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A Proposed Framework of the Effect of Guided Discovery Approach on Secondary Students' Achievement in Financial Accounting

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Abstract

It has been proved by the prior studies that the low achievement among secondary school students in financial accounting is due to the persistent use of conventional teaching approach where students put all their focus on the teacher. The conventional teaching approach was found to be less effective in enhancing the students' achievement. In this paper, we study the effect of guided discovery approach on the secondary students' achievement in financial accounting. The guided discovery approach is the instructional approach in which students are given opportunity to test their own understanding by engaging in active learning. Prior studies found that the approach has a strong positive effect in enhancing students' achievement and in promoting their positive attitude towards learning. The research model of our study is proposed and developed based on the constructivist learning theory. The effect of this guided discovery approach on the secondary students' achievement in financial accounting will be examined using a pre-test post-test control group design. The study's findings are expected to be relevant to stakeholders, especially government, curriculum planners, and financial accounting teachers of secondary school in terms of the benefits of adopting guided discovery approach in teaching financial accounting and how this approach could be used to improve their students' achievement.

Keywords: Guided discovery approach, financial accounting achievement, secondary school, pre-test post-test control group design.

1. INTRODUCTION

Financial accounting is one of the vocational subjects taught at senior secondary schools in Nigeria with aims of equipping students with professional knowledge and skills. It is the most popular subject among the vocational subjects offered by senior secondary school students in Nigeria (West African Examination Council, 2004). Specifically, the objectives of teaching financial accounting in senior secondary school in Nigeria are to enable the senior secondary school students to appreciate basic accounting principles, practice, and their applications in modern business activities, and to prepare them to further study in accounting and related courses at the higher level of learning (National Examination Council, 2004). In achieving the above-mentioned objectives, the financial accounting teachers of secondary schools should adopt an effective instructional approach in teaching financial accounting to secondary school students (Obi, 2005).

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Prior studies (see, for example, Mohammed, 2011; Osuala, 2004) reported that there has been a low achievement of secondary school students in financial accounting in Nigeria, especially in their national examination. Several studies (see, for example, Afolabi & Akinbobola, 2009; Akinolu, 2006; Aremu & Sokan, 2008) argued that the mass failure among secondary school students in the national examination is due the instructional approach adopted by the secondary school teachers. Similarly, Mohammed (2011) and Osuala (2004) asserted that the continuous fall in the achievement of secondary school students in financial accounting in the national examination in Nigeria is due to the persistent use of conventional teaching approach where teacher dominates the class and does not encourage students to participate in the learning process. This approach was found to be less effective in improving the secondary school students' achievement because students are not fully engaged in the learning process (Abimbola & Abidoye, 2013; Hossain & Tarmizi, 2013; Majoka, Khan, & Shah, 2011; Samad, 2005). Moreover, financial accounting is not a subject that can be learned simply by memorizing the basic rules and principles. It requires full participation of learners in the learning process (Akintelure, 1998).

Several studies have investigated the effect of guided discovery approach on the secondary school students' achievement, such as in chemistry (see, for example, Fatokun & Eniayeju, 2014; Nbina, 2013; Udo & Etiubon, 2011) and mathematics (see, for example, Akanmu & Fajemidagba, 2013; Hendricks, 2013; Matthew & Kenneth, 2013). The studies reported that the guided discovery approach was effective in enhancing the students' achievement in both subjects. Udo and Etiubon (2011) suggested that future studies focusing on the effect of guided discovery approach on students' achievement in other subject areas should be carried out. In response to this call, our study therefore, aims to examine the effect of guided discovery approach on the secondary school students' achievement in financial accounting in Gombe state, Nigeria. Specifically, the objective of our study is to examine whether there is a significant difference in the achievement score of students that received instructions in financial accounting using guided discovery approach and that of those that received instructions using conventional approach (control group).

Scholars defined guided discovery approach in a number ways. Schunk (2008), for instance, viewed guided discovery approach as the student-centered approach in which the instructor provides a series of questions or statements that guide the students to discover facts or information by themselves. In guided discovery approach, the instructor initiates a stimulus and the students react by engaging in active learning and producing the appropriate response. On the other hand, Nwagbo (1999) defined guided discovery approach as constructivist learning approach where a teacher provides learning materials for the students to study on their own under the guidance of the teacher.

Guided discovery approach is the student-centered approach where students engage in the learning process unlike conventional approach where students put all their focus on the teacher (Abimbola & Abidoye, 2013). However, there is no published study focusing on the effect of guided discovery approach on the secondary school students' achievement in financial accounting. Thus, the current study will examine the effect of guided discovery approach on the 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 influence on the students' success. Specifically, the study's findings are expected to be relevant to stakeholders, especially government, curriculum planners, and financial accounting teachers of secondary school in terms of the benefits of adopting guided discovery approach in teaching financial accounting and how this approach could be used to improve their students' achievement. It is hoped that the study's findings may reduce the mass failure among the financial accounting students of secondary school and improve their grades in the subject.

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

In guided discovery approach, the focus shifts from teachers to students. The main role of the teacher is to guide the students to construct their own knowledge by engaging themselves in active learning (Carnell, 2006).

Several studies have examined the effect of guided discovery approach on students' achievement in various subject areas. For instance, Koksal and Berberoglu (2014), in their study of the effect of guided discovery approach on students' achievement in science, found a significant effect of guided discovery on students' achievement. Their finding is consistent with Conway (2014) in the context of the United States. Conway

reported that there is a statistically significant difference in the mean achievement scores of students that were exposed to guided discovery approach and that of those that were exposed to conventional approach. Cohen (2008), on the other hand, argued that no statistically significant difference existed in the mean achievement scores of students that were exposed to guided discovery approach and that of those that were exposed to conventional approach.

In a related study, Udo (2010) compared the effects of guided discovery, demonstration, and conventional approach on students' achievement in chemistry. Udo observed that the achievement of students taught using guided discovery approach was significantly better than the achievement of students taught using demonstration and conventional. Conversely, Oloyede (2010) reported a contrary finding. Oloyede observed that the achievement of chemistry students exposed to guided discovery and concept mapping approach did not differ significantly. Similarly, Udo and Etiubon (2011) established no significant difference in the achievement scores of students taught chemistry using guided discovery approach and that of those taught using computer simulation strategies.

Nbina (2013), in his comparative study of guided discovery and demonstration approach on students' achievement in chemistry, observed that the mean achievement scores of students that were taught with guided discovery approach outscored the mean achievement scores of students that were taught with demonstration approach. Nbina, Fatokun, and Eniayeju (2014) found that the chemistry achievement of students exposed to guided discovery approach was significantly better than the chemistry achievement of students exposed to conventional approach. Vlassi and Karaliota (2013) reported a similar result in the context of Georgia. They observed that guided discovery approach had a strong positive influence in enhancing the chemistry achievement of secondary school students.

Akinbobola and Afolabi (2010) conducted an experimental study to examine the effect of guided discovery approach on secondary school students' achievement in physics. Their findings indicated that guided discovery approach was effective in improving the secondary school students' achievement in physics. The finding is consistent with Abdisa and Getinet (2012) and Uside, Barchok, and Abura (2013). Abdisa and Getinet, for instance, reported that the achievement of students that were taught physics using guided discovery approach was significantly better than the achievement of students that were taught physics using demonstration and conventional teaching approaches. Uside et al., in the context of Kenya, found a significant positive relationship between guided discovery approach and secondary school students' achievement in physics.

Cetin (2005) examined the effect of guided discovery approach on students' achievement in mathematics in Turkey. He observed that there was no statistically significant difference in the achievement of students exposed to guided discovery and those exposed to conventional approach. Nonetheless, the guided discovery approach was found to be effective in promoting the attitude of students towards mathematics. On the contrary, Hendricks (2013) argued that guided discovery approach was found to be effective in improving students' achievement in mathematics in the United States.

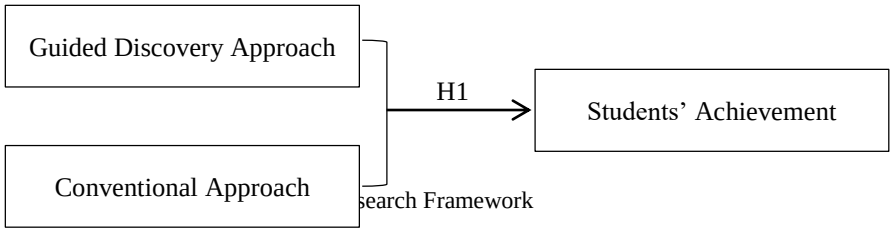
A quasi-experimental design was carried out to investigate the effect of guided discovery approach on students' achievement in mathematics. For instance, Akanmu and Fajemidagba (2013) reported in the context of Nigeria that the students taught using guided discovery approach significantly outperformed their counterpart taught using conventional approach. Similarly, Matthew and Kenneth (2013) observed that the mathematics achievement of students exposed to guided discovery approach was significantly better than the mathematics achievement of students exposed to conventional approach.

In a related study, Ajewole (2006), and Oghenevwede (2010) examined the effect of guided discovery approach on students' achievement in biology in Nigeria. They discovered that guided discovery approach had significant effect on achievement of biology student. The findings are in line with Hasan (2012) in the context of Dubai. Nevertheless, Akanbi and Kolawole (2014), in their study of the effects of self-learning, guided discovery, and conventional approaches on students' achievement in biology, found that the discovery approach was less effective than the self-learning strategy, but significantly better than the conventional approach.

Based on the literature review, we found that none of the existing studies had focused on the effect of guided discovery approach on the secondary students' achievement in financial accounting. Hence, the present study will address this gap. Udo and Etiubon (2011) recommended that future studies should be carried out to examine the effect of guided discovery approach on students' achievement in other subject areas.

3. PROPOSED RESEARCH FRAMEWORK

Based on the theoretical perspective and empirical evidences discussed in section 2, a research framework showing the relationship between instructional approaches (i.e., guided discovery and conventional approach) and students' achievement in financial accounting is proposed (see Fig. 1). This framework is developed based on the constructivist learning theory. The theory, developed by Piaget (1969, 1976), has been widely used by prior studies (see, for example, Hendricks, 2013; Treadwell, 2010) in explaining the guided discovery approach. According to the constructivist learning theory, the classroom environment is no longer a place where learners just wait for instructors to impart the knowledge; the learners learn by developing their own idea through engaging in active learning and fully participating in the learning process (Boghossian, 2006; Carnell, 2006). The teachers, on the other hand, become facilitators to guide and support the learners to develop their own idea (Carnell, 2006). The theory, therefore, promotes active learning where students are given chance of creating and testing their own understanding in the subject area (Carnell, 2006).



search Framework

The following hypothesis is proposed:

H1: There is no significant difference between the achievement of students that received instruction in financial accounting using guided discovery approach and conventional teaching approach (control group).

The current study will test the neutral hypothesis. According to Sambo (2005), testable hypothesis in educational experiments is normally statistical hypothesis. The statistical hypothesis is commonly stated in the form of null hypothesis with the hope that the data will lead to the rejection of null hypothesis and the acceptance of alternate hypothesis.

4. METHODOLOGY

This study will use a pre-test post-test control group design to examine the effect of guided discovery approach on the secondary school students' achievement in financial accounting. The pre-test post-test control group design is an experimental design which consists of experimental and control group and both groups are exposed to pre-test and post-test in order to determine the treatment effect (Sambo, 2005). The design will be used in this study due to the fact that it controls most of the threats to internal validity of the experimental study (Sambo, 2005; Sekaran & Bougie, 2013).

The population of this study will comprise of 746 level two (SSII) financial accounting students of senior secondary schools in Gombe state, Nigeria. Mohammed (2011) observed that there is dropping down in the achievement of the secondary school students in financial accounting in Gombe State, especially in their national examination. Two hundred and twenty-five (225) SSII financial accounting students will be drawn from the population using cluster sampling technique. According to Krejcie and Morgan (1970), 186 is adequate to represent the population of the 746. However, the researcher will increase the sample size to 225 in order to draw the equal number of sample for each cluster. Gombe state has three senatorial district, which are Gombe north, Gombe central, and Gombe south. Hence, 75 students will be drawn from each senatorial district to form the sample size.

The instrument to be used for data collection is Financial Accounting Achievement Test (FAAT). The data will be collected from the subjects of the study (i.e., financial accounting students) through research assistants (i.e., financial accounting teachers). These data will be analysed using paired-sample t-test and analysis of covariance (ANCOVA).

4.1 Treatment Procedure

Before commencing the experiment, nine financial accounting teachers will be selected at random to carry out the experiment in the selected schools. The selected teachers will be given one week orientation on how to execute the experiment. After the orientation, the trained teachers will be assigned to the selected schools for the actual treatment. The experiment/treatment will cover a five weeks period and it will be given to only experimental group (guided discovery) while control group will be taught using conventional approach.
In guided discovery approach, firstly, the teacher will introduce the lesson to the students and explain clearly to them what they are expected to do. Then, the teacher will give a task to the students in group and the task needs to be completed under the guidance of the teacher. Appropriate time and learning material will be given to the students to complete the task. Each group will then be asked to present their findings while the audience will be given a room to ask questions. Finally, the teacher will conclude the class by giving more clarification on the students' findings.

5. CONCLUSION

The aim of this study is to investigate the effect of guided discovery approach on the secondary school students' achievement in financial accounting. A research framework is proposed and developed based on the constructivist learning theory. The study will draw the attention of stakeholders, especially government, curriculum planners, and financial accounting teachers of secondary school on the benefits and the importance of adopting guided discovery approach in teaching financial accounting to the secondary school students. It has been evidenced in the existing literature that in guided discovery approach, students are given the opportunity to test their own understanding by engaging in active learning. The approach also had a strong positive effects in enhancing students' achievement and in promoting their positive attitude towards learning.

The present study will use only senior secondary school level two (SSII) financial accounting students to allow us to make causal conclusion. Therefore, this may limit the generalization of our expected result to other levels of financial accounting students in senior secondary schools. Based on the empirical evidences discussed in section 2, this study observed that guided discovery approach is effective in improving the students' achievement in various subject areas. It was suggested that empirical study should be carried out to investigate the effect of guided discovery approach on secondary students' achievement in financial accounting.

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