

## Effect of Cooperative Learning Strategy on Students' Academic Achievement in Home Economics in Anambra State

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**Abstract:** *This study investigated the effect of Cooperative Learning strategy on students' academic achievements in Home Economics. The study which adopted a quasi-experimental, pretest post-test non-equivalent control group research design was carried out in Anambra state. Two research questions and two hypotheses respectively guided the study. A sample of 125 secondary school (Upper basic eight) students drawn from two public co-educational secondary schools in the State. This was used for the study using purposive sampling technique. One intact class each was sampled in each of the two sampled schools which were assigned into one experimental groups and one control group. Data were collected using a 25-multiple choice questions titled: Home Economics Achievement Test (HEAT). The instrument was developed by the researcher and subjected to face and content validation. The validation was carried out by three experts, two in Home Economics Education and one in measurement and evaluation all from Michael Okpara university of Agriculture Umudike, Abia state Nigeria. The instrument was tested for reliability by subjecting it to analysis using Kuder Richardson (K-R<sub>20</sub>) formula to determine the internal consistency which yielded an index of 0.81. Before and after the treatment that lasted for eight weeks, the copies of the instrument were administered to the students by their regular Home Economics teachers. The data collected from the students were analyzed using mean and standard deviation to answer the research questions, while the Analysis of Covariance (ANCOVA) was used to test the null-hypotheses at 0.05 level of significance. The results of the study showed among others that Cooperative Learning had statistically significant effect on students' academic achievements in Home Economics than the use of lecture method. It was also found that gender had no significant effect on the mean achievement of students taught Home Economics using Cooperative learning strategy. Based on the findings, it was recommended that teachers should use Cooperative Learning instructional strategy regularly in teaching Home Economics to the students especially the less-achievers than the use of conventional lecture method.*

**Keywords:** Home Economics, Academic achievement, Cooperative Learning

### Introduction

Home Economics is a vocation for self-reliance that borders on preparing students for the challenges of the home and its environment. Home Economics is one of the subjects studied in the schools (Obunadike & Esiowu, 2022). Home Economics as part of pre-vocational studies serves as a bridge between formal education and practical skills training. It aims to prepare students for future career paths, while also fostering responsible citizenship, self-reliance, and the ability to contribute positively to society. In Nigeria, this subject is introduced at the upper basic education level (typically grades 7-9), where students are introduced to a variety of practical skills that can be applied both in their homes and in professional settings. The curriculum is designed to provide a balance between theoretical knowledge and hands-on practical experience, thus enhancing the students' ability to function efficiently in their domestic and professional environments. By learning about topics such as food and nutrition, clothing and textiles, child

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development, home management, and family life education, students gain essential skills that improve their quality of life and prepare them for the workforce. No wonder, in recent years the scope of Home Economics has broadened considerably. It now includes areas of National and International interest. Therefore, Home Economics Curriculum is designed to provide learners with basic intellectual and practical education knowledge relevant to Nigeria society. Home Economics helps in preparing students for future careers in order to adapt to changing economic times and technological situations (Oshio, Aluiyior, Nwike, & Onyia, 2015).

Based on these needs for the teaching of Home Economics in our schools, the objectives of Home Economics as highlighted in the Home Economics Curriculum include, preparing individuals (youths & adults) to manage themselves as well as their personal and family resources to identify needs, set goals, apply resources, solve problems, attain goals and evaluate results (Chidume & Agbo, 2015). Home Economics graduates are expected to be effective resource managers and home managers/home makers.

Despite the numerous importance and benefits of Home Economics in our society, senior secondary school students find it not too convenient as their choice of subject during external examinations like WAEC, NECO and NABTEB (Udeagha, 2019). This called for concern by researchers, parents, school administrators and other stakeholders in the education business. In recent time, there has been a growing interest in the non-cognitive factors that can affect students' academic achievement. A number of researchers have examined the role of non-cognitive variables such as self-efficacy, study habits and attitude on academic achievement (Ajayi & Abayomi, 2016). In addition, students' academic achievement towards learning Home Economics falls short of expectation. In the year 2021 and 2022, 50% of the total number of junior students who sat for Anambara BECE Quality performance in pre-vocational studies which comprises Home Economics made pass and fail grades respectively, while in 2023, 53.27% of the total numbers of junior students who sat for the same examination in pre-vocational studies made pass and fail grades (BECE, 2024). However, it's important to note that academic performance is one of the key indicators of achievement.

Academic achievement is the outcome of education, that is, the extent which a student, teacher or institution has achieved their educational goals. According to Eze, Obidile and Okotubu, (2020) Academic achievement represents the outcome that indicates the extent to which a person has accomplished specific goals that were the focus of activities in instructional environments, specifically in schools. The extent to which a student, teacher or institution has achieved depends on their educational goals. It is within the context that Academic achievement represents performance outcomes that indicate the extent to which a person has accomplished specific goals that were the focus of activities in instructional environments, specifically in school, college, and university. The poor performance described above indicates that the objective of Home Economics at this level has not been achieved. It becomes necessary to examine the effect of other teaching methods in the teaching of Home Economics that are students' centers and make students more active in class participation and contribution such as cooperative learning.

Cooperative learning teaching method is a type in which students work together in small groups on structured activity. Cooperative learning allows learners to solve a task as a group while the teacher guides them. In using the cooperative learning method, the teacher serves as a facilitator while the students are responsible for solving the tasks presented by the teacher and members of the group are encouraged to work head collectively as a team. Van *et al.* (2019) views cooperative learning, as an instructional method in which teachers organize students into small groups, which then work together to help one another learn academic content has been documented throughout the literature as an effective learning approach in helping students obtain the acquisition of practical learning skills, practical competences for effective communication. Audi (2016) found that the use of cooperative learning in teaching helped in improving senior secondary two students' understanding of biology concepts in Kaduna State. Notwithstanding these empirical confirmations in regards to the intensity of cooperative learning method in any case, the effectiveness of the method in improving students' accomplishment in home Economics among the junior

secondary schools. It is on this note that the interest of the researchers were informed to investigate researchers the effect of cooperative learning on students' academic achievement in Home Economics in Anambra state.

### **Statement of the problem**

Home Economics is a skill oriented field of study that equip learners with skills that make them self-reliant, yet there is unstable academic achievement in the subject leading to low enrolment and negative attitude towards the subject. In recent times, Home Economists have made frantic efforts to help students understand Home Economics and develop relevant skills. Efforts and intervention include organizing workshops to enhance Home Economics teachers' quality, increasing hovers for practical works, use of graded questions and private instruction, among others. However, it is sad to notice that these intervention procedures have not satisfactorily improved students' achievement in Home Economics. Could it be that the Home Economics teachers do not use learner friendly instructional strategies? At present, it is important to examine how effective learner friendly instructional strategies would be in improving the teaching and learning of Home Economics. From the foregoing, there is great danger ahead if the current state of achievement of Home Economics by Students are not addressed fast. It is on these bases that the present study is designed to answer this broad question, how effective cooperative learning would be in improving students' academic achievement in Home Economics, taking into consideration students' gender as a moderating.

### **Purpose of the Study**

The purpose of the study was to examine how effective cooperative learning would be in improving students' academic achievement towards Home Economics. Specifically, the study sought to:

- determine the mean achievement scores of Upper basic eight students taught Home Economics using cooperative learning and lecture instructional strategy and
- determine the mean achievements scores of Upper basic eight students taught Home Economics using cooperative learning based on gender.

### **Research questions**

The following research questions guided the study.

- What are the mean achievements scores of Upper basic eight students taught Home Economics using cooperative learning and lecture instructional strategy?
- What is the mean achievement scores of male and female students who were taught Home Economics using cooperative learning?

### **Hypotheses**

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

- **H0<sub>1</sub>**: There is no significant difference among the mean achievement scores of students who were taught Home Economics using Cooperative Learning and those taught using lecture method instructional strategy.
- **H0<sub>2</sub>**: There is no significant difference between the mean achievement scores of male and female students who were taught Home Economics using Cooperative learning.

### **Methodology**

The study was conducted in Anambra state, Nigeria. Anambra State is nested in the South Eastern Nigeria. These three senatorial zones have 21 local government areas and 177 communities. Anambra occupies land are of 4,844 sq kilometers, whose capital and seat of government is Awka. Boundaries are formed by Delta State to the west, Imo State and Rivers State to the South, Enugu State to the East, and Kogi State to the North. The study covered all government approved secondary schools in Orumba South Local Government Area in Aguata Education zone of Anambra State. The study which adopted a quasi-experimental, pretest post-test non-equivalent control group research design. Two research questions and two hypotheses respectively guided the study. A sample of 125 secondary school (Upper basic eight) students drawn from two public co-educational secondary schools in the State. This was used for the study using purposive sampling technique. One intact class each was sampled in each of the two sampled schools

which were assigned into one experimental groups and one control group. Data were collected using a 25-multiple choice questions titled: Home Economics Achievement Test (HEAT). The instrument was developed by the researcher and subjected to face and content validation. The validation was carried out by three experts, two in Home Economics Education and one in measurement and evaluation all from Michael Okpara University of Agriculture Umudike, Abia state Nigeria. The instrument was tested for reliability by subjecting it to analysis using Kuder Richardson (K-R<sub>20</sub>) formula to determine the internal consistency which yielded an index of 0.81. Before and after the treatment that lasted for eight weeks, the copies of the instrument were administered to the students by their regular Home Economics teachers. The data collected from the students were analyzed using mean and standard deviation to answer the research questions, while the Analysis of Covariance (ANCOVA) was used to test the null-hypotheses at 0.05 level of significance.

## Results

**Research Question 1:** What are the mean achievement scores of Upper basic eight students who were taught Home Economics using Cooperative Learning and those taught using lecture method?

The results for answering research question 1 were presented in the Table 1.

**Table 1: Pretest and Posttest achievement mean scores of students taught Home Economics using Cooperative Learning and Lecture instructional strategy**

Group	N	Pretest		Posttest		Mean gain scores
		$\bar{X}$	SD	$\bar{X}$	SD	
CLS (Exp1)	43	13.69	2.08	26.73	2.15	13.04
Lecture Method	45	13.42	2.29	17.11	2.18	3.69

CLS= Cooperative Learning Strategy

The data in Table 1 show that the students taught Home Economics using Cooperative Learning had a Pre-test mean score of 13.69 with standard deviation of 2.08 and a Post-test mean score of 26.73 with standard deviation of 2.15, while their counterpart in the lecture method (Control group) had a Pre-test mean score 13.42 with a standard deviation of 2.29 and a posttest mean score of 17.42 with the standard deviation of 2.18. The result further showed that the students taught Home Economics using Cooperative Learning had a mean gain of 13.04 while their counterparts taught Home Economics using the lecture method (Control group) had a mean gain of 3.69. This showed that Cooperative Learning had increasing effect on the students' academic achievement in Home Economics, having recorded higher mean gains than the lecture method. In other words, the use of Cooperative Learning in teaching Home Economics resulted to higher mean achievement scores of students.

## Research Question 2:

What is the mean achievement scores of male and female students who were taught Home Economics using Cooperative Learning?

**Table 2: Pretest and Posttest achievement mean scores of Male and Female Students taught Home Economics using Cooperative Learning**

Gender	N	Pretest		Posttest		Mean gain scores
		$\bar{X}$	SD	$\bar{X}$	SD	
Male	18	13.83	2.11	26.99	2.41	13.16
Female	25	13.55	2.29	26.47	2.56	12.92
Effect						0.24

The results in Table 2. revealed that male students taught Home Economics using Cooperative Learning had pretest mean achievement score of 13.83 with standard deviation score of 2.11 and also had posttest mean achievement score of 26.99 with standard deviation score of 2.41. Their female counterparts also recorded a pretest mean score of 13.55 with standard deviation score of 2.29 and a posttest mean achievement score of 26.47 with standard deviation of 2.56. The table further indicated that the male

students recorded a mean gain of 13.16 while the female students had a mean gain score of 12.92. This implies that the male students taught Home Economics using Cooperative Learning had a slight higher mean gain score of 0.24 over their female counterparts.

### Test of Hypotheses

**H01:** There is no significant difference among the mean achievement scores of students who were taught Home Economics using Cooperative Learning and those taught using lecture method.

**Table 3: Analysis of Covariance (ANCOVA) on the mean achievement scores of students taught Home Economics using Cooperative Learning and those taught using lecture method**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	27521.187 <sup>a</sup>	3	9173.187	315.219	.000
Intercept	3044.111	1	3044.111	104.605	.000
Pretest	3236.683	1	3236.683	111.222	.000
Group	3686.165	2	1843.083	63.334	.000
Error	3521.216	121	29.101		
Total	141332.003	125			
Corrected Total	211198.732	124			

*Significant at 0.05 level of significance*

Table 3 shows that a significant Probability (P)-value of 0.000 was obtained which is less than 0.05 alpha level. This implies that the null hypothesis of no significant difference was rejected. Therefore, there was a significant difference between the mean achievement scores of students who were taught Home Economics using Cooperative Learning and those taught using lecture method.

**H02:** There is no significant difference between the mean achievement scores of male and female students who were taught Home Economics using Cooperative Learning.

The data for testing hypothesis 2 were analyzed with ANCOVA and the results presented in Table 4.

**Table 4: Analysis of Covariance (ANCOVA) of Achievement scores of Male and Female Students taught Home Economics using Cooperative Learning**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	7628.349 <sup>a</sup>	2	3814.175	39.998	.000
Intercept	493.916	1	493.916	5.179	.000
Pretest	5861.217	1	5861.217	61.465	.000
Gender	89.985	1	89.985	0.944	.103
Error	3814.344	40	95.359		
Total	143288.022	43			
Corrected Total	23639.879	42			

*Significant at 0.05 level of significance*

The results in Table 4.5 indicate that a significant P-value of 0.103 was obtained which is greater than the alpha value of 0.05. This however means that the null hypothesis stated was not rejected. Therefore, there was no significant difference between the mean achievement scores of male and female students who were taught Home Economics using Cooperative Learning strategy.

## Discussion of findings

The findings from research question 1 indicated that students in the experimental group, who were exposed to Cooperative Learning strategies, significantly outperformed their counterparts in the control group taught through the lecture method. This implies that Cooperative Learning is a more effective instructional strategy for teaching Home Economics in secondary schools than the conventional lecture approach. This result supports the position of Ozden and Gultekin in Eze *et al.* (2020) that the adoption of appropriate instructional methods can enhance students' academic achievement. Cooperative Learning enables learners to work in small, interactive groups where they engage in discussion, share ideas, and assist one another in understanding subject concepts. This active engagement facilitates deeper learning compared to the passive reception characteristic of the lecture method. According to Johnson, Johnson, and Smith (2014), Cooperative Learning fosters positive interdependence, individual accountability, and promotive interaction, which are essential for improved academic performance. Similarly, Slavin (2015) observed that Cooperative Learning structures encourage all learners to participate and take responsibility for group success, leading to better retention and application of knowledge.

Other recent studies have reported similar findings. For example, Tindowen (2019) found that Cooperative Learning significantly improved students' critical thinking and academic performance in the Philippines, while Al-Shehri and Khan (2020) reported that Saudi Arabian students taught through cooperative strategies in science subjects achieved higher scores than those taught using traditional lectures. In Nigeria, Udo and Udoh (2021) established that Home Economics students exposed to group-based cooperative strategies performed better than their counterparts taught using conventional methods. These findings reinforce the idea that the collaborative nature of Cooperative Learning is particularly effective in skill-based and concept-driven subjects like Home Economics.

The findings from research question 2 revealed that Cooperative Learning had no statistically significant effect on the academic achievement of male and female students in Home Economics. In other words, both male and female students benefitted equally from the cooperative instructional approach. This suggests that the strategy is gender-inclusive and does not favor one gender over the other in terms of academic gains. This finding aligns with the earlier results of Meng (2017), who reported no significant difference in the mean achievement scores of male and female students taught English using Cooperative Learning.

Recent literature also supports this outcome. Zakaria, Chin, and Daud (2010) reported that both male and female students in mathematics classrooms benefitted equally from Cooperative Learning because it promotes inclusivity and teamwork. Gillies and Boyle (2010) similarly noted that well-structured cooperative activities reduce gender-related participation gaps by encouraging equitable contribution from all group members. More recent studies, such as Okoye and Nwafor (2022), have shown that gender differences in cooperative learning outcomes are minimal because the method emphasizes collaboration, communication, and shared responsibility rather than competition. Additionally, Eze and Ezeugo (2023) found no significant gender gap in the performance of Home Economics students exposed to cooperative learning in Anambra State, further affirming the present study's results. Overall, the findings of the present study strengthen the growing evidence base that Cooperative Learning is an effective, inclusive, and equitable teaching approach. It enhances learning outcomes without creating disparities between male and female students, making it particularly suitable for mixed-gender classrooms in Nigerian secondary schools.

## Conclusion

The study examined the effects of cooperative learning on students' academic achievement in Home Economics in Anambra state. Based on the findings from the study, it could be concluded among others that cooperative learning had statistically significant effect on students' academic achievements in Home Economics than the lecture method. It could also be concluded that gender has no significant effect on the mean achievement of students taught Home Economics using cooperative learning.

## Recommendations

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

1. Teachers should use Cooperative Learning regularly in teaching Home Economics to the students especially the less-achievers than the use of conventional lecture method.
2. Teachers should identify those concepts in Home Economics which show students' gender disparity and use Cooperative Learning strategy to teach them in order to curb such disparity.

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