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AN EDUCATIONAL TECHNOLOGIST'S VIEW ON THE USE OF COMPUTER ASSISTED INSTRUCTION TO ENHANCE LECTURING METHOD IN TARABA STATE UNIVERSITY, JALINGO

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ABSTRACT

The study was on Educational Technologist's view on the use of Computer Assisted Instruction to enhance lecturing method in Taraba State University, Jalingo. Survey design was used for the study and a research questionnaire with ten research items guided the study. The population of the study covers all undergraduate students in Taraba State University, Jalingo; out of which 200 undergraduate students were sampled using stratified sampling techniques of the non-proportionate type. The result slightly supported assertions in literature on the positive impact of CAI. It is therefore recommended that computer assisted instruction should be frequently and effectively used to aid lectures so as to enhance learning experiences among undergraduate students in Taraba State University, Jalingo. However, relevant features of computer assisted instruction that are helpful in learning experiences should be used. Similarly, technical support should be readily available for any emerging challenge pose by CAI to undergraduate students. CAI should be used to regulate learning difficulties, spark interest in learning and increase access to education among undergraduate student in Taraba State University, Jalingo.

Key Word: Computer Assisted Instruction

INTRODUCTION

Computer aided instruction otherwise known as computer assisted instruction (CAI) is an interactive instructional technique whereby a computer or other related device is used to present the instructional material and monitor the learning that takes place. In other words, it uses computers to assist the teaching and learning process through various applications like guided exercises, simulations, and communication tools. It individualizes instruction for each student and provides feedback and assessment of their progress, its advantages include: Allowing students to learn at their own pace, increasing student engagement through interactive lessons, and enhancing learning through personalized instruction and feedback.

In CAI, emphasis is placed on reinforcing previously learned concepts or having students learn new concepts. These concepts differ from one faculty to the other, that makes the use of computer assisted instruction to support traditional method of teaching and learning protocols varies from one faculty to the other.

Taraba state university is a fast-growing state-owned university with several faculties. A closer examination of the use of computer assisted instruction in each faculty in Taraba State University is necessary in order to assess its use in a growing state university, also to serve as a foundation for other research development and propel the lecturers to give attention to its use in order meet the contemporary developmental digital stages in educational system

STATEMENT O THE PROBLEM

The Taraba state government prioritizes the educational system especially the tertiary institution, and this had led to direct sponsorship and supply of ICT equipment for the enhancement of teaching and learning processes in the state university but the utilization of these ICT equipment for enhancing lectures are not assessed for further recommendations. The researcher, therefore deems it fit to assess the use of Computer Assisted Instruction to enhance lecturing method in Taraba State University, Jalingo.

RESEARCH QUESTIONS

The following research questions which were to be responded to by the students in each faculty in Taraba State University guided the study

1. How often do you use computer assisted instruction in your learning experiences
2. How effective is computer assisted instruction in your learning experiences
3. How often do you find the features of computer assisted instruction helpful in your learning experiences
4. How often do you encounter challenges while using computer assisted instruction
5. How effective is computer assisted instruction enhancing students' engagement and motivation in your learning experiences
6. How effective does computer assisted instruction help the students to learn at their own pace
7. How often do you take courses that utilize computer assisted instruction in your learning experiences
8. How will you rate computer assisted instruction in your learning experiences
9. How effective can computer assisted instruction increase accessibility to education
10. How often will you recommend computer assisted instruction for learning experiences in your faculty

LITERATURE REVIEW

Computer Assisted Instruction (CAI) is a software package for aiding teaching and learning process. Being skillful in the use of CAI guarantees literacy skill in computer. Many literatures have emphasized the importance of Computer Assisted Instruction as a major mode of lecture delivery in order to aid assimilation and retentions of concepts. Several studies have applauded the adoption of computer-assisted instructional methods in the classroom to enhance students' participation, interest, and achievement (Abdullahi, B., Aisha Yusuf, L., Aliyu Mohammed, I., & Aliyu Mohammed, I. A., 2018; Joel & Ephraim, 2019; Nkechi & Chibuzo, 2019; Nwosu & Ndanwu, 2020).

Ther are factors that were expressed in literature to have affected the use of Computer Assisted Instruction in institutions. Huseyin, Mehmet and Jafar (2015) found out that gender differences potentially affect computer literacy. Conversely, Gambari, Shuaibu, and Shittu, (2013) also found out in their study that majority of the students have positive perception towards the use of computer aided instruction (CAI) in that there were no significant differences among students' perception towards the use of CAI for learning mathematics based on school type. On the same vein, no significant difference was established based on gender. The implication is that the student perceived the use of CAI as a mean of improving their performance in mathematics. Research has also demonstrated that computer-assisted instruction can positively impact literacy skills (Toonder & Sawyer, 2021). Notably, several scholars in Nigeria have studied CAI programs in various domains,

including achievement, motivation, teaching, and learning (Adigun, 2020; Lawal & Abdullahi, 2019; Olakanmi, E. E., Gambari, A. I., Gbodi, E. B., & Abalaka, N. E., 2016; Usman & Madudili, 2020)

Serkan (2015) studied the Effect of Computer-Assisted Instruction (CAI) on the Secondary School Students Achievement in Science. This study was designed to see the effect of ComputerAssisted Instruction as a supplementing strategy on the academic achievement of secondary school students in the subject of science. The major three objectives of the study were formed and three null hypotheses were tested. The study was based on 'Operant Conditioning' theory of Skinner. There were two different treatment patterns applied during the experiment. Both the groups were taught through routine method by the same teacher. The Computer-Assisted Instruction was used as additional strategy for the experimental group.

Analysis of data revealed that the students taught through Computer-Assisted Instruction as supplementary strategy performed significantly better. The students with high achievement level showed better results than those with low achievement level when taught through the ComputerAssisted Instruction. The Computer-Assisted Instruction was found equally effective for both male and female student.

METHODOLOGY

Survey design of the questioning type was used for the study. The population of the study comprises of all the undergraduate students in Taraba State University, Jalingo, out of which a sample of 200 undergraduate students were sampled using stratified sampling techniques, nonproportionately stratified to eight (8) faculties. A research questionnaire with 10 items each was used to elicit response from the students in each faculty. Data was collected analyzed using descriptive mean.

RESULTS

TABLE 1: MEAN RESPONSES FROM FACULTY OF AGRICULTURE

FACULTY OF AGRICULTURE	Mean($\bar{x}$)	Remark, $\bar{x} \geq 2.5$, accept, otherwise reject
1. How often do you use computer assisted instruction in your learning experiences	2.83	ACCEPT
2. How effective is computer assisted instruction in your learning experiences	2.58	ACCEPT
3. How often do you find the features of computer assisted instruction helpful in your learning experiences	2.50	ACCEPT
4. How often do you encounter challenges while using computer assisted instruction	2.42	REJECT
5. How effective is computer assisted instruction enhancing students' engagement and motivation in your learning experiences	3.46	ACCEPT
6. How effective does computer assisted instruction help the students to learn at their own pace	2.08	REJECT
7. How often do you take courses that utilize computer assisted instruction in your learning experiences	1.75	REJECT
8. How will you rate computer assisted instruction in your learning experiences	3.17	ACCEPT

9.	How effective can computer assisted accessibility to education	2.17	REJECT instruction increase
10.	How often will you recommend computer instruction for learning experiences in your faculty	2.17	REJECT assisted

TABLE 2: MEAN RESPONSES FROM FACULTY OF ART

	FACULTY OF ART	Mean($\bar{x}$)	Remark, $\bar{x} \geq 2.5$, accept, otherwise
1.	How often do you use computer assisted instruction in your learning experiences	3.29	ACCEPT
2.	How effective is computer assisted instruction in your learning experiences	3.29	ACCEPT
3.	How often do you find the features of computer assisted instruction helpful in your learning experiences	2.71	ACCEPT
4.	How often do you encounter challenges while using computer assisted instruction	2.77	ACCEPT
5.	How effective is computer assisted instruction enhancing students' engagement and motivation in your learning experiences	3.65	ACCEPT
6.	How effective does computer assisted instruction help the students to learn at their own pace	2.29	REJECT
7.	How often do you take courses that utilize computer assisted instruction in your learning experiences	2.12	REJECT
8.	How will you rate computer assisted instruction in your learning experiences	3.13	ACCEPT
9.	How effective can computer assisted instruction increase accessibility to education	2.82	ACCEPT
10.	How often will you recommend computer assisted instruction for learning experiences in your faculty	2.88	ACCEPT

reject

TABLE 3: MEAN RESPONSES FROM FACULTY OF EDUCATION

FACULTY OF EDUCATION	Mean($\bar{x}$)	Remark, $\bar{x} \geq 2.5$, accept, otherwise reject
1. How often do you use computer assisted instruction in your learning experiences	2.95	ACCEPT
2. How effective is computer assisted instruction in your learning experiences	2.67	ACCEPT
3. How often do you find the features of computer assisted instruction helpful in your learning experiences	2.91	ACCEPT
4. How often do you encounter challenges while using computer assisted instruction	2.43	REJECT
5. How effective is computer assisted instruction enhancing students' engagement and motivation in your learning experiences	3.35	ACCEPT
6. How effective does computer assisted instruction help the students to learn at their own pace	2.57	ACCEPT
7. How often do you take courses that utilize computer assisted instruction in your learning experiences	2.38	REJECT
8. How will you rate computer assisted instruction in your learning experiences	3.19	ACCEPT
9. How effective can computer assisted instruction increase accessibility to education	2.67	ACCEPT
10. How often will you recommend computer assisted instruction for learning experiences in your faculty	2.67	ACCEPT

TABLE 4: MEAN RESPONSES FROM FACULTY OF ENGINEERING

FACULTY OF ENGINEERING	Mean($\bar{x}$)	Remark, $\bar{x} \geq 2.5$, accept, otherwise reject

1. How often do you use computer assisted instruction in your learning experiences	3.07	ACCEPT
2. How effective is computer assisted instruction in your learning experiences	2.73	ACCEPT
3. How often do you find the features of computer assisted instruction helpful in your learning experiences	3.07	ACCEPT
4. How often do you encounter challenges while using computer assisted instruction	3.00	ACCEPT
5. How effective is computer assisted instruction enhancing students' engagement and motivation in your learning experiences	2.92	ACCEPT
6. How effective does computer assisted instruction help the students to learn at their own pace	2.53	ACCEPT
7. How often do you take courses that utilize computer assisted instruction in your learning experiences	2.13	REJECT
8. How will you rate computer assisted instruction in your learning experiences	3.27	ACCEPT
9. How effective can computer assisted instruction increase accessibility to education	2.67	ACCEPT
10. How often will you recommend computer assisted instruction for learning experiences in your faculty	2.27	REJECT

TABLE 5: MEAN RESPONSES FROM FACULTY OF HEALTH

FACULTY OF HEALTH	Mean($\bar{x}$)	Remark, $\bar{x} \geq 2.5$, accept, otherwise reject
1. How often do you use computer assisted instruction in your learning experiences	2.67	ACCEPT
2. How effective is computer assisted instruction in your learning experiences	3.33	ACCEPT
	2.67	ACCEPT

3. How often do you find the features of computer assisted instruction helpful in your learning experiences	2.00	REJECT
4. How often do you encounter challenges while using computer assisted instruction	3.17	ACCEPT
5. How effective is computer assisted instruction enhancing students' engagement and motivation in your learning experiences	2.67	ACCEPT
6. How effective does computer assisted instruction help the students to learn at their own pace	1.75	REJECT
7. How often do you take courses that utilize computer assisted instruction in your learning experiences	3.00	ACCEPT
8. How will you rate computer assisted instruction in your learning experiences	2.67	ACCEPT
9. How effective can computer assisted instruction increase accessibility to education	2.33	REJECT
10. How often will you recommend computer assisted instruction for learning experiences in your faculty		

TABLE 6: MEAN RESPONSES FROM FACULTY OF LAW

FACULTY OF LAW	**Mean($\bar{x}$)**	**Remark, $\bar{x} \geq 2.5$, accept, otherwise reject**

1. How often do you use computer assisted instruction in your learning experiences	3.60	ACCEPT
2. How effective is computer assisted instruction in your learning experiences	3.40	ACCEPT
3. How often do you find the features of computer assisted instruction helpful in your learning experiences	2.40	REJECT
4. How often do you encounter challenges while using computer assisted instruction	2.40	REJECT
5. How effective is computer assisted instruction enhancing students' engagement and motivation in your learning experiences	3.20	ACCEPT
6. How effective does computer assisted instruction help the students to learn at their own pace	1.60	REJECT
7. How often do you take courses that utilize computer assisted instruction in your learning experiences	2.00	REJECT
8. How will you rate computer assisted instruction in your learning experiences	3.80	ACCEPT
9. How effective can computer assisted instruction increase accessibility to education	1.60	REJECT
10. How often will you recommend computer assisted instruction for learning experiences in your faculty	1.60	REJECT

TABLE 7: MEAN RESPONSES FROM FACULTY OF MANAGEMENT

1. How often do you use computer assisted instruction in your learning experiences	3.23	ACCEPT
2. How effective is computer assisted instruction in your learning experiences	2.85	ACCEPT
3. How often do you find the features of computer assisted instruction helpful in your learning experiences	2.69	ACCEPT
4. How often do you encounter challenges while using computer assisted instruction	2.92	ACCEPT
5. How effective is computer assisted instruction enhancing students' engagement and motivation in your learning experiences	3.77	ACCEPT
6. How effective does computer assisted instruction help the students to learn at their own pace	3.08	ACCEPT
7. How often do you take courses that utilize computer assisted instruction in your learning experiences	2.31	REJECT
8. How will you rate computer assisted instruction in your learning experiences	3.64	ACCEPT
9. How effective can computer assisted instruction increase accessibility to education	3.15	ACCEPT
10. How often will you recommend computer assisted instruction for learning experiences in your faculty	2.67	ACCEPT
FACULTY OF MANAGEMENT	**Mean($\bar{x}$)**	**Remark, $\bar{x} \geq$ 2.5, accept, otherwise reject**

TABLE 8: FACULTY OF SCIENCE RESPONSES FROM FACULTY OF SCIENCE	Mean($\bar{x}$)	Remark, $\bar{x} \geq$ 2.5, accept, otherwise reject	MEAN
1. How often do you use computer assisted instruction in your learning experiences	2.84	ACCEPT	
2. How effective is computer assisted instruction in your learning experiences	2.60	ACCEPT	
3. How often do you find the features of computer assisted instruction helpful in your learning experiences	2.76	ACCEPT	
4. How often do you encounter challenges while using computer assisted instruction	3.20	ACCEPT	
5. How effective is computer assisted instruction enhancing students' engagement and motivation in your learning experiences	3.61	ACCEPT	
6. How effective does computer assisted instruction help the students to learn at their own pace	2.56	ACCEPT	
	2.29	REJECT	
7. How often do you take courses that utilize computer assisted instruction in your learning experiences	2.21	REJECT	
8. How will you rate computer assisted instruction in your learning experiences	2.88	ACCEPT	
9. How effective can computer assisted instruction increase accessibility to education	2.88	ACCEPT	
10. How often will you recommend computer assisted instruction for learning experiences in your faculty			

DISCUSSION OF FINDING

In the faculty of Agriculture, computer assisted instruction were occasionally use but moderately effective. The features of computer assisted instruction are slightly helpful in learning experiences but students often encounter challenges it posed while using them. Nevertheless, it enhances students' engagement and motivation which supported Abdullahi et al.,(2018); Joel and Ephraim, (2019); Nkechi and Chibuzo, (2019); Nwosu and Ndanwu, (2020) and Serkan (2015) assertions that have applauded the adoption of computer-assisted instructional methods in the classroom to enhance students' participation, interest, and achievement but does not help the students to learn at their own pace; this is not unconnected to the fact that only few lecturers utilize computer assisted instruction in their lectures. However, the students in the faculty of Agriculture

rated computer assisted instruction high in their learning experiences but do not consent to its effectiveness to increase accessibility to education. Therefore, they do not often recommend computer assisted instruction for learning experiences in the faculty

In the faculty of Art computer assisted instruction were frequently use and very effective. The features of computer assisted instruction are helpful in learning experiences and students overcome the challenges it posed while using computer assisted instruction. It also enhances students' engagement and motivation which supported Abdullahi et al.,(2018); Joel and Ephraim, (2019); Nkechi and Chibuzo, (2019); Nwosu and Ndanwu, (2020) and Serkan (2015) assertions that the adoption of computer-assisted instructional methods in the classroom to enhance students' participation, interest, and achievement but does not help the students to learn at their own pace; this is not unconnected to the fact that only few lecturers utilize computer assisted instruction in their lectures. However, the students in the faculty of Art rated computer assisted instruction high in their learning experiences and consented to its effectiveness to increase accessibility to education. Therefore, they do often recommend computer assisted instruction for learning experiences in the faculty.

In the faculty of Education computer assisted instruction were moderately use and slightly effective. The features of computer assisted instruction are helpful in learning experiences but students do not overcome the challenges it posed while using computer assisted instruction. It also enhances students' engagement and motivation which supported Abdullahi et al.,(2018); Joel and Ephraim, (2019); Nkechi and Chibuzo, (2019); Nwosu and Ndanwu, (2020) and Serkan (2015) assertions that have applauded the adoption of computer-assisted instructional methods in the classroom to enhance students' participation, interest, and achievement and help the students to learn at their own pace; contrary-wise only few lecturers utilize computer assisted instruction in their lectures. However, the students in the faculty of Education rated computer assisted instruction high in their learning experiences and consented to its effectiveness to increase accessibility to education. Therefore, they do occasionally recommend computer assisted instruction for learning experiences in the faculty.

In the faculty of Engineering, computer assisted instruction were frequently use but slightly effective. The features of computer assisted instruction are helpful in learning experiences and students do overcome the challenges it posed while using them. It also enhances students' engagement and motivation which supported Abdullahi et al.,(2018); Joel and Ephraim, (2019); Nkechi and Chibuzo, (2019); Nwosu and Ndanwu, (2020) and Serkan (2015) assertions that have applauded the adoption of computer-assisted instructional methods in the classroom to enhance students' participation, interest, and achievement and help the students to learn at their own pace; contrary-wise, only few lecturers utilize computer assisted instruction in their lectures. However, the students in the faculty of Engineering rated computer assisted instruction high in their learning experiences and consented to its effectiveness to increase accessibility to education but do not recommend computer assisted instruction for learning experiences in the faculty

In the faculty of Health, computer assisted instruction were occasionally use but very effective. The features of computer assisted instruction are helpful in learning experiences but students have not been able to overcome the challenges it posed while using it. It also enhances students' engagement and motivation which supported Abdullahi et al.,(2018); Joel and Ephraim, (2019); Nkechi and Chibuzo, (2019); Nwosu and Ndanwu, (2020) and Serkan (2015) assertions that have applauded the adoption of computer-assisted instructional methods in the classroom to enhance students' participation, interest, and achievement and help the students to learn at their own pace; contrary-wise, only few lecturers utilize computer assisted instruction in their lectures. However, the students in the faculty of Health rated computer assisted instruction high in their learning experiences

and consented to its effectiveness to increase accessibility to education but do not intend to recommend computer assisted instruction for learning experiences in the faculty In the faculty of Law, computer assisted instruction were frequently use and effective. However, the features of computer assisted instruction are slightly helpful in learning experiences but the students do not overcome the challenges it posed while using computer assisted instruction. It enhances students' engagement and motivation which supported Abdullahi et al.,(2018); Joel and Ephraim, (2019); Nkechi and Chibuzo, (2019); Nwosu and Ndanwu, (2020) and Serkan (2015) assertions that have applauded the adoption of computer-assisted instructional methods in the classroom to enhance students' participation, interest, and achievement but does not help the students to learn at their own pace. Only few lecturers utilize computer assisted instruction in their lectures. However, the students in the faculty of Laws rated computer assisted instruction high in their learning experiences but do not consent to its effectiveness to increase accessibility to education and do not intend to recommend computer assisted instruction for learning experiences in the faculty

In the faculty of Management, computer assisted instruction were frequently use but slightly effective. The features of computer assisted instruction are helpful in learning experiences and students do overcome the challenges it posed while using computer assisted instruction. It also enhances students' engagement and motivation which supported Abdullahi et al.(2018); Joel and Ephraim, (2019); Nkechi and Chibuzo, (2019); Nwosu and Ndanwu, (2020) and Serkan (2015) assertions that have applauded the adoption of computer-assisted instructional methods in the classroom to enhance students' participation, interest, and achievement and help the students to learn at their own pace. Only few lecturers utilize computer assisted instruction in their lectures. However, the students in the faculty of management rated computer assisted instruction high in their learning experiences and consented to its effectiveness to increase accessibility to education. Therefore, the students recommend computer assisted instruction for learning experiences in the faculty

In the faculty of Science, computer assisted instruction were occasionally use but slightly effective. The features of computer assisted instruction are helpful in learning experiences and students do overcome the challenges it posed while using computer assisted instruction. It also enhances students' engagement and motivation which supported Abdullahi et al.,(2018); Joel and Ephraim, (2019); Nkechi and Chibuzo, (2019); Nwosu and Ndanwu, (2020) and Serkan (2015) assertions that have applauded the adoption of computer-assisted instructional methods in the classroom to enhance students' participation, interest, and achievement and help the students to learn at their own pace. Only few lecturers utilize computer assisted instruction in their lectures. Therefore, the students in the faculty of Science do not rate computer assisted instruction high in their learning experiences but consented to its effectiveness to increase accessibility to education and recommend computer assisted instruction for learning experiences in the faculty

CONCLUSION AND RECOMMENDATION

It is obvious from the responses of ungraduated students in each faculty in Taraba State University, Jalingo that the undergraduate students were not accustomed with Computer Assisted Instruction, as majority of the undergraduate students could not overcome the technical challenges it posed during operation. Similarly, most lecturers do not enhance their lecture with CAI and this has hindered the experiences expected to be learnt by the student.

As a result, it is therefore recommended that there should be frequent orientations for undergraduate students and training for university staff on the use and importance of computer assisted instruction. It should also be frequently and effectively used to aid lectures so as to enhance learning experiences among undergraduate students in Taraba State University, Jalingo. However,

relevant features of computer assisted instruction that are helpful in learning experiences should be used. Similarly, technical support should be readily available for any emerging challenge pose by CAI to undergraduate students. CAI should be used to regulate learning difficulties, spark interest in learning and increase access to education among undergraduate student in Taraba State University, Jalingo.

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