GASPRO INTERNATIONAL JOURNAL OF EMINENT SCHOLARS, VOL. 12 NO 2 JUNE 2025, GERMANY. ISSN: 2630-7200 (Hardcopy), 2659-1057 (Online)

COOPERATIVE LEARNING STRATEGY AND PUPILS' ACADEMIC PERFORMANCE IN MATHEMATICS IN ONNA LOCAL GOVERNMENT AREA

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ABSTRACT

This study investigated the effect of cooperative learning strategy and pupils' academic performance in Mathematics in Onna Local Government Area. In order to achieve this purpose, three objectives, three research question and three null hypotheses were formulated to guide the study. Quasi-experimental design was adopted for the study. The design was considered appropriate because intact classes without randomisation were used for the groups. The total population of the study consisted of 1,820 primary three pupils in all the 26 public primary schools in Onna Local Government Area. A sample size of 182 primary three pupils representing 10% of the total population and selected through multi-stage sampling technique was used for the study. The instruments used for data collection was Mathematics Achievement Test (MAT). The instrument validity was determined by validates. Kuder Richardson Formula 20 was used to determine the internal consistency of Mathematics Achievement Test (MAT) which yielded a reliability co-efficient index of 0.75. Mean and standard deviation were used for answering the research questions while ANCOVA was used to test the hypotheses at 0.05 level of significance. The study revealed that there is a significant difference in pupils' academic performance in Mathematics scores when taught cooperative learning strategy and those taught using conventional method of teaching in Onna Local Government Area. Based on the findings of the study, it was recommended among others that teachers should be encouraged to use cooperative instructional strategy in teaching pupils Mathematics concepts

KEYWORDS: Cooperative Learning Strategy, Pupils' Academic and Mathematics

INTRODUCTION

No nation can attain any technological breakthrough without well planned and effective implementation of a mathematics education, since mathematics plays a leading and service role in all aspects of human endeavour. Therefore, mathematics teaching and learning require a lot of space for demonstrations and self-learning activities to make an educated man. Mathematics is a subject designed to equip individuals with the basic mathematical knowledge, skills, values and attitudes essential for proper functioning in the society (Onuoha-Chidiebere, 2013).

Mathematics is a dynamic field of knowledge which has much to offer to science, technology, arts and everyday living. It is a broad and unique field of knowledge that enables individuals to develop the mathematical potentials in them. Ukpebor (2015) observed that "for any individual to participate adequately in the world of changing economy and technology, he/she must

be balanced mathematically". This simply means that for an individual to participate actively and function effectively in any given society, he/she requires the knowledge or skills of Mathematics. Iji (2017) maintained that any country that aspires for national growth in science, industry and technology must not neglect Mathematics.

The Federal Republic of Nigeria, National Policy on Education (FRN, 2013) identified Mathematics as one of the core and compulsory subjects that every child must offer in primary and secondary education levels. This is as a result of multidimensional values of Mathematics in virtually all facets of human development and experiences. Failure on the part of the pupils to acquire mathematical knowledge and skills may hamper the attainment of success in examination, achievement of educational goals as well as advancement in science and technology.

Mathematics is a universal, utilitarian subject that is needed for everyone in their life. It is an integral part of the curriculum throughout the countries in the world. It is an interdisciplinary language and tool that is considered as one of the fundamentals in the formal educational system (Roy, 2011). He further states that mathematics is the study of quantity, structure, space and change. It is as a human endeavor encompasses the mathematics of measurement time, distance and different system of distance measurement that developed throughout the world. Mathematics is a science about well-defined objects and notions which can be analyzed and transformed in different ways using 'mathematical reasoning' to obtain conclusions about which we are certain. It is an essential requirement in every field of intellectual endeavor and human development to cope with the challenges of life (Ihechukwu and Ugwuegbulam, 2016).

The word 'mathematics' comes from the Greek word 'mathema', which means learning, study, science and additionally came to have the narrower and more technical meaning 'mathematical study' even in classical time (Roy, 2011). Mathematics is an important subject with broad applicability to everyday life, yet mathematics is often considered as a difficult subject in schools (Kaur, 2017). As early as the 1st grade, pupils can start displaying negative attitudes towards learning mathematics and gradually develop it in the form of mathematics anxiety (Hornigold, 2015). Moreover, it seems that the school has not given the special attention to classroom delivery and the approaches to teaching and learning of pupils with mathematics learning difficulty (Khing, 2016). Mathematics is considered as the one of the most prominent subjects in school level education due to its importance in day to day function of the people. It has long been recognized as an essential requirement for everyday life and for most occupations. Mathematics is often considered as a difficult subject by many pupils in schools education (Capuno *et al.*, 2019). Feeling mathematics as difficult for pupils affects not only their liking of mathematics but also their perseverance, interest, boredom and self-efficacy beliefs related to mathematics (Gafoor and Kurukkan, 2015).

On the other hand, pupils' performance in mathematics is decreasing gradually as the pupils' moves to the upper grades. The reasons behind such aspects like negative attitudes, mathematics anxiety and decreasing pupils' performance on mathematics may be different prevailing factors. Among these different factors, somebody consider instructional methods of teaching Mathematics. Ali (2012) opined that the most important factor for effective learning to take place in science is an interesting instructional approach. Njoku (2019) maintained that teachers are under intense pressure to cover the curriculum and get students ready for external examinations. This makes teaching of mathematics inadequate as special approach needed for the teaching of difficult mathematics concepts are over looked. Learners therefore find the subject irrelevant to their daily experience and survival needs in their socio-cultural and economic environment. Ezeliora (2023) also attributed students' poor performances in mathematics to poor

instructional approaches involving excessive teacher-talk, copying of notes, rote-learning as encouraged by expository method of instruction.

Poor instructional approach is therefore recognized as a major contributor to poor achievement in mathematics. Nzewi (2020) suggested a shift and going beyond the conventional approaches of teaching Science, Technology and Mathematics, (STM) for better performance and interest in STM education in the primary and secondary schools. Shifting and going beyond the conventional teaching approaches according to Nnaka (2016), implies adopting the innovative approaches to teaching and learning STM. One of such innovative approaches to teaching and learning of mathematics is the cooperative learning strategy which is pupil centered.

Cooperative learning is the deliberate instructional use of small groups of pupils who work together to maximize each other's learning. Cooperative learning is theoretically based on the work of Psychologists like Levi Vygotsky, Jean Piaget, and Jerome Bruner among others who, proposed that children actively construct knowledge in a social context (Conway, 2013). The teacher therefore should create room for cooperation amongst pupils for effective cross-fertilization of ideas and knowledge sharing. No child learns effectively in isolation. The teacher, who adopts the cooperative learning strategy, organizes the pupils in small groups of between four to six members. Each group should be heterogeneous in ability and socio-cultural background; members work jointly through a given instructional assignment until every member successfully understands, and completes the assignment. Most at times one particular pupil is made the head to teach the other pupils and that is where peer teaching come in. The pupils are also rewarded in their groups.

Cooperative learning is a child-centered instructional approach, which is an approach recommended on the National Policy on Education for teaching sciences (Federal Republic of Nigeria, 2013). Researchers have found in different occasions the approach effective in tackling instructional problems, Okebukola (2022) found cooperative learning effective in tackling the problem of large class in Biology. Anaekwe (2018) investigated the effects of student's interaction patterns on cognitive achievement, retention and interest in Chemistry. The investigation found cooperative learning efficacious. The work of Anderson (2023) found that a significant difference in the mathematical achievement of fifth grade students when using cooperative learning strategies as compared to traditional mathematics instruction. Zakaha, Chin and Daud (2020) also discovered cooperative learning methods improve students' achievement in mathematics and attitude towards mathematics.. Similarly, in support of this, Magahed and Mohammed (2024) found cooperative learning enhanced students' social skills and responsibility. The study findings reflected low self-esteem between nursing students. Cooperative learning method is an effective teaching approach improved their self-esteem and it is highly recommended instructional pedagogy prepared students for lifelong learning. Another factor that may influence the teaching and learning of mathematics, which has been widely acknowledged, is gender.

Performance in mathematics could be enhanced if effective instructional approach is adopted in teaching difficult mathematical concepts. Nzewi (2010) believed that there is disparity in performance among boys and girls in mathematics. Nwachukwu, (2018) claimed relative poor and narrow participation of women in Science, Technology and Mathematics. Nzewi, (2020) discussed the nature of science and teaching strategies as factors that negatively influence female participation and performance in science and technology. Also, Nzewi (2020) identified teaching method as one of the causes of sex-related differences in science performance. Boys perform better than the girls when instructional approach adopted in sciences is competitive while girls perform optimally in a cooperative academic environment (Nwachukwu, 2018). In a study, Abiodun and Folaranmi (2017)) discovered that gender was found to have no significant effect on students' achievement in essay writing English. In same vein, Madu and Kasanga (2013)) found that the difference in

performance between male and female students was not significant. Gilbert (2021) found that there is no significant difference in male and female students' achievement when exposed to the same teaching method. Wagbara (2020) also found that gender does not have a significant effect on the mean scores of students exposed to cooperative learning strategy strategy.

It is therefore believed that the use of cooperative learning could reduce the gender gap between male and female pupils achievement in mathematics. As an important subject required for sustainable development and nation building, mathematics should be taught, using effective instructional approach capable of seeking for and maintaining high interest and performance among pupils irrespective of gender. Since the conventional teaching methods persistently used by mathematics teachers (Ezeliora, 2023) cannot permeate the difficult mathematics concepts which manifest in perennial poor pupils achievement, the researcher therefore deemed it necessary to study the effects of cooperative learning strategy and pupils' academic performance in Mathematics in Onna Local Government Area.

STATEMENT OF THE PROBLEM

Poor pupil's performance in mathematics is alarming in spite of the fact that many researchers have been carried out to ameliorate the bad situation. Many instructional approaches have been proffered by psychologists like Brunner, Paget, Gagne, for improved performance in mathematics and other sciences strongly believed that the instructional approach adopted by mathematics teachers in teaching mathematics is to a large extent responsible for the observed consistent poor performance in mathematics. The conventional teaching methods lack pupil's cooperation and interaction required for effective learning of the difficult mathematics concepts.

Adequate pupil's cooperation and interactions are required for over learning and transfer of learning in mathematics concepts, which are mainly difficult, and abstract. Such cooperation and interaction are found in the cooperative learning strategy. The work therefore intended to investigate the effect of cooperative learning on pupils' academic performance in some difficult concepts in mathematics. The study therefore intended to ascertain the effectiveness of effects of cooperative learning strategy on pupils' academic performance in Mathematics and gender difference when taught mathematics using cooperative learning strategy.

PURPOSE OF THE STUDY

The purpose of this study is to determine the effects of cooperative learning strategy and pupils' academic performance in Mathematics in Onna Local Government Area. Specifically, the study sought to:

1. Determine the difference in the mean performance scores of pupils taught Mathematics using cooperative learning strategy and those taught using conventional method of teaching in Onna Local Government Area.
2. Determine the difference in the mean performance scores of male and female pupils taught Mathematics using cooperative learning strategy in Onna Local Government Area.
3. Ascertain the interaction effect of treatment and gender on academic performance of pupils in Mathematics in Onna Local Government Area.

RESEARCH QUESTIONS

The following research questions were stated to guide the study:

1. What is the difference in the mean performance scores of pupils taught Mathematics using cooperative learning strategy and those taught using conventional method of teaching in Onna Local Government Area?

2. What is the difference in the mean performance scores of male and female pupils taught Mathematics using cooperative learning strategy in Onna Local Government Area?
3. What is the interaction effect of treatment and gender on academic performance of pupils in Mathematics in Onna Local Government Area?

RESEARCH HYPOTHESES

The following null hypotheses were postulated to guide the study and will be tested at 0.05 level of significance:

$H0_1$: There is no significant difference in the mean performance scores of pupils taught Mathematics using cooperative learning strategy and those taught using conventional method of teaching in Onna Local Government Area.

$H0_2$: There is no significant difference in the mean performance scores of male and female pupils taught Mathematics using cooperative learning strategy in Onna Local Government Area.

$H0_3$: There is no interaction effect of treatments and gender on academic performance of pupils in Mathematics in Onna Local Government Area.

METHODOLOGY

This study used a quasi-experimental design, specifically the pretest- posttest non-equivalent control group design, to examined the effect of cooperative learning on mathematics achievement among primary three pupils. The study was conducted in Onna Local Government Area of Akwa Ibom State, Nigeria. The population of the study comprised all 1,820 primary three pupils in all the 26 public primary schools in Onna Local Government Area with a sample of 182 primary three pupils from four public primary schools. The schools were selected through a multi-stage sampling procedure, and the pupils were assigned to either an experimental group (cooperative learning) or a control group (conventional teaching method). The study used a Mathematics Achievement Test (MAT) as the instrument for data collection, which was validated and pilot-tested for reliability using Kuder- Richardson formula 20 (K-R, 20) which yielded a reliability coefficient of 0.76. The MAT was administered as a pretest and post-test to both groups, and the data was analyzed using mean and standard deviations to answer research questions, and Analysis of Covariance (ANCOVA) to test hypotheses at a 0.05 alpha level of significance.

RESULTS

Research Questions One

What is the difference in the mean performance scores of pupils taught Mathematics using cooperative learning strategy and those taught using conventional method of teaching in Onna Local Government Area?

Table 1: Mean, Standard Deviation and mean difference in the mean performance scores of pupils taught Mathematics using cooperative learning strategy and those taught using conventional method of teaching

Group		Pre-test		Post-test		Mean
	n	$\bar{X}$	SD	$\bar{X}$	SD	Difference
Cooperative learning strategy `	92	8.03	4.69	21.42	7.71	13.39
Direct Instruction	90	7.78	3.96	8.37	3.84	0.59

The result in Table 4.1 shows that the pretest of pupils taught Mathematics using cooperative learning strategy (experimental group) was 8.03 with a standard deviation of 4.69 and a posttest mean of 21.24 with a standard deviation of 7.71 with a mean difference of 13.39. On the other hand, the pretest of pupils taught Mathematics using conventional method of teaching (control group) was 7.78 with a standard deviation of 3.96 and a posttest mean of 8.37 with a standard deviation of 3.84. with a mean difference of 0.59. From this result, it can be established that pupils' exposed to cooperative learning strategy (experimental group) had higher mean difference than those taught with conventional method of teaching. This implies that the cooperative learning strategy seems effective in enhancing pupils' achievement in Mathematics.

Research Question Two

What is the difference in the mean performance scores of male and female pupils taught Mathematics using cooperative learning strategy in Onna Local Government Area?

Table 2: Mean, standard deviation and difference in the mean performance scores of male and female pupils taught Mathematics using cooperative learning strategy

Group			Pre-test		Post-test		Mean
	Gender	N	$\bar{X}$	SD	$\bar{X}$	SD	Difference
Cooperative learning strategy	Male	50	8.26	4.96	21.76	7.97	13.50
	Female	42	7.79	4.44	21.06	7.47	13.27

Results in Table 2, showed that the male pupils had a pretest mean of 8.26 with a standard deviation of 4.96 and a posttest mean of 21.76 with a standard deviation of 7.79. The difference between the pretest and posttest mean was 13.50. The female pupils had a pretest mean of 7.79 with a standard deviation of 4.44 and a posttest mean of 21.06 with a standard deviation of 7.47. The difference between the pretest and posttest mean for the girls was 13.27. For both male and female pupils, the posttest means were greater than the pretest mean with male pupils having slight higher mean performance in Mathematics than their female counterparts.

Research Question Three

What is the interaction effect of treatment and gender on academic performance of pupils in Mathematics in Onna Local Government Area?

Table 3: Mean, standard deviation and mean difference in the interaction effect of treatment and gender on academic performance of pupils in Mathematics

Group			Pre-test		Post-test		Mean	
	Gender	n	$\bar{X}$	SD	$\bar{X}$	SD	Difference	
Cooperative learning strategy	Male	50	8.26	4.96	21.76	7.97	13.50	
	Female	42	7.79	4.44	21.06	7.47	13.27	
Direct Instruction	Male	43	8.21	4.37	8.21	3.55	0.00	
	Female	47	7.42	3.57	8.51	4.09	1.09	

Results in Table 3, shows the interaction effect of treatment and gender on academic performance of pupils in Mathematics. The result showed that the male pupils under cooperative learning strategy had a pretest mean of 8.26 with a standard deviation of 4.96 and posttest of 21.76 with a standard deviation of 7.97. The difference between the pretest and posttest mean was 13.50. The female pupils had a pretest mean of 7.79 with a standard deviation of 4.44 and posttest mean of 21.06 with a standard deviation of 7.47. The difference between the pretest and posttest mean for the girls was 13.27. For both male and female pupils in cooperative learning strategy, the posttest means were greater than the pretest mean with male pupils having slight higher mean in their performance than their female counterparts.

In the same vein, Table 4.3 reveals that male pupils exposed to conventional method of teaching had a pretest mean of 8.21 with a standard deviation of 4.37 and posttest mean of 8.21 with a standard deviation of 3.55. The difference between the pretest and posttest mean was 0.00. The female pupils on the other hand had a pretest mean of 7.42 with a standard deviation of 3.57 and posttest mean of 8.51 with a standard deviation of 4.09. The difference between the pretest and posttest mean for the female pupils was 1.09. However, for pupils exposed to experimental group (cooperative learning strategy) the mean difference were greater than the mean difference of pupils exposed to conventional method of teaching. This implies that cooperative learning strategy appears more effective in improving academic performance of pupils in Mathematics.

Hypothesis One

There is no significant difference in the mean performance scores of pupils taught Mathematics using cooperative learning strategy and those taught using conventional method of teaching in Onna Local Government Area.

Table 4: Analysis of Covariance (ANCOVA) of the difference in the mean performance scores of pupils taught Mathematics using cooperative learning strategy and those taught using conventional method of teaching

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	10516.342[a]	2	5258.171	147.771	.000
Intercept	9091.817	1	9091.817	255.508	.000
Pretest	306.228	1	306.228	8.606	.004
Methods	10101.115	1	10101.115	214.401	.000
Error	8433.241	179	47,113		

Total	71460.000	182
Corrected Total	18949.583	181

a. R Squared = .555 (Adjusted R Squared = .551)

The result in Table 4 shows that an F-ratio of 214.401 with an associated probability value of 0.000 was obtained with regards to the significant difference in the mean performance scores scores of pupils taught Mathematics using cooperative learning strategy and those taught using conventional method of teaching Since the associated probability of 0.000 was less than 0.05, the null hypothesis (HO_1) which states that there is no significant difference in the mean performance scores of pupils taught Mathematics using cooperative learning strategy and those taught using conventional method of teaching in Onna Local Government Area was rejected. This implies that there is a significant difference in the mean performance scores of pupils taught Mathematics using cooperative learning strategy and those taught using conventional method of teaching in Onna Local Government Area.

Hypothesis Two

There is no significant difference in the mean performance scores of male and female pupils taught Mathematics using cooperative learning strategy in Onna Local Government Area.

Table 5: Analysis of Covariance (ANCOVA) of the difference in the achievement mean scores of male and female pupils taught Basic Science and Technology using cooperative learning strategy

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	431.257[a]	2	215.629	3.802	.025
Intercept	9876.282	1	9876.282	174.157	.000
Pretest	416.901	1	416.901	7.352	.008
Gender	7.568	1	7.568	.103	.716
Error	6521.556	89	73.275		
Total	61112.000	92			
Corrected Total	6952.814	91			

a. R Squared = .062 (Adjusted R Squared = .046)

The result in Table 5 shows that an F-ratio of 0.103 with an associated probability value of 0.716 was obtained with regards to the significant difference in the mean performance scores of male and female pupils taught Mathematics using cooperative learning strategy. Since the associated probability of 0.716 was greater than 0.05, the null hypothesis (HO_2) which states that there is no significant difference in the mean performance scores of male and female pupils taught Mathematics using cooperative learning strategy was retained. This implies that there is no significant difference in the mean performance scores of male and female pupils taught Mathematics using cooperative learning strategy in Onna Local Government Area.

Hypothesis Three

There is no interaction effect of treatments and gender on academic performance of pupils in Mathematics in Onna Local Government Area.

Table 6: Analysis of Covariance (ANCOVA) of the interaction effect of treatments and gender on academic performance of pupils in Mathematics

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	10533.858[a]	4	2633.464	73.537	.000
Intercept	8991.501	1	8991.501	251.078	.000
Pretest	306.645	1	306.645	8.563	.004
Methods	10092.810	1	10092.810	281.831	.000
Gender	.064	1	.064	.002	.966
Methods * Gender	17.475	1	17.475	.488	.486
Error	8415.726	179	47.015		
Total	71460.000	182			
Corrected Total	18949.583	181			

a. R Squared = .556 (Adjusted R Squared = .548)

The result in Table 6 shows that an F-ratio of 0.488 with an associated probability value of 0.486 was obtained with regards to the interaction effect of treatments and gender on academic performance of pupils in Mathematics. Since the associated probability of 0.486 was greater than 0.05, the null hypothesis (HO_3) which states that there is no interaction effect of treatments and gender on academic performance of pupils in Mathematics was retained. This implies that there is no interaction effect of treatments and gender on academic performance of pupils in Mathematics.

DISCUSSION OF FINDINGS

The findings obtained in research question one revealed that pupils' exposed to cooperative instructional strategy (experimental group) had higher mean difference than those taught with conventional method of teaching. This is possible because there existed mean difference between the experimental and control groups in favour of the experimental group. In testing hypothesis one, the finding revealed that there is a significant difference in the mean performance scores of pupils taught Mathematics using cooperative learning strategy and those taught using conventional method of teaching in Onna Local Government Area. The findings of this study is in line with the work of Anderson (2013) who found that a significant difference in the mathematical achievement of fifth grade students when using cooperative learning strategies as compared to traditional mathematics instruction. The finding of this study agrees with Zakaha, Chin and Daud (2020) who discovered cooperative learning methods improve students' achievement in mathematics and attitude towards mathematics. This implies that cooperative learning is an effective approach, which mathematics teachers need to incorporate in their teaching. Similarly, in support of this finding Magahed and Mohammed (2014) found cooperative learning enhanced students' social skills and responsibility. The study findings reflected low self-esteem between nursing students. Cooperative learning method is an effective teaching approach improved their self-esteem and it is highly recommended instructional pedagogy prepared students for lifelong learning.

Analysis for research question two revealed that male pupils had a slight higher mean performance in Mathematics than their female counterparts. Similarly, the tested hypothesis two

showed that there is no significant difference in the mean performance scores of male and female pupils taught Mathematics using cooperative learning strategy in Onna Local Government Area. This finding is in line with Abiodun and Folaranmi (2017)) who discovered that gender was found to have no significant effect on students' achievement in essay writing English. In same vein, the finding of this study is in tandem with that of Madu and Kasanga (2013)) who found that the difference in performance between male and female students was not significant. The finding of this study implies that cooperative learning as a teaching approach seems effective in enhancing pupils' academic performance irrespective of gender. In support to the finding of this study Gilbert (2021) found that there is no significant difference in male and female students' achievement when exposed to the same teaching method. Wagbara (2020) also found that gender does not have a significant effect on the mean scores of students exposed to cooperative learning strategy strategy. The study calls for the use of cooperative instructional strategy and equal opportunities to all pupils in the class.

On the analysis of hypothesis three, it revealed that there is no interaction effect of treatments and gender on academic performance of pupils in Mathematics in Onna Local Government Area. This is because the F-value is not significant at 0.486 probability level which is greater than .05 level of significance. The above finding is in line with the work of Torty (2020) who found that there is no significant interaction effect of method and gender on students' achievement and interest in English Language tenses. Also, Anizoba (2014) found no interaction effect of method and gender. Moreover, the finding of this study is in agreement with Akabogu (2022) who discovered that the interaction effect between gender and instructional approach on students' mean achievement in reading was not statistically significant.

However, the finding of this study contradicts with earlier finding of Dania (2014) who investigated effect of gender on students' academic achievement in secondary Social Studies and discovered that there was significant interaction effect of treatment and gender on students' academic performance in Social Studies.

CONCLUSION

This study concludes that cooperative learning strategy is an effective approach to teaching Mathematics, as pupils exposed to this method had significantly higher mean performance scores compared to those taught using conventional methods. Additionally, while male pupils had slightly higher mean performance scores than female pupils, the difference was not statistically significant, indicating that cooperative learning strategy is effective for both genders. Furthermore, there was no interaction effect between treatment and gender on academic performance, suggesting that the effectiveness of cooperative learning strategy is not influenced by pupil gender.

RECOMMENDATIONS

Based on the finding and conclusion of the study the following recommendations were made:

i. The study found the use of cooperative instructional strategy effective in enhancing meaningful learning in Mathematics, thus teachers should be encouraged to use cooperative instructional strategy in teaching pupils Mathematics concepts.
ii. The State Ministry of Education should provide instructional materials, which are needed for the implementation of Mathematics as a method of teaching
iii. Both the State and the Federal Government should organize workshops, seminars and talk shows for preschool teachers on how to use cooperative instructional strategy in the teaching and learning process.

iv. The knowledge of cooperative instructional strategy should be a prerequisite for the employment of teachers into service by the State ministry of education.

v. Pupils should be given equal opportunity during cooperative instruction at all levels, because it is child friendly.

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