics of the family Problems in a family	Teacher writes the topic on the board and she introduces the topic with the following sub headings: Define family. State types of family and people that make up the family. characteristics of the family and; Outline some problems in the family	Students listen and disperse to their various groups.	Chalk board, Charts, Posters	group discussion, use of examples, use of visuals.

	She asks them to disperse to their various groups and discourse.			
STEP 3: Meaning of the family	She writes down summaries of students' answers on the board: family is a basic social unit. It is a well knitted permanent unit of society and members depend on each other for their welfare. It is a basic unit of society and consists of individuals, male, females, adults, youth, legally or not legally, genetically or not genetically related.	Participate actively in suggesting their points to the teacher and put down important points.	Chalk board, Charts,	Cooperative learning, Discussion, Explanations, use of examples, use of visuals.
Step 4: Types of family	She asks a student to hang chart showing family types and she writes summaries of students' suggestions: Types of family are: Nuclear and Extended family. People who make up the nuclear family are father, Mother and their children. Extended family consists of father, mother and children, grandmother, uncles, aunts' cousins' nieces and nephews. etc.	Students participate in listing types of family and in explaining them and put down important points	Chalk board, Charts.	Cooperative learning, Discussion, Explanations, use of examples, use of visuals
STEP 5: Characteristics of the family	She writes down summaries of students' answers: characteristics of the family as being **social:** as they share common physical and social environment accurate and protect its member from defamation. **Economic:** as adult members provide for wellbeing of the members. **Reproductive:** Parents reproduce the young and serve the purpose of: continuing the society. Etc.	Participate actively in suggesting their points on characteristics of the family to the teacher and put down important points	Chalk board.	Cooperative learning, Explaining, use of examples, use of visuals
STEP 6: Problems of family	She writes down summaries of students' contributions: Some problems in the family are; **Financial:** When a family cannot meet its obligations and providing for its members. **Health;** When plague by various health concerns, such as heredity and chronic diseases. **Social:** Conflict within and outside the family and social isolation.	Students Participate actively in suggesting their points on problems of the family, listen to the teacher's conclusion and put down important points	Chalk board.	Cooperative learning, Discussion, use of examples, use of visuals
STEP 7: Evaluation	Teacher ask the students the following questions for her evaluation Define family Mention 2 types of family	Students answer questions		Questioning

	Give 2 characteristics of family Mention 2 problems in a family			
STEP 8: Instructional closure	The teacher write the next week topic for group discussion outside classroom work: sex education	Students copy notes and next week topic to discuss in their groups.		Learning together of cooperative learning.

WEEK 2: LESSON PLANS FOR COOPERATIVE LEARNING METHOD

SUBJECT: **HEALTH EDUCATION**

CLASS: **SS 2**

AVERAGE AGE OF STUDENTS: **15 YEARS**

DURATION: **40 MUNITES**

TOPIC: SEX EDUCATION

SPECIFIC OBJECTIVES: At the end of the lesson, students should be able to;

1. **Cognitive Domain;**

a. State the scope and objectives of sex education.
b. Enumerate the importance of sex education.
c. Create the meaning of sex education.

2. **Affective Domain;**

a. Appreciate the important of sex education.
b. Believe in the objectives ofsex education.

3. **Psychomotor Domain;**

a. Demonstrate out theproblems of lack of sex education.
b. Copy down the board summary.

Entry Behaviour: it is expected that the students can

- Define family
- Mention 2 types of family
- Give 2 characteristics of family

TOPICS/ CONTENTS DEVELOPMENT	**TEACHERS PERFORMANCE ACTIVITIES**	**STUDENTS PERFORMANCE ACTIVITES**	**INSTRUCTIONAL MATERIALS**	**INSTRUCTIONAL APPROACH AND SKLILLS**
STEP 1: Set induction	Reviews and check previous day's work and reteach if necessary. Teacher asks students to mention their gender and that of their friends	Students listen and answer questions.		Questioning
STEP 2:	Teachers writes the topic on the	Students listen	Chalk	Brainstorming,

SEX EDUCATION Meaning of sex education Scope and objectives of sex education Problems of lack of sex education	board. She asks the students the following questions as way of introduction: What is the meaning of sex education? State the scope and objectives of sex education. Enumerates and analyze the importance of sex education. Explain problems of lack of sex education. She then ask the students to disperse to their various groups.	attentively to teacher's questions and disperse to their various groups for further interactions and for formulation of new knowledge.	board Charts, Posters	interaction, discussion, use of examples, use of visuals.
STEP 3: Meaning of sex education	She writes down summaries of group answers: Sex education is process whereby knowledge is imparted to a group of young ones and which takes into account the development, growth; the anatomy and physiology of the human reproductive system and changes that occur from youth all through stages of adulthood. The process of acquiring knowledge and forming attitudes and belief about sex, sexual identity, relationship and intimacy, Explains the meaning as all about developing young people's skills so that they make informed choices about their sexual behaviour, and feel confident and competent about acting on these choices.	Participate actively in suggesting their group points to the teacher and put down important points.	Chalk board	Cooperative learning, Questioning Discursion, Explanations, use of examples.
STEP 4: Scope and objectives of sex education	She writes down summaries of group answers, the scope of sex education to consist of: Human growth and development, Relationship, Life skill, Sexual attitude and behaviour, Sexual health, Society and culture. And objectives of sex education as: To increase knowledge and understanding; To explain and clarify feelings,	Students participates in listing out the scope and objectives of sex education as discussed in their various groups and write down important points	Chalk board	Cooperative learning, Discursion.

	values and attitudes; To develop or strengthen skills; and To promote and sustain risk-reducing behaviour.			
STEP 5: Importance of sex education	She writes down summaries of group answers; the importance of sex education: To reduce misinformation; increase correct knowledge; clarify and strengthen positive values and attitude; increase skills to make informed decision and act upon them; To improve perceptions about peer groups and social norms; and To increase communication with parents or other trusted adults	Students participates in listing important of sex education as discussed in their various groups and write down important points	Chalk board	Cooperative learning, Discursion, Interaction.
STEP 6; Problem of lack of sex education	She writes down summaries of group answers; problems of lack of sex education: Human right abuses, risky sexual behaviour which could lead to STIs, unwanted pregnancies, illegal abortion, sepsis, death, school dropout and juvenile delinquent behaviour.	Students participates in suggesting the problems of lack of sex education as discussed in their various groups, and write down important points	Chalk board	Cooperative learning, Discursion,
STEP 7; Evaluation	Teacher asks these questions for her evaluation State the scope of sex education List 3 importance of sex education Mention 3 problems of lack of sex education.	Students answer questions.		Questioning
STEP 8; Instructional closure	Copy note on chalk board and write the next week topic: Reproductive system, puberty and adolescents	Students copy notes and next week topic to discuss in their groups		Learning together

WEEK 3: LESSON PLANS FORCOOPERATIVE LEARNING METHOD

SUBJECT: **HEALTH EDUCATION**

CLASS: **SS 2**

AVERAGE AGE OF STUDENTS: **15 YEARS**

DURATION: **40 MUNITES**

TOPIC: REPRODUCTIVE SYSTEM, PUBERTY AND ADOLESCENTS

SPECIFIC OBJECTIVES: At the end of the lesson, students should be able to;

1. **Cognitive Domain;**

a. State characteristics of Puberty and adolescents.
b. State the problems of adolescents.
c. Enumerate and describe parts of the male and female reproductive system.
d. State the function of the male and female reproductive systems.

Outline sex hormones.

2. **Affective Domain;**
   a. Appreciate thecharacteristics of Puberty and adolescents.
   b. Realise that they are already adolescents.
3. **Psychomotor Domain;**
   a. Draw and label parts of the male and female reproductive system.
   b. Copy down the board summary.

Entry Behaviour: it is expected that the students can

- State the meaning of sex education.
- List at least three importance of sex education.

TOPICS/ CONTENTS DEVELOPMENT	**TEACHERS PERFORMANCE ACTIVITIES**	**STUDENTS PERFORMANCE ACTIVITES**	**INSTRUCTIONAL MATERIALS**	**INSTRUCTIONAL APPROACHES AND SKLILLS**
STEP 1: Set induction	Reviews and check previous day's work and reteach if necessary. Teacher asks students to describe an adolescent	Students listen and answer questions.	.	Questioning
STEP 2: **REPRODUCTIVE SYSTEM, PUBERTY AND ADOLESCENTS** Meaning reproduction puberty and adolescents Characteristics of adolescents Problems of adolescents Structure and functions of males and female reproductive system Sex hormones	Teacher writes topic on chalk board, and introduce the following sub headings: Define reproduction, puberty and adolescent Analyze the characteristics of Puberty and adolescent Outlines and Explain problems of adolescents Hang charts of diagrams of male and female reproductive system Explain the functions of male and female reproductive system. Enumerate and describe parts of the male and female reproductive system Outline sex hormones She ask them to disperse to their various groups.	Students listen attentively to teacher and disperse to their various groups for further interactions and for formulation of new knowledge.	Chalk Board, Charts, Posters	Brainstorming. discussion, use of examples, use of visuals.
STEP 3:	She writes down summaries of	Students	Chalk	Cooperative

Meaning of Reproduction, Puberty and Adolescent	group answers: Reproduction is a process by which mammal produce their young ones. Puberty is a period of development of sexual characteristics in young persons. Adolescents are young person between ages 10-19 years. It is a period of transition from childhood to adulthood.	participates in defining reproduction, puberty and adolescent and write down important points	board	learning, Discursion, Interaction.
STEP 4: Characteristics of Puberty and Adolescent	She writes down summaries of group answers: Characteristics of Puberty and adolescents are: **Boys:** Development of hairs at pubic areas, face, chest & armpit Muscles and penis increase in sizes Voice becomes coarse Production of sperm starts Feeling towards opposite sex **Girls:** Development of breast, pelvis and hip Hairs at pubic area & armpit Ovulation and menstruation starts Feeling towards opposite sex.	Students participates in listing out characteristics of puberty and adolescent and then write down important points	Chalk board	Cooperative learning, Discursion, Brainstorming
STEP 5: Problems of adolescents	She writes down summaries of group answers: problems of adolescent are: Peer pressure Experimentation Delinquency	Students participates in listing out the problems of adolescents as discussed in their various groups and then put down important points	Chalk board	Cooperative learning, Discursion, Explaining use of example
STEP 6: Structure and functions of male and female reproductive system.	Teacher asks a student to hang charts of diagrams of male and female reproductive system, showing the parts: mentions and She writes down summaries of group answers as follows: **Male:**Testes, vas efferenttia, Vas deferens, penis, glands etc. **Testes:** There are 2 testes, oval	Students participates in stating the Structure and functions of male and female reproductive system, put down important points and make sketches and label diagrams	Chalk Board, Charts, Posters.	Cooperative learning, Discursion, Brainstorming Explaining use of examples, use of visuals.

	shaped and in a sac scrotum hanging outside the body also act as thermoregulatory. Each testis consists of seminiferous tubules (Sperm tubeless) (produce sperm) and interstitial cells (produce testosorone) **Vas effrenttia**: collect sperm produced from sperm tubule to epidymis where sperm is stored temporary. Mature sperm pass through **Vas deferen**s or sperm duct to join urethra. **Penis** is organ through which urethra run and **Glansis** the enlarged end which has erectile/spongy tissues stimulated by sexual urge: **Glands Prostate gland: -** below the bladder: **Cowper's gland: - below prostrate seminal vesicles: -a** sac that opens into the vas deferens. The 3 glands secrete seminal fluid in which the sperm swim. They activate, lubricate and feed sperm. **NOTE**: seminar fluid + sperm = **SEMEN** **Female:** Ovaries, Fallopian tubes (Oviduct), uterus, vagina, vulva. **Ovaries:** Consists of 2 oval shaped each at either side of abdominal cavity, held in place by ligament and contain several undeveloped eggs or ova. At puberty the ovaries releases egg every month alternating. About 13 eggs are released early. At about age 45-55 years, the ovaries stop producing eggs at **MENOPAUSE.** The undeveloped eggs degenerate and are absorbed in the system. **Ovaries** produce and release mature eggs, produce Oestrogen, progesterone, Progesterone, **Fallopian Tubes (Oviduct**): is funnel shaped tube of about 9-13cm and is connected the ovaries that lie close to them. It has cilia which propel the eggsto it and the fertilized zygote into theuterus: is a hollow muscular organ, about 8cm wide long and 5cm wide. Has 2 fallopian tubes entering it from above and ends on the cervix. The inner lining of the cervix. The inner lining is the **ENDOMERIUM** highly supplied	in their notes.		

	with blood and food to nourish the foetus. It hourses the foetus for 9 months. **Vagina:** it starts from the cervix to the outside. It is an elastic muscular tube of about 10-14cm. it serves as a birth canal, menstruation is through there and sperm is deposited there. Outline the functions: **Male:** Formation of sperm for fertilization Production of male sex hormones Introduction of sperm into the vigina with the help of penis **Female:** Produce eggs (ova) for fertilization Prepares the uterus to receive the fertilized egg. Receive penis during sexual intercourse Provide food and protection for foetus throughout gestation Expel mature foetus at partition Expel unfertilized eggs and other materials during menstruation Provides female sex hormones to maintain menstrual cycle Stop egg production at old age Provide milk for baby feeding after birth.			
STEP 7: Problems of male and females reproductive system	She writes down summaries of group answers: the problems of male and female reproductive system are: Infertility STIs	Students participates in listing out the Problems of male and females reproductive system and write down important points	Chalk board	Cooperative learning, Discursion, Explanation, Interaction, use of examples
STEP 8: Sex hormones	She writes down summaries of group answers: Different sex hormones are;	Students participates in listing out the Sex hormones and	Chalk board	Cooperative learning, Discursion, Explanation, use

	Male: testosterone, aldosterone, dihydroxysterone **Female:** Estrogen, progesterone	write down important points		of examples
STEP 9: Evaluation	Teacher ask student the following question for her evaluation Define reproduction, puberty and adolescents State 3 characteristics of puberty and adolescents Mention 3 problems of adolescent List 5 parts of male and female reproductive system respectively Mention 2 problems of male and female reproductive system each Mention 2 sex hormones	Students answer questions.		Questioning
STEP 10: Instructional closure	Copy note on chalk board and write the next week topic: family planning and safe motherhood	Students copy notes and next week topic for their group discussion as assignment		Learning together

WEEK 4: LESSON PLANS FOR COOPERATIVE LEARNING METHOD

SUBJECT: **HEALTH EDUCATION**

CLASS: **SS 2**

AVERAGE AGE OF STUDENTS: **15 YEARS**

DURATION: **40 MUNITES**

TOPIC: FAMILY PLANNIG AND SAFE MOTHERHOOD

SPECIFIC OBJECTIVES: At the end of the lesson, students should be able to:

1. **Cognitive Domain;**
   a. State at least one benefit of family planning
   b. State three sources of family planning services in the community
   c. Differentiate between family planning and safe motherhood
2. **Affective Domain;**
   a. Acknowledge family planning services in the community.
   b. Appreciate family planning
3. **Psychomotor Domain;**

a. Draw a picture of healthy and unhealthy mother.
b. Copy down the board summary.

Entry Behaviour: it is expected that students can

- Define reproduction, puberty and adolescents
- State 3 characteristics of puberty and adolescents

TOPICS/ CONTENTS DEVELOPMENT	**TEACHERS PERFORMANCE ACTIVITIES**	**STUDENTS PERFORMANCE ACTIVITES**	**INSTRUCTIONAL MATERIALS**	**INSTRUCTIONAL APPROACHES AND SKLILLS**
STEP 1: Set Induction	Reviews and check previous day's work and reteach if necessary. Teacher asks student to mention their family members	Students listen and answer questions. .		Questioning
STEP 2: **FAMILY PLANNING AND SAFE MOTHERHOOD** Meaning of family planning Need for family planning Sources of family planning services Defines and explain safe motherhood	Teachers writes topic on the chalk board and introduces the following sub headings: What is family planning? Analyze at least one benefits of family planning Outlines some problems in the family. She ask them to disperse to their various groups.	Students listen attentively to teacher and disperse to their various groups for further interactions and for formulation of new knowledge.	Chalk Board,.	Brainstorming, discussion use of examples
STEP 3: Meaning of family planning	She writes down the summaries of students' answers from their various groups: Family planning is method adopted by couple to control number of children they have and can cater for and the right time to have them. Family planning allows individuals and couples to anticipate and attain their desired no of children and the spacing and timing of the birth. The meaning of family planning is having a child by choice and not by chance	Students participates in defining family planning and write down important points	Chalk board	Cooperative learning, Discussion, Explanation, use of examples, Interaction
STEP 4: Benefits of family planning	She writes down the summaries of students' answers from their various groups as: To prevent unwanted pregnancy and avoid dangers of illegal abortion Ensure good health and quality	Students participates in stating the benefits of family planning and write down important points	Chalk board	Cooperative learning, Discussion, Brainstorming, Explanation, use of examples,

	education for children Reduce maternal death due to many and frequent pregnancies Eliminate cases of abandoned babies prevent population explosion Provide social order as it helps government to be able to provide for its citizens in a palmed population			
STEP 5: Sources of family planning services	She writes down the summaries of students' answers from their various groups as: Health facilities. Eg. Hospital health center, health clinics, churches, mosques. Social/women centers	Students participates in stating the Sources of family planning services and write down important points	Chalk board	Cooperative learning, Discussion, Explanation, use of examples, Interaction
STEP 6: Safe motherhood, difference between family planning and safe motherhood	She writes down the summaries of students' answers from their various groups as: Safe motherhood is an initiative aimed at making pregnancy safer and reduction in mortalities and morbidities as a result of pregnancy. This could be achieved when a women have more control of their lives. These could be achieved by ensuring assess to: Safe water, culturally appropriate family planning services, advice, method and promotion of free prenatal care and services. It calls for all women to have access to a skill attendant at birth. Focuses on improving socio-political and legal status of women. Increasing their access to wealth and ending all forma of gender discrimination especially on issues of education and access to health care. Difference between family planning and safe motherhood are: FP is an aspect of SMI. SMI is much more than FP and provide the stand to ensure that women are empowered to access available services	Students participates in stating the safe motherhood, difference between family planning and safe motherhood and write down important points	Chalk board	Cooperative learning, Discussion, Explanation, Interaction, use of examples,

STEP 7: Evaluation	Teachers asks student the following questions for her evaluation Define family planning State 2 benefits of family planning List three sources of family planning in the community Define safe motherhood Mention 1 difference between family planning and safe motherhood	Students listen and answer questions.		Questioning
STEP 8: Instructional closure	Copy note on chalk board and write out the topic of next week as: family planning methods and techniques.	Student copy notes and next week topic for their group discussion as assignment		Learning together

WEEK 5: LESSON PLANS FOR COOPERATIVE LEARNING METHOD

SUBJECT: **HEALTH EDUCATION**

CLASS: **SS 2**

AVERAGE AGE OF STUDENTS: **15 YEARS**

DURATION: **40 MUNITES**

TOPIC: FAMILY PLANNIG METHODS AND TECHNIQUES

SPECIFIC OBJECTIVES: At the end of the lesson, students should be able to;

1. **Cognitive Domain;**
   a. Mention the methods of family planning for male and females
   b. Enumerate advantages, disadvantages and relative reliability of different family planning methods
   c. Differentiate between natural and artificial family methods
2. **Affective Domain;**
   a. Appreciate the use ofcontraception.
   b. Acknowledge advantages, disadvantages and relative reliability of different family planning methods.
3. **Psychomotor Domain;**
   a. Copy down the board summary.

Entry Behaviour: it is expected that students can

- Explain the meaning of family planning
- List three sources of family planning in the community

TOPICS/	TEACHERS PERFORMANCE	STUDENTS	INSTRUC	INSTRUCTION

CONTENTS DEVELOPMENT	ACTIVITIES	PERFORMANCE ACTIVITES	TIONAL MATERIALS	AL APPROACHES AND SKLILLS
STEP 1: Set Induction	Reviews and check previous day's work and reteach if necessary. Teacher asks student to mention family planning methods they know	Students listen and answer questions.		Questioning
STEP 2: **FAMILY PLANNING METHODS AND TECHNIQUES** Meaning of family planning Examples of different methods if family planning methods in males and females Meaning of contraceptives advantages and disadvantage and their relative reliability	Teacher writes topic on the chalk board and introduces the following sub headings: Ouline the different methods of family planning Explains methods of family planning for males and females Define contraception Analyze the advantages and disadvantages of different family planning methods and their relative reliability Explain and show students charts and models of different family planning methods.\ Mentions the difference between natural and artificial family planning methods	Students listen attentively to teacher and disperse to their various groups for further interactions and for formulation of new knowledge.	Chalk Board, Charts, Posters, Model	Brainstorming, discussion use of examples.
STEP 3: Method of family planning	She writes down the summaries of students' answers from their various groups: Two main classes of family planning Natural and Artificial (Modern) Methods. She outlines **Natural:** Abstinence from sex Breast feeding Withdrawal Basal body temperature Billings ovulation Calendar or rhythm	Students participates in stating the methods of family planning and write down important points	Chalk board	Cooperative learning, Interaction, Brainstorming, discussion use of examples

	Artificial/Modern: Oral pills Injectable Norplant Condom Diaphragm Intra uterine device Spermicidal cream Sterilization			
STEP 4: Examples of different methods of family planning in males and females	She writes down the summaries of students' answers from their various groups: Examples of different family planning in males and females. She hangs charts and show students models of the methods **Natural:** **Abstinence from sex:** having sex only when pregnancy is desired by couple **Breast feeding:** used during delay in return of fertility when breast feeding, methods not reliable **Withdrawal:** removal of sperm from virginal before ejaculation. **Basal body temperature:** rise in above normal temperature during ovulation, no sex is avoided during raised temperature. **Cervical muscus/Billings ovulation:** thin slippery mucous that do not break on stretching when placed between two fingers is ovulation so sex is avoided if pregnancy is no desired. **Calendar or rhythm:** Ovulation period is calculated based on assumption that ovulation occur 14 days before the next menstruation. Sperm can live for 2 - 3 days; Ovum, can live for 24 hours, so sex is avioded7 days before and 7	Students participates in stating examples of different methods of family planning in males and females and write down important points	Chalk Board, Charts, Posters, Model	Cooperative learning, Discussion, Brainstorming, use of examples

	days after. **Artificial/Modern** **Oral pills:** Involves a woman talking oral pills daily to prevent ovulation **Injectables:** Involves injecting a woman with hormone every 2-3 months and is repeated till pregnancy is desired **Norplant:** It a drug implanted under the skin, into the arm of a woman to prevent pregnancy. It last for 5 years but could be removed whenever pregnancy is desired. **Condom:** it is a thin latex sheath For males it is worn on an erect pennis For females: it is filted into the vigina& cervix It acts as a barrier between the sperm and ovum **Diaphragm:** it is thin rounded robber sheath used to cover the vigna to prevent contact with sperm during intercourse. It could be removed after 8 hours. **Intra uterine device:** it is a thin small coiled pieces of plastic or metal which is inserted by a Doctor into the uterus to stop fertilization and implementation. **Spermicidal cream** applied seep in vigina before sex, kill sperm. **Sterilization:** irreversible, surgical typing or cutting of sperm duct or oviduct.			
STEP 5: Meaning of contraceptives Advantages and Disadvantages and	She writes down the summaries of students' answers from their various groups that: contraception means measures to prevent occurrence of pregnancy.	Students participates in stating meaning of contraceptives, Advantages and Disadvantages and	Chalk board	Cooperative learning, Discussion, Interaction, use of examples

their relative reliability	That it includes use of hormones and barriers; **Advantages of Contraception:** Effective against pregnancy Makes menstrual periods more regular and lighter Decreases menstrual cramps and acene Makes women less likely to get ovarian a uterine cancer. **Disadvantages of contraception:** Artificial so may have side effects Doesn't protect against STIs. May fail when not properly and consistently used Cost money Need a prescription **Relative reliability:** Ranges from 79-98% if uses strictly as should. **Condoms** has limited protect against STIs when properly and consistently used	their relative reliability and write down important points		
STEP 6: Enumerate advantages and disadvantages and relative reliability of different family planning methods	She writes down the summaries of students' answers from their various groups as: **Advantage of Natural F P:** Natural Costs nothing No side effects **Disadvantages of Natural FP:** Need discipline and commitment of couple. Doesn't protect against STIs. May fail due to miscalculation	Students participates in stating advantages and disadvantages and relative reliability of different family planning methods and write down important points	Chalk board	Cooperative learning, Discussion, Brainstorming, use of examples.

	Relative reliability: Ranges from 72-98% if uses strictly as should			
STEP 7: Differentiate between natural and artificial family method	She writes down the summaries of students' answers from their various groups as: **Natural F P:** Natural and do not need any interference with nature. No side effect, no complications. **Artificial/Modern F P:** Need expert advice and prescription for use May involve minor surgery and need for periodic medical help.	Students participates in differentiating between natural and artificial family method and write down important points	Chalk board	Cooperative learning, Discussion, Interaction, use of examples.
STEP 8: Evaluation	Teachers asks the student the following questions for her evaluation Mention two main family planning method Outline types of family planning methods for both males and females respectively Define contraceptive List 2 advantages and disadvantages of 2 family planning methods State their relative reliability Give 1 difference between natural and artificial family planning	Students answer questions		Questioning
STEP 9: Instructional closure	Copy note on chalk board and write out the topic of next week as: sexually transmitted infections and abstinence.	Students copy notes and next week topic for their group discussion as assignment		Learning together

WEEK 6: LESSON PLANS FOR COOPERATIVE LEARNING METHOD

SUBJECT: **HEALTH EDUCATION**

CLASS: **SS 2**

AVERAGE AGE OF STUDENTS: **15 YEARS**

DURATION: **40 MUNITES**

TOPIC: SEXUALLY TRANSMITTED INFECTIONS AND ABSTINENCE

SPECIFIC OBJECTIVES: At the end of the lesson, students should be able to

1. Cognitive Domain;

a.Give examples of STI's.

b. Enumerate signs and symptoms of STI.

c. List methods of preventing STI's.

2. Affective Domain;

a. Acknowledge how boys and girls can abstain from premature sex.

3. Psychomotor Domain;

a. Demonstrate a role play on how one can abstain from premature sex.

b. Copy down notes.

Entry Behaviour: it is expected that students can

- Mention two main family planning method
- Outline types of family planning methods for both males and females respectively

TOPICS/ CONTENTS DEVELOPMENT	**TEACHERS PERFORMANCE ACTIVITIES**	**STUDENTS PERFORMANCE ACTIVITES**	**INSTRUCTIONAL MATERIALS**	**INSTRUCTIONAL APPROACHES AND SKLILLS**
STEP 1: Set Induction	Reviews and check previous day's work and reteach if necessary. Teacher ask students if they have seen someone suffering of any STI	Students listen and answer questions.		Questioning.
STEP 2: **SEXUALLY TRANSMITTED INFECTIONS AND ABSTINENCE** Meaning of sexually transmitted diseases/infections Examples of STI's HIV/AIDs, Syphilis, Gonorrhoea, Candidiasis, Human Papiloma Virus etc. Signs and symptoms, and methods of prevention of STI's	Teacher writes topic on the chalk board and introduces the following sub headings: Defines sexually transmitted infections Give examples of STI's List signs and symptoms of different STI's Mention the methods of preventing STI's What is the meaning of abstinence? Analyze and give example of how boys and girls can obtain from premarital sex. She ask them to disperse to their	Students listen attentively to teacher's questions and disperse to their various groups for further interactions and for formulation of new knowledge.	Chalk Board, Charts, Posters, Model	Brainstorming, discussion, use of examples

Meaning of abstinence How to abstain	various groups.			
STEP 3: Meaning of sexually transmitted disease/infections	She writes down the summaries of students' answers from their various groups: Sexually transmitted infections (STIs) are group of infections caused by microorganisms that are transmitted through sexual contacts. Sexually transmitted diseases (STDs) are the diseases suffered due to infections by STIs.	Students participates in stating Meaning of sexually transmitted disease /infections and write down important points	Chalk board	Cooperative learning, Discussion, Interaction, use of examples.
STEP 4: Examples of STI's HIV/AIDs, syphilis, Gonorrhoea, Candidiasis, Human Papilloma Virus etc.	She writes down the summaries of students' answers from their various groups: examples of STIs are: HIV/AIDs, Syphilis, Gonorrhoea, candidiasis, Human Papilloma Virus infection, Genital warts, trichomoniasis, Herpes Genitalis	Students participates in stating examples of STIs and write down important points	Chalk board,	Cooperative learning, Discussion, Brainstorming, Explaining, use of examples
STEP 5: Signs and symptoms, and methods of prevention STI's	She writes down the summaries of students' answers from their various groups. She also asks them to hang posters and enumerate the signs and symptoms of some STIs: **HIV/AIDs:** **HIV:** is the infective state only **AIDs:** Is the diseases state Symptoms can appear anytime ranging from several months to several years after exposure: and they are Lowered immunity to diseases. Persistent heavy night sweats, extreme tiredness, severe Wight loss, enlarged lymph glands on the neck, groin, or axillae, persistent diarrhea, skin rashes, blurred vision or chronic headache, harsh dry cough, hick gray-white coating on the tongue and throat. **Other modes of HIV Transmission:** contact with body fluids by sharing body piercing instrument (e.g. razor, tattoo, barber clipper), blood transfusion, mother to child through breast milk and during birth.	Students participates in stating signs and symptoms, and also discuss methods of preventing STI's and write down important points	Chalk board, poster	Cooperative learning, Interaction, Discussion Explaining, listening

	Gonorrhoea: **Males:** painful urination, watery whitish discharge, pain, frequent urination. **Females**: vaginal discharge, pain frequent urination. **Syphilis:** **Males:** chancre on glans penis, skin eruptions, low grade fever, inflammation of lymph glands **Females:** same for males but chancre is on cervix or other genital areas. **Candidiasis:** **Male:** itching, irritation, discharge, plaque of cheesy materials under foreskin **Female:** red excoriated vulva, intense itching of vaginal and vulvar tissues, thick, white cheesy discharge **Human papilloma virus:** **Male:** cause genital warts, lesions on or beneath the foreskin external meatus or glans penis. (hard and yellow gray on dry skin area, pink or read and soft on moist area) **Female:** Lesions on vaginal opening perineum, lip or vagina, inner walls of vagina, cervix, some strain cause cervical cancer. **Trichomoniasis:** **Male:** Slight itching moisture on top of penis, slight early morning urethral discharge; may be asymptomatic **Female**: Itching and redness of vulva and skin inside thighs, copious watery, frothy vaginal discharge.			

	Method of prevention of STI" Abstinence is the key. Correct and consistent condom use has limited protection as it is not 100% safe. All other FP methods do not protect against STIs.			
STEP 6: Meaning of abstinence How to abstain	She writes down the summaries of students' answers from their various groups: Abstinence is a process of avoiding sexual contact or experience. It is restraining oneself from having sex. No oral, anal or vaginal sex including any sexual/genital contact that may involve the exchange of bodily fluids and could result in a pregnancy or STD/STI. She writes down the summaries of their answers: Ways to abstain are: **Being assertive**, by telling whoever may approach you **NO**and meaning it to be **NO** in your actions. She threw more light on assertiveness. Setting your priorities in life right and sticking to them. Avoiding exposing yourself to risk by staying away from people that makes advances to you or feed your ears with myths about sex Avoiding secluded areas and always move around in groups. Alerting parents, teachers or guardian of anyone making undue advances to you. Get correct health information from your parents, teachers or guardian or qualified health care provider.	Students participates in stating the meaning of abstinence, how to abstain and write down important points	Chalk board,	Cooperative learning, Discussion, Brainstorming, Explaination, use of examples
STEP 7: Evaluation	Teacher ask the student the following questions for her evaluation Defines sexually transmitted infection. Enumerate 4 types of STI's	Students listen and answer questions.		Questioning

	List 2 sign and 2 symptoms of 2 types of ST's Mention 2 methods of preventing STI's Define abstinence Describe how boys and girls can abstain from premarital sex			
STEP 8: Instructional closure	Copy note on chalk board and ask student to study what they have done	Student copy notes		

APPENDIX G
POST PRIMARY SCHOOLS SERVICE COMMISSION

SUMMARY OF NUMBER OF SCHOOLS BY LOCAL GOVERNMENT AREA

S/NO.	EDUCATION ZONES	LOCAL GOVERNMENT AREA	NO. OF SCHOOLS	ZONAL TOTAL
1	AGUATA	AGUATA	21	
		ORUMBA NORTH	15	
		ORUMBA SOUTH	14	50
2	AWKA	AWKA NORTH	08	
		AWKA SOUTH	18	
		ANAOCHA	16	
		DUNUKOFIA	08	
		NJIKOKA	11	61
3	NNEWI	NNEWI NORTH	08	
		NNEWI SOUTH	17	
		EKWUSIGO	08	
		IHIALA	17	50
4	OGIDI	IDEMILI NORTH	16	
		IDEMILI SOUTH	13	
		OYI	11	40
5	ONITSHA	ONITSHA NORTH	16	
		ONITSHA SOUTH	06	
		OGBARU	10	32
6	OTUOCHA	ANAMBRA EAST	11	
		ANAMBRA WEST	08	
		AYAMELUM	09	28
		TOTAL	261	261

ANAMBRA STATE STUDENTS ENROLMENT AS AT 1ST TERM 2018/2019 SESSION

AGUATA ZONE										
	L G As	JSS			SSS			TOTAL		
S/N		M	F	T	M	F	T	M	F	T
1	AGUATA	2250	2467	4717	1410	1630	3040	3660	4097	7757
2	ORUMBA NORTH	1298	1261	2559	901	906	5118	2199	2167	4366
3	ORUMBA SOUTH	1154	1201	10361	689	766	10042	1843	1967	17092
4	**TOTAL**	**4702**	**4929**	**17637**	**3000**	**3302**	**18200**	**7702**	**8231**	**29215**
	AWKA ZONE									
S/N		**JSS**			**SSS**			**TOTAL**		
1	**L G As**	**M**	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**
2	ANIOCHA	2006	1696	11167	1190	1749	7699	3196	3445	18866
3	AWKA NORTH	937	951	19462	665	715	13521	1602	1666	32983
4	DUNUKOFIA	1414	1675	38832	782	1083	26964	2136	2758	4894
5	NJIKOKA	1807	920	78043	1331	768	54274	3138	1688	4826
6	AWKA SOUTH	3308	4804	157483	2249	3466	109506	5557	8270	13827
	TOTAL	**9472**	**10046**	**304987**	**6217**	**7781**	**211964**	**15629**	**17827**	**75396**
	NNEWI ZONE									
S/N		**JSS**			**SSS**			**TOTAL**		
1	**L G As**	**M**	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**
2	NNEWI NORTH	1255	1190	3907	814	893	2671	2069	2083	6406
3	NNEWI SOUTH	1203	1160	9554	774	3011	6760	1977	4171	15970
4	**EKWUSIGO**	1398	1486	17105	688	931	11946	2086	2417	28363
5	IHIALA	1618	1769	35838	1159	1281	25146	2777	3050	5827
6	**TOTAL**	**5474**	**5605**	**66404**	**3435**	**6116**	**46523**	**8909**	**11721**	**56566**
	OGIDI ZONE									
S/N		**JSS**			**SSS**			**TOTAL**		
1	**L G As**	**M**	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**
2	IDEMILI NORTH	3581	4109	6798	2040	2628	4942	5621	6737	11740
3	IDEMILI SOUTH	1873	1769	3642	1484	1304	2788	3357	3073	6430

4	OYI	1512	1887	3399	919	1552	2471	2431	3439	5870
	TOTAL	**6966**	**7765**	**13839**	**4443**	**5484**	**10201**	**11409**	**13249**	**24040**
	ONITSHA ZONE									
S/N		**JSS**			**SSS**			**TOTAL**		
1	**L G As**	**M**	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**
2	ONITSHA NORTH	6161	8786	7842	4160	6535	4572	10321	15321	12414
3	ONITSHA SOUTH	3378	2350	11763	2451	1563	6858	5829	3913	18621
4	OGBARU	1977	1944	3921	1025	1261	2286	3002	3205	6207
	TOTAL	**11516**	**13080**	**23526**	**7636**	**9359**	**13716**	**19152**	**22439**	**37242**
	OTUOCHA ZONE									
S/N		**JSS**			**SSS**			**TOTAL**		
	L G As	**M**	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**
1	ANAMBRA EAST	1310	826	2136	562	513	1075	1872	1339	9633
2	ANAMBRA WEST	523	465	988	381	328	709	904	793	5091
3	AYAMELUM	890	806	1696	408	476	878	1298	1282	7734
	TOTAL	**2723**	**2097**	**4820**	**1351**	**1317**	**2662**	**4074**	**3414**	**22458**

SUMMARY OF ANAMBRA STATE SENIOR SECONDARY TWO STUDENTS (SS2) (2018/2019 SESSION)

ZONES	MALE	FEMALE	TOTAL
AWKA	2180	2749	4929
AGUATA	1023	1118	2141
NNEWI	1313	1563	2876
OGIDI	1422	2020	3442
ONITSHA	2702	34242	6144
OTUOCHA	422	388	810
TOTAL	9,062	11,280	20,342

AWKA ZONE STUDENTS ENROLMENT AS AT 2018 /2019 SESSION

S/N	ANAOCHA LGA	LOCATION	SS1			SS2		
	NAME OF SCHOOLS	URBAN/RURAL	M	F	T	M	F	T
1	GIRLS' HIGH SCHOOL AGULU	URBAN	0	112	112	0	132	132
2	FLORA A.M.C SEC.SCH. NENI	URBAN	60	47	107	35	28	63
3	LORETTO SPE. SEC. SCH. ADAZI NNUKWU	URBAN	0	250	250	0	185	185
4	COMM. SEC. SCH. OBELEDU	RURAL	31	63	94	33	64	97
5	COMM. SEC. SCH. ICHIDA	URBAN	41	22	63	32	14	46
6	COMM. HIGH SCH. AGULUZIGBO	RURAL	16	20	36	20	30	50
7	BUBENDORFF M.G.S. ADAZI-NNUKWU	RURAL	186	0	186	116	0	116
8	COMM. SEC. SCH. AGULU	URBAN	23	12	35	24	23	47
9	OJIAKO MEM0 GRAM SCH. ADAZI-ANI	RURAL	21	17	38	24	20	44
10	UNION SEC. SCH. AGULU	URBAN	25	40	65	31	37	68
11	COMM. HIGH SCH. ADAZI	RURAL	14	10	24	12	4	16
12	COMM HIGH SCH. AKWAEZE	RURAL	40	33	73	34	33	67
13	AGULU GRAM. SCH. AGULU	RURAL	12	0	12	19	0	19
14	LAKE-CITY SEC. SCH. NRI	RURAL	11	8	19	17	19	36
15	CSS ADAZI-NNUKWU	RURAL	4	22	26	0	24	24
16	REGAL SEC. SCH. NRI	RURAL	41	36	77	22	20	42
	TOTAL		**525**	**692**	**1217**	**419**	**633**	**1052**

S/N	AWKA NORTH	LOCATION	SSS I			SSS II		
	NAME OF SCHOOLS	URBAN/RURAL	M	F	T	M	F	T
1	COMM. SEC. SCH. AMANSEA	RURAL	70	70	140	50	44	94
2	COMM. SEC. SCH. ISUANIOCHA	RURAL	50	50	100	30	40	70
3	COMM. SEC. SCH. EBENEBE	RURAL	17	26	43	25	41	66
4	COMM. SEC. SCH. MGBAKWU	RURAL	47	52	99	44	46	90
5	COMM. SEC. SCH. ACHALLA	RURAL	26	26	52	28	26	54
6	COMM. SEC. SCH. AMANUKE	RURAL	16	28	44	10	8	18
7	COMM. SEC. SCH. URUM	RURAL	20	18	38	15	16	31
8	COMM. SEC. SCH. AWBA OFEMILI	RURAL	11	18	29	18	14	32
	TOTAL		**257**	**288**	545	**220**	**235**	**455**

S/N	DUNUKOFIA LGA	LOCATION	SS1			SS11		
	NAME OF SCHOOLS	URBAN/RURAL	M	F	T	M	F	T
1	ST. MARY'S HIGH SCH. IFITEDUNU	URBAN	142	0	142	110	0	110
2	WALTER EZE MEMO SEC. SCH. UKPO	URBAN	60	77	137	60	65	125
3	COMM SEC. SCH. UMUNNACHI	URBAN	20	50	70	10	60	70

4	NNEAMAKA SEC. SCH. IFITEDUNU	URBAN	38	90	128	36	93	129
5	COMM. SEC. SCH. UKPO	URBAN	22	20	42	22	27	49
6	COMM. SEC. SCH. UKWULU	RURAL	26	28	54	23	32	55
7	ST. KIZITO GIRLS' SEC. SCH. UMUDIOKA	URBAN	0	152	152	0	90	90
8	COMM. HIGH SCH. NAWGU	RURAL	10	12	22	8	11	19
	TOTAL		**318**	**429**	747	**269**	**378**	647

S/N	**NJIKOKA LGA**	**LOCATION**	**SS1**			**SS11**		
	NAME OF SCHOOLS	**URBAN/RURAL**	**M**	**F**	**T**	**M**	**F**	**T**
1	COMP. SEC. SCH. NAWFIA	URBAN	170	0	170	153	0	153
2	GIRLS' SEC. SCH. ABAGANA	URBAN	0	64	64	0	60	60
3	NNAMDI AZIK. SEC. SCH. ABAGANA	URBAN	122	0	122	70	0	70
4	IDE SEC. SCH. ENUGWU-UKWU	URBAN	26	54	80	35	55	90
5	ST. MICHEAL'S MOD.COMP.SEC.SCH. NIMO	URBAN	84	0	84	75	0	75
6	COMM SEC SCH NIMO	URBAN	32	68	100	31	58	89
7	COMM. SEC. SCH. ABBA	RURAL	30	40	70	25	35	60
8	GOVT. TECH. COLLEGE ENUGWU-AGIDI	RURAL	35	5	40	32	4	36
9	COMM. SEC. SCH. ENUGWU-AGIDI	RURAL	2	29	31	2	13	15
10	NAWFIA COMM. SEC. SCH. NAWFIA	URBAN	10	23	33	10	24	34
11	OKUTALUKWE COMM. SEC. SCH. E/UKWU	RURAL	23	15	38	26	16	42
	TOTAL		**534**	**298**	**832**	**459**	**265**	724

S/N	**AWKA SOUTH LGA**	**LOCATION**	**SS1**			**SS11**		
	NAME OF SCHOOLS	**URBAN/RURAL**	**M**	**F**	**T**	**M**	**F**	**T**
1	ST. JOHN SEC. SCH. AWKA	URBAN	0	271	271	0	235	235
2	IGWEBUIKE GRAMMER SCH. AWKA	URBAN	200	0	200	160	0	160
3	GIRLS' SEC. SCH. AWKA	URBAN	0	267	267	0	241	241
4	COMM. SEC. SCH UMUOKPU	URBAN	83	140	223	71	98	169
5	CAPITAL CITY SEC. SCH. AWKA	URBAN	123	117	240	91	89	180
6	KENNETH DIKE MEM. SEC. SCH. AWKA	URBAN	113	117	230	68	115	183
7	EZI-AWKA COMM. SEC. SCH. AWKA	URBAN	53	74	127	52	74	126
8	COMM. SEC. SCH. OKPUNO	URBAN	97	113	210	110	104	214
9	NNEOMA COMM. SEC. SCH. NIBO	URBAN	20	31	51	27	20	47
10	COMM. SEC. SCH. MBAUKWU	URBAN	30	45	75	20	40	60
11	EMEKA AGHASILI HIGH SCH. NISE	URBAN	31	33	64	47	35	82
12	COMM. SEC. SCH. AGULU AWKA	URBAN	45	41	86	22	37	59
13	COMM. SEC. SCH. AMAWBIA	URBAN	32	22	54	22	29	51
14	UNION SEC. SCH. UMUAWULU	URBAN	19	21	40	21	13	34
15	UNION SEC. SCH. AMAWBIA	URBAN	38	43	81	42	45	87
16	EZEIKE HIGH SCH. NIBO	URBAN	39	48	87	40	50	90
17	HOLY CROSS HIGH SCH. UMUAWULU/MBAUKWU	URBAN	11	9	20	18	8	26

18	COMM. SEC. SCH. ISIAGU	RURAL	7	6	13	2	5	7
	TOTAL		**941**	**1398**	2339	**813**	**1238**	**2051**

SUMMARY OF AWKA ZONE SENIOR SECONDARY TWO STUDENTS (SS2)

LGA	MALE	FEMALE	TOTAL
ANAOCHA LGA	419	633	1052
AWKA NORTH	220	235	455
DUNUKOFIA LGA	269	378	647
NJIKOKA LGA	459	265	724
AWKA SOUTH LGA	813	1238	2051
TOTAL	2,180	2,749	4,929

APPENDIX H

RELIABILITY ANALYSIS

SEXUAL HEALTH KNOWLEDGE TESTUSING KUDER RICHARDSON, KR20

ITEM NUMBER	NO. Answered Item Correctly	NO. that answered incorrectly	Proportion that answered item correctly (*p)*	Proportion that answered item incorrectly (*q)*	*p x q*
1.	14	6	.70	.30	.21
2.	19	1	.95	.05	.05
3.	18	2	.90	.10	.09
4.	17	3	.85	.15	.13
5.	17	3	.85	.15	.13
6.	12	8	.60	.40	.24
7.	1	19	.05	.95	.05
8.	4	16	.20	.80	.16
9.	5	15	.25	.75	.19
10.	1	19	.05	.95	.05
11	5	15	.25	.75	.19
12.	17	3	.85	.15	.13
13.	17	3	.85	.15	.13
14.	11	9	.55	.45	.25
15.	11	9	.55	.45	.25
16.	15	5	.75	.25	.19
17.	19	1	.95	.05	.05
18.	0	20	.00	1.00	.00
19.	17	3	.85	.15	.13
20	15	5	.75	.25	.19
21.	4	6	.20	.80	.16
22.	7	13	.35	.65	.23
23.	2	18	.10	.90	.09
24.	10	10	.50	.50	.25
25.	9	11	.45	.55	.25
	SUM				3.75

SUMMARY SCORE SHEET

Respondents	Score
1.	15
2.	17
3.	4
4.	14
5.	20
6.	17
7.	14
8.	14
9.	15
10.	18
11.	17

12.	9
13.	12
14.	10
15.	6
16.	18
17.	13
18.	9
19.	16
20	9
TOTAL SCORES	**267** **Mean = 13.35** **Variance = 18.55**

Formula= $$Kr20 = \frac{N}{N-1}\left(\frac{V - \sum pq}{V}\right)$$

$$\frac{\mathbf{25}}{\mathbf{25-1}}\left(\frac{\mathbf{18.55-3.75}}{\mathbf{18.55}}\right)$$

$$\mathbf{1.04} = \left(\frac{\mathbf{14.8}}{\mathbf{18.55}}\right)$$

1.04 x 0.80

Kr20= 0.832

Sexual Health Attitude Questionnaire Using Cronbach's Alpha

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded[a]	0	.0
	Total	20	100.0

Reliability Statistics

Cronbach's Alpha	N of Items
.826	20

Summary

S/N	Scale	Coefficient
1	**Sexual Health Knowledge Test**	0.832
2	**Sexual Health Attitude Questionnaire**	0.826
	Overall	0.829

APPENDIX I

WEEK 1: LESSON PLANS FOR

CONTROL(TRADITIONALTEACHING METHOD) GROUP

SUBJECT: **HEALTH EDUCATION**

CLASS: **SS 2**

AVERAGE AGE OF STUDENTS: **15 YEARS**

DURATION: **40 MUNITES**

TOPIC: FAMILY AND FAMILY LIFE

SPECIFIC OBJECTIVES: At the end of the lesson students should be able to:

1. **Cognitive Domain;**

a. State types of family
b. Enumerate characteristics of family
c. Mention two problems in a family.

2. **Affective Domain;**

a. Appreciate the concept family**.**
b. Recognize problems in the family.

3. **Psychomotor Domain;**

a. Copy down the board summary.

Entry Behaviour: it is expected that students can

- Name 3 members of a family
- Mention 2 functions of family

TOPICS/ CONTENTS DEVELOPMENT	**TEACHER'S PERFORMANCE ACTIVITIES**	**STUDENTS' PERFORMANCE ACTIVITES**	**INSTRUCTIONAL MATERIALS**	**INSTRUCTIONAL APPROACH AND SKLILLS**
STEP 1: Set Induction	Teacher asks students to mention members of their family	Students listen and answer question		Questioning
STEP 2: **FAMILY AND FAMILY LIFE** Meaning of the family Types of family Characteristics of the family Problems in a family	Teacher writes the topic on the board as follows: Define family. State types of family and people that make up the family.	Students listen attentively to the teacher and then put down important points.	Chalk board, Charts, Posters	Explanation, use of examples, use of visuals.
STEP 3:	She defines family as a basic social	Students listen	Chalk board,	Explanations, use of

Meaning of the family	unit. It is a well knitted permanent unit of society and members depend on each other for their welfare. It is a basic unit of society and consists of individuals, male, females, adults, youth, legally or not legally, genetically or not genetically related.	attentively to teacher's explanation and jot down important points.	Charts,	examples, use of visuals.
Step 4: Types of family	She hangs chart showing family types and states types of family as: Nuclear and Extended family. People who make up the nuclear family are father, Mother and their children. Extended family consists of father, mother and children, grandmother, uncles, aunts' cousins' nieces and nephews. etc.	Students listen attentively to teacher's explanation and jot down important points.	Chalk board, Charts.	Explanations, use of examples, use of visuals.
STEP 5: Characteristics of the family	She enumerates and explains characteristics of the family as being **social:** as they share common physical and social environment accurate and protect its member from defamation. **Economic:** as adult members provide for wellbeing of the members. **Reproductive:** Parents reproduce the young and serve the purpose of: continuing the society. Etc.	Students listen attentively to teacher's explanation and jot down important points.	Chalk board.	Explanations, use of examples, use of visuals.
STEP 6: Problems of family	She outlines some problems in the family as: **Financial:** When a family cannot meet its obligations and providing for its members. **Health;** When plague by various health concerns, such as heredity and chronic diseases. **Social:** Conflict within and outside the family and social isolation.	Students listen attentively to teacher's explanation and jot down important points.	Chalk board.	Explanations, use of examples, use of visuals.
STEP 7: Evaluation	Teacher ask the students the following questions for her evaluation Define family Mention 2 types of family Give 2 characteristics of family Mention 2 problems in a family	Students answer questions		Questioning
STEP 8: Instructional closure	Copy note on the board	Students copy notes.		

WEEK 2: LESSON PLANS FOR CONTROL(TRADITIONALTEACHING METHOD) GROUP

SUBJECT: **HEALTH EDUCATION**

CLASS: **SS 2**

AVERAGE AGE OF STUDENTS: **15 YEARS**

DURATION: **40 MUNITES**

TOPIC: SEX EDUCATION

SPECIFIC OBJECTIVES: At the end of the lesson, students should be able to;

1. **Cognitive Domain;**

a. State the scope and objectives of sex education.
b. Enumerate the importance of sex education.
c. Create the meaning of sex education.

2. **Affective Domain;**

a. Appreciate the important of sex education.
b. Believe in the objectives of sex education.

3. **Psychomotor Domain;**

a. Demonstrate out the problems of lack of sex education.
b. Copy down the board summary.

Entry Behaviour: it is expected that the students can

- Define family
- Mention 2 types of family
- Give 2 characteristics of family

TOPICS/ **CONTENTS DEVELOPMENT**	**TEACHERS PERFORMANCE ACTIVITIES**	**STUDENTS PERFORMANCE ACTIVITES**	**INSTRUCTIONAL MATERIALS**	**INSTRUCTIONAL APPROACH AND SKLILLS**
STEP 1: Set induction	Reviews and check previous day's work and reteach if necessary. Teacher asks students to mention their gender and that of their friends	Students listen and answer questions.		Questioning
STEP 2: **SEX EDUCATION** Meaning of sex education Scope and objectives of sex education Problems of lack of sex education	Teachers writes the topic on the board: Defines sex education. State the scope and objectives of sex education. Enumerates the importance of sex education. Explain problems of lack of sex education.	Students listen attentively to teacher and write down important points.	Chalk board Charts, Posters	Explanations, use of examples, use of visuals.
STEP 3: Meaning of sex education	She defines sex education as a process whereby knowledge is imparted to a group of young ones and which takes into account the development, growth; the anatomy and physiology of the human reproductive system and changes	Students listen attentively to teacher and write down important points.	Chalk board	Explanations, use of examples, use of visuals.

	that occur from youth all through stages of adulthood. The process of acquiring knowledge and forming attitudes and belief about sex, sexual identity, relationship and intimacy, Explains the meaning as all about developing young people's skills so that they make informed choices about their sexual behaviour, and feel confident and competent about acting on these choices.			
STEP 4: Scope and objectives of sex education	She states the scope of sex education to consist of: Human growth and development, Relationship, Life skill, Sexual attitude and behaviour, Sexual health, Society and culture. And objectives of sex education as: To increase knowledge and understanding; To explain and clarify feelings, values and attitudes; To develop or strengthen skills; and To promote and sustain risk-reducing behaviour.	Students listen attentively to teacher and write down important points.	Chalk board	Explanations, use of examples, use of visuals.
STEP 5: Importance of sex education	She enumerates the importance of sex education as: To reduce misinformation; increase correct knowledge; clarify and strengthen positive values and attitude; increase skills to make informed decision and act upon them; To improve perceptions about peer groups and social norms; and To increase communication with parents or other trusted adults	Students listen attentively to teacher and write down important points.	Chalk board	Explanations, use of examples.
STEP 6; Problem of lack of sex education	She mentions and explain the problems of lack of sex education as: Human right abuses, risky sexual behaviour which could lead to STIs, unwanted pregnancies, illegal abortion, sepsis, death, school dropout and	Students listen attentively to teacher and write down important points.	Chalk board	Explanations, use of examples, use of visuals.

	juvenile delinquent behaviour.			
STEP 7; Evaluation	Teacher asks these questions for her evaluation State the scope of sex education List 3 importance of sex education Mention 3 problems of lack of sex education.	Students answer questions.		Questioning
STEP 8; Instructional closure	Copy note On chalk board.	Students copy notes.		

WEEK 3: LESSON PLANS FOR CONTROL (TRADITIONAL TEACHING METHOD) GROUP

SUBJECT: **HEALTH EDUCATION**

CLASS: **SS 2**

AVERAGE AGE OF STUDENTS: **15 YEARS**

DURATION: **40 MUNITES**

TOPIC: REPRODUCTIVE SYSTEM, PUBERTY AND ADOLESCENTS

SPECIFIC OBJECTIVES: At the end of the lesson, students should be able to;

1. **Cognitive Domain;**
   a. State characteristics of Puberty and adolescents.
   b. State the problems of adolescents.
   c. Enumerate and describe parts of the male and female reproductive system.
   d. State the function of the male and female reproductive systems.

   Outline sex hormones.

2. **Affective Domain;**
   a. Appreciate the characteristics of Puberty and adolescents.
   b. Realise that they are already adolescents.
3. **Psychomotor Domain;**
   a. Draw and label parts of the male and female reproductive system.
   b. Copy down the board summary.

Entry Behaviour: it is expected that the students can

- State the meaning of sex education.
- List at least three importance of sex education.

TOPICS/ CONTENTS DEVELOPMENT	TEACHERS PERFORMANCE ACTIVITIES	STUDENTS PERFORMANCE ACTIVITES	INSTRUCTIONAL MATERIALS	INSTRUCTIONAL APPROACHES AND SKLILLS

STEP 1: Set induction	Reviews and check previous day's work and reteach if necessary. Teacher asks students to describe an adolescent	Students listen and answer questions.	.	Questioning
STEP 2: **REPRODUCTIVE SYSTEM, PUBERTY AND ADOLESCENTS** Meaning reproduction puberty and adolescents Characteristics of adolescents Problems of adolescents Structure and functions of males and female reproductive system Sex hormones	Teacher writes topic on chalk board as: Define reproduction, puberty and adolescent Analyze the characteristics of Puberty and adolescent Outlines and Explain problems of adolescents Hang charts of diagrams of male and female reproductive system Explain the functions of male and female reproductive system. Enumerate and describe parts of the male and female reproductive system Outline sex hormones	Students listen attentively to teacher and put down important points and make sketches and label diagrams in their notes.	Chalk Board, Charts, Posters	Explanations, use of examples, use of visuals.
STEP 3: Meaning of Reproduction, Puberty and Adolescent	The teacher describes Reproduction as a process by which mammal produce their young ones. Puberty is a period of development of sexual characteristics in young persons. Adolescents are young person between ages 10-19 years. It is a period of transition from childhood to adulthood.	Students listen attentively to teacher and write down important points.	Chalk board	Explanations, use of examples.
STEP 4: Characteristics of Puberty and Adolescent	She explains that characteristics of Puberty and adolescents as: **Boys:** Development of hairs at pubic areas, face, chest & armpit Muscles and penis increase in sizes Voice becomes coarse Production of sperm starts Feeling towards opposite sex **Girls:** Development of breast, pelvis and hip Hairs at pubic area & armpit	Students listen attentively to teacher and write down important points.	Chalk board	Explanations, use of examples.

	Ovulation and menstruation starts Feeling towards opposite sex.			
STEP 5: Problems of adolescents	She outlines problems of adolescent as: Peer pressure Experimentation Delinquency	Students listen attentively to teacher and write down important points.	Chalk board	Explanations, use of examples.
STEP 6: Structure and functions of male and female reproductive system.	Teacher hangs charts of diagrams of male and female reproductive system, showing the parts: mentions and she describes the parts as follows: **Male:**Testes, vas efferentia, Vas deferens, penis, glands etc. **Testes:** There are 2 testes, oval shaped and in a sac scrotum hanging outside the body also act as thermoregulatory. Each testis consists of seminiferous tubules (Sperm tubeless) (produce sperm) and interstitial cells (produce testosorone) **Vas effrenttia**: collect sperm produced from sperm tubule to epidymis where sperm is stored temporary. Mature sperm pass through **Vas deferen**s or sperm duct to join urethra. **Penis** is organ through which urethra run and **Glans**is the enlarged end which has erectile/spongy tissues stimulated by sexual urge: **Glands Prostate gland: -** below the bladder: **Cowper's gland: - below prostrate seminal vesicles: -a** sac that opens into the vas deferens. The 3 glands secrete seminal fluid in which the sperm swim. They activate, lubricate and feed sperm. **NOTE**: seminar fluid + sperm = **SEMEN** **Female:** Ovaries, Fallopian tubes (Oviduct), uterus, vagina, vulva. **Ovaries:** Consists of 2 oval shaped each at either side of abdominal cavity, held in place by ligament and contain several undeveloped eggs or ova. At puberty the ovaries releases egg every month alternating. About 13 eggs are released early. At about age 45-55 years, the ovaries stop producing eggs at **MENOPAUSE.** The undeveloped eggs degenerate and are absorbed in the system.	Students listen attentively to teacher and write down important points and make sketches and label diagrams in their notes.	Chalk Board, Charts, Posters.	Explanations, use of examples, use of visuals.

	Ovaries produce and release mature eggs, produce Oestrogen, progesterone, Progesterone, **Fallopian Tubes (Oviduct**): is funnel shaped tube of about 9-13cm and is connected the ovaries that lie close to them. It has cilia which propel the eggsto it and the fertilized zygote into theuterus: is a hollow muscular organ, about 8cm wide long and 5cm wide. Has 2 fallopian tubes entering it from above and ends on the cervix. The inner lining of the cervix. The inner lining is the **ENDOMERIUM** highly supplied with blood and food to nourish the foetus. It hourses the foetus for 9 months. **Vagina:** it starts from the cervix to the outside. It is an elastic muscular tube of about 10-14cm. it serves as a birth canal, menstruation is through there and sperm is deposited there. Outline the functions: **Male:** Formation of sperm for fertilization Production of male sex hormones Introduction of sperm into the vigina with the help of penis **Female:** Produce eggs (ova) for fertilization Prepares the uterus to receive the fertilized egg. Receive penis during sexual intercourse Provide food and protection for foetus throughout gestation Expel mature foetus at partition Expel unfertilized eggs and other materials during menstruation Provides female sex hormones to maintain menstrual cycle Stop egg production at old age Provide milk for baby feeding after			

	birth.			
STEP 7: Problems of male and females reproductive system	She enumerates the problems of male and female reproductive system as: Infertility STIs	Students listen attentively to teacher and write down important points.	Chalk board	Explanations, use of examples.
STEP 8: Sex hormones	She outlines different sex hormones as; **Male:** testosterone, aldosterone, dihydroxysterone **Female:** Estrogen, progesterone	Explanations, use of examples.	Chalk board	Explanations, use of examples.
STEP 9: Evaluation	Teacher ask student the following question for her evaluation Define reproduction, puberty and adolescents State 3 characteristics of puberty and adolescents Mention 3 problems of adolescent List 5 parts of male and female reproductive system respectively Mention 2 problems of male and female reproductive system each Mention 2 sex hormones	Students answer questions.		Questioning
STEP 10: Instructional closure	Copy note on chalk board.	Students copy notes		

WEEK 4: LESSON PLANS FOR CONTROL (TRADITIONAL TEACHING METHOD) GROUP

SUBJECT: **HEALTH EDUCATION**

CLASS: **SS 2**

AVERAGE AGE OF STUDENTS: **15 YEARS**

DURATION: **40 MUNITES**

TOPIC: FAMILY PLANNIG AND SAFE MOTHERHOOD

SPECIFIC OBJECTIVES: At the end of the lesson, students should be able to:

1. **Cognitive Domain;**
   a. State at least one benefit of family planning
   b. State three sources of family planning services in the community
   c. Differentiate between family planning and safe motherhood
2. **Affective Domain;**

a. Acknowledge family planning services in the community.

b. Appreciate family planning

3. **Psychomotor Domain;**

a. Draw a picture of healthy and unhealthy mother.

b. Copy down the board summary.

Entry Behaviour: it is expected that students can

- Define reproduction, puberty and adolescents
- State 3 characteristics of puberty and adolescents

TOPICS/ CONTENTS DEVELOPMENT	**TEACHERS PERFORMANCE ACTIVITIES**	**STUDENTS PERFORMANCE ACTIVITES**	**INSTRUCTIONAL MATERIALS**	**INSTRUCTIONAL APPROACHES AND SKLILLS**
STEP 1: Set Induction	Reviews and check previous day's work and reteach if necessary. Teacher asks student to mention the numbers of siblings they have	Students listen and answer questions. .		Questioning
STEP 2: **FAMILY PLANNING AND SAFE MOTHERHOOD** Meaning of family planning Need for family planning Sources of family planning services Defines and explain safe motherhood	Teachers writes topic on the chalk board as follows: What is family planning? Analyze at least one benefits of family planning Outlines some problems in the family	Students listen attentively to teacher.	Chalk Board,.	Explanation
STEP 3: Meaning of family planning	She defines Family planning as a method adopted by couple to control number of children they have and can cater for and the right time to have them. Family planning allows individuals and couples to anticipate and attain their desired no of children and the spacing and timing of the birth. The meaning of family planning is having a child by choice and not by chance	Students listen attentively to teacher and write down important points.	Chalk board	Explanation, use of examples.
STEP 4: Benefits of family planning	She mentions the benefits of family planning as: To prevent unwanted pregnancy and avoid dangers of illegal abortion	Students listen attentively to teacher and write down important	Chalk board	Explanation, use of examples.

	Ensure good health and quality education for children Reduce maternal death due to many and frequent pregnancies Eliminate cases of abandoned babies prevent population explosion Provide social order as it helps government to be able to provide for its citizens in a palmed population	points.		
STEP 5: Sources of family planning services	She outlines sources as: Health facilities. Eg. Hospital health center, health clinics, churches, mosques. Social/women centers	Students listen attentively to teacher and write down important points.	Chalk board	Explanation, use of examples.
STEP 6: Safe motherhood, difference between family planning and safe motherhood	She defines safe motherhood as: Safe motherhood is an initiative aimed at making pregnancy safer and reduction in mortalities and morbidities as a result of pregnancy. This could be achieved when a women have more control of their lives. These could be achieved by ensuring assess to: Safe water, culturally appropriate family planning services, advice, method and promotion of free prenatal care and services. It calls for all women to have access to a skill attendant at birth. Focuses on improving socio-political and legal status of women. Increasing their access to wealth and ending all forma of gender discrimination especially on issues of education and access to health care. Difference between family planning and safe motherhood are: FP is an aspect of SMI. SMI is much more than FP and provide the stand to ensure that women are empowered to access available services	Students listen attentively to teacher and write down important points.	Chalk board	Explanation, use of examples.
STEP 7: Evaluation	Teachers asks student the following questions for her evaluation	Students listen and answer questions.		Questioning

	Define family planning State 2 benefits of family planning List three sources of family planning in the community Define safe motherhood Mention 1 difference between family planning and safe motherhood			
STEP 8: Instructional closure	Copy note on chalk board and write out the topic of next week as: family planning methods and techniques.	Student copy notes.		

WEEK 5: LESSON PLANS FOR CONTROL (TRADITIONAL TEACHING METHOD) GROUP

SUBJECT: **HEALTH EDUCATION**

CLASS: **SS 2**

AVERAGE AGE OF STUDENTS: **15 YEARS**

DURATION: **40 MUNITES**

TOPIC: FAMILY PLANNIG METHODS AND TECHNIQUES

SPECIFIC OBJECTIVES: At the end of the lesson, students should be able to;

1. **Cognitive Domain;**
   a. Mention the methods of family planning for male and females
   b. Enumerate advantages, disadvantages and relative reliability of different family planning methods
   c. Differentiate between natural and artificial family methods
2. **Affective Domain;**
   a. Appreciate the use of contraception.
   b. Acknowledge advantages, disadvantages and relative reliability of different family planning methods.
3. **Psychomotor Domain;**
   a. Copy down the board summary.

Entry Behaviour: it is expected that students can

- Explain the meaning of family planning
- List three sources of family planning in the community

TOPICS/ CONTENTS DEVELOPMENT	TEACHERS PERFORMANCE ACTIVITIES	STUDENTS PERFORMANCE ACTIVITES	INSTRUCTIONAL MATERIALS	INSTRUCTIONAL APPROACHES AND SKLILLS
STEP 1:	Reviews and check previous day's work	Students listen and		Questioning

Set Induction	and reteach if necessary. Teacher asks student to mention family planning methods they know	answer questions.		
STEP 2: **FAMILY PLANNING METHODS AND TECHNIQUES** Meaning of family planning Examples of different methods if family planning methods in males and females Meaning of contraceptives advantages and disadvantage and their relative reliability	Teacher writes topic on the chalk board: Ouline the different methods of family planning Explains methods of family planning for males and females Define contraception Analyze the advantages and disadvantages of different family planning methods and their relative reliability Explain and show students charts and models of different family planning methods.\ Mentions the difference between natural and artificial family planning methods	Students listen attentively to teacher and put down some points.	Chalk Board, Charts, Posters, Model	Explanation
STEP 3: Method of family planning	She states two main classes of family planning as: Natural and Artificial (Modern) Methods. She outlines **Natural:** Abstinence from sex Breast feeding Withdrawal Basal body temperature Billings ovulation Calendar or rhythm **Artificial/Modern:** Oral pills Injectable Norplant Condom	Students listen attentively to teacher's explanations and put down some points.	Chalk board	Explanation, use of examples.

	Diaphragm Intra uterine device Spermicidal cream Sterilization			
STEP 4: Examples of different methods of family planning in males and females	She explains examples of different family planning in males and females. She hangs charts and show students models of the methods **Natural:** **Abstinence from sex:** having sex only when pregnancy is desired by couple **Breast feeding:** used during delay in return of fertility when breast feeding, methods not reliable **Withdrawal:** removal of sperm from virginal before ejaculation. **Basal body temperature:** rise in above normal temperature during ovulation, no sex is avoided during raised temperature. **Cervical muscus/Billings ovulation:** thin slippery mucous that do not break on stretching when placed between two fingers is ovulation so sex is avoided if pregnancy is no desired. **Calendar or rhythm:** Ovulation period is calculated based on assumption that ovulation occur 14 days before the next menstruation. Sperm can live for 2 -3 days; Ovum, can live for 24 hours, so sex is avioded7 days before and 7 days after. **Artificial/Modern** **Oral pills:** Involves a woman talking oral pills daily to prevent ovulation **Injectables:** Involves injecting a woman with hormone every 2-3 months and is repeated till pregnancy is desired **Norplant:**	Students listen attentively to teacher's explanations and put down some points.	Chalk Board, Charts, Posters, Model	Explanation, use of examples.

	It a drug implanted under the skin, into the arm of a woman to prevent pregnancy. It last for 5 years but could be removed whenever pregnancy is desired. **Condom:** it is a thin latex shealth For males it is worn on an erect pennis For females: it is filted into the vigina& cervix It acts as a barrier between the sperm and ovum **Diaphragm:** it is thin rounded robber sheath used to cover the vigna to prevent contact with sperm during intercourse. It could be removed after 8 hours. **Intra uterine device:** it is a thin small coiled pieces of plastic or metal which is inserted by a Doctor into the uterus to stop fertilization and implementation. **Spermicidal cream** applied seep in vigina before sex, kill sperm. **Sterilization:** irreversible, surgical typing or cutting of sperm duct or oviduct.			
STEP 5: Meaning of contraceptives Advantages and Disadvantages and their relative reliability	She explains that: contraception means measures to prevent occurrence of pregnancy. That it includes use of hormones and barriers; **Advantages of Contraception:** Effective against pregnancy Makes menstrual periods more regular and lighter Decreases menstrual cramps and acene Makes women less likely to get ovarian a uterine cancer. **Disadvantages of contraception:** Artificial so may have side effects Doesn't protect against STIs. May fail when not properly and	Students listen attentively to teacher's explanations and put down some points.	Chalk board	Explanation, use of examples.

	consistently used Cost money Need a prescription **Relative reliability:** Ranges from 79-98% if uses strictly as should. **Condoms** has limited protect against STIs when properly and consistently used			
STEP 6: Enumerate advantages and disadvantages and relative reliability of different family planning methods	She enumerates advantages as: **Advantage of Natural F P:** Natural Costs nothing No side effects **Disadvantages of Natural FP:** Need discipline and commitment of couple. Doesn't protect against STIs. May fail due to miscalculation **Relative reliability:** Ranges from 72-98% if uses strictly as should	Students listen attentively to teacher's explanations and put down some points.	Chalk board	Explanation, use of examples.
STEP 7: Differentiate between natural and artificial family method	She states the differences as: **Natural F P:** Natural and do not need any interference with nature. No side effect, no complications. **Artificial/Modern F P:** Need expert advice and prescription for use May involve minor surgery and need for periodic medical help.	Students listen attentively to teacher's explanations and put down some points.	Chalk board	Explanation, use of examples.
STEP 8: Evaluation	Teachers asks the student the following questions for her evaluation Mention two main family planning method	Students answer questions		Questioning

	Outline types of family planning methods for both males and females respectively Define contraceptive List 2 advantages and disadvantages of 2 family planning methods State their relative reliability Give 1 difference between natural and artificial family planning			
STEP 9: Instructional closure	Copy note on chalk board.	Students copy notes.		

WEEK 6: LESSON PLANS FOR CONTROL (TRADITIONAL TEACHING METHOD) GROUP

SUBJECT: **HEALTH EDUCATION**

CLASS: **SS 2**

AVERAGE AGE OF STUDENTS: **15 YEARS**

DURATION: **40 MUNITES**

TOPIC: SEXUALLY TRANSMITTED INFECTIONS AND ABSTINENCE

SPECIFIC OBJECTIVES: At the end of the lesson, students should be able to

1. Cognitive Domain;
   a. Give examples of STI's.
   b. Enumerate signs and symptoms of STI.
   c. List methods of preventing STI's.

2. Affective Domain;
   a. Acknowledge how boys and girls can abstain from premature sex.

3. Psychomotor Domain;
   a. Demonstrate a role play on how one can abstain from premature sex.
   b. Copy down notes.

Entry Behaviour: it is expected that students can

- Mention two main family planning method
- Outline types of family planning methods for both males and females respectively

TOPICS/ **CONTENTS DEVELOPMENT**	**TEACHERS PERFORMANCE ACTIVITIES**	**STUDENTS PERFORMANCE ACTIVITES**	**INSTRUCTIONAL MATERIALS**	**INSTRUCTIONAL APPROACHES AND SKLILLS**
STEP 1: Set Induction	Reviews and check previous day's work and reteach if necessary.	Students listen and answer questions.		Questioning.

	Teacher ask students if they have seen someone suffering of any STI			
STEP 2: **SEXUALLY TRANSMITTED INFECTIONS AND ABSTINENCE** Meaning of sexually transmitted diseases/infections Examples of STI's HIV/AIDs, Syphilis, Gonorrhoea, Candidiasis, Human Papiloma Virus etc. Signs and symptoms, and methods of prevention of STI's Meaning of abstinence How to abstain	Teacher writes topic on the chalk board as: Defines sexually transmitted infections Give examples of STI's List signs and symptoms of different STI's Mention the methods of preventing STI's What is the meaning of abstinence? Analyze and give example of how boys and girls can obtain from premarital sex.	Students listen attentively to teacher's explanations and put down some points.	Chalk Board, Charts, Posters, Model	Explanation, use of examples.
STEP 3: Meaning of sexually transmitted disease/infections	She explains as follows: Sexually transmitted infections (STIs) are group of infections caused by microorganisms that are transmitted through sexual contacts. Sexually transmitted diseases (STDs) are the diseases suffered due to infections by STIs.	Students listen attentively to teacher's explanations and put down some points.	Chalk board	Explanation, use of examples.
STEP 4: Examples of STI's HIV/AIDs, syphilis, Gonorrhoea, Candidiasis, Human Papilloma Virus etc.	She enumerates examples of STIs as: HIV/AIDs, Syphilis, Gonorrhoea, candidiasis, Human Papilloma Virus infection, Genital warts, trichomoniasis, Herpes Genitalis	Students listen attentively to teacher's explanations and put down some points.	Chalk board,	Explanation, use of examples.
STEP 5: Signs and symptoms, and methods of prevention STI's	She hangs posters and enumerate the signs and symptoms of some STIs: **HIV/AIDs:** **HIV:** is the infective state only **AIDs:** Is the diseases state Symptoms can appear anytime ranging from several months to several years after exposure: and	Students listen attentively to teacher's explanations and put down some points and sketches in their note books.	Chalk board, poster	Explanation, use of examples, use of visual aids.

	they are Lowered immunity to diseases. Persistent heavy night sweats, extreme tiredness, severe Wight loss, enlarged lymph glands on the neck, groin, or axillae, persistent diarrhea, skin rashes, blurred vision or chronic headache, harsh dry cough, hick gray-white coating on the tongue and throat. **Other modes of HIV Transmission:** contact with body fluids by sharing body piercing instrument (e.g. razor, tattoo, barber clipper), blood transfusion, mother to child through breast milk and during birth. **Gonorrhoea:** **Males:** painful urination, watery whitish discharge, pain, frequent urination. **Females**: vaginal discharge, pain frequent urination. **Syphilis:** **Males:** chancre on glans penis, skin eruptions, low grade fever, inflammation of lymph glands **Females:** same for males but chancre is on cervix or other genital areas. **Candidiasis:** **Male:** itching, irritation, discharge, plaque of cheesy materials under foreskin **Female:** red excoriated vulva, intense itching of vaginal and vulvar tissues, thick, white cheesy discharge **Human papilloma virus:** **Male:** cause genital warts, lesions on or beneath the foreskin external meatus or glans penis. (hard and yellow gray on dry skin area, pink or read and soft on moist area) **Female:**			

	Lesions on vaginal opening perineum, lip or vagina, inner walls of vagina, cervix, some strain cause cervical cancer. **Trichomoniasis:** **Male:** Slight itching moisture on top of penis, slight early morning urethral discharge; may be asymptomatic **Female**: Itching and redness of vulva and skin inside thighs, copious watery, frothy vaginal discharge. **Method of prevention of STI"** Abstinence is the key. Correct and consistent condom use has limited protection as it is not 100% safe. All other FP methods do not protect against STIs.			
STEP 6: Meaning of abstinence How to abstain	She explains abstinence as a process of avoiding sexual contact or experience. It is restraining oneself from having sex. No oral, anal or vaginal sex including any sexual/genital contact that may involve the exchange of bodily fluids and could result in a pregnancy or STD/STI. Ways to abstain are: **Being assertive**, by telling whoever may approach you **NO**and meaning it to be **NO** in your actions. She threw more light on assertiveness. Setting your priorities in life right and sticking to them. Avoiding exposing yourself to risk by staying away from people that makes advances to you or feed your ears with myths about sex Avoiding secluded areas and always move around in groups.	Students listen attentively to teacher's explanations and put down some points.	Chalk board,	Explanation, use of examples.

	Alerting parents, teachers or guardian of anyone making undue advances to you. Get correct health information from your parents, teachers or guardian or qualified health care provider.			
STEP 7: Evaluation	Teacher ask the student the following questions for her evaluation Defines sexually transmitted infection. Enumerate 4 types of STI's List 2 sign and 2 symptoms of 2 types of ST's Mention 2 methods of preventing STI's Define abstinence Describe how boys and girls can abstain from premarital sex	Students listen and answer questions.		Questioning
STEP 8: Instructional closure	Copy note on chalk board and ask student to study what they have done	Student copy notes		

Appendix J

SPSS Output of Analysis

Report

Group	Knowledge Test Pretest			Knowledge Test Posttest		
	Mean	N	Std. Deviation	Mean	N	Std. Deviation
Cooperative Learning Method	59.77	65	14.02	95.26	65	3.87
Control Method	64.00	75	11.72	68.21	75	11.89
Total	62.04	140	12.97	80.77	140	16.29

Report

Gender	Group	Knowledge Test Pretest			Knowledge Test Posttest		
		Mean	N	Std. Deviation	Mean	N	Std. Deviation
Male	Cooperative Learning Method	57.56	41	13.53	94.83	41	4.02
	Control Method	63.55	49	9.94	67.27	49	10.54
	Total	60.82	90	12.03	79.82	90	16.06
Female	Cooperative Learning Method	63.54	24	14.32	96.00	24	3.54
	Control Method	64.85	26	14.69	70.00	26	14.14
	Total	64.22	50	14.38	82.48	50	16.74

Report

Location	Group	Knowledge Test Pretest			Knowledge Test Posttest		
		Mean	N	Std. Deviation	Mean	N	Std. Deviation
Urban	Cooperative Learning Method	62.77	39	13.24	95.69	39	4.14
	Control Method	65.36	53	11.60	69.58	53	12.06
	Total	64.26	92	12.32	80.65	92	16.08
Rural	Cooperative Learning Method	55.27	26	14.20	94.62	26	3.38
	Control Method	60.73	22	11.62	64.91	22	11.04
	Total	57.77	48	13.24	81.00	48	16.86

Report

Group	Sexual Health Attitude Pretest			Sexual Health Attitude Posttest		
	Mean	N	Std. Deviation	Mean	N	Std. Deviation
Cooperative Learning Method	58.72	65	8.28	68.83	65	8.04
Control Method	58.99	75	6.69	66.32	75	6.26
Total	58.86	140	7.45	67.49	140	7.23

Report

Gender	Group	Sexual Health Attitude Pretest			Sexual Health Attitude Posttest		
		Mean	N	Std. Deviation	Mean	N	Std. Deviation
Male	Cooperative Learning Method	59.00	41	7.97	68.37	41	8.64
	Control Method	60.31	49	7.04	66.51	49	6.26
	Total	59.71	90	7.46	67.36	90	7.45
Female	Cooperative Learning Method	58.25	24	8.95	69.63	24	6.99
	Control Method	56.50	26	5.25	65.96	26	6.38
	Total	57.34	50	7.24	67.72	50	6.86

Report

Location	Group	Sexual Health Attitude Pretest			Sexual Health Attitude Posttest		
		Mean	N	Std. Deviation	Mean	N	Std. Deviation
Urban	Cooperative Learning Method	57.62	39	6.62	68.54	39	7.93
	Control Method	59.13	53	7.06	66.75	53	6.28
	Total	58.49	92	6.88	67.51	92	7.04
Rural	Cooperative Learning Method	60.38	26	10.21	69.27	26	8.34
	Control Method	58.64	22	5.85	65.27	22	6.25
	Total	59.58	48	8.46	67.44	48	7.65

Between-Subjects Factors

	Value Label	N

Group	1.00	Cooperative Learning Method	65
	2.00	Control Method	75

Tests of Between-Subjects Effects

Dependent Variable: Knowledge Test Posttest

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	28929.983[a]	2	14464.991	248.873	.000
Intercept	18917.096	1	18917.096	325.473	.000
Knowledge Test Pretest	3454.438	1	3454.438	59.434	.000
Group	27911.030	1	27911.030	480.215	.000
Error	7962.703	137	58.122		
Total	950256.000	140			
Corrected Total	36892.686	139			

a. R Squared = .784 (Adjusted R Squared = .781)

Between-Subjects Factors

		Value Label	N
Gender	1.00	Male	90
	2.00	Female	50

Tests of Between-Subjects Effects

Dependent Variable: Knowledge_Test_Post

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1142.936[a]	2	571.468	2.190	.116
Intercept	26538.332	1	26538.332	101.700	.000
Knowledge_Test_Pre	915.886	1	915.886	3.510	.063
Gender	123.983	1	123.983	.475	.492
Error	35749.750	137	260.947		
Total	950256.000	140			
Corrected Total	36892.686	139			

a. R Squared = .031 (Adjusted R Squared = .017)

Between-Subjects Factors

		Value Label	N
Locaion	1.00	Urban	92
	2.00	Rural	48

Tests of Between-Subjects Effects

Dependent Variable: Knowledge_Test_Post

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	1115.937[a]	2	557.969	2.137	.122
Intercept	25480.790	1	25480.790	97.574	.000
Knowledge_Test_Pre	1112.121	1	1112.121	4.259	.041
Locaion	96.985	1	96.985	.371	.543
Error	35776.748	137	261.144		
Total	950256.000	140			
Corrected Total	36892.686	139			

a. R Squared = .030 (Adjusted R Squared = .016)

Between-Subjects Factors

		Value Label	N
Group	1.00	Co-operative Learning Approach	65
	2.00	Conventional Method	75

Tests of Between-Subjects Effects

Dependent Variable: Sexual_Health_Attitude_Post

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	2026.678[a]	2	1013.339	26.543	.000
Intercept	3341.673	1	3341.673	87.530	.000
Sexual Health Attitude Pretest	1807.165	1	1807.165	47.336	.000
Group	242.327	1	242.327	6.347	.013
Error	5230.293	137	38.177		
Total	644862.000	140			
Corrected Total	7256.971	139			

a. R Squared = .279 (Adjusted R Squared = .269)

Between-Subjects Factors

		Value Label	N
Gender	1.00	Male	90
	2.00	Female	50

Tests of Between-Subjects Effects

Dependent Variable: Sexual_Health_Attitude_Post

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	1858.942[a]	2	929.471	23.590	.000
Intercept	3199.289	1	3199.289	81.197	.000
Sexual_Health_Attitude_Pre	1854.673	1	1854.673	47.071	.000
Gender	74.591	1	74.591	1.893	.171
Error	5398.029	137	39.402		
Total	644862.000	140			
Corrected Total	7256.971	139			

a. R Squared = .256 (Adjusted R Squared = .245)

Between-Subjects Factors

		Value Label	N
Locaion	1.00	Urban	92
	2.00	Rural	48

Tests of Between-Subjects Effects

Dependent Variable: Sexual_Health_Attitude_Post

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	1795.758[a]	2	897.879	22.524	.000
Intercept	3273.683	1	3273.683	82.124	.000
Sexual_Health_Attitude_Pre	1795.588	1	1795.588	45.044	.000
Locaion	11.407	1	11.407	.286	.594
Error	5461.214	137	39.863		
Total	644862.000	140			
Corrected Total	7256.971	139			

a. R Squared = .247 (Adjusted R Squared = .236)

Between-Subjects Factors

		Value Label	N
Gender	1.00	Male	90
	2.00	Female	50
Location	1.00	Urban	92
	2.00	Rural	48
Group	1.00	Co-operative Learning Approach	65
	2.00	Conventional Method	75

Tests of Between-Subjects Effects

Dependent Variable: Knowledge Test_Post

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	25947.488[a]	7	3706.784	44.704	.000
Intercept	663652.765	1	663652.765	8003.708	.000
Gender	29.106	1	29.106	.351	.555
Location	232.532	1	232.532	2.804	.096
Group	19490.809	1	19490.809	235.061	.000
Gender * location * Group	137.467	4	34.367	.414	.798
Error	10945.198	132	82.918		
Total	950256.000	140			
Corrected Total	36892.686	139			

a. R Squared = .703 (Adjusted R Squared = .688)

Between-Subjects Factors

		Value Label	N
Gender	1.00	Male	90
	2.00	Female	50
Location	1.00	Urban	92
	2.00	Rural	48
Group	1.00	Co-operative Learning Approach	65
	2.00	Conventional Method	75

Tests of Between-Subjects Effects

Dependent Variable: Sexual Health Attitude Post

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	415.458[a]	7	59.351	1.145	.339
Intercept	461672.842	1	461672.842	8907.505	.000
Gender	37.399	1	37.399	.722	.397
location	6.241	1	6.241	.120	.729
Group	195.428	1	195.428	3.771	.054
Gender * location * Group	189.654	4	47.413	.915	.457
Error	6841.514	132	51.830		
Total	644862.000	140			
Corrected Total	7256.971	139			

a. R Squared = .057 (Adjusted R Squared = .007)