UNIJERPS



Unizik Journal of Educational Research and Policy Studies VOL.18 (3); ***July-December, 2024*** https://unijerps.org

2023 Impact Factor: **6.834;** 2022 ***Impact Factor***: 5.156; ***2021 Impact Factor: 5.641; 2020 Impact Factor: 5.355.*** *Indexing and Impact Factor URL: http://sjifactor.com/passport.php?id=21363*

EFFECTIVENESS OF PEER TUTORING ON SENIOR SECONDARY SCHOOL STUDENTS' ACADEMIC ACHIEVEMENT IN FINANCIAL ACCOUNTING IN EGOR LOCAL GOVERNMENT AREA OF EDO STATE

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ABSTRACT

In today's global educational setting, improved strategies for imparting knowledge and skills to students of all ages and academic levels are evolving with serious and vital implications for teachers and students. Teacher-centered instruction is beginning to wear away as more dynamic and purposeful models of imparting knowledge are introduced into the educational scene. One of such effective method of current discussion in the world is "peer-tutoring" which is an aspect of cooperative learning. There has long been concern that traditional curricula, delivered and assessed in conventional ways, promote a surface approach to learning rather than a deep or even a strategic approach. As schools move closer to the goals of providing education for all children, increasing amounts of attention and energy are being devoted to developing pedagogical approaches that are appropriate in heterogeneous classrooms. However, from the literature review, peer tutoring is very effective in the teaching of many educational subjects. Business education and its related subjects have not been subjected to a peer tutoring model of teaching. This is important considering the dwindling trends in student enrolment in the subject. The concern of this study is to determine whether peer tutoring can affect the academic achievement of senior secondary students in financial accounting. Findings indicate that the peer tutoring technique is a very effective technique for improving the performance of students in Financial Accounting. The study revealed that there is a significant difference in the mean scores of students in the control (teacher-centered instruction) and experiment group (peer tutoring). Therefore, the paper recommends that ministries of education and other relevant stakeholders in the education sector should develop a framework for the integration of the peer tutoring model as a teaching technique in schools.

Keywords*: Examination, Peer-Tutoring, Achievement, Students, Accounting*

Introduction

In today's global educational setting, improved strategies for imparting knowledge and skills to students of all ages and educational levels are evolving with serious and vital implications for teachers and students. (Anthony, Uwanekezi & Williams, 2018). The teacher-centred instruction is beginning to wear away as more dynamic and purposeful models of imparting knowledge are being introduced into the educational scene. One of such effective methods of current discussion in the world is "peer-tutoring" which is an aspect of cooperative learning (Burakova, 2024). Peer tutoring has generated a great deal of scholarly interest in the field of education. It is viewed as an essential instructional strategy for inclusive education because it constitutes one of the strongholds of cooperative learning (AbdulRaheem, Yesuf and Odutayo, 2017)

Cooperative learning is a successful teaching strategy in which small teams, each with students of different levels of ability use a variety of learning activities to improve their understanding of a subject. Each member of a team is responsible not only for learning what is taught but also for helping teammates learn, thus creating an atmosphere of achievement (Kingdom-Aaron, Etokeren and Okwelle, 2019). Without cooperation of its members, society cannot survive. There has long been concern that traditional curricula, delivered and assessed in traditional ways, promote a surface approach to learning rather than a deep or even a strategic approach (Entwistle, 1992). As schools move closer to the goals of providing education for all children, increasing amounts of attention and energy are being devoted to developing pedagogical approaches that are appropriate in heterogeneous classrooms. One of the principles of cooperative learning is the principle of heterogeneous grouping. Cooperative learning advocates support the idea that diversity is something to be worked with, not negotiated around, and that the richness of the educational experience is improved for all students when they are active participants in a mutually supportive environment (Saponshevin, 1991 and Kingdom-Aaron, Etokeren, and Okwelle, 2019). One important aspect of creating cooperative learning groups is maximizing the heterogeneity of the students within the groups. Students should be placed in groups that are mixed by academic skills, social skills, personality, race, and sex. In human societies, the individuals who are most likely to survive are those who are best enabled to do so by their group. However, how students perceive each other and interact with one another is a neglected aspect of instruction. Much training time is devoted to helping teachers arrange appropriate interactions between students and materials and some time is spent on how teacher should interact with students, but how students

should interact with one another is relatively ignored.

However, from literature review, peer tutoring has been found to be very effective in the teaching of many educational subjects such as mathematics, English, Sciences, reading, writing and other art subjects (Kingdom-Aaron, Etokeren and Okwelle, 2019 and Burakova, 2024). Some areas of social sciences, Business education and their related subjects have not been subjected to the peer tutoring model of teaching. The concern of this study is whether peer tutoring can affect the academic achievement of senior secondary students in financial accounting. Since the method is effective in the impartation of knowledge and skills of most school subjects, it is most relevant to adopt the use of the peer tutoring model in the teaching of Financial Accounting in secondary school, hence this study is undertaken.

Purpose of Study

The main purpose of this study is to determine the effect of peer tutoring on the academic achievement of secondary school students in Financial Accounting.

Objectives of the Study

1. To determine the effectiveness of the use of peer tutoring methods in the teaching and learning of Financial Accounting.
2. To determine the effect of peer tutoring on the performances of boys and girls in financial accounting.
3. To determine the various ways peer tutoring can be applied.
4. To determine the differences between pre-test and post-test scores of the experimental group.
5. To determine the mean scores of students taught under the traditional teacher0-directed instruction and the peer-tutoring model.

Research Questions

This study will attempt to find answers to the following research questions:

1. Is there any significant difference between the mean scores of students taught under the traditional teacher-centred instruction and the students taught under peer tutoring model in Financial Accounting?
2. Is there any significant difference between the mean scores of boys and girls subjected to peer tutoring methods?
3. Is there any significant difference between the mean scores of boys taught under the traditional teacher -centred instruction and those taught under peer tutoring model?
4. Is there any significant difference between the mean scores of girls taught under the teacher -centred instruction and those

taught under the peer tutoring models?

5. Is there any significant difference between the pretest and post-test of the experimental group?

Materials and Methods

The design adopted in this study is a quasi-experimental design, which consisted of two treatment techniques. The independent variable is peer tutoring, while the dependent variable is academic achievement (mean scores). A mediating variable was studied alongside the dependent and independent variables because it is thought to have possible effect on the treatment outcomes. The mediating variable here was the gender factor. The non-equivalent control group design was adopted which involved two groups (one, experimental and the other control). The design is represented and illustrated thus:

	Pretest	Treatment	Post-test
Experimental Group	O_1	X	O_2
Control Group	O_1		O_2

Fig. 1: Illustration of Treatment

Where O_1 and O_2 represent the pre-test and post-test respectively. X is the treatment.

The two groups are both pre-tested and post-tested without pre-experimental sampling equivalence for the two groups. Only the experimental group will be exposed to treatment.

The population for this study consisted of all Year Two Students of all Senior Secondary School offering Financial Accounting as a school subject in Egor Local Government Area of Edo State. The total number of students was 1050 for the 2022/2023 Academic Sessions. The Senior Secondary School Year Two students were chosen because this is the class where decisions on courses to be taken in external examination are made. The purposive sampling technique was used in the process of sampling the school for this study. There are 13 public and private senior secondary schools that offer Financial Accounting at the level of SS 11 in Egor Local Govt Area. One of these that met the set criteria was chosen. The school is co-educational and located in the urban centre of the local Govt Area. In choosing the classes to serve as experimental and control groups, the simple ballot system was used. Intact classes were used. The treatment package used for the study was divided into twelve units for a period of six weeks. Each session (teaching period) lasted 40 minutes for both the experimental and the control classes. During the first session, which was more of introductory, the researcher met with the students and introduced the treatment packages to them. Similarly, the pre-test

measurement instruments were administered to get their initial entry. At the end of the pretest for both the experimental and the control groups, other sessions then followed. The control class was taught traditionally by the class teacher.

The purpose of the experimental class were:

- positive interdependence of the students;
- face to face interaction among students;
- individual accountability for mastering the assigned material;
- appropriate use of interpersonal and small group skills; and
- group processing

Steps of Operation in the Experimental Class

1 A student, after training was appointed as the leader (tutor) of the class of 40 students. Initially, this student was the most 'mature" in the class.

2 The day's lesson plan (treatment package) was given to the student tutor to implement under the close supervision of the class teacher / researcher.

3 All the students were made to go through all the segments in the package for each session.

4 The teacher observed the processes and made appropriate intervention.

5 At the end of each session, a quiz was given to evaluate the lesson outcomes.

The above steps were followed in each session throughout the six weeks duration. At the end of the six weeks, the post-test was administered to the two groups. The intact class chosen was taught by using the traditional lecture method. The class was handled by the school subject teacher and assisted by the researcher and another school teacher. The students were pre-tested on the first session and post-tested in the last session. The statistical tools used in this study were the mean standard deviation and the t-test. The null hypotheses formulated were analyzed using the t-test to determine significant levels of difference between the academic achievements of student taught with peer tutoring model and those taught with the traditional teacher -centred method in Financial Accounting. All tests were conducted at 0.05 level of significance.

Data Presentation and Discussion Of Results

The results of the analysis are presented in tables as answers to the research questions and test of hypotheses at 0.05 level of significance. The presentation is followed by a discussion of the findings. The control group represents the traditional teacher centred instruction (TC) while the experimental group represents the peer-tutoring model (PT).

Analysis of Research Questions

Research Question One: What are the mean scores of students taught under the traditional teacher -centred instruction

and the students taught under peer tutoring model in Financial Accounting?

Hypothesis One: There is no significant difference between the mean scores of students taught under the traditional teacher -centred instruction and the students taught under peer tutoring model in Financial Accounting.

Table 1: Mean Scores of Students Taught under the Traditional Teacher -Centred Instruction and the Students Taught under Peer- tutoring Model in Financial Accounting.

	Pre-test Scores			Post-test Scores		
Treatment	**Total Scores**	×	**SD**	**Total Scores**	×	**SD**
TD	1060	26.5	9.7	2097	52.4	12.3
PT	1139	28.475	12.8	2490	62.2	16.4

Table 2: T-test Analysis of the Mean Scores of Students in the Control and experimental Groups

Groups	N	×	S.D	DF	T-cal.	T.crit.	Decision
Control Group	40	52.4	12.8				
Experimental Group	40	62.2	16.4	78	3.02	2.01	Significant

Data in Table 2 shows that there is a significant difference in the mean scores of students in the control and experiment groups. Calculated t-value of 3.02 is greater than the critical t-value of 2.01 at 0.05 level of significance. Therefore, the answer to research question one is that there is a significant difference between the mean scores of teacher centred instruction and peer tutoring on students in Financial Accounting. Consequently, the null hypothesis one was rejected, while the alternative hypothesis was accepted. Students in the experimental group performed better than students in the control group with a mean score of 62.2, while the control group had a mean score of 52.4.

Research Question Two: What are the mean scores of boys and girls subjected to the peer tutoring method?

Hypothesis Two: There is no significant difference between the mean scores of boys and girls to the peer tutoring method.

Table 3: Mean Scores of Boys and Girls Subjected to Peer Tutoring Method

Group	Pre-test Scores			Post-test Scores		
	Total Scores	×	SD	Total Scores	×	SD
Boys	612	25.5	11.1	1444	60.2	17.6
Girls	527	32.9	14.1	1044	65.332.9	14.3

Table 4: T-test Analysis of the Mean Scores of Boys and Girls subjected to Peer tutoring Method

Groups	N	$\bar{x}$	S.D	DF	T-cal.	T.crit.	Decision
Boys	24	60.2	17.6				
Girls	16	65.3	14.3	38	1.02	2.04	Not Significant

Table 4 showed that there is no significant difference in the mean scores of boys and girls subjected to peer tutoring method. Data in Table 4 showed that t-calculated (1.02) is less than t-critical (2.04) at 0.05 level of significance. Therefore, the answer to research question two is that there is no significant difference in the mean scores of boys and girls subjected to peer tutoring method. Null hypothesis two is accepted. This also implied that peer-tutoring model exerted a similar impact on the academic performance of boys and girls since the difference in their achievement scores were not significant.

Research Question Three: What are the mean scores of boys taught under the traditional teacher -centred instruction and those taught under peer tutoring method?

Hypothesis Three: There is no significant difference between the mean score of boys taught under the traditional teacher -centred method and those taught under the peer tutoring method.

Table 5: Mean Scores of Boys Subjected to Teacher Centred and Peer Tutoring Methods

Treatment	Pre-test Scores			Post-test Scores		SD
	Total Scores	×	SD	Total Scores	×	
TC	633	24.3	8.7	1287	49.5	13.0
PT	612	25.5	11.0	1651	68.8	17.6

Table 6: T-test Analysis of the Mean Scores of Boys Taught Under the Traditional Teacher -Centred and Peer Tutoring Methods.

Groups	N	×	S.D	DF	T-cal.	T.crit.	Decision
Teacher Centred	26	49.5	13.0				
Peer Tutoring	24	68.8	17.6	48	2.43	2.02	Significant

Data in Table 5 indicated that t-calculated value of 2.43 is greater than t-critical (2.02) at 0.05 level of significance. The answer to research question three is that there is a significance difference between the mean scores of boys taught under the traditional teacher -centred and peer tutoring methods. In this context, the null hypothesis of no significance difference was therefore rejected while the alternative, that there is a significant difference between the mean score of boys taught under the traditional teacher -centred method and those taught under the peer tutoring method is accepted. This finding is in line with research question one and hypothesis one which revealed that the experimental group performed better than the control group.

Research Question Four: What are the mean scores of girls taught under the teacher -centred instruction and those taught under the peer tutoring models?

Hypothesis Four: There is no significant difference between the mean scores of girls taught under the teacher -centred instruction and those taught under the peer tutoring method.

Table 7: Mean Scores of Girls Subjected to Teacher Centred and Peer Tutoring Methods

Treatment	Pre-test Scores			Post-test Scores		
	Total Scores	×	SD	Total Scores	×	SD
TC	427	30.5	10.4	808	57.7	9.29
PT	527	32.9	14.1	1045	65.3	14.3

Table 8: T-test Analysis of the Mean Scores of Girls Taught Under the Traditional Teacher -Centred and Peer Tutoring Methods.

Groups	N	×	S.D	DF	T-cal.	T.crit.	Decision
Teacher Directed	14	57.7	9.29				Not
Peer Tutoring	16	65.3	14.3	28	1.75	2.05	Significant

Table 7 showed that there is no significant difference in the mean scores of girls taught under the teacher -centred and peer tutoring models. Data in Table 8

showed that t-calculated (1.75) is less than t-critical (2.05) at 0.05 level of significance. Therefore the answer to research question four is that there is no significant difference in the mean scores of girls taught under the teacher -centred and peer tutoring methods. Consequently, the null hypothesis is accepted, while the alternative hypothesis, that there is a significant difference was rejected.

Research Question Five: What are the pre-test and post-test scores of the experimental group?

Hypothesis Five: There is no significant difference between pre-test and post-test scores in the experimental group.

Table 9: Pretest and Posttest Mean Scores in the Experimental Group (Peer Tutoring Method)

Treatment	Pre-test Scores			Post-test Scores		
	Total Scores	×	SD	Total Scores	×	SD
PT	1139	28.5	12.8	2490	62.2	16.4

Table 10: T-test Analysis of the Pretest and Posttest Mean Scores in the Experimental Group (Peer Tutoring Method)

Groups	N	×	S.D	DF	T-cal.	T.crit.	Decision
Pretest	40	28.4	12.8				
Posttest	40	62.2	16.2	38	10.36	2.04	Significant

Data in Table 10 showed that there is a significant difference between pre-test scores and post-test scores in the experimental group. Calculated t-value of 10.36 is greater than the critical t-value of 2.04 at 0.05 level of significance. Therefore, the answer to research question five is that there is a significant difference between the mean of pre-test scores and the mean of post-test scores in the experimental group. Consequently, the null hypothesis five was rejected.

Discussion of Results

The major findings of this study are that peer tutoring technique is a very effective technique for improving the performance of students in Financial Accounting as against the traditional teacher -centred method. The study revealed that there is a significant difference in the mean scores of students in the control (teacher centred instruction) and experiment group (peer tutoring). Calculated t-value of 3.02 is greater than the critical t-value of 2.01 at 0.05 level of significance. In other words, students in the experimental group performed better than students in the control group. This finding is in consonance with the results of earlier studies in which peer tutoring technique was employed in the teaching of students

as against the traditional teacher directed instruction. For instance, Cohen, Kulik and Kulik (1982), in their review of the use of peer tutoring and the traditional teacher-centred instruction revealed that in 65 studies, peer-tutored students outperformed teacher-centered students. While in a recent study by AbdulRaheem, Yusuf and Odutayo revealed that there was a significant difference in the performance of students taught with peer tutoring and conventional strategy.

Furthermore, the study revealed that there is no significant difference in the mean scores of boys and girls subjected to peer tutoring method. It showed that t-calculated (1.02) was less than t-critical (2.04) at 0.05 level of significance. From literature, there seem not to be consensus among researchers in terms of gender influences in the academic achievements of students. Students' gender impacted differently on different subjects but none reported on Financial Accounting as a course of Study. Previous studies on gender influences in academic achievement of students (Maccoby & Jacklin's, 1974; Hamilton's, 1999; Adigwe, 1992; Ogunkola, 1998; Kingdom-Aaron, Etokeren and Okwelle, (2019) showed differences in performance among females and males on different tests. Maccoby & Jacklin's (1974) study, reviewed close to 1600 studies on gender differences, and concluded that boys were better in mathematics and in the physical sciences whereas girls were better in reading and writing. Hamilton's (1999) also noted that boys consistently scored higher than girls on questions containing visual or spatial content and on questions requiring knowledge learned outside of schools. Adigwe (1992) and Casey (2001) shared the view that there is higher problem - solving achievement among males than females. The males are better in numerical aptitude; science reasoning and spatial relationship while the females are more competent in verbal fluency, perception, speed, memory, and manual dexterity. Ogunkola (1998) maintained that boys are ahead of girls in manipulative and physical productive tasks. However, Willingham and Cole's (1997) study have shown that the difference between boys and girls in academic performance was fast narrowing. Furthermore, Kingdom-Aaron, Etokeren, and Okwelle, P. C (2019) revealed in their study that there was no significant difference in performance based on gender (male and female) and school type (public or private). This only justifies the no significant differences in the mean scores of boys and girls in the experimental group. Another implication of the above finding is that the peer-tutoring model had a similar impact on the academic performance of students irrespective of gender. This makes this technique a handy tool in any Financial Accounting class. The aim is not to replace the traditional teacher-centered instruction but to complement it, especially when students show a lack of understanding of

a given topic under the traditional teacher-directed instruction.

The study also revealed that students (boys) in the peer-tutoring model outperformed other students (boys) in the traditional teacher-centered instruction. This can be explained by the fact that the experimental group performed better than the control group. The difference is that the peer-tutoring model had more impact on the students than the traditional teacher-centered instruction. Furthermore, the study shows there is no significant difference in the mean scores of girls taught under the teacher-centered instruction and those taught under the peer tutoring models. T-calculated (1.75) is less than t-critical (2.05) at 0.05 level of significance

The study also showed that there was a significant difference in the pre-test and post-test mean scores of students in the experimental group. The mean scores of the pre-test in the experimental group was significantly lower that the mean scores of the post-test. This only revealed that peer tutoring as a teaching technique has significant impact on the academic performance of students.

Conclusion

This study has shown that peer -tutoring model has significant impact on the academic performance of Financial Accounting students. Although the model is not designed to replace the traditional teacher centred instruction, however, if the current low enrolment and students' poor performance in Financial Accounting is to be addressed, the integration of peer tutoring model as a complement to the traditional teacher centred instruction is a *sine qua non*.

Recommendations

Peer influence plays a very important role in shapening the personality and behaviour of the adolescents. Its potentials should be fully explored and utilized. Peers who are trained in helping skills are able to influence their friends and classmate more effectively. The effectiveness of this model requires some levels of administrative support. Peer tutoring programmes can be carried out in Nigerian secondary schools with combined efforts of all education stakeholders especially the school academic community. The support of the teacher is very crucial since this will involve a shift in their respective roles to becoming facilitators and managers of the teaching learning process.

The importance of the teachers in the administration of peer tutoring model also stems from the fact teachers are responsible for preparation of student peer tutors and they are in better position to identify relevant topics which can be handled effectively by peer tutors to boost students understanding of the topic.

Against this background and based on the findings of this study which has shown the relevance of the model to the teaching of Financial Accounting in our schools, the study makes the following recommendations:

- Peer tutoring model as a technique is not intended to

replace the traditional teacher centred instruction method but to act as a complement. Therefore, ministries of education and other relevant stakeholders in the education sector should develop a framework for the integration of peer tutoring model as a teaching technique in schools for some topics where the traditional teacher centred instruction has not made significant impact on student's achievement scores in Financial Accounting.

- The role of the teacher in any exercise of peer tutoring is very vital as he/she acts as the facilitator and manager of the programme. Therefore, teachers should cooperate with other relevant agencies in the workability of the model in our schools.
- As the model is not meant to replace the traditional teacher-centred instruction, teachers should help in identifying relevant Financial Accounting topics where the model will be most relevant.
- The need for training of the teachers on the various approaches to peer tutoring is also very important. Since teachers are at the center stage as facilitators and managers of programmes, there is an urgent need for the Ministries of Education, State Universal Basic Education, Secondary Schools, etc. to provide relevant and modern training courses for the teachers so as to enhance the workability of the model in our schools.

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