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Knowledge and Use of Active Learning Strategies Among Lecturers at the College of Health Technology Calabar, Cross River State, Nigeria

Peter M. Ita
College of Health Technology, Calabar, Cross River State, Nigeria

E.E. Nchor
College of Health Technology, Calabar, Cross River State, Nigeria

Kaka A. Ochagu
College of Health Technology, Calabar, Cross River State, Nigeria

Monica T. Ogar
College of Health Technology, Calabar, Cross River State, Nigeria

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Abstract:

This study investigated the knowledge and use of active learning strategies among lecturers at the College of Health Technology, Calabar, Cross River State, Nigeria. To achieve this purpose, two research questions and hypotheses were formulated. The study adopted a survey research design. Census approach was used to select a sample of 109 lecturers at the College of Health Technology Calabar. An instrument titled, "Knowledge and Use of Active Learning Strategies Questionnaire" (KUALSQ) was used for data collection. The questionnaire was validated using Cronbach Alpha reliability coefficient of 0.80, after a pilot test. Deviation and hypotheses were tested at .05 level of significant using a population t-test and simple linear regression statistics. From the answers to the research questions, the respondents indicated a low level of knowledge and use of active learning strategies on two items and the test of hypotheses revealed that the level of knowledge and use of active learning strategies among lecturers in the College of Health Technology Calabar is not significantly high. Based on the findings, it was recommended amongst others that the school management should conduct seminars for lecturers on active learning strategies that can be used in the classroom, as this would promote students' interest and participation in the course.

Keywords: *Knowledge, Active Learning, Strategies, Active Learning Strategies, Cross River State, Nigeria.*

Introduction

Education is the basic instrument of economic growth and technological advancement of any society. It is in recognition of this fact that the government commits immense resources to ensure the provision of education for its citizens. Over time, the lecture method of teaching has been used in most higher institutions and Cross River State College of Health is not an exemption. Traditionally, lectures have involved the one-way transmission of course content

from academics to students (Wilson, 2012). This teacher centred lecture format alone where lecturers talks for an hour or more and students listen may not be an efficient means of conveying information and succeeding to students, especially in this information and Communication Technology (ICT) oriented era. Some lecturers in Cross River State College of Health still practice the traditional classroom method, which has the characteristics of teachers' domination, where learners are passive. It has also been observed that some teachers introduce the day's lesson uninterestingly and instructional materials haphazardly. Sometimes they use few examples or illustrations while teaching. This may have resulted to students not showing interest in attending some of these classes. Some students may have not been performing academically well due to the deficiency of this instructional method. This can be corrected when the lecturers use appropriate active learning strategies.

Active learning differs markedly from the typical lecture approach (expository teaching), in which students passively acquire knowledge. It is a method of encouraging particular student participation and action in learning. Active learning shifts the focus from the teacher and delivery of course content to the student and active engagement with the material. Paulson and Faust (2010) referred to active learning as anything that students do in a classroom other than merely passively listening to an instructor's lecture. This includes everything apart from listening practices which help the students to absorb what they hear, to short writing exercises in which students react to lecture material, to complex group exercises in which students apply course material to "real life" situations and/or to new problems (Weigel & Bonica, 2014). Active learning strategy refers to any teaching technique that involves the student actively participating in learning activities while the teacher acts as a guide. Berek (2013) opined that through active learning techniques a by the teacher, students shed the traditional role as passive receptors and learn and practice how to apprehend knowledge and skills and use them meaningfully. Many active learning techniques that can be used to get the students involved, including "experiential learning, cooperative learning, problem-solving exercises, writing tasks, speaking activities, class discussion, case-study methods, independent study, library assignments, computer-aided instruction, and homework" (Boctor, 2013, p. 100). The method of active learning a teacher chooses will depend upon the situation (i.e., what is being taught to what level of student).

Active learning techniques include jigsaw, mitten conversation, organised debate, sorting strips, and problem-based learning, among others. All of these learning techniques constitute a break from the standard (expository) teaching approach used in secondary schools. The jigsaw strategy is a cooperative learning technique in which the class is divided into sub-groups of four to six people. This sub-grouping forces students to concentrate on a particular component of the learning material. According to Park and Choi (2014), the main topic or learning assignment is broken into smaller, interconnected pieces in jigsaw class; then, a member of a group is allocated to become an expert on (or read about) a particular portion. Later, members gather to teach other members their respective parts of the learning job. Students are asked to work together on the learning assignment. According to Suyanto (2012), implementing the jigsaw approach in the teaching/learning process might make students more responsible since they directly and actively participate in grasping an issue and resolving it as a group, however, only a handful of teachers actually use this strategy. Dancy, Henderson and Turpen (2016) defined this technique as one in which the class is divided into groups, each group has a specified task to complete, and group incentives and individual accountability are prioritised.

Fayombo (2012) investigated the relationships between the active learning strategies (discussion, video clips simulation, game show, role – play, five minute paper, clarification pauses, group work) and the students' learning outcomes (SLOs) among a sample of 158 undergraduate psychology students in The University of the West Indies, Barbados. They responded to Active Learning Strategies

Questionnaire and Student Learning Outcomes Assessment Scale. Results revealed statistically significant positive correlations between active learning strategies and student learning outcomes; so also the active learning strategies contributed 14% (Rsq= 0.139) to the variance being accounted for in student learning outcomes and this was found to be statistically significant ($F(1,156) = 25.23$, $p < .05$). Additionally, video - clips simulation emerged as the best active learning strategy and had the highest correlations with student learning outcomes ($r=0.340$, $p<0.05$).

Another active learning strategy is the Mitten's discussion learning strategy which usually begins with the teacher (facilitator) informing the students that they will be starting a discussion on a specific issue or problem and that they will only be allowed to contribute if they are holding the discussion mitten or a similar item such as a stuffed toy. Sadler, Sonnert, Coyle, Cook-Smith and Miller (2013) stated that by tossing the mitten to one of the students, the teacher starts the conversation. The authors added that a student who has contributed to the conversation throws the mitten to another student who also contributes. The mitten is then passed to another student, and the conversation continues in this manner until the subject or problem has been thoroughly examined, however, few teachers know how to use this strategy while teaching. The rationale for this is that gamifying the discussion in this way encourages hesitant students to participate and prevents one or two students from dominating the conversation.

It has been shown that having a group conversation can help students do better on a test since verbalising a notion allows them to commit it to memory and integrate it with other concepts (Barrio, Munoz-Organero & Soriano 2016; Wang & Lieberoth, 2016). Learners acquire meaningful answers to their challenges through active learning by interacting with other group members. As a result of such experiences, they can generate an output that communicates their thinking. Gess-Newsome (2015) stated that learners are exposed to their potential to learn without the assistance of authority in active learning through debate, which boosts their self-confidence and independence; and many learners choose to be active during the learning process. Students develop a wide range of critical thinking abilities when they participate in a variety of educational experiences as a group under the supervision and direction of the teacher, who should be knowledgeable in using these strategies (Alonzo & Kim, 2015). This allows the students to develop critical thinking abilities such as inference and distinction. It helps the students to use critical reading since the numerous activities they participate in may lead them to thoroughly explore what they are reading, completely comprehending its significance, and asking numerous questions about it (Chan & Yung, 2015). The authors stated that with the help of their peers and under the direction of their teacher, who should be knowledgeable on how to utilize the mitten discussion strategy, the students will improve their comprehension and build on new ideas and perspectives.

Debates, which is another active learning strategy may be incorporated into course design and evaluation, as well as given to students during class time, to supplement existing teaching techniques and provide a range of teaching styles to keep students engaged in the material. Kennedy (2017) viewed debates as a teaching method that promotes active learning in the classroom by allowing students to participate actively in the learning process. Instead of passively receiving knowledge, this type of active engagement allows students to learn more efficiently by actively evaluating, discussing, and applying content in meaningful ways. Debate allows teachers to take a step back from presenting lecture topics and allow students to educate one another.

The lecturer can also use flipped classroom. This is one of the contemporary active learning strategies used by teachers in other parts of the world. According to Chi, Kang and Yaghmourian (2017), flipped classroom is an instructional strategy that dedicates more class time to hands-on learning while replacing instructors with supplemental materials such as podcasts, screencasts and videos that students can view outside of the class (Kisa & Stein,

2015). The students receive the key instructional elements outside of class. Such instruction can be provided through videos, podcasts, websites, DVDs, CDs, or any other form that provides a clear instructional message. In the classroom, students work together under the guidance of the teacher in applying the instruction to complex problems.

Games playing is a popular active learning strategy that can be used by a lecturer. Playing games in a classroom is not merely a form of entertainment; it can be an effective active learning strategy. Educational games are activities "presided over by precise rules that involve varying degrees of chance, in which, players compete through the use of knowledge or skill in attempts to games promote collaboration, critical thinking and reasoning while enhancing student-centered learning (Boctor, 2013). According to Boctor (2013), games offer the advantage of immediate feedback and most teachers do not know how to use games to deliver instructions. Given the foregoing context, the researcher questioned if Cross River State College of Health Technology Lecturers are knowledgeable of these active-learning strategies and whether they use them during lesson delivery. This research became necessary to proffer answer to these research questions.

Purpose of the Study

The main purpose this study is to ascertain the knowledge and use of active learning strategies among lecturers in College of Heath Technology Calabar, Cross River State, Nigeria. Specifically, the study sought to:

1. Find out the level of knowledge of active learning strategies among lecturers in College of Heath Technology Calabar
2. Examine the level of use of active learning strategies among lecturers in College of Heath Technology Calabar

Research Questions

The following research questions were posed to guide the study:

1. What is the level of knowledge of active learning strategies among lecturers in College of Heath Technology Calabar?
2. What is the level of use of active learning strategies among lecturers in College of Heath Technology Calabar?

Research Hypotheses

The following hypotheses were formulated and were statistically tested in the study:

1. The level of knowledge of active learning strategies among lecturers in College of Heath Technology Calabar is not significantly high.
2. The level of use of active learning strategies among lecturers in College of Heath Technology Calabar is not significantly high.

Methodology

The researcher adopted a survey research design. The study was carried out in College of Heath Technology Calabar, Cross River State, Nigeria. The population of the study consists of 109 lecturers in College of Heath Technology Calabar (Records from the Office of the Director of Academic Planning, 2022). Census approach was adopted in this study such that every member of the population is involved in the study due to the manageable size. The instrument for data collection was a structured researcher-made questionnaire titled "Knowledge and Use of Active Learning Strategies Questionnaire" (KUALSQ). Two experts in the Department of Health Information Management, College of Heath Technology Calabar and one expert in Measurement and Evaluation, Department of Education Foundations and Administration, University of Calabar validated the instrument. To ascertain the reliability of the instrument, a trial test was carried out using 20 Lecturers in Akwa Ibom State College of Heath Technology who were not part of the main study. The data collected were subjected to Cronbach Alpha Statistical Analysis, which yielded an overall reliability index of .80. 109 copies of the KUALSQ were administered and 103 copies were correctly filled and returned giving rise to

94% return rate. After the data was collected, research questions were answered using means and standard deviation and the hypotheses was analysed using population t-test. Mean rating below 2.5 means low level of knowledge or use of active learning strategies while any rating of 2.5 and above means high level of knowledge or use of active learning strategies. All the hypotheses were tested at 0.05 level of significance with 102 degree of freedom.

Results

Research Question One

What is the level of knowledge of active learning strategies among lecturers in College of Heath Technology Calabar?

To provide answers to research question one, mean and standard deviation were used. The result is presented in Table 1.

Table 1. Mean and Standard Deviation of Responses on the Level of Knowledge of Active Learning Strategies among Lecturers n=103

S/No	Level of knowledge of active learning strategies	$\overline{X}$	SD	Remark
The level of my knowledge of the following active learning strategies are as follows:				
1	Mitten discussions	2.05	.943	Low
2	Role Playing	2.13	.925	Low
3	Case Study	2.05	.933	Low
4	Field Work	2.08	.893	Low
5	Games playing	2.03	.880	Low
6	Flipped Classroom	1.96	.874	Low
7	Jigsaw strategy	2.21	.904	Low
8	Debates	3.15	.779	High
9	Group Work	3.19	.752	High
10	Peer Review	2.02	.970	Low

The results of the study showed that items 1, 2, 3, 4, 5, 6, 7 and 10 had mean ratings below 2.50. This indicates that the level of knowledge of the listed active learning strategies among lecturers in College of Heath Technology Calabar is low. While items 8 and 9 had mean ratings above 2.50 indicating the level of knowledge of the listed active learning strategies among lecturers in College of Heath Technology Calabar is high.

Research Question Two

What is the level of use of active learning strategies among lecturers in College of Heath Technology Calabar?

To provide answers to research question two, mean and standard deviation were used. The result is presented in Table 2.

Table 2. Mean and Standard Deviation of Responses on the Level of Active Learning Strategies among Lecturers n=103

S/No	Level of use of active learning strategies	$\overline{X}$	SD	Remark
1	I start my lesson discussions by tossing the mitten from one student to another	1.84	.968	Low
2	I ensure that students role play some of the practical lessons in class	1.91	.951	Low
3	Assignments given to my students are mostly on case studies	1.83	.964	Low
4	I take my students out for field work in line with the course objectives	1.80	.974	Low
5	Most of my lessons are converted into educative games to ignite students' interest	1.69	.919	Low
6	I supplement my instructional materials with podcasts, screencasts and videos that students can view outside of the class	1.57	.892	Low

7	The main topic or learning assignment is normally broken into smaller, interconnected pieces in jigsaw class	1.74	.928	Low
8	Debate allows me to take a step back from presenting lecture topics and allow students to educate one another	2.78	.859	High
9	Most times, students are asked to work together in a group on the learning assignment	2.73	.831	High
10	I use peer review strategy for active participation of students in order to assess another's work formatively	1.79	.946	Low

The results of the study showed that items 1, 2, 3, 4, 5, 6, 7 and 10 had mean ratings below 2.50. This indicates that the level of use of these listed active learning strategies among lecturers in College of Heath Technology Calabar is low. While items 8 and 9 had mean ratings above 2.50 indicating that the level of use of these listed active learning strategies among lecturers in College of Heath Technology Calabar is high.

Hypothesis One

The level of knowledge of active learning strategies among lecturers in College of Heath Technology Calabar is not significantly high

Population t-test was used to test this hypothesis and the result was presented on Table 3.

Table 3. Population t-Test Analysis of Level of Knowledge of Active Learning Strategies among Lecturers

Variable	N	$\overline{X}$	SD	t-cal	μ	df	Test val.	p-value
Level of knowledge of active learning strategies	103	20.86	4.275	1.819	2.5	102	25	.072

From Table 3, the mean of lecturers' level of knowledge of active learning strategies of 20.86, was less than the test value of 25. The calculated t-value of 1.819 with its associated p-value of .072 was found to be greater than 0.05 level of significance with 102 degree of freedom. With this result, the null hypothesis was accepted. This implies that the level of knowledge of active learning strategies among lecturers in College of Heath Technology Calabar is not significantly high.

Hypothesis Two

The level of use of active learning strategies among lecturers in College of Heath Technology Calabar is not significantly high.

Population t-test was used to test this hypothesis and the result was presented on Table 4.

Table 4. Population t-Test Analysis of Level of Use of Active Learning Strategies among Lecturers

Variable	N	$\overline{X}$	SD	t-cal	μ	df	Test val.	p-value
Level of use of active learning strategies	103	17.76	4.845	1.353	2.5	102	25	110

From Table 4, the mean of lecturers' level of use of active learning strategies of 17.67, was less than the test value of 25. The calculated t-value of 1.353 with its associated p-value of .110 was found to be greater than 0.05 level of significance with 102 degree of freedom. With this result, the null hypothesis was accepted. This implies alternately that the level of use of active learning strategies among lecturers in College of Heath Technology Calabar is not significantly high.

Discussion

Level of Knowledge of Active Learning Strategies among Lecturers

The finding of the study in this regard showed that only two out of ten items listed as level of knowledge of active learning strategies among lecturers of College of Health Technology, Calabar were high. The test of hypothesis showed that the level of knowledge of active learning strategies among lecturers of College of Health Technology, Calabar is not significantly high. The finding is supported by Chan and Yung (2015) who stated that teachers' knowledge of various active learning strategies helps the students to use critical reading since the numerous activities they participate in may lead them to thoroughly explore what they are reading, completely comprehending its significance, and asking numerous questions about it. The authors stated that with the help of their peers and under the direction of their teacher, who should be knowledgeable on how to utilize mitten discussion strategy, the students will improve their comprehension and build on new ideas and perspectives.

In line with the finding, Sadler, Sonnert, Coyle, Cook-Smith and Miller (2013) stated that mitten discussion strategy have not be popularly used by teachers. They stated that by tossing the mitten to one of the students, the teacher starts the conversation and a student who has contributed to the conversation throws the mitten to another student who also contributes. The mitten is then passed to another student, and the conversation continues in this manner until the subject or problem has been thoroughly examined, however, Sadler, Sonnert, Coyle, Cook-Smith and Miller (2013) agree with the finding that only few teachers know how to use this strategy while teaching. The rationale for this is that gamifying the discussion in this way encourages hesitant students to participate and prevents one or two students from dominating the conversation.

Level of Use of Active Learning Strategies among Lecturers

The finding of the study in this regard showed that only two out of ten items listed as level of use of active learning strategies among lecturers of College of Health Technology, Calabar were high. The test of hypothesis showed that the level of use of active learning strategies among lecturers of College of Health Technology, Calabar is not significantly high. The finding is supported by Park and Choi (2014), who stated that only few teachers use the jigsaw strategy, as it entails that the main topic or learning assignment is broken into smaller, interconnected pieces in jigsaw class; then, a member of a group is allocated to become an expert on (or read about) a particular portion. Later, members gather to teach other members their respective parts of the learning job. In consonance with the finding, Suyanto (2012) stated that implementing the jigsaw approach in the teaching/learning process might make students more responsible since they directly and actively participate in grasping an issue and resolving it as a group, however, only a handful of teachers actually use this strategy.

Conclusion

The use of active learning strategies in the classroom is vital because of their powerful impact upon students' learning. These strategies do not only promote mastery of content but also the development of students' skills in thinking and writing. Therefore, a thoughtful and scholarly approach to skillful teaching requires that lecturers become knowledgeable about the many ways these strategies can be successfully utilized to achieve the course objectives.

Recommendations

The following recommendations were made based on the findings:

1. School management should conduct seminars for lecturers on active learning strategies that can be used in the classroom, as

this would promote students' interest and participation in the course.

2. School management should encourage lecturers' use of these modern active learning strategies such as flipped classroom by providing free internet connectivity within the school's premises accessible by students and lectures, as this would enhance students' participation in classes, wherever they may be.

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