



## Effect of CAI Package on Achievement of Business Education Students in Small Business Management

Lukman Suleiman, Umar Buba, Muhd Sani Sabo, Abubakar Idris Muhd Sunusi Jibrin  
Department of Vocational and Technology Education,  
Abubakar Tafawa Balewa University, Bauchi, Nigeria.

### ABSTRACT

*This study aimed at finding out the “Effect of Computer Assisted Instruction Package (CAIP) on academic achievement of business education students in Small Business Management (SBM) in North Eastern Universities of Nigeria”. Three null hypotheses were formulated, the study adopted quasi-experimental design. The population for the study comprised of 224 business education students that are offering SBM in 2018/2019 academic session. Simple random sampling technique was used in the selection of the universities where the sample size was 141 students, Simple random sampling technique was also used in selecting the experimental and control groups. Independent sample t-test and paired sample t-test was used in testing the null hypotheses at 0.05 level of significance. The findings of the study revealed among others, that there was a significant difference in the achievement of the students of business education taught SBM using CAIP compared to those taught using lecture method. It was concluded that CAIP is effective in teaching SBM for betterment of students’ academic achievement at university level.*

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### INTRODUCTION

The computer continues to be one of the most powerful device influencing many aspects of human life and have advanced our lives in immeasurable ways for the past 50 years (Aji., Hendrayana., & Hudha., 2019; Owusu, Monney, Appiah, & Wilmot, 2010). Computers first found their ways into the classroom in the early 1960s (Owusu et al. (2010). They have developed from expensive, cumbersome, devices to affordable but powerful tools used in modern life for both leisure and professional activities (Botsas. & Grouios., 2019; Chen. & Lin., 2018). Their use in education has improved dramatically in recent years and now computers and other related technologies are in most institutions of learning all over the world (Clement., Anthony., & Abigail., 2017; Foster., Anthony., Clements., Sarama., &

Williams., 2016). Computers used in all its forms appear to offer almost endless avenues for increasing to the teachers’ instructional strategies and enrichment of the learners’ experiences (Gambari., Gbodi., Olakanmi., & Abalaka., 2016).

Computer Assisted Instruction Package (CAIP) is viewed by Botsas. and Grouios. (2017) as a man-machine interaction in which the teaching function is accomplished by a computer system through the facilitation of human instructor used to deliver information literacy programs to the learner through an interactive process. Additionally, Gurbuz, Dede, and Doğan (2018), said that CAIP is virtually any kind of computer system use for teaching in educational environments which include tutorials, simulations drill and practice and instructional management. CAIP is learner-centred and activity oriented



(Chen. & Lin., 2018; Foster. et al., 2016; Kumari, 2018). Liao. and Lin. (2016). mentioned the advantages of teaching the students using CAIP to include; ensuring the application of verifiable teaching methods to students; providing equal educational opportunities for students by using the same programme; changing the role of the teacher from teaching capacity to that of a facilitator; also when properly handled, removing fear and embarrassment on students and bringing about meaningful learning and academic success.

Many university teachers use computers and other related technologies while teaching and many textbooks have included new technologies (Limbong., Manullang., & Napitupulu, 2017; Pilli & Aksu, 2013). Many educators and researchers try to use these new technologies, and this integration has changed the nature, concepts and methods of teaching in many subject (Limbong. et al., 2017). A number of the courses that are theoretical in nature like Small Business Management (SBM) in the Nigerian universities are being taught using traditional lecture method, despite the fact that standards in the Nigerian system of education are increasing and advancement in technologies are changing the way students learn with the use of ICT facilities (Aji. et al., 2019; Gambari. et al., 2016; Liu. & Hung., 2016). In spite of all these technological advancement, the students of SBM in many of the Nigerian institutions of learning are mostly being taught ordinarily using the chalkboard method (Priluck., 2004).

Hence, there is need for the students of SBM to be taught using CAIP through the intervention of human as facilitator in order to determine the effectiveness of teaching with the package against the traditional lecture method (Ozen., Ergenekon., & Ulke-Kurkcuoglu., 2017). Kali, Jung., and Meiji. (2016) said that computers in the classroom will certainly not offer a cure

for all the students' problems but it appears to be a technology which when effectively integrated in instruction, would lead to improvement in students' academic achievements, motivation and learning effectiveness.

The incessant loss of interest in of many of the theory related courses in our universities is attributed to the regular use of traditional lecture method in teaching the students (Foster, Anthony, Clements, Sarama., & Williams., 2016). It is however, widely recognized in literature that most teachers use mere lecture and explanation to teach the courses that are theoretical in nature (Parmar, 2017). This could however lead the students particularly SBM to loss many of the information that are involved in the course (Priluck., 2004). According to Foster et al. (2016), the lecture teaching methods is regarded as conventional teaching methods which are content driven and indeed not learner-entered. Conventional teaching methods are mostly used for delivering an instruction in Nigerian tertiary institutions including the universities.

Botsas. and Grouios. (2017), similarly, noted that conventional teaching methods are not challenging enough to meet the needs of the students, because the teaching method is sometimes referred to as "one-way communication" method to the audience which is widely used in Nigerian tertiary education. When this teaching method is used, the teacher does most of the speaking, and the students are more often assume a passive role which makes learning ineffective (Chen. & Lin., 2018). Hence, (Clement. et al., 2017) said that effective teaching methods are meant to be as interactive as possible, reiterating on small group work using pertinent and practical case studies. In affirmative, modern teaching methods require more activities and contributions from the students and less talk on the part of the teacher (Gambari. et al., 2016; Guo, 2018; Gurbuz et al., 2018; Liao. & Lin., 2016).



Thus, it will be interesting to establish the effect the use of modern teaching method such as CAIP could have on academic achievement of students in SBM.

**Hypotheses**

The following research hypotheses were formulated at 0.05 level of significance;

- H<sub>01</sub>:** There will be no significant difference between pre-test mean achievement scores of the students of SBM in the **G<sub>1</sub>** and **(G<sub>2</sub>)**.
- H<sub>02</sub>:** There will be no significant difference between pre-test and post-test mean achievement scores of the students of SBM in the **G<sub>1</sub>** group.
- H<sub>03</sub>:** There will be no significant difference between post-test mean achievement scores of the students of SBM in the **G<sub>1</sub>** and **G<sub>2</sub>**.

**METHODOLOGY**

The research was carried out at the federal universities in the north-eastern Nigeria taking into cognisance the students of business education (management) that are offering small business management. The main reason for the selection of business education students (management) was that, the study was directed towards teaching of small business management in determining the academic achievements of the students of business education.

**RESULTS**

- H<sub>01</sub>:** There will be no significant difference between pre-test mean achievement scores of the students of SBM in the **G<sub>1</sub>** and **G<sub>2</sub>**.

**Table 1:** Test of difference between pre-test mean achievement scores of the students of SBM in the experimental and control groups

Pre-test	N	Df	Mean	SD	t-cal	t-crit	P value	Decision
<b>G<sub>1</sub></b>	67		26.2687	3.82805				
		139			0.349	1.97	0.728	Accept H <sub>01</sub> :
<b>G<sub>2</sub></b>	74		26.0541	3.47552				

Source: Field Survey, 2017

Corresponding author: Suleiman, L. [lukmansuleimanwase@gmail.com](mailto:lukmansuleimanwase@gmail.com) Department of Vocational and Technology Education, ATBU, Bauchi. © 2020. Faculty of Technology Education, ATBU Bauchi. All rights reserved

Concretely, the participants in this study were 224 Business Education (Management) students that are offering small business management in all the three federal universities in the area who are at the end of their degree program in 2018/2019 academic session, 141 of the two out of the three universities in the area were used as a sample of the study using a homogeneous purposive sampling technique, simple random sampling technique was used for assigning the CAIP group **G<sub>1</sub>** and lecture method group **G<sub>2</sub>**.

The instruments that were used in this study include Small Business Management Achievement Test (SBMAT ) and CAIP, the SBMAT was integreted into the CAIP for the students in the **G<sub>1</sub>** who were taught using tha package for six weeks intervention while the students in the **G<sub>2</sub>** were taught using the traditional lecture method for six weeks intervention after pre-test were given to both groups at the beginning of the program in order to test their initial level.

The empirical evidence was obtained during the academic year 2018/2019 by means of teaching business education students through the use of CAIP for **G<sub>1</sub>** and lecture method for **G<sub>2</sub>**. Thus, the students in both groups were respond to the 60 items multiple choice questions that are involved in SBMAT. Students in the **G<sub>1</sub>** were answerd the questions using the CAIP while students in the **G<sub>2</sub>** were answered the same questions with those in **G<sub>1</sub>** but using a paper and pencil test.



The result presented in Table 1 shows that there were 67 students in the  $G_1$  and 74 students in the  $G_2$  and that the  $G_1$  had a pre-test mean achievement score of 26.2687 and Standard Deviation of 3.82805. The  $G_2$  on the other hand had a pre-test mean achievement score of 26.0541 and Standard Deviation of 3.47552. Thus, with the mean difference of 0.2146, these showed that the mean achievement scores of the students of SBM in both groups is almost the same with a slightly little difference between the means of the two groups. Thus, the results of independent sample t-test used for testing difference between the pre-

test mean achievement scores of the students of SBM in the  $G_1$  and  $G_2$  revealed that, the t-calculated was 0.349 while, the t-critical was 1.97 with a degree of freedom 139 and the P value is 0.728. Since the t-calculated is less than the t-critical and the P value is greater than 0.05 level of significance, it implies that no significance difference exists between the pre-test mean achievement scores of the students in the  $G_1$  and  $G_2$ . Therefore, the null hypothesis which stated that there will be no significant difference between pre-test mean achievement scores of the students of SBM in the  $G_1$  and  $G_2$  is hereby accepted.

**H<sub>02</sub>:** There will be no significant difference between pre-test and post-test mean achievement scores of the students of SBM in the  $G_1$  group.

**Table 2:** Test of difference between pre-test and post-test mean achievement scores of the students of SBM in the experimental group

$G_1$	N	Df	Mean	SD	t-cal	t-crit	P value	Decision
Pre-test	67		26.2687	3.82805				
		66			35.435	1.67	0.000	Reject H <sub>02</sub> :
Post-test	67		50.2836	3.47199				

**Source: Field Survey, 2017**

The data in Table revealed that there were 67 students in the  $G_1$  taught SBM using CAIP. The pre-test mean achievement scores of the  $G_1$  is 26.2687, while the standard deviation is 3.82805. However, in the post-test, the group had a mean achievement scores of 50.2836 while the standard deviation is 3.47199. Thus, with the mean difference of 24.0149 after the treatment (CAIP), it is clear that the SBM students had a higher mean achievement in the post-test than in the pre-test. However, the analysis of paired sample t-test used for testing difference between the pre-test and post-

test of the students showed that, the t-calculated was 35.435 while, the t-critical was 1.67 with degree of freedom 66 and the P value of 0.000. This indicates that significant difference exists between the pre-test and post-test mean achievement scores of the students in  $G_1$ . Since the t-calculated is greater than the t-critical and the P value is less than 0.05 level of significance. Therefore, the null hypothesis which stated that, there will be no significant difference between pre-test and post-test mean achievement scores of the students of SBM in the  $G_1$  is hereby rejected.

**H<sub>03</sub>:** There will be no significant difference between post-test mean achievement scores of the students of SBM in the CAIP and lecture method groups.



**Table 3:** Test of difference between post-test mean achievement scores of the students of SBM in the experimental and control groups

Post-test	N	Df	Mean	SD	t-cal	t-crit	P value	Decision
G <sub>1</sub>	67	139	50.3582	3.38760	18.286	1.97	0.000	Reject H <sub>04</sub> :
G <sub>2</sub>	74		39.9865	3.34129				

**Source 1: Field Survey, 2017**

The result presented in Table 3 shows that there were 67 students in the G<sub>1</sub> and 74 students in the G<sub>2</sub>, that is the G<sub>1</sub> had a post-test mean achievement scores of 50.3582 and Standard Deviation of 3.38760, while, the G<sub>2</sub> on the other hand had a post-test mean achievement scores of 39.9865 and Standard Deviation of 3.34129, with a mean difference of 10.3717. this shows that, the students of SBM that were taught using CAIP had a higher mean achievement scores than the students that were taught SBM using traditional lecture method. Thus, the results of independent sample t-test showed that, the t-calculated was 18.286 while, the t-critical was 1.97 with degree of freedom 139 and the P value of 0.000. Since the t-calculated is greater than the t-critical and the P value is less than 0.05 level of significance, it implies that significant difference exists between the achievement scores of SBM students taught with CAIP (G<sub>1</sub>) against the students taught SBM using traditional lecture method (G<sub>2</sub>). Therefore, the null hypothesis which stated that there will be no significant difference between the post-test mean achievement scores of the students of SBM in the G<sub>1</sub> and G<sub>2</sub> is hereby rejected.

**CONCLUSION**

Following the analyses of the data collected as well as the findings of the study, it could be concluded that CAIP has significant effect on the academic achievement of business education students in SBM over the achievement of those students taught SBM using lecture method. Therefore, the use of CAIP can improve the academic achievements of the students of SBM. However, over

dependence on the use of lecture method in teaching SBM would limit the amount of academic achievements of the students particularly students of business education. Therefore, SBM teachers should be encouraged to use the CAIP for their teaching to avoid the problems that might likely lead the students to develop more interest in the course.

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Corresponding author: Suleiman, L. ✉ [lukmansuleimanwase@gmail.com](mailto:lukmansuleimanwase@gmail.com) ✉ Department of Vocational and Technology Education, ATBU, Bauchi. © 2020. Faculty of Technology Education, ATBU Bauchi. All rights reserved



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