

International Conference on Accounting Studies (ICAS) 2015
17-20 August 2015, Johor Bahru, Johor, Malaysia

Effects of cooperative learning on secondary students' achievement in financial accounting

Umar Inuwa^{*a}, Zarifah Abdullah^b, Haslinda Hassan^b

^a*School of Accountancy, Universiti Utara, Malaysia and ATBU, Bauchi, Nigeria*

^b*School of Accountancy, Universiti Utara, Malaysia*

Abstract

The major factor contributing to students' failure in financial accounting in secondary schools is the teaching methods used by the accounting teachers. In this paper we study the effectiveness of cooperative learning approach on students' academic achievement. Cooperative learning is the learning style whereby students are arranged in small groups and the group members are linked together in such a way that they cannot succeed unless every member in the group succeed. They assist and encourage the effort of each other to ensure that all the group members master the learning material in order to achieve their personal and group objectives. Cooperative learning approach is not only improving students' academic achievement but it also enhances positive attitudes towards learning, develops social skills, improves interpersonal relationships, and prepare students for collaborative work. Therefore, the objective of this paper is to adopt social interdependence theory, cognitive development theory and motivational theory to examine the effects of cooperative learning on secondary students' achievement in financial accounting using pre-test post-test control group design.

Keywords: Cooperative learning effects; financial accounting achievement, secondary student, pre-test post-test control group design.

1. INTRODUCTION

The main goal of the secondary school education in Nigeria is to prepare individuals for useful living within the society and higher education (National Policy on Education, 2004). Despite the government's commitment to improve secondary school education in Nigeria, there is still a marginal decline in the students' performance in national examination. The West African Examination Council (WAEC) report of 2014 indicated that, in 2012, only 38 per cent of the candidates that sat for the examination have met the requirement for admission at the higher level of learning. Similarly, in 2013, the percentage dropped down to 29.17 while in 2014, approximately over 70 percent failure was recorded. Mohammed (2011) reported that there has been a decline in the performance of secondary students in financial accounting in Gombe state especially in their external examination. He further stated that, the major factor contributing to students' failure in financial accounting is the predominant usage of conventional teaching approach where teacher dominates the class and does not encourage students to be active participants in the classroom. This approach has a negative impact on students' achievement (Samad, 2005). Financial accounting is not a course or subject that can be learned simply by memorization of basic rules and principles. It requires full participation of learners in the learning process (Akintelure, 1998).

*Corresponding author. Tel.: +6 0165010442; Fax: +0-000-00000000
E-mail: alumhari@gmail.com

Prior studies (see, for example, Gokkurt, Dundar, Soyly & Akgun, 2012; Hossain & Tirmizi, 2013) examined the effect of cooperative learning on students' achievement in mathematics and they found that, cooperative learning approach improved students' academic achievement in mathematics. Gokkurt et al. and Hossain Tirmizi suggested that future studies focusing on the effect of cooperative learning on students' academic achievement in various subject should be carried out. Our study therefore, aims to examine the effects of cooperative learning on secondary school students' achievement in financial accounting in Gombe state, Nigeria. In particular, the objective of our is to assess the learning outcomes of students that receive instruction in financial accounting using cooperative method and that of those in control group.

Cooperative learning strategy is attracting worldwide attention of scholars. Johnson and Johnson (1994) view cooperative learning as the instructional approach in which students work together in small groups to maximize their own and each other's learning. Cooperative learning is working together to achieve a joint goal. In cooperative learning strategy both high-ability and low-ability students work together to solve a problem. According to Deutsch (1994), cooperative learning is the learning style where students are placed in small groups and the group members are linked together in such a way that they cannot succeed unless every member in the group succeed. They assist and encourage the effort of each other to make sure that all the group members master the lesson in order to achieve their group objective. Cooperative learning strategy is a teaching arrangement that refers to small groups of students working together to accomplish a shared goal (Kagan, 1994). Students work together to learn and they are responsible for their teammates as well as their own learning.

According to Johnson and Johnson (1991), there are five basic elements of cooperative learning

- Positive interdependence - occurs when group members believe that they sink and swim together, that is their gains are positively associated.
- Face-to-face interaction - occurs when the class is designed to allow students interactions during the learning period
- Individual accountability - occurs when each member in the group is responsible for contributing a share of work towards the group success
- Interpersonal and small group skills – occurs when there is trust-building, leadership, decision-making, communication, and conflict management skills among the group members
- Group processing – occurs when the group members are discussing how well they are achieving their goals and maintaining effective working relationships

To-date no existing study investigates the effect of cooperative learning approach on secondary school students' achievement in financial accounting. The expected outcome of this study will be of great significant to financial accounting students in the sense that good teaching method has a positive impact on student success. Therefore, the findings of this study may improve students' grades in financial accounting, thereby reducing the failure rate.

This paper is organized as follows. Section one (1) above is the introduction, section two (2) presents the literature review, section three (3) discusses the proposed research framework, section four (4) presents the methodology and section five (5) is the conclusion.

2. LITERATURE REVIEW

The cooperative learning strategy is designed to place the learners at the forefront of the learning process by transforming the teacher into a facilitator who monitors the students' learning and provides necessary assistance to enable them to achieve their learning objectives (Van Wyk, 2010).

Numerous studies examined the effectiveness of cooperative learning on students' academic achievement and attitude towards learning. For example, Cheng and Chen (2008) conducted a quasi - experimental study with 98 secondary students to determine the effect of cooperative learning on students' attitudes towards accounting . They found that cooperative learning approach improved students' attitudes towards accounting.

Gabbin and Wood (2008) examined the effect of cooperative learning on accounting majors' academic achievement at University of Virginia. They argued that no significant difference was found between the mean performance score of students in cooperative learning group and those in non-cooperative learning group. In a related study, Zraa, Kavanagh, and Hartle (2011) compared the effect of cooperative learning and traditional lecture method on university students' academic performance in accounting and their findings revealed that, cooperative learning approach had a positive influence on university students' academic performance in accounting.

Yamarik (2007), in his experimental study, reported that the students taught economic using cooperative learning approach achieved a better learning outcomes in terms of their exam score compared to those taught using traditional lecture method. This finding is in line with Van Wyk (2010) who studied the impact of STAD technique of cooperative learning on 110 University students' economic literacy. The findings showed that cooperative learning strategy had a significant impact on students' achievement in economics. In the same vein Van Wyk (2013) reported that cooperative learning strategy improved students' knowledge of contemporary economics issues at the secondary school level when compared to conventional teaching approach.

Aziz and Hossain (2010) compared the effects of cooperative learning and conventional teaching on students' achievement in secondary mathematics. The results showed that cooperative learning style is more effective in promoting students' achievement in mathematics. Hossain and Ahmad (2013) also embarked on a study to examine the effects of cooperative learning on students' mathematics achievement and attitudes towards mathematics. They found that cooperative learning had a positive impact on students' achievement in mathematics as well as attitudes towards mathematics.

In a related study, Gokkurt, Dundar, Soylu, and Akgun (2012) investigated and determined the effects of learning together technique of cooperative learning on 9th grade students' mathematics achievement. Their analysis of pre-test and post-test score showed a significant difference between the experimental group which learning together was applied, and control group which conventional method was applied in favor of experimental group. Their results are consistent with Conring (2009) in his quasi-experimental study that examined the effects of cooperative learning on mathematics achievement of 2nd - grade students in Northwest Georgia. The study's findings showed a significant difference between the mean achievement scores of 2nd grade students that were taught mathematics using cooperative learning strategies and those that were taught with traditional teaching method in favor of cooperative learning group. He concluded that cooperative learning strategy is appropriate for teaching mathematics to second grade students. Muhammad (2010) agreed that a significant relationship exists between the mathematics learning outcomes of students and the cooperative learning. Cooperative learning strategy influenced students' achievement in mathematics.

Students' self-efficacy and intrinsic motivation are also influenced by cooperative learning approach (Torchi, 2012). A five weeks experimental study was conducted by Tran (2013) to investigate the effect of cooperative learning on 74 9th-grade students' achievement in mathematics and attitudes toward mathematics. Tran found that the students exposed to cooperative learning strategy outperformed the students in conventional learning group. In addition, students in cooperative learning group demonstrated more positive attitude towards mathematics than their counterparts in conventional learning group. The results are consistent with Zakaria, Chin and Daud (2010) who examined the effect of cooperative learning on students' mathematics achievement and attitude towards mathematics using quasi-experimental study. In Zakaria et al. (2010), the analyses of pretest and posttest result showed that cooperative learning approach improves students' achievement in mathematics as well as attitude towards mathematics. The authors concluded that cooperative learning is an effective tool for teaching mathematics. All the students in cooperative learning class demonstrated good learning outcomes in mathematics as well as good social skills (Pawattana, Prasarnpanich, & Attanawong, 2014).

Motaei (2014) investigated the effect of cooperative learning approach on General English achievement of students. He identified that, in all four components of English measured in the study which are dictation, reading, grammar, and vocabulary, the performance of experimental group was significantly better than the performance of control group. The result also showed that students prefer cooperative learning model because they are given chance to participate in learning process and solve their own problems through discussion with their colleagues.

Evcim and İpek (2013) studied the effects of Jigsaw II model, one of the techniques of cooperative learning on students' achievement in English. Similar to Motaei (2014), they found that there was a significant difference between the experimental and control group in terms of their performance. The experimental group outperformed the control group.

Wang (2009) applied Slavin's principles and techniques of cooperative learning to a college EFL conversation class. He found that cooperative learning technique improves student's linguistic and conversational competence. In a related study, Azizinezhad, Hashemi, and Darvishi (2013) applied cooperative learning model in English as a foreign language classes to enhance the students' language learning. Their investigation revealed that cooperative learning had positive effects on students' language acquisition and the approach is motivating

students towards learning English. They finally concluded that the approach to be integrated as part of the Curriculum of English instruction.

Majoka, Khan, and Shah (2011) compared the effect of cooperative learning and traditional approach of teaching on 7th class students' academic achievement in social studies. They found that the mean performance of students instructed with cooperative approach outscored the mean performance of students instructed with conventional approach. The findings also revealed that, cooperative method has effect on all learning abilities which are; high, average, and low achievers. Srisumra, Nontamolee and Srijamon (2014) conducted one group pretest-posttest experimental study to determine the effectiveness of cooperative learning model in art subject and they found that the mean achievement score of students after the treatment is significantly higher than the mean achievement score of students before the treatment.

Parveen and Batool (2012) carried out the experimental study using pretest posttest control group design with 36 students to investigate the effects of cooperative learning on students' achievement in General Science. The results of their investigation disclosed that cooperative learning approach had a positive influence on general science achievement of 9th grade students. The findings are consistent with Ajaja and Eravwoke (2010) who reported that cooperative learning approach had positive effects on students' achievement and attitude towards integrated science. Nonetheless, no significant difference was observed between achievement test scores of male and female students in the cooperative learning group.

Wachanga and Mwangi (2005) examined how cooperative learning method affected students' achievement in Chemistry and they revealed that students taught Chemistry using cooperative learning method performed better in their academic achievement than those taught using routine approach. Also, gender did not affect the students' achievement. Cooperative learning without competition improves students' achievement in chemistry while cooperative learning with competition enhances students' attitude towards chemistry. Hence cooperative learning is appropriate in teaching chemistry to secondary school students (Ibraheem, 2011). On the other hand, Oludipe and Awokoy (2010) reported that the chemistry anxiety of students exposed to cooperative learning approach was drastically reduced compared to those exposed to conventional teaching approach. The study investigated the effect of cooperative learning approach on Secondary School students' anxiety for learning chemistry using quasi-experimental design with 120 students randomly assigned to experimental and control groups. Based on the above discussion, the following hypothesis is proposed:

H1: Students taught financial accounting using cooperative method will perform better than those taught financial accounting using conventional method.

3. PROPOSED RESEARCH FRAMEWORK

Based on the empirical evidences discussed in section 2, a research framework showing the relationship between independent variable (i.e. cooperative learning effects) and dependent variable (i.e. students' achievement in financial accounting) is proposed (see Fig. 1). This framework is developed based on three theoretical perspectives. According to Johnson and Johnson (1994) cooperative learning comes from three (3) different theoretical perspectives: social interdependence theory, cognitive development theory and motivational theory. Social interdependence theory postulates that the group members are interdependence. In other words the achievement of each individual's goals is affected by the actions of others (Johnson & Johnson, 1998). While cognitive development theory emphasizes the importance of social interaction in promoting the cognitive development of individuals (Vygotsky, 1978). Motivational theory related to cooperative learning is mainly focusing on goal structure. The goal structure creates a situation in which the only way the group members can achieve their personal goal is through the group success that is, if the group is successful (Slavin, 1983, 1995).

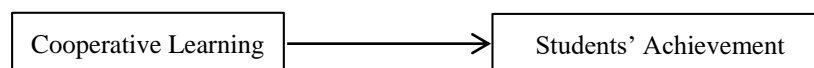


Fig. 1 Research Framework

4. METHODOLOGY

This study will use a pre-test post-test control group design to examine the effects of cooperative learning on secondary school students' achievement in financial accounting. The pre-test post-test control group design is true experimental design which comprises treatment and control group and both groups are studied before and after experimental manipulation to determine the treatment effect (Sambo, 2005). The design will be used in this study because it controls all threat to internal validity of experimental study (Sambo, 2005; Sekaran & Bougie, 2013).

The population of this study will comprise all senior secondary school level two (SSII) financial accounting students of 26 secondary schools offering financial accounting in Gombe State. The Gombe State will be considered in this study because Mohammed (2011) observed that there is dropping down in the performance of students in financial accounting in Gombe State, especially in their external examination. Nine schools will be drawn from the population to make the sample of the study using purposive sampling technique. Three schools will be selected from each of the three senatorial district of the state. The schools to be selected in each senatorial district will comprise the school with the highest, average, and lowest percentage of candidates that passed financial accounting in national examination in order to involve all the learning ability in the study. The instrument to be used for data collection is Financial Accounting Achievement Test (FAAT). The data for this study will be collected from the study's participants (financial accounting students) through the research assistants (financial accounting teachers). The data collected for this study will be analyzed using simple mean, t-test.

5. CONCLUSION

This paper has proposed the need to investigate the effects of cooperative learning approach on secondary students' achievement in financial accounting. It draws the attention of stakeholders, particularly secondary school teachers on the benefits and importance of applying cooperative learning strategy in the learning environment. It has been proved in the literature that there are positive changes that are taking place when students are exposed to this style of learning. Cooperative learning approach is not only improving students' academic achievement but it also enhances positive attitude towards learning, develops social skills, improves interpersonal relationship, and prepare students for cooperative work. This study will consider only senior secondary school level two (SSII) financial accounting students to allow us to make causal conclusion. Thus, this may limit the generalization of the expected outcome to other levels of financial accounting students in senior secondary schools. Based on the empirical evidences discussed in section 2, the authors observed that, cooperative learning approach had positive influence on students' academic achievement. It was recommended that, empirical study should be conducted to examine the effects of cooperative learning approach on secondary students' achievement in financial accounting.

REFERENCES

- Akintelure, S. L. (1998). Comprehensive book-keeping and accounts for senior secondary school: sure-bet for WAEC. Lagos: Johnson publishing Ltd.
- Aziz, Z., & Hossain, M. A. (2010). A comparison of cooperative learning and conventional teaching on student's achievement in secondary mathematics. *Procedia - Social and Behavioral Sciences*, 9, 53–62.
- Azizinezhad, M., Hashemi, M., & Darvishi, S. (2013). Application of cooperative learning in EFL classes to enhance the students' language learning. *Procedia - Social and Behavioral Sciences*, 93, 138–141.
- Cheng, K. W., & Chen, Y. F. (2008). Effects of cooperative learning in a college course on student attitudes toward accounting: A quasi-experimental study. *International Journal of Management*, 25(1), 111–199.
- Conring, J. (2009). *The effects of cooperative learning on mathematic achievement in second graders*. (Doctoral dissertation, Walden University).
- Deutsch, M. (1994). Constructive conflict resolution: Principles, training, and research. *Journal of Social Issues*, 50(1), 13-32.
- Eravwoke O. U., & Ajaja O. P. (2010). Effects of cooperative learning strategy on junior secondary school students achievement in integrated science. *Electronic Journal of Science Education*, 14(1), 1–18.
- Evcim, H., & İpek, Ö. F. (2013). Effects of jigsaw ii on academic achievement in english prep classes. *Procedia - Social and Behavioral Sciences*, 70, 1651–1659.
- Gokkurt, B., Dundar, S., Soylu, Y., & Akgun, L. (2012). The effects of learning together technique which is based on cooperative learning on students' achievement in mathematics class. *Procedia - Social and Behavioral Sciences*, 46, 3431–3434.
- Hossain, A., & Ahmad, R. (2013). Effects of cooperative learning on students' achievement and attitudes in secondary mathematics. *Procedia - Social and Behavioral Sciences*, 93, 473–477.
- Ibraheem, T. L. (2011). Effects of two modes of student teams – achievement division strategies on senior secondary school students' learning outcomes in chemical kinetics. *Asia-Pacific Forum on Science Learning and Teaching*, 12(2), 1–21.
- Johnson, D. W., & Johnson, R. T. (1990). Social skills for successful group work. *Educational Leadership*, 47(4), 29-33.
- Johnson, D. W., & Johnson, F. P. (1991). *Joining together: Group theory and group skills*. Prentice-Hall, Inc.
- Johnson, D.W., & Johnson, R. T. (1994). *Learning together and alone*. London: Allyn and Bacon
- Kagan, S. (1994). The structural approach: Six keys to cooperative learning. *Handbook of cooperative learning methods*, 115, 33.
- Majoka, M. Khan, H. I. S. (2011). Effectiveness of cooperative learning for teaching social studies to students with different ability at elementary level. *Interdisciplinary Journal of Contemporary Research in Business*, 3(11), 486–498.
- Motaei, B. (2014). On the effect of cooperative learning on general english achievement of kermanshah islamic azad university students. *Procedia - Social and Behavioral Sciences*, 98, 1249–1254.
- Mohammed, I. A. (2011). The challenges of teaching financial accounting in Nigerian secondary schools: A case study of Gombe state. Available at SSRN 1854322.
- Muhammad, Z. (2010). *Effects of cooperative learning intervention on non-science college majors*. unpublished doctoral dissertation, southern university and A & M College. Southern University and A & M College.
- Oludipe, D., & Awokoy, J. O. (2010). Effect of cooperative learning teaching strategy on the reduction of students' anxiety for learning chemistry. *Journal of Turkish Science Education*, 7(1), 30–36.

- Parveen, Q., & Batool, S. (2012). Effect of cooperative learning on achievement of students in general science at secondary level. *International Education Studies*, 5(2), 154–158.
- Pawattana, A., Prasarnpanich, S., & Attanawong, R. (2014). Enhancing primary school students' social skills using cooperative learning in mathematics. *Procedia - Social and Behavioral Sciences* 112, 656–661.
- Slavin, R. E. (2011). Cooperative learning. *Learning and Cognition in Education Elsevier Academic Press, Boston*, 160-166.
- Sambo, A. A. (2005). Research methods in education. Ibadan: Evans Brothers Nigeria Ltd
- Samad, M.A. (2005). *Ganit shikkha-o-prashikkhon*. Dhaka: Samad Publication and Research.
- Sekaran, U. & Bougie, R. (2013). Research methodology for business: A skill building approach. Chichester: John Wiley & Son Ltd,
- Srisumra, J., Nontamolee, W., & Srijamon, S. (2014). Cooperative learning activities in arts of prathom sukka 4 students khon kaen university demonstration school primary section (modindaeng). *Procedia - social and behavioral sciences*, 112(iceepsy 2013), 677–682.
- Torchii, S. P. (2012). *Cooperative learning and its effect on fourth-grade mathematics students' achievement, motivation, and self-efficacy. Unpublished doctoral dissertation, Capella University.*
- Tran, V. D., & Lewis, R. (2012). Effects of cooperative learning on students at Giang University in Vietnam. *International Education Studies*, 5(1), 86-99.
- Tran, V. D. (2013). Effects of student teams achievement division (STAD) on academic achievement, and attitudes of grade 9th secondary school students towards mathematics. *International Journal of Science*, 2, 1–15
- Van Wyk, M. M. (2010). Do student teams achievement divisions enhance economic literacy? an quasi-experimental design. *Journal of Social Sciences*, 23(2), 83–89.
- Van Wyk, M. M. (2013). The effect of student teams achievement divisions as a teaching strategy on grade 10 learners' economics knowledge. *International Journal for Cross-Disciplinary Subjects in Educationin*, 4(2), 1153–1157.
- Wachanga, S. W. & Mwangi, J. G. (2005). Effects of the cooperative class experiment teaching method on secondary school students' chemistry achievement in kenya's nakuru district. *International Education Journal*, 14(3), 26–36.
- Wang, T. (2009). Applying Slavin's cooperative learning techniques to a college EFL conversation class. *The Journal of Human Resource and Adult Learning*, 5(1), 112–120.
- Yamarik, S. (2007). Does cooperative learning improve student learning outcomes? *Journal of Economic Education*, 25(1), 259–277.
- Zakaria, E. Chin, L. C. Daud, Y. (2010). The effects of cooperative learning on students' mathematics achievement and attitude towards mathematics. *Journal of Social Sciences*, 6(2), 272–275.