

## EFFECT OF COOPERATIVE LEARNING METHOD ON ACADEMIC ACHIEVEMENT OF FINANCIAL ACCOUNTING STUDENTS IN COLLEGES OF EDUCATION IN EKITI AND ONDO STATES

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### Abstract

The major purpose of this study was to find the effect of cooperative learning method on academic achievement of financial accounting students in Colleges of Education in Ekiti and Ondo States. The research design used for the study was a 2 x 2 x 2 factorial design which consisted two groups of students (control and experimental). The population consisted of 420 (300level) financial accounting students of business education Department in Colleges of Education in Ekiti and Ondo States. No sample selected because the population is not too large for the study, hence census. Three research questions guided the study and two null hypotheses were tested, computed and interpreted using mean and standard deviation were used to answer the research questions, while Analysis of Co-variance (ANCOVA) was used to test the hypotheses at 0.05 level of significance. Financial accounting achievement test (FAAT) was the instrument developed and administered for data collection. The instrument on cooperative learning method and lecture method lesson plans were face validated by three lecturers in the Department of Vocational Teacher Education, College of Education, Ikere-Ekiti. The reliability coefficient of the instrument for the study was 0.97 which was calculated using Cronbach alpha method. The result of the study showed that: Cooperative learning method contributed significantly to a better understanding of financial accounting students than lecture method, students taught by cooperative learning method performed better than their lecture group counterparts when they solved financial accounting problems, the effect of gender was of no significant to students' achievement in financial accounting, high ability students performed significantly better in financial accounting achievement test than the low ability students. The study concluded that cooperative learning method of teaching proved more effective than the lecture method in students' achievement and therefore recommended that cooperative learning should be used in teaching financial accounting in Colleges of Education.

**Keyword:** Cooperative learning method, Lecture method, Financial accounting, and academic achievement.

### Introduction

Financial accounting is one of the courses offered in Business Education Department in Colleges of Education in Nigeria. American Accounting Association (2012) defined accounting as the process of identifying, measuring and communicating economic information to permit informed judgments and decisions by users of the information. Accounting is concerned with providing both financial and non- financial information that will help decision makers to make good decisions. Accounting provides information for both internal and external users. The aspect of accounting that provides information for internal users is referred to as Management Accounting while, the aspect of accounting that provides information for external users (outside the organization) to help make better decisions and improve the efficiency and effectiveness of existing operation is known as the Financial Accounting.

According to Wild (2013), financial accounting is focused on providing accounting reports and analysis to other areas of the business. Financial accountants are responsible for the creation and issuing of the

company's financial statements, providing accurate and timely information to management and ensuring that all regulatory reporting requirements are met. The goal of financial accounting is to consistently provide valuable, accurate and reliable information to management and other stakeholders of a business. Financial accounting statements summarise the business's activities for the year, and are used by shareholders, banks, employee bargaining units, and the general public to evaluate the financial worth of a business organization.

Financial accounting is used by Management to create a public record of a company's historical financial performance, which allows stockholders and others outside the organization to get a clear picture of a business's financial health. Financial accountants must follow a strict set of accounting principles which enable stakeholders to be assured that the information they are receiving is accurate and objective. The stakeholders can then make predictive assumptions on the present and future of the business entity. Through financial accounting, the information about the reporting entity that is useful to existing and potential investors, lenders and other creditors are provided. Parkinson (2013) stated that the main purpose of financial accounting is to ascertain profit or loss during a specified period and to show financial condition of the business on a particular date and to have control over the firm's property. Such accounting records are required to measure the income of the business and communicate the information so that it may be used by managers, owners and other interested parties. In business education, accounting constitutes the most fundamental and indispensable intellectual skill subject taught starting from the senior secondary schools to tertiary institutions including Colleges of Education (NPE, 2013).

Unfortunately, the result of students' performance in Financial accounting examinations in Colleges of Education in Ekiti State indicated that most of the students perform poorly. This is supported by the statement of the Head of Business Education Department, College of Education, Ikere-Ekiti that the five year financial accounting result summary (2016-2021) in the Department indicates that 35% of the students performed above the average while 65% performed below the average. In the same vein, the five year financial accounting result summary (2009-2013) in the Department of Business Education, Adeyemi College of Education indicates that 42% of all the students who sat for the examination performed above average while 58% performed below the average level. It is evident therefore; from the summary of foregoing results that majority of the students perform poorly in Financial Accounting which may have been caused by the methods adopted by lecturers in instructional delivery.

The search for more effective method of teaching and learning in schools has been intensified over the years. A lot of research evidences have suggested the use of more effective instructional methods as against the traditional or conventional method. For instance, Wolfskil and Hanson (2013) supported the use of guided discovery in teaching accounting courses in tertiary institutions to enhance students' academic achievement in the subject. Teaching methods that emphasize students' involvement and opportunity to communicate, reason and develop self-confidence in solving academic problems are required and should be effectively utilized in schools (Zakaria, Chin & Daud, 2010). Incidentally, the use of conventional or traditional methods is still prevalent in the teaching of Financial Accounting in educational institutions in Nigeria including Ekiti and Ondo states. Information obtained from the preliminary discussions the researcher held with the lecturers and heads of departments in the colleges of education in the States show that the instructional delivery method used is the lecture method.

Lecture method remains the most popular method of teaching in schools especially in higher institutions. Adunfe (2014) defined lecture method as a teaching strategy where a pre-packaged instructional content is delivered by the teacher to a large audience with minimal student-teacher interaction. Cantrell (2014) reported, the characteristics of lecture method to include: teacher-centered, teacher-active, learner-passive and content emphasis. Adunfe (2014) also enumerated the following as some of the features of lecture method and they include; Large class-size, wide content of instruction, inadequacy of time, minimal use of chalkboard or white board, low level of interaction. Lecture method is one of the traditional methods used by financial accounting teachers in instructional delivery. It is also used by lecturers in colleges of education especially Business Education Department due to high enrolment of students into the programme. To cover

large class and large volume of work, without wasting time, this method is mostly preferred by financial accounting lecturers. However, much success may not be recorded by financial accounting lecturers making use of lecture method without combining it with other effective and well organized methods such as cooperative learning methods or tutorial. Since lecture method does not create opportunity for teacher- students interaction as well as adequate questioning. It is expected that a well-organized and highly monitored cooperative learning should provide necessary antidotes to the problems resulting from lecture method (Adunfe, 2014).

Cooperative learning is an instruction that involves students working in teams to accomplish a common goal (Johnson & Johnson, 2012). Cooperative learning is an instructional method in which students work together in small, heterogeneous groups to complete a problem, project, or other instructional goal, while teachers act as guides or facilitators. This method works to reinforce a student's own learning as well as the learning of his or her fellow group members (Terazini, 2011). Cooperative learning is an approach to group work to maximize learning and satisfaction that result from working on a high-performance team. Cooperative learning method is an instructional method that allows students to work in groups to achieve a common goal under the guidance of a teacher (Johnson & Johnson, 2012). Cooperative learning helps in the cognitive development of students, behavioural learning and social interdependence of students and enables them to discover and comprehend content of learning through a collaborative effort, (Morgan, 2013). It enables students to accomplish goals which they may not have the opportunity to achieve in an individualistic and competitive learning process. Classroom contents taught using cooperative learning method with heterogeneous teams in an inclusive environment encourages positive student interaction, competition among team members, and individual contribution towards collective goals, (Dyson & Grineski, 2011). According to Johnson and Johnsons in Felder and Brent (2014), cooperative learning is a method of instruction that requires group members to accomplish common goals under the following conditions: positive interdependence, individual accountability, face-to-face primitive interaction, appropriate use of collaborative skills and groups processing. Cooperative learning is an active method of instruction that enhances students learning in several ways to build attitudes and values.

### **Statement of the Problem**

Instructions in Financial accounting in higher institutions are mostly done through traditional lecture method where students play a passive role during instructional process. The students have very little or no interaction among themselves or with the teacher. Research investigation by Ogunbameru and Raymond (2011) indicated that traditional teaching methods adopted by most teachers especially in financial accounting do not cater for the diverse learning interests of most students. The traditional lecture method is often regarded as teacher-centered, teacher-active, learner passive and content emphasis (Cantrell, 2014). This makes the method weak and ineffective for students learning. The weakness and ineffectiveness of the traditional lecture method might contribute to the poor performance of students in financial accounting. The preliminary investigation conducted by the researcher in higher institutions in Ekiti and Ondo showed that most of the students who sat for Financial accounting examinations for the past five years (2009-2014) perform below average. In the two Colleges of Education in Ekiti and Ondo i.e (College of education, Ikere-Ekiti and Adeyemi College of Education, Ondo) over 50% of the students perform below the average. What could be responsible for this abysmal low performance? This study therefore seeks to find out if cooperative learning could change the narrative.

### **Purpose of the Study**

The main purpose of this study is to determine the effect of cooperative learning method on student's academic achievement in Financial accounting in Colleges of Education in Ekiti and Ondo States, Nigeria. The study specifically sought to determine:

- (1) the effect of cooperative learning method and lecture method on academic achievement of students taught financial accounting in Colleges of Education in Ekiti and Ondo States.
- (2) the effect of gender on academic achievement of students taught Financial accounting using cooperative learning method in Colleges of Education in Ondo and Ekiti.

- (3) the effect of ability level on academic achievement of students taught with cooperative learning method.

### Research Questions

The following research questions guided the study:

- (1) What is the effect of cooperative learning method and lecture method on academic achievement of students taught financial accounting in Colleges of Education in Ekiti and Ondo States, Nigeria?
- (2) What is the effect of gender on academic achievement of students taught financial accounting using cooperative learning method in Colleges of Education in Ondo and Ekiti State?
- (3) What is the effect of ability level on academic achievement of students taught financial accounting with cooperative learning method?

### Research Hypotheses

The following null hypotheses were formulated for the study and tested at 0.05 level of significance:

- (1) There is no significant difference between the mean scores of financial accounting students taught with cooperative learning method and those taught with lecture method.
- (2) There is no significant difference between the mean scores of male and female students taught with cooperative learning method.

### Methodology

This study employed a 2x2x2 factorial pre-test and post-test control group design. According to Ronald (2011), factorial experiment is an experiment which design consists of two or more independent variables, each with discrete possible values or levels, and which experimental units take on all possible combinations of these levels. This type of design allows researcher to study the effect of each independent variable on the dependent variable. The design consisted of two instructional groups (cooperative learning group and lecture method group), gender (male and female), and ability level (high and low). Factorial design is considered appropriate for this study because the researcher is interested in investigating additional independent variables apart from the main dependent and independent variables. Fraenkel, Wallen and Hyun, (2012) suggested the use of this design permits investigation of additional independent variables on dependent variable. There was no random assignment of subjects because of the nature of college program; intact classes were used for the study. The design is presented in table 1

**Table 1: The Factorial Matrix**

Gender	Exp-Group(xxxx)		Control Group(xxxx)	
	High(xx)	Low(xx)	High(xx)	Low(xx)
Male	X	X	X	X
Female	X	X	X	X
Total	Xx	Xx	Xx	Xx

The pattern of the research is shown below:

Q1    X1    Q2  
 Q3    X2    Q4

Where:

Q1: represents pre-test for the experimental group i.e cooperative learning method Q2: represents post-test for the experimental group i.e cooperative learning method Q3: represents pre-test for lecture method group Q4: represents post test scores for lecture method group. X1: represents treatment i.e cooperative learning method X2: Lecture Method.

This study was conducted in Ekiti and Ondo States, Nigeria. Specifically, the study was conducted in the two governments owned Colleges of Education namely: College of Education Ikere-Ekiti (CEI) and Adeyemi College of Education, (ACE). This area was chosen for the study because of the poor performance of financial accounting in the colleges.

The population for this study consisted of all the 420 final year (300 Level) accounting students of the Department of Business Education, College of Education Ikere-Ekiti, Ekiti State and Adeyemi College of Education, Ondo State in 2020/2021 academic session. The population is made up of 209 final year accounting students in CEI and 211 final year accounting students in ACE. The students were chosen because they major in accounting option in Business Education Department. The account courses offered by the students are in financial accounting. There was no sampling because the population is not too large for the study. The entire population was therefore, studied hence census.

Financial Accounting Achievement Test (FAAT) developed by the researcher was used to collect data for the study and was designed to test students understanding in selected topics in financial accounting. Selected items were based on the topics the students were taught as stipulated in the National commission for colleges of education curriculum. The FAAT is made up of questions on topic selected for the experiment. The instructional packages comprised of two major parts: cooperative learning lesson plan (CLLP) and lecture method lesson plan (LMLP). The lecture method lesson plan was used for the control group while the cooperative learning lesson plan was designed for the experimental group

The Financial Accounting Achievement Test (FAAT) as well as the lesson plans was face-validated by three experts from School of Vocational and Technical Education, College of Education, Ikere-Ekiti. The validators were requested to properly scrutinize the instrument in terms of relevance of items, suitability of questions, clarity of statement and accepted test format for Financial accounting. The corrections and suggestions made by the validators were used to produce the final draft of the instrument. The internal consistency of the instrument was established using Cronbach's alpha reliability technique. The reliability coefficient is 0.97. The instrument was administered once to 40 financial accounting students in selected colleges of education in Osun State. The Colleges of Education selected were; College of Education Ilarogun and College of Education Ilesha. Twenty students were selected from each institution as control and experimental groups respectively.

The researcher organized a pre-experimental training section for Financial accounting lecturers to highlight the procedures for the experiment after which pretest was administered to both experimental and control group. The regular financial accounting lecturers then commenced teaching in their respective schools adhering strictly to the procedures explained during pre-experimental training. Cooperative learning method was used to teach the experimental group while the conventional lecture method was used to teach the control group. The experiment was carried out during the normal school hours in line with the school timetable. After the treatment, which lasted for four weeks, the post-test was administered to the two groups. The Data collected during the pre-test and post-test for the two groups were analyzed to answer the research questions and to test the hypotheses.

### **Method of Data Analysis**

The data collected from the two groups were analyzed using Mean and Analysis of Covariance (ANCOVA). The mean was used to answer the research questions while Analysis of Covariance was used to test the hypotheses at 0.05 level of significance. The analysis was computed with the use of Statistical Package for Social Sciences (SPSS) to ensure the accuracy of the analysis. The null hypothesis was accepted when the calculated value of statistics is less than the table value or critical value at 0.05 level of significance or rejected when the calculated value of statistics is equal to or greater than the table or critical value at 0.05 level of significance.

## Data analysis Research

### Question 1

What is the effect of cooperative learning method and lecture method on academic achievement of students taught financial in college of education in Ekiti and Ondo State, Nigeria?

The data collected were analyzed to answer this research question is shown in Table 2

**Table 2:**

**Summary of Pre-test and post-test Achievement mean scores of students taught with cooperative learning method and lecture method**

Method	N	Pre- Test X	Post-Test X	Mean gain
Lecture	211	11.28	14.53	3.25
Cooperative	209	11.87	23.25	11.38

The data presented in table 2 indicates that the control group taught financial accounting with lecture method had a mean score of 11.28 in the pretest and a mean score of 14.53 in the posttest. The posttest mean gain in the control group is 3.25. The experimental group taught financial accounting with cooperative learning method had a mean score of 11.87 and a mean score of 23.25 in the posttest. The posttest mean gain score is 11.38 which is higher than the posttest mean gain score in the control group. With these results, the difference in the mean achievement score of students taught financial accounting with cooperative learning method is higher than those student taught with lecture method.

### Null Hypothesis 1

$H_{01}$ : There is no significant difference between the mean scores of financial accounting students taught with cooperative learning method and those taught with lecture method.

**Table 3:**

**Analysis of Covariance (ANCOVA) showing the effect of treatment on student's achievement scores in financial accounting**

Source of squares	Sum square	Df	Mean	F-cal	F-tab	Sig.
Covariate	3002.56	1	3002.56	176.71	3.84	.000
Methods	7175.26	1	7175.26	442.29	3.84	.000
Error	7085.33	417	16.99			
Corrected total	18070.18	419				
Total	167985.00	420				

\*Significant at Sig of F (p) < 0.05.

Table 3 reveals that F-cal (442.29) is greater than F-tab (3.84) at 0.05 level of significant. Therefore, the null hypothesis is rejected. With this result, there is a significant difference in the mean achievement scores of students taught financial accounting with cooperative learning method and those taught with lecture method. It means the treatment has a significant effect on students' achievement in financial accounting.

**Research Questions 2**

What is the effect of gender on academic achievement of students taught financial accounting using cooperative learning method.

The data collected were analyzed to answer this research question is shown in Table 4.

**Table 4:**

**Summary Pre-test and post-test achievement mean scores of male and female students taught with cooperative learning method**

Gender	N	Pre-Test X	Post-Test X	X gain	Difference
Male	108	11.64	23.59	5.33	11.45
Female	101	12.11	28.89	16.78	

Table 4 above shows that the mean gain score of 5.33 for male in the experimental group is lower than the mean gain score of 16.78 for female in the same group. The difference in the mean gain score is 11.45 in favour of female. This result shows that the cooperative learning method used in the experimental group is in favour of female in the learning of financial accounting.

**Null Hypothesis 2**

H<sub>0 2</sub>: There is no significant difference between the means scores of male and female students taught with cooperative learning method.

**Table 5:**

**Analysis of covariance (ANCOVA) summary of gender and students achievement taught by cooperative learning method**

Source of squares	Sum square	Df	Mean	F-cal	F-tab	Sig.
Covariate	799.13	1	799.13	63.55	3.54	.000
Sex	47.50	1	47.50	3.78	3.84	0.53
Error	2603.10	206	12.58			
Corrected total	3427.73	208				
Total	116969.00	209				

\*Significant at 0.05

The null hypothesis is accepted since F-cal (3.78) is less than F-tab (3.84) at 0.05 level of significance. With these results, there is no significant difference in the mean achievement scores of male and female students taught financial accounting with cooperative learning method. It means that gender does not statistically affect the achievement of students in financial accounting.

**Research Question 3**

What is the effect of ability level on academic achievement of students taught financial accounting with cooperative learning method.

The data collected were analyzed to answer this research question is shown in Table 6.

**Table 6:**  
**Summary of Pre-test and post-test achievement mean scores of high and low ability students taught with Cooperative learning method**

Ability	N	Pre- test X	Post- test X	Mean gain	Difference
High	191	12.24	23.79	11.55	1.85
Low	18	7.83	17.56	9.70	

Table 6 above shows the mean gain score of 11.55 for high ability students in the experimental group and mean gain score of 9.70 for low ability students. The difference is 1.85 in favour of high ability students.

### Discussion

The findings of this study showed that the effect of cooperative learning method on the achievement test scores of financial accounting students is higher than the effect of lecture method with a difference of 8.13 in favour of experimental group. In the same vein, the analysis of covariance used to test the first hypothesis at 0.05 level of significance, as seen in table 3 indicates F-cal of 442.29 which is greater than F-tab of 3.84, which means that there was statistical significance of cooperative learning method on students' achievement in financial accounting. It can therefore be concluded from the above findings that the use of cooperative learning method is more effective than lecture method because it enhances students' achievement in financial accounting. This finding is supported by Ajaja and Eravwoke (2010).

Zakaria, chin and David (2010) that cooperative learning method improves students achievement than the traditional methods. The reason is that the teaching of financial accounting which requires some calculations is usually done using teacher centered strategies such as lecture method, direct instruction and the use of textbooks for content dissemination. The teacher is only active because his aim is to cover as much ground as possible within the time allocated thereby avoiding much interaction and collaboration among students. It deprived student's active participation in the learning process and opportunity to ask initiative questions that will clear some areas of difficulties. Whereas cooperative learning method is appropriate when the content of instruction is practical or involves calculation. This is because it promotes students interaction and collaboration, positive interdependence, reflective thinking, individual responsibility and accountability and equal opportunities for academic success. Cooperative learning method is an instructional method that emphasizes students' active involvement in learning process and opportunity to communicate reason and develop self confidence to solve academic problem in school most especially in subjects that involve calculation like financial accounting.

The finding of the study revealed that there was no statistical significant difference in the mean achievement scores of male and female students taught financial accounting with cooperative learning method. This is because the analysis of covariance used to test the hypothesis at 0.05 confidence level as seen in Table 5 indicated F-cal of 3.78 which is less than F-tab of 3.84 which means that there was no statistical significance. The result is supported by the findings of Ajaja and Eravwoke (2010) that a non-significant difference exists in the achievement test scores between male and female students in cooperative learning group. Bakare (2012) and Efuwape (2012) also discovered that gender has no significant effect on students' performance .

The finding revealed that there was significant difference in the mean achievement score of high and low ability level students taught with cooperative learning method, this is because the result of analysis of covariance computed in Table 7 indicated F-cal of 23.99 which is greater than F-tab of 3.84 at 0.05 level of significance and also there was a significant difference in the mean achievement score of high and low ability level students taught with lecture method. This is because the analysis of covariance used to test the hypothesis at 0.05 level of significance as seen in Table 9 indicated F-cal of 18.71 which is greater than F- tab of 3.84 which means that there was statistical significance. This finding was supported by Ajaja and Eravwoke (2010) that a higher significance achievement scores was recorded between students of varying abilities in cooperative learning group. This was also in line with the finding of Adesoji (2012); Okebukola

(2012); Ireogbu (2010) and Robbert (2012) that some methods such as cooperative learning, guided discovery, and peer learning favour a particular ability level.

### Conclusion

The study found that cooperative learning method is more effective in enhancing students' performance in financial accounting. Gender does not significantly affect students' achievement when taught with cooperative learning method.

### Recommendations

The following recommendations are made based on the findings, conclusion and implications of the study.

1. The mode of instruction of financial accounting in Colleges of Education should be reviewed to accommodate a functional students oriented activity based instructional strategy such as cooperative learning method. This will enable financial accounting students to be problem solvers, thereby learning improvement in the performance of students in financial accounting examinations.
2. There is urgent need for curriculum planners or developers to critically examine the existing instructional strategies in schools and provide a modified ones to include cooperative learning method, its procedure and strategies as found in this study.
3. Capacity building program such as seminars, workshop and conferences should be organized by educational authorities (ministry of education and national commission for colleges of education), administrators of colleges of education and professional association to train serving business teachers in Colleges of Education on the use, procedure and benefits of cooperative learning method.
4. Teacher training programs in Nigeria should incorporate the teaching and learning of modern method of teaching like cooperative learning method so that student teachers will possess necessary information and procedures for the use of this method. This will enable them to make effective use of cooperative learning method after graduation

### References

- Adesoji, F.A. (2012). A comparative analysis of problem solving and self learning technique in teaching electrolysis. *An Unpublished Ph.D Thesis*, Obafemi Awolowo University, Ile-Ife.
- Adunfe, W. (2014). *The hearth of teaching*. Ibadan: CITADEL Books
- Ajaja, P.O. & Eravwoke, O.U. (2010). Effect of cooperative learning strategy on junior secondary school students achievement in integrated science. *Electronic Journal of Science Education*, 14 (2): 20 – 26.
- American Accounting Association (2012). Report by financial Accounting standards committee, American Accounting Association.
- Bakare, R.A & Efuape G.O. (2013). Design and construction of instructional guide on student skills achievement in electronic work. *Electronic Journal of Science Education*, 14 (3): 30 – 36.
- Cantrell, D. (2014). *Using a variety of teaching methods and strategies*: Retrieved from online Google search.
- Dyson, B. & Grineski, S. (2011). *Using cooperative learning structures in physical education*, *Journal of Physical Education, Recreation and Dance*, 4(2), 20-26.
- Federal Government of Nigeria (2013). *National policy on education*, Federal Government Press, Lagos.
- Felder, R.M. & Brent, R. (2014). *Cooperative learning*, education design Inc, Cary NC.

- Fraenkel, J.R. & Wallen N.E (2014). *How to design and evaluate research in education (7<sup>th</sup> Ed)*. New York: McGraw Hill
- Iroegbu, T. O. (2012). *Problem based learning, numerical ability and gender as determinants of achievement in line graphing skills and meaningful learning in energy concept*. Unpublished Ph.D Thesis, University of Ibadan.
- Johnson, D.W., Johnson, R.T. & Smith, K. (2012). Cooperative learning returns to college. *Change*, 30(4), 26-35.
- Morgan, B. (2013). Cooperative learning in higher education: Undergraduate student reflections on group examination for group grades, college. *Student Journal*, 37(1), 40-50.
- Ogunbameru, M.T. & Raymond, U. (2011). A comparative analysis of two methods of teaching financial accounting at senior secondary school. *International Journal of Instructional Technology & Distance Learning*. Retrieved online, April, 20 2009 from curriculum/nov05\_article03.htm.
- Okebukola, P.A.O. (2012). Can good concept mappers be good problem solver? *Education Psychology*, 12(2), 113-129.
- Parkinson, A. (2013). *Making sense of accounting for business*. Harlow: Pearson.
- Robert, J.B. (2012). A study of the problem-solving processes of successful and non-successful problem solvers in ninth grade science, *Dissertation Abstracts*, 25, 7088, No 2.
- Ronald, F. (2011) "The arrangement of field experiments. *Journal of Agriculture of Great Britain* 3(3), 503-513.
- Terenzini, P. T., Cabrera, A. F., Colbeck, C. L., Parente, J. M. & Bjorklund, S.A. (2001). Collaborative learning vs. lecture/discussion: Students' reported learning gains. *J. Engr. Education* 90, 123-130.
- Wild, J.J. (2013). *Financial accounting (2nd Ed.)*, New York: McGraw- Hill/Irwin.
- Wolfskill, T. & Hanson, D. (2001). A new model for computer-assisted learning. *Chem.Ed.* 78(14), 17- 24.
- Zakaria, E., Chung Chin, L. & Daud, Y. (2010). The effect of cooperative learning on students' mathematics achievement and attitude towards mathematics. *Journal of Social Science*, University Kebangsaan Malaysia.