UNIJERPS
Unizik Journal of Educational Research and Policy Studies VOL.7;
https://unijerps.org
2021 Impact Factor: 5.641; 2020 Impact Factor: 5.355. January-June, 2021
Indexing and Impact Factor URL: http://sjifactor.com/passport.php?id=21363

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EFFECT OF LEARNER-CENTRED METHOD OF TEACHING ON SEXUAL HEALTH KNOWLEDGE AND ATTITUDES OF ADOLESCENTS IN ANAMBRA STATE SECONDARY SCHOOLS

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ABSRACT
This study is on effects of learner-centred method of teaching(cooperative learning method) on sexual health knowledge and attitudes of adolescents in Anambra State secondary schools.The inability of adolescents to acquire adequate knowledge regarding sexual health could be due to the method of teaching used which are mainly techer-centred methods such as lecture, discussion, Socratic, demonstration teaching methods among others. Therefore, students' centered method is recommended in today's teaching and learning and cooperative learning method is one of them. The main purpose of the study was to determine the mean scores of adolescents in Anambra State secondary schools exposed to cooperative learning method on sexual health knowledge and attitudes and by comparing the scores with that of control group. The study was guided by two research questions and two hypotheses. Quasi experimental research design was used and the population consisted of 20,342 senior secondary two (SS2) students in Anambra State.One hundred and fourty SS2 students comprised sample for the study using simple random sampling technique without replacement.Four secondary schools in Anambra state (two urban and two rural schools) were sampled. Then one intact class was sampled from each of the sampled schools using simple random sampling technique without replacement. One school from urban and one school from rural areas were exposed with cooperative learning method and the other two schools were used as control group for six weeks. The instruments for data collection were Sexual Health Knowledge Test (SHKT) and Sexual Health Attitudes Questionnaire (SHAQ). Analyses of data were carried out


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using Mean, Standard Deviation and Analysis of Covariance (ANCOVA). The findings of the study among others revealed that cooperative learning method improved sexual health knowledge and attitudes of the subjects as depicted by the positive gained mean scores recorded more than the control group. Rural adolescents exposed to cooperative learning method had better sexual health knowledge gained mean score ($\bar{X}$ =39.35) and their standard deviation showed homogeneity of responses than their urban counterparts exposed to the same method ($\bar{X}$ = 32.92). The urban adolescents exposed to cooperative learning method had better sexual health attitude gained mean score ($\bar{X}$ = 10.92) and their standard deviation showed better homogeneity of responses than their rural counterparts exposed to the same method ($\bar{X}$= 8.89). The effect of cooperative learning method on the mean sexual health knowledge and attitudes scores of adolescents in Anambra state secondary schools differ significantly using their post-test mean scores P<0.05. It was recommended among other things that there is need to include cooperative learning method in handling sexual health education in the school curriculum at all levels of education in Nigeria.

Key words: Cooperative learning method, Sexual health knowledge and attitudes and Adolescents.

INTRODUCTION

Sexual health problems among adolescent students in African countries are still on increase and have become an area of interest for global public health researchers aiming to find innovative approaches to promote better healthy sexual outcomes (Hussein et al. 2018). Mbizuo and Zaidi (2010) opine that 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) said that the large relative proportion of adolescent rate of HIV, unplanned pregnancy, maternal mortality and unsafe abortion indicate needs for greater improvement.These health problems could be brought to the lowest minimum through sexual health education.

According to Vanwesenbeeck, Westeneng, De Boer, Reinders, and Van

Zorge (2016), 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 for the whole of Nigeria. The rate of unintended pregnancy and Sexual Transmitted Infection (STI) among adolescents is increasing, becoming a major problem in Nigeria. 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 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 this generation student 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.

Dumus (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 effects 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 in opinion that cooperative learningmethod means a variety of educational approaches focusing on individuals working together to achieve a specific learning outcome.

Different types of co-operative learning methods are being used in teaching different subjects (Massey, 2003). They 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, 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 was on learning together of cooperative learning methods. Here, Students worked in four or five heterogeneous groups within an intact class (Johnson and Johnson in Eskay, Onu, Obiyo&Obidoa 2012). After the group discussion as opined by Eskay, Onu, ObiyoandObidoa, 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 considered to be the one that are mainly 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 such as location could determine sexual health knowledge and attitudes.Nwaorgu et al. (2008) in their study noted that location (urban and rural residence) had a significant effect on students' reproductive health knowledge. Therefore, this moderator variable, 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 method on 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.

According to the researcher's 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 our adolescents (Behrangi&Aghayari, 2004).

According to Mbizuo and Zaidi, (2010), many governments have pursued strategies to address the specific sexual and reproductive needs of adolescents. Even with all these efforts, students still exhibit poor knowledge and attitudes concerning sexual health. For instance, a report was given by Omo-Aghoja, (2014), that 27.4 percent of unintended pregnancy among adolescents in a secondary school ended in abortion in southwestern Nigeria; while in the southeastern part of Nigeria, about 32 percent of the cases of unsafe abortion were among adolescents who had unintended pregnancy (WHO, 2011).WHO also reported that Nigeria records a yearly abortion rate of 25 abortions/1000 women more than a quarter of which are from adolescents resulting from unintended pregnancy.

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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 of adolescents in Anambra state secondary schools.

Research Questions

The following research questions guided the study:

1. 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?
2. 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 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.
2. 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.

METHOD

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 (2012) in Enugu state, Nigeria had been done using this design and it was successful. Therefore, the researcher deemed it best for this study.

Table 1: 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.

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 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 Sate had 261 (co-educational schools = 199 and non co-educational schools =62) governments' owned secondary schools. 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 Techniques

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. The researcher used only co-educational secondary schools from Awka education zone to ensure uniformity in gender disparity.

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). 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 SHAQ comprised twenty (20) attitudinal statements which were equally used to assess sexual health attitude of the students. It was rated on the five points Likert type, 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.

Validation of the Instrument

The face and content validity of the instruments were established through the judgments of three experts. The experts determined the relevance of each item in the test instrument and questionnaire as guided by table of specification on SHKT in line with the purpose, research questions, and hypotheses. They also justified the relevance of the subject matter, clarity and appropriateness of the language.

Reliability of the Instruments

The internal consistency reliability of 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. For the SHAQ, Cronbach's Alpha was used to determine the reliability coefficient and the value obtained was 0.82.

Method of Data Collection

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

Experimental procedure

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. 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. There was also lesson plan prepared for the control group. 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.

Method of Data Analysis

For the SHKT, the test score were total number of question answered correctly, the responses were scored as four marks for each correctly answered question using the SHKT marking scheme/guide. 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.

PRESENTATION AND ANALYSIS OF DATA

Research Question 1: 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?

Table 3: Pre-test and Post-test Mean Sexual Health Knowledge Scores of Urban and Rural Adolescents Exposed to Cooperative Learning Method and those in the Control 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 3, 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 the control group had 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 co-operative learning were greater than their counterparts in the control group.

Research Question 2: 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 learning method and those in the control group?

Table 4: Pre-test and Post-test Mean Sexual Health Attitude Scores of Urban and Rural Adolescents Exposed to Cooperative Learning Method and those in the Control Group.

Source of Variation	Gender	n	Pretest $\overline{X}$	SD	Posttest $\overline{X}$	SD	$\overline{X}$ 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 4, 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 group had 59.13, 66.75, 7.62 and 6.28 as their pre-test, post-test, gained mean and SD scores respectively 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 co-operative learning were greater than those of their counterparts in the control group.

Hypotheses Testing

Table 5: ANCOVA Summary of the Mean of Sexual Health Knowledge Scores of Urban and Rural Adolescents Exposed to Cooperative Learning Method.

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 learning method. F, (1,137) = .371, *P*>0.05. The null hypothesis of no significant difference was therefore accepted.

Table 6: ANCOVA Summary of the Mean of Sexual Health Knowledge Scores of Urban and Rural Adolescents Exposed to Cooperative Learning Method.

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 6, 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 learning method, F, (1,137) = .286, *P*>0.05. The null hypothesis of no significant difference was therefore accepted.

Summary of the Findings

From the analysis, the following findings were made:

1. 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.
2. 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.
3. 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.
4. 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.
5. 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.

Discussion of Findings

Urban adolescents exposed to cooperative learning had a gained mean score of 32.92 in sexual health knowledge and 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 better closeness of responses than their urban counterparts with the gained mean of 32.92 and standard deviation of 4.14 (Table 3). 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 counterparts exposed to the same method. Makata (2012) recorded that students exposed to Socratic questioning and lecture teaching methods from the rural area had higher mean gain scores than those of their counterparts from the urban area exposed to the same methods of teaching.

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 4). 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 recorded sexual health attitudesgained mean score of 27.38 for rural students against 4.55 gained mean scores sexual 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.

Conclusion

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 4). 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 recorded sexual health attitudesgained mean score of 27.38 for rural students against 4.55 gained mean scores sexual 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.

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.

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