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Creating Effective Teaching and Learning in the Classroom through Problem Based Teaching Method (PBTM): Guidance for Accounting Teachers in the Developing Countries

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Author's contribution

The sole author designed, analyzed, interpreted and prepared the manuscript.

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ABSTRACT

Problem-based teaching method (PBTM), which is one of the student-centered teaching methods, has been found by scholars as an effective teaching method that enhances students' academic performance and knowledge retention in the teaching and learning of several subjects, including accounting. But, no known study has simplified PBTM processes for use in the classrooms in the teaching and learning of accounting. This seems to have made its application in the teaching and learning of accounting at tertiary and basic/postbasic levels difficult. This study, therefore, has simplified the Problem-based teaching method (PBTM) for use in the teaching and learning of accounting at basic/postbasic and tertiary levels in the education sector in Nigeria. This research study was considered because of the environment where the teaching and learning of accounting usually take place in the nation. The study anchors on Social learning theory, which states that, as learners actively participate in the classroom work through problem-solving, advancement in knowledge occurs. The study concludes that accounting could be taught effectively at any education level in Nigeria using this simplified PBTM to enhance students' academic performance and knowledge retention.

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1. INTRODUCTION

The decline in the performance of students in the teaching and learning of accounting has made it imperative for scholars to search for the teaching method(s) and strategies that could enhance the performance of students in the subject. It is believed that the primary aim of teaching is to promote learning. According to Saidu and Audu [1], teaching is the process of developing the cognitive, psychomotor and affective powers of the learner through giving knowledge of facts about a subject matter, reinforcing or developing positive attitudes, and certain physical or manipulative skills in the learner. Obidile and Eze [2] defined teaching as the act of imparting knowledge to bring about the desire competencies in the behavior of the learner. According to Odundo and Gunga [3], one of the factors that constitutes good teaching and learning of school subjects is effective teaching method(s). Nwalado [4] defined the teaching method as a systematic process of presenting knowledge, content, concept, skills, attitudes, information, and values in any subject to students in a teaching and learning situation to achieve success. Harrison [5] reported that many school subjects are not learned as they ought to be in Nigerian schools because of ineffective teaching methods usually used where students are left as passive learners. In the same vein, Scott [6] asserted that teachers should not depend on their practice of imparting information alone but must help learners learn how to learn. This assertion implies involving learners in the teaching and learning processes and assisting them to be independent. Imparting knowledge should not be the sole responsibility of the teacher because it could discourage critical thinking on the part of the learners. Many scholars have advocated for teaching methods that are student-centered, especially in the teaching and learning of accounting. Among the student centered teaching methods is the Problem-based Teaching Method (PBTM) or Problem-Based Learning (PBL).

The Problem-Based Teaching Method (PBTM) was first applied in medical school at McMaster University in Hamilton in 1969 [7]. According to the authors, medical instructors were frustrated by the difference between traditional didactic lecturing and the clinical reality that their students would eventually face, so they decided to base their instruction on actual cases hence, using PBTM. Currently, the PBTM application has been adopted in other subject areas like engineering [8], mathematics [9] and accounting [10].

Problem based teaching method (PBTM) is defined as the instructional learner-centered approach that empowers learners to conduct research, integrate theory and practice, and apply knowledge and skills to develop a viable solution to a defined problem [11]. It is an instructional strategy that uses identified problems to increase knowledge and understanding [12]. According to Hung [13], PBTM is an instructional method that is aimed at preparing students for real-world settings by requiring them to solve problems as the main format of instruction. It is a learner-centered instructional approach where a problem is presented, and the learner searches for knowledge to solve the problem in the classroom to enhance cognitive development [10]. It is the student-centered approach where problem-solving is mainly used to arouse students' interest and participation to enhance knowledge retention and development. According to Hmelo-Silver [14], the goal of PBTM is to help students develop in-depth knowledge, problem-solving skills, self-directed learning, effective collaboration skills, and intrinsic motivation. In PBTM, students are expected to construct deeper and expanded insight of the problem presented using the available resources in the classroom to search for answers to the problems posed by the instructor.

Several studies have examined the effect of PBTM and found that it could be used to: enhance students' content knowledge, problem solving skill, critical thinking skill, collaboration and self directed learning skill [8,15,16,17,18], foster active learning and knowledge retention [19]; enhance academic performance and retention of knowledge [10]. PBTM could also help to develop skills that are applied to many domains leading to social and academic integration. Research conducted by Strobel and Van Barneveld [20] indicated that PBTM could be more effective than the traditional method in training competent and skilled practitioners and also in promoting long-term retention of knowledge and skills acquired. Using PBTM could help teachers (facilitators) to identify what students already know, what they need to know,

and how they could access new information that might lead to the resolution of the problem. However, PBTM is not without disadvantages, which include: utilization of huge resources, availability of irrelevant information/materials when sourcing for the solution to the problem, inadequate time to use the approach and to provide students' strengths and weaknesses, inadequate classroom space, maintaining objectivity in peer assessment, among others.

In the teaching of accounting, several teaching methods are usually used, which include lecture, demonstration, among others [11], currently, these teaching methods do not seem appreciable, probably due to their teacher-centredness. Other reasons could be that, teachers are not conversant with the roles they need to play in the classroom to enhance teaching and learning or that teachers' roles in the classroom might have failed to equip the learners with the expected skills [21]. It is therefore important that accounting teachers should be made to know their roles in the classroom through careful planning and awareness [22]. Nevertheless, some scholars have advocated for teaching methods that are student-centered in the teaching of accounting [23-26] yet, most accounting teachers still use conventional (lecture) teaching method which often makes students passive and this often times manifests poor academic performance.

2. STATEMENT OF THE PROBLEM

Considering the level of decline in the performance of students in accounting, it becomes pertinent to ascertain strategies that could be used to improve students' academic performance and retention in accounting. Having found PBTM to be effective in the teaching and learning of accounting as ascertained by the study of Eze, Ezenwafor and Obidile [10], it becomes necessary to simplify PBTM for use in the classrooms at basic/postbasic and tertiary levels of education with special consideration to the nation's teaching and learning environment to enhance the academic performance and knowledge retention of accounting students in Nigeria and related countries.

2.1 Traditional Methods of Teaching

In the early days, teaching was mainly done by giving students rigidly formulated statements, which they had to memorize and regurgitate (repeat) when required to do so by teachers. Learners were simply made to cram things. It was believed that the human brain was a blank slate where knowledge can be pumped and stored. Teaching was mostly done by teachers leaving students to be passive. As diversity of students in the classroom widens, teachers are continually faced with instructional challenges of how to implement best practices that would improve educational outcomes for all learners. The traditional methods (teacher-centered) where students are usually passive learners started giving way to student-centered methods.

The teacher-centered method of teaching which provides for one way communication, where the teacher takes active part in the selection, organization and presentation of teaching materials is contrary to what Nwachukwu [27] opined that, good teaching should provide for a two-way communication between the teacher and the students. According to Tella, Indoshi and Othuon [28], teacher-centered methods are associated with inadequate stimulation of students' innovative capacities, shallow intellectual thinking, cramming of facts, poor knowledge, poor retention and high dependency of students on their teachers. Okwilagwe [29]; Adeyemi [30] noted that teacher-centered methods encourage students to cram facts, which are easily forgotten. These authors noted that teacher-centered methods often result to students not enjoying the lessons and missing the benefits of intellectual discovery.

Lecture method of teaching is one of the teacher-centered teaching methods. It usually provides a one way communication from the teacher to the learner. In lecture method, the learner is usually a passive recipient of knowledge and information. Awotua-Efebo [31] stated that lecture method is a method whereby the teacher transmits information to the students who are passive learners and thereby encouraging rote learning. Furthermore, Bonwell [32] contended that students do not learn much just by sitting in the class and listening to their teachers, memorizing pre-packaged assignment and spitting out answers. In lecture method, teachers usually give out all the facts they want students to know and master, caring very little whether or not, the students are actively participating and contributing to the success of the lesson [33].

Lecture method does not provide students enough opportunity to practice their oral communication skills [34]. It often encourages students' dependence on their teacher [35]. Nevertheless lecture method of teaching has its

advantages which among others include that lecture method is good for large classes. The teacher provides all knowledge related to the topic and it is time saving as the teacher always finishes in time to allow a great deal of information to be passed to the learner. In spite of the advantages, the lecture method seems not to stimulate students' innovation, inquiry and scientific attitudes. It has been noted that lecture method commonly used for teaching and learning processes in Nigerian schools is not so effective in all subjects, because the students are not given the opportunity to interact with the environment and maximally develop their intellectual capabilities [36]. The method could stifle individual autonomy when learners are taught that knowledge is transmitted in one direction, from the expert to the learner. The inadequacy of some teaching methods to arouse and sustain students' interest, participation, achievement and retention has become a source of concern to many educators in Nigeria. The departure from the traditional method of teaching where students are passive learners has been advocated by many educators in Nigeria with the intention of obtaining admirable results [37]. The method to be used for effective teaching and learning is a matter of utmost concern to stakeholders in education sector.

There are several teaching methods available in the teaching of accounting. They include: reading work-out examples, demonstration, use of short objective questions, use of unstructured cases and discussion [38]. In the teaching of accounting, emphasis has been made to use teaching method (s) like PBTM that would enhance in-depth learning, arouse students' interest and encourage their participation. According to Akinterule [39] accounting is not a subject that could be mastered by mere memorization of the basic rules. It requires hands-on learning. According to Ndinechi and Obidile [25] lecture method which has been described as teacher-centred method and has been found to make students passive learners, should not be solely used in the teaching of accounting. Uwameiye and Titilayo [40] found that teacher-centered method was inappropriate and that its predominant use by accounting teachers was a contributory cause of students' failure in the subject.

2.2 Student-Centered Methods of Teaching

Student-centered methods of teaching advocate learner-centered approach. They are methods where learners' needs and their participation in the teaching and learning situations are considered. According to Al-Zu'be [41], student-centered approach mainly focuses on the needs of the students in the education system. According to Johnson and Johnson [42], student-centered approach motivates students to form closer relationships with one another. Student-centered methods are associated with imaginative, critical and creative skills, active participation of students in the learning process, intellectual engagement and higher learning achievement [43]. Chika [44] observed that student-centered pedagogy is a powerful strategy for improving learning achievement, knowledge, and skill acquisition. Student-centered methods could actively engage students in the learning process for effective mastery and could enhance retention of the subject matter and promotion of a positive attitude towards the subject [3].

Other advantages of student-centered methods from other scholars include: promoting democratic participation in the learning process, encouraging critical thinking, meeting students' communication needs, and improving performance [45,46]. According to Muraya and Kimano [47], student-centered method is an effective teaching approach and should be adopted by teachers. Kang'ahi, Indoshi, Okwach and Osodo [48] in their study, found that learning achievement could be enhanced in some subjects with student-centered teaching style than teacher-centered teaching style. It is therefore, important that teachers should promote instructional methods that could bring about improved participation of students [49]. However, the method to be used by teachers should depend on the learning objectives, but whichever method chosen by the teacher, students' needs, and their participation should be considered, hence the advocacy of student-centered by most scholars. Student-centered methods include but are not limited to guided discovery, role play, field trip, simulation, and games [50]. Others include the scaffolding method, discussion method and problem-based method [51,52]. Guided discovery learning refers to various instructional methods that engage students in learning through discovery. Usually the aim is to promote deep learning, promote meta-cognitive skills (develop problem-solving skills and creativity), and promote students' engagements. In the role-play, students are involved in the solution by adopting different roles. It involves selecting, acting, and discussing

problems. The field trip is teaching and learning excursions outside the classroom. A field trip can connect schoolwork with the world, making it tangible and memorable. The simulation puts learners into seemingly real situations where they can make decisions. It stimulates the active engagement of students. Games are used to bring participation, drills, competition, and feedback into the learning experience. The scaffolding method is a method of teaching where students are given tasks that they cannot solve alone without the intervention of the teacher. The discussion method is a teaching method where the focus is shared between the instructor and the students for information transfer. PBTM is an instructional strategy that uses an ill-structured problem to enhance students' interest, participation, achievement, and retention.

In applying the PBTM in the classroom, the core problems (ill-structured problems) could vary among disciplines. However, there are some characteristics of good PBL problems that transcend fields, according to Duch, Groh and Allen [53]. They include; that

- The problem must motivate students to seek out a deeper understanding of concepts.
- The problem should require students to make reasoned decisions and defend them.
- The problem should incorporate the content objectives in such a way as to connect it to previous courses/knowledge.
- If used for a group project, the problem needs a level of complexity to ensure that the students must work together to solve it.
- If used for a multistage project, the initial steps of the problem should be open-ended and engaging to draw students into the problem.

Graff and Kolmos [54] listed nine major principles in this method which include: problem is the main element; student-centered learning; teachers play roles to create problems that are linked to the pupils' real life; problem must be related with daily life situations; pupils show interest during the process to resolve the problem; the foundation of this method is learning activities; pupils have a higher percentage of understanding the topic; collaboration between group members and a form of active and reflective learning.

In Addition, Piaget [55] proposed some of the key elements that could be used during the implementation of PBTM in the classroom which are: pupils will be given responsibility in planning their own learning; problem is the main key in this method; teachers act as facilitators; pupils must do reflections; pupils must learn something in the process of resolving the problem. In conclusion, the concept of problem-based learning is a form of teaching that focuses on student-centered learning and is based on real life issues or problems. In all the student-centered teaching methods, they encourage students' participation and have been advocated to be used in the teaching and learning, as they have been found to enhance students' academic performance and knowledge retention. Student-centered methods encourage students' interaction with their environment, hence the use of social learning theory.

2.3 Social Learning Theory and the PBTM

Social Learning Theory is the theoretical perspective relating to the study. The theory was propounded by Lev Vygotsky in 1978. The theory stresses the fundamental role of social interaction in the development of cognition. Vygotsky stated that cognitive development stems from social interactions as children and their partners co-construct knowledge. In problem based teaching method, the instructor prompts students to reflect on the dynamics of the reasoning skills that they practice under his or her guidance [56]. This helps students to develop the cognitive self-awareness that is valuable in the development of their post formal thinking, as well as their ability to monitor and direct the processes of problem-solving [14]. When this happens, students would most likely be involved in the learning process and their involvement help to provide feedback to the teacher about their level of understanding.

The theory is implied in the study, in the sense that, it observed that learning is constructed and co-constructed within the community of learners in which the learner is involved. This entails that as learners actively participate in the classroom work in the quest for solution to the ill-structure problem, advancement in knowledge takes place. It follows the constructivist perspective in learning as the role of the instructor is to guide and challenge the learning process rather than strictly providing knowledge [17,57]. PBTM assumes that teaching

and learning constitute the constructive process influenced by social and contextual factors [15].

2.4 Application of PBTM in the Classroom

In structuring a PBTM course as adopted from Dion [58] the following should be observed:

1. Define the purpose; assign students to groups arbitrarily.
2. Introduce the ill-structured problem.
3. If the problem is printed rather than viewed, provide copies for each person in each group or for each group.
4. Assess progress at regular intervals.
5. Peer assessment [59].
6. The instructor should provide detailed comments about each student's strengths and weaknesses [60]. This could also be termed feedback.

In Nigeria, at the tertiary level, the PBTM could be utilized as the teacher initiates the following processes after introducing the ill-structured problem (s):

- Students should be grouped.
- Each group employs self directed study, discussion, explores literature and other external sources like multimedia (audio visual) as well as consulting other experts in the field to get solution to the problem.
- The solution should then be presented, modified (if necessary) and established.

However, at the basic/prevocational level and post-basic/vocational level, class discussion is vital because of the nature of class composition. Hence, the following simplified strategies could be used to integrate PBTM in the teaching and learning of accounting in developing countries:

- **Clarification of Relevant Concepts:** Concepts that will help to understand the ill-structured problems should be well explained by the facilitator. In PBTM the ill-structured problem could be presented either before or after the formal instruction [59,61,62]. According to the authors, when the ill-structured problem is presented before the formal instruction, it derives learning but when it is presented after the formal instruction, it synthesizes the activity which ties up different bits of knowledge. The choice of when to present the ill-structured problem depends on the objectives of the lesson. It is therefore the duty of the teacher to ensure that students are familiarized with the resources needed to solve the problem either before the introduction of the ill-structured problem or after the introduction of the ill-structured problem.
- **Introduction/Presentation of the Ill-structured Problem:** In PBTM, the ill-structured problem is given to arouse students' interest to search for solution to the problem. The ill-structured problem is a problem that consists of neutral description and leads to problem solving activity [63]. It could be a question that would generate interest and cause learners to think beyond recall and thus ask questions [59]. It is a problem that activates prior knowledge, self directed-learning and discovery learning. In the teaching of accounting, the ill-structured problem could be printed and copies shared to members in a group. Duch, Groh and Allen [53] stated that the ill-structured problem could be introduced in stages so that students could identify learning issues that would lead them to research the targeted concepts. The following are some questions that could guide the facilitator in this process:

  - What will the first stage look like? What open-ended questions can be asked?
  - What learning issues will be identified?
  - How will the problem be structured?
  - How many class periods will it take to complete?
  - Will students be given information in subsequent stages as they work through the problem?
  - What resources will the students need?
  - What end product will the students produce after solving the problem?

- **Grouping of Class Members:** The teacher in an attempt to group the students, could leave empty rows between the groups. This would enable him to monitor each group and how the students are participating in their groups. According to Duch, Groh and Allen [53], grouping of the class members will depend on the number of students willing to take the course. According to the authors, for a medium or large-size class, a combination of mini-lectures, whole-class discussions, and small group work with regular reporting may be necessary. The teacher's guide can indicate plans or options for

cycling through the stages of the problem, interspersing the various modes for learning.

- **Collection of Information to Solve the Ill-Structured Problem (Discussion):** In PBTM, students are expected to take responsibility of their learning. This entails that students should be allowed to search for information to solve the ill-structured problem presented by the facilitator. At the basic level, information is expected to be acquired in the classroom because of the nature of the class composition but, it could also be given as a take home activity (where each student is expected to work with the members of his group outside the classroom) before the class discussion so as to elicit more interaction from the students. Students could also be given two to six weeks to work on a problem, depending on its complexity. Upon completing the inquiry phase of the problem-solving, groups might be required to write a report and present it to the rest of the class.

  However, inside the classroom, the teacher could discuss with the students using the available text-books, and other relevant materials to seek for solution to the ill-structured problem. These activities help to curb the irrelevant information which the students could have gotten outside the classroom. As the discussion goes on in the classroom, the teacher must bear in mind the objectives of PBTM, which, according to Barrow [64], include; facilitating students' reasoning skills to evoke critical thinking, and problem solving, as well as helping students to become independent and self-directed learners. However, where the problem is given as a lab-based activity, the learning activities should be carried out in a well-equipped lab to find the appropriate solution to the ill-structured problem.
- **Peer Assessment:** A critical part of the assessment in PBTM is the feedback students receive from their peers. According to Allen, Duch and Groh [59], the facilitator could ask students to rate their group members using a numerical scale based on the following; attendance, degree of preparation for class, listening and communication skills, ability to bring new and relevant information to the group and ability to support and improve the functioning of the group as a whole. This peer rating could constitute up to ten percent of the students' final grades. It is important to note that the assessment that requires rote repetition of facts could be of little value in assessing how students have internalized holistic approaches to complex problems, and therefore, should not be used in the PBTM approach. Furthermore, findings or solutions to the problem offered by students are presented for peer assessment. According to Gallagher [65], PBTM assessment should be authentic, which is to say that it should be structured to display their understanding of the problem and the solution in contextually-meaningful ways. In PBTM, students are allowed to participate in the assessment as it helps them to acquire evaluation skills.
- **Feedback:** At this stage, the strengths and weaknesses of the students' responses are exposed. Then, the solution will be established.

3. CONCLUSION

The study concludes that accounting teachers should adopt the simplified PBTM in the teaching and learning of accounting at basic/post-basic and tertiary levels of education to enhance students' academic achievement and retention. The simplified PBTM could be used or blended with other methods and strategies to teach accounting, especially where the strategies that are being utilized seem not to yield positive results. Precisely, the simplified PBTM could be used either as an additional method to conventional teaching method or as an alternative method in the teaching and learning of accounting to enhance students' academic performance and retention.

COMPETING INTERESTS

Author has declared that no competing interests exist.

REFERENCES

1. Saidu AB, Audu SI. The role of instructional media in enhancing teaching and learning in technology education for attaining needs objectives in Nigeria. Journal of Technology Education. 2006; 1(1):116-121.
2. Obidile JI, Eze P. Perceived effectiveness of instructional strategies for teaching

business studies in Secondary Schools in Anambra State. UNIZIK Journal of Education Graduates. 2018;5(1):34-40.
3. Odundo PA, Gunga SO. Effects of application of instructional materials on Learner achievement in business studies in secondary Schools in Kenya. International Journal of Education and Research. 20131;(5):1-22.
4. Nwalado SH. Methods of teaching business education subjects. Asaba: Ekecy; 2008.
5. Harrison C. Education for tomorrow's vocational teachers: Overview. Digest. 2008;67.
6. Scott CL. The futures learning 3: What kind of pedagogies for the 21st century? Education research and foresight. Working papers; 2015.
Retrieved: 8th May 2014
Available:www.unesco.org.
7. Albanese MA, Mitchell S. Problem-based learning: A review of the literature on its outcomes and implementation issues. Academic Medicine. 1993;68(1):52-81.
8. Polanco R, Calderon P, Delgado F. Effects of a problem-based learning program on engineering students' academic achievements in a Mexican university. Innovative Education Teaching. 2004;41 (2):145–155.
9. Ajai JT, Imoko BI, Okwu EI. Comparison of the learning effectiveness of problem-based learning (PBL) and conventional method of teaching algebra. Journal of Education and Practice. 2013;4(1):132-138.
10. Eze TI, Ezenwafor JI, Obidile JI. Effect of gender on students' academic performance and retention in accounting in technical colleges. British Journal of Education, Society & Behavioral Science 2016;18(4):1-9.
DOI: 10.9734/BJESBS/2016/29583
11. Savery JR. Overview of problem-based learning: definitions and distinctions. Interdisciplinary Journal of Problem-Based Learning. 2006;1(1):9-20.
12. Wood DF. ABC of learning and teaching in medicine: Problem based learning. British Medical Journal. 2003;326(7384):328-330.
13. Hung W. Problem-based learning: A learning environment for enhancing learning transfer. New Directions for Adult and Continuing Education. 2013;137:27-38.
14. Hmelo-Silver CE. Problem-based learning: What and how do students learn? Educational Psychology Review. 2004;16 (3):235-266.
15. Barrows HS. Problem-based learning in medicine and beyond: A brief overview. New Directions for Teaching and Learning. 1996;(68):3-18.
16. Saarinen-Rahiika H, Binkley JM. Problem-based learning in physical therapy: A review of the literature and overview of the McMaster University experience. Physical Therapy. 1998;78(2):195-207.
17. Hmelo-Silver CE, Barrows HS. Goals and strategies of a problem-based learning facilitator. Interdisciplinary Journal of Problem-based Learning. 2006;1:21-39.
18. Salleh BM, Othman H, Esa A, Sulaiman A, Othman H. Adopting problem-based learning in the teaching of engineering undergraduates: A Malaysian experience; 2007.
Available:https://www.researchgate.net/publication/228590593_Adopting_problembased_learning_in_the_teaching_of_engineering_undergraduates_A_Malaysian_experience [accessed Oct 07 2020].
19. Antepohl W, Herzig S. Problem-based learning versus lecture-based learning in the course of basic pharmacology: A controlled, randomized study. Medical Education. 1999;33:106–113.
20. Strobel J, Van Barneveld A. When is PBL more effective? A met synthesis of meta-analyses comparing PBL to conventional classrooms. Interdisciplinary Journal of Problem-Based Learning. 2009;3(1):44-58.
21. Obidile JI, Obi OC. Assessment of adequacy, availability and extent of utilization of instructional materials in the teaching of business studies in secondary schools in Anambra State. African Journal Research Review. 2020;14(57):52-60.
Available;https://afrrevjo.net/view_journal.php?name=AFRREV&id=123
22. Obidile IJ. Perceived accounting teachers' role for integrating ICT facilities in the teaching of Accounting. Journal of Vocational and Adult Education. 2013; 8(1):62-68.
23. Friedlan JM. The effects of different teaching approach on students' perceptions of the skills needed for success in accounting courses and practicing accountants. Issues in Accounting Education. 1995;10(1):47-63.

24. Lindquist TM. Traditional versus contemporary goals and methods in accounting education: Bridging the gap with cooperative learning. Journal of Education for Business. 1995;70(5):278-284.
25. Ndinechi GI, Obidile IJ. Strategies considered effective for teaching accounting in tertiary institutions in Anambra State. The Official Journal of Nigerian Accounting Association (NAA). 2013;4(2):133-143.
26. Umar I, Abdullahi Z, Hassan H. Effects of cooperative learning on secondary school students' achievement in financial accounting. Paper presented at the International Conference on Accounting Studies. Johor, Malaysia; 2015.
Retrieved: 15th July 2014 from www.icas.my
27. Nwachukwu CF. Designing Appropriate Methodology in Vocational and Technical Education for Nigeria. Nsukka: Falladu; 2001.
28. Tella J, Indoshi FC, Othuon LA. Relationship between students' perspectives on the secondary school English curriculum and their academic achievement in Kenya. Journal of Educational Research. 2010;1(9):382-389.
29. Okwilagwe EA. Modern trends in secondary school geography teaching. In B. Ayodele (Ed.). Teaching strategies for Nigerian Secondary Schools. Ibadan: Powerhouse; 2002.
30. Adeyemi BA. Effects of cooperative learning and problem-solving strategies on junior secondary school students' achievement in Social Studies. Electronic Journal of Research in Educational Psychology. 2008;6(3):691-708.
31. Awotua-Efebo EB. Effective teaching: Principles and practice. Port Harcourt: Para graphics; 2003.
32. Bonwell CC. Active learning: Creating excitement in the classroom2008. Retrieved: March 2nd, 2015 from http://www.macomb.cc.mi.us/arc/dl
33. Eison J. Using active learning instructional strategy to create excitement in the classroom; 2010.
Retrieved: 18th May 2015 from https://www.cte.cornell.edu
34. Mba FI. Learning and teaching methodology. Journal of Educational and Social Research. 2012;2(4):8-16.
35. Ransdem R. The relative effects of inquiry and lecture methods on the high and low achievers in senior secondary schools. Journal of Social Research. 2009;3(6): 123-131.
36. Abduraheem BO. Effects of discussion method on secondary school students' achievement and retention in social studies. European Journal of Educational Studies. 2011;3(2):46-57.
37. Abakpa BO. Effects of mastery learning instructional strategy on students' interest and achievement in Secondary school Geometry. Unpublished Ph.D. thesis in the Department of Science Education. Federal University of Agriculture, Makurdi, Benue State; 2009.
38. Bonner SE. Choosing teaching methods based on learning objectives: An integrative framework. Issues in Accounting Education. 1999;14(1):45-59.
39. Akinterule SL. Comprehensive book keeping and accounts for senior secondary school: Sure-bet for WAEC. Lagos: Johnson; 1998.
40. Uwameiye R, Titilayo OM. Comparative analysis of two methods of teaching financial accounting at senior secondary school; 2005.
Retrieved: http://www.itdl.org/journal/htm
41. Al-Zu'be AFM. The difference between the learner-centered approach and the teacher-centered approach in teaching English as a foreign language. Educational Research International. 2013;2(2):1-8.
42. Johnson DW, Johnson BT. Cooperative learning: A new direction in transforming education. American Educational Research Journal. 2000;10(18):34-48.
43. Dufresne JR, Gerace JW, Leonard WJ, Mestre JP, Wenk L. Classroom talk: A classroom communication system for active learning; 2010
Retrieved: 22nd November 2014 from http://trace.tennessee.edu/utk.
44. Chika PO. The extent of students' responses in the classroom. International Journal of Academic Research in Business and Social Sciences. 2012;2(1):22-37.
45. Cummins J. Pedagogies for the poor: Realigning reading instruction for low-income students with scientifically based reading research. Educational Researcher. 2007;36(9): 564-573.
46. Attard A. Student-centered learning: An insight into theory and practice. Bucharest: Partos Timisoara; 2010.

47. Muraya DN, Kimamo G. Effects of cooperative learning approach on biology mean achievement scores of secondary school students' in Machakos District, Kenya. Educational Research and Reviews. 2011;6(12):726-745.
48. Kang'ahi M, Indoshi FC, Okwach TO, Osodo J. Teaching styles and learners' achievement in Kiswahili Language in secondary schools. International Journal of Academic Research in Progressive Education and Development. 2012;1(3), 62-82.
49. Eze TI, Obidile JI, Okotubu JO. Effect of gender on students' academic achievement and retention in auto mechanic technology in technical colleges in delta state, Nigeria. London Journal of Research in Humanities and Social Sciences. 2020;20(1):25-32. Available:https://journalspress.com/index.php?option=com_ljp&view=journals&layout=journal&journal_id=110
50. Hayo R. Using student-centered methods with teacher-centered methods. lancaster, UK: Pippin Publishing Corporation; 2007.
51. Mills HR. Teaching and Training. A handbook for instructions. London: Macmillan; 2000.
52. Mkpa MA. Curriculum development and implementation. Owerri: Totan; 2004.
53. Duch BJ, Groh SE, Allen DE. The power of problem-based learning. Sterling, VA: Stylus; 2001.
54. Graaff EDE, Kolmos A. Characteristics of problem-based learning. International Journal of Engineering Education. 2003; 19:657-662.
55. Piaget J. Piaget's Theory. In P. H. Mussen, & W. Kessen (Eds.), Handbook of Child Psychology: Vol. I History, Theory and Methods (pp.). New York: John Wiley. 1983;41-102
56. Wynn CT. Promoting cognitive growth through problem-based instruction in a first-year learning community. Journal of Learning Communities Research. 2010; 5(2):5-15.
57. Dolmans DH, De Grave W, Wolfhagen IH, Van Der Vleuten CP. Problem-based learning: Future challenges for educational practice and research. Medical Education, 2005;39(7):32–41.
58. Dion L. But I teach a large class; 1996. Accessed: 2 February 2015. Available:http//www.udel.edu/pbl/cte/spr96-bisc2.html
59. Allen DE, Duch BJ, Groh SE. The power of problem-based learning in teaching introductory science courses. In L. Wilkerson & W. H. Gijselaers (Eds.). Bringing problem-based learning to higher education: Theory and practice. San Francisco: Jossey-Bass; 1996.
60. Bridges EM, Hallinger P. Problem-based learning in leadership education. In L. Wilkerson & W. H. Gijselaers (Eds.). *Bringing problem-based learning to higher education:* Theory and practice. San Francisco: Jossey-Bass; 1996.
61. Arambula-Greenfield T. Implementing problem-based learning in a college science class: Testing problem-solving methodology as a viable alternative to traditional science-teaching techniques. Journal of College Science Teaching. 1996;26(1):26-30.
62. Reynolds F. Studying psychology at degree level: Would problem-based learning enhance students' experiences? Studies in Higher Education. 1997;22(3): 263-275
63. Lenkauskaite J, Mazeikiene N. Challenges of introducing problem-based learning (PBL) in higher education: Selecting problems and using problems. Social Research. 2012;2(27):78-88.
64. Barrows HS. The Tutorial Process. Springfield, IL: Southern Illinois University, School of Medicine; 1992.
65. Gallagher SA. Problem-based learning: Where did it come from, what does it do, and where is it going? Journal for the Education of the Gifted. 1997;20(4):332-362.

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