Nigerian Open, Distance and e-Learning Journal **(NODeLJ). A Publication of Open, Distance and e-Learning Association of Nigeira (ODeLAN)**

e-ISSN: 1116-1299

Volume 1, May 2023 Pages 127-136
https://doi.org/10.60787/nodelj.v1i1.12

Effects of Multimodal Computer Assisted Instruction Package on Secondary School Students' Attitude and Achievement in Business Studies

Olasunkanmi, Israel Abayomi & Oyedele, Adesina Olusegun
Educational Technology Unit, Department of Science and Technology Education
E-mail: ia.olasunkanmi@ui.edu.ng, adesina.olusegun9@gmail.com

Abstract

This study examined the effects of Multimodal Computer Assisted Instructional Package (MCAIP) on attitude and achievement of Business Studies students in Iseyin Local Government Area of Oyo state, Nigeria. It also examined the moderating effects of gender and learning style on students' attitude and achievement in book-keeping and accounting component of Business Studies. The study adopted a pretest posttest control group quasi experimental research design. Two (2) public junior secondary schools were purposively selected and sixty (60) students were randomly assigned to experimental (30) and control (30) groups, respectively. The instruments used were; Business Studies Students' Attitude Questionnaire (BSSAQ) r=0.86, Business Studies Achievement Test (BSAT) r=0.78, Students' Learning Style Questionnaire (SLSQ) 0.78, and the treatment package Multimodal Computer Assisted Instructional Package (MCAIP). Three hypotheses were formulated and tested at 0.05 level of significance. Data collected were analysed using Analysis of Covariance (ANCOVA). Findings showed that MCAIP had significant main effect on students' attitude and achievement in Business Studies. Students exposed to MCAIP had higher post-attitude and post-achievement mean scores (48.89 and 13.24) than their counterparts in the control group (41.21 and 9.69), respectively. However, gender and learning style had no significant main effects on students' attitude and achievement. The study concluded that Multimodal Computer Assisted Instructional Package improves students' attitude and achievement in Business Studies regardless of their gender and learning styles. Therefore, the study recommends that Business Studies teachers should adopt Multimodal Computer Assisted Instructional Package (MCAIP) for the teaching and learning of Business Studies in junior secondary schools in Nigeria.

Keywords: Multimodal Computer Assisted Instructional Package (MCAIP), Students' Attitude to Book-keeping and Accounting, Students' achievement in Book-keeping and Accounting.

Introduction

Business Studies is an integral part of pre-vocational subjects incorporated in the curriculum at the Junior Secondary School level. In 1982, it was formally introduced to the Nigerian secondary schools as a means of meeting the national, technological and economic needs as articulated in the National Policy on Education (FRN, 2013). In order to meet this objective, Business Studies curriculum is intended to give the students a general introduction to the broad field of business. Consequently, five (5) different business subjects including Book-Keeping and Accounting, Commerce, Office Practice, Shorthand, and Typewriting were brought together to form the subject Business Studies.

In addition, Business Studies inculcates in the students relevant skills that can be used in the business world. It is an educational component of the school curriculum which serves as a tool for awakening the mind of the learners and instilling in the students the basic skills needed to profitably participate in economic activities. The general objectives of Business Studies, according to Sakina (2016), are to:

i. provide the orientation and basic skills with which to start an occupation for those who may not have opportunity for further training;
ii. provide basic business skills for personal use now and in the future;
iii. prepare students for further training in Business Studies;
iv. relate the knowledge and skills to the national economy and
v. develop basic skills in office occupations.

Primarily, the goals of Business Studies in the curriculum were to enable students to: gain an understanding of business concepts through the study of subjects such as commerce, shorthand, office practice, book keeping and computer; develop the skills, including critical thinking skills, and strategies required for self-employment; apply the knowledge, skills, and attitudes acquired through the study of business to a variety of learning tasks and relate them to business phenomena on the local, national, and global levels; and develop lifelong learning skills that will help students adapt to technological advancements, the changing workplace, and the global economy (Eze, 2011). It is the desire of the government and the society that students should acquire adequate knowledge and exhibit positive disposition towards the subject and its components to ensure personal financial and national economic development. In spite of the importance of all the Business Studies subjects, observations and studies have shown that students manifest poor achievement and negative attitude towards Business Studies. Some students hold that shorthand, typewriting and, book-keeping and accounting are too difficult to cope with (Ibitoye, 2019). These undesirable behaviours may be traceable to a number of factors including parental influence, peer influence, gender, and learning style.

Attitude is very important in learning. It can determine the achievement of learner in any particular subject. Attitude refers to a learned tendency of a person to respond positively or negatively towards an object, situation, concept or another person (Sarmah and Puri, 2014). Attitude can change and develop with time and once a positive attitude is formed, it can improve student's achievement (Syyeda, 2016; Mutai, 2011).

According to Caballero, Abello, and Palacio (2007), achievement involves meeting goals, achievements and objectives set in the program or course that a student attends. These are expressed through grades which are the results of an assessment that involves passing or not passing certain tests, subjects or courses. Willcox (2011) on his part submitted that achievement is the level of knowledge shown in an area or subject compared to the norm, and it is generally measured using the grade point average. Some factors have been identified as critical parameters that could affect student's attitude and achievement in Business Studies. These factors include gender and learning style. Therefore, in this context, gender and learning style stand as important moderating variables that can affect students' attitude and achievement in Business Studies (Udoukpong, Emah, and Umoren, (2012).

Gender refers to society's division of humanity base on sex into two distinctive categories (male and female). Gender guides how females and males think about themselves, how they interact with others,

and what position they occupy in society as a whole. Thus, gender operates as a dimension of social inequality. This inequality, which has historically favoured males, is a matter of biological differences between the two sexes. Females and males do of course differ biologically, but these disparities are complex and inconsistent. According to Udoukpong et al., (2012), gender has a role to play in differentiating the achievement of junior secondary school students in Business Studies.

Learning style is another moderating factor that affects attitude and achievement of students in Business Studies. Learning style is a term that is used to describe different ways that learners prefer to acquire learning. It is not in itself an ability but rather a preferred way of using one's ability (Stella, 2018). This implies that Business Studies have to adopt a teaching method that caters for the students' different learning styles, if meaningful learning would take place. Unfortunately, Wokocha, Wolugbom, Appah and Olorunfunmi (2016) reported that the delivery method in Business Studies is still traditional with very minimal application of ICT such as Computer Assisted Instruction (CAI).

Computer Assisted Instruction (CAI) is a self-learning technique, either off-line or online that uses computer as a tool to facilitate and enhance teaching and learning process (Eyo, 2018). The potential benefits of CAI cannot be underestimated in the instructional system since there are established findings on the instructional value of computers. CAI modes of delivery are classified into tutorials, educational games, drill and practice, simulation, problem solving approaches, discovery mode and dialogue level. Tutorials are computer programs where the computer acts as an instructor. Tutorial method is useful for introducing new topics, concepts and principles to learners and once the learner exhibits clear understanding, the learner immediately goes over to the next activity (Busari, Ernest and Ugwuanyi, 2016). Educational games are also useful for instruction. Game software often creates a contest to achieve the highest score. It is designed to either beat others or beat the computer (Yusuf and Afolabi, 2010). The aim of educational games is to motivate learners to interact with instructional materials. Games will be a good instructional tool only if it is content-based (Chawla and Deshwal, 2013).

The Multimodal CAI which combines two or more modes of CAI has been used and proven to be effective as intervention for different subjects at different levels of education. However, in relation to Business Studies, there is paucity of works done to investigate the effectiveness of Multimodal Computer Assisted Instructional Package (MCAIP) in the teaching of Business Studies. This study, therefore, seeks to investigate the effectiveness of Multimodal CAI on attitude and achievement of students in the accounting component of Business Studies.

Despite the importance of Business Studies as a means of meeting Nigeria's technological and economic needs, students manifest poor attitude and achievement in the accounting component of the subject. This is traceable to Business Studies teachers' over reliance on conventional teaching methods which are deficient of helping students' meaningful knowledge acquisition in the subject. Hence, the need to integrate ICT enhanced pedagogies such as Computer Assisted Instruction into the teaching and learning of Business Studies becomes inevitable. The study therefore determined the effects of Multimodal Computer Assisted Instruction Package (MCAIP) on attitude and achievement of students in Book-keeping and Accounting component of Business Studies Iseyin Local Government Area of Oyo state, Nigeria.

Hypotheses

H_o1: There is no significant main effect of treatment (Multimodal CAI) on students'
a. attitude to Book-keeping and Accounting component of Business Studies
b. achievement in Book-keeping and Accounting component of Business Studies.

H_o2: There is no significant main effect of gender on students'
a. attitude to Book-keeping and Accounting component of Business Studies.
b. achievement in Book-keeping and Accounting component of Business Studies.

H_o3: There is no significant main effect of learning style on students'
a. attitude to Book-keeping and Accounting component of Business Studies.
b. achievement in Book-keeping and Accounting component of Business Studies.

Methodology

This study adopted a pre-test, post-test control group and quasi-experimental design. Two (2) public Junior Secondary Schools were purposively selected in Iseyin Local Government Area of Oyo state and assigned to experimental and control groups. Thirty (30) students each were randomly selected from the two schools to participate in the study. The topic "Double Entry Book-keeping" was selected being a third term topic which is to be taught to JSS 1 students as at the time of conducting the research. The concept is also a foundation for other topics to be learnt at the subsequent stages in Business Studies.

The instruments used in the study were: Business Studies Students' Attitude Questionnaire (BSSAQ), Students Learning Style Scale (SLSS), Business Studies Achievement Test (BSAT) and Multimodal Computer Assisted Instructional Package (MCAIP) which was designed and developed by the researchers using the Analyse, Design, Develop, Implement and Evaluate (ADDIE) model of instructional design. The process began by selecting the topic "Double Entry Book-Keeping" scheduled to be taught from the book-keeping and accounting component of Business Studies in the third term of the school academic calendar. This was followed by preparation of a storyboard and the development of two modes (tutorial and game modes) of a Computer Assisted Instruction (CAI) in the package. The topic was divided into four (4) modules:

Module 1: Meaning of Double Entry Book-keeping;
Module 2: Meaning of asset, liability, income, expenses, drawing and capital;
Module 3: Double Entry Treatment of asset, capital, liability, expenses and drawing;
Module 4: Posting business transaction into the ledger using the Double Entry Book-keeping.

There were quizzes at the end of each module to test the learner's knowledge and learner must score at least 70% to be able to proceed to the next level, otherwise the learner will have to repeat the module. Then, the package was pilot tested and subjected to scrutiny of experts in the field of educational technology as well as students of junior secondary level. Consequently, necessary corrections were effected prior to the treatment. This was followed by the training and assessment of research assistants and the subject teacher for proper coordination of the experimental group. The pretest was administered, followed by the treatment which took two hours per week and it lasted for four weeks. Subsequently, the posttest was administered to both experimental and the control groups. The data collected were analysed using the Analysis of Covariance (ANCOVA) to explain and compare the pre-test and post-tests scores of the experimental and control groups. The hypotheses were formulated and tested at 0.05 level of significance.

Results

H_o1a: There is no significant main effect of treatment (Multimodal CAI) on students' Attitude to Book-keeping and Accounting component of Business Studies.

Table 1: Analysis of Covariance (ANCOVA) showing effect of treatment on students' Attitude to Book-keeping and Accounting component of Business Studies

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2281.054[a]	24	95.044	3.648	.000	.720
Intercept	498.683	1	498.683	19.138	.000	.360
Pre-attitude	307.354	1	307.354	11.796	.002	.258
Treatment	459.707	1	459.707	17.643	.000*	.342
Error	885.929	34	26.057			
Total	122732.000	59				
Corrected Total	3166.983	58				

Significant at P<0.05

Table 1 shows that the value of F-sig (.000) is less than the F-cal (17.643) at 0.05 level of significance. Hence, the null hypothesis rejected. This implies that Multimodal Computer Assisted Instructional Package (MCAIP) has significant main effect on students' attitude to Book-keeping and Accounting component of Business Studies.

Table 2: Bonferroni Pairwise Comparison of Post-attitude score of Treatment and Control Group

Treatment	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Treatment	48.891*	1.175	46.503	51.280
Control	41.211*	1.179	38.814	43.607

The result from table 2 above revealed that the Post-attitude score of students in the treatment group was significantly different from their counterparts who were in the control group.

H_o1b: There is no significant main effect of treatment (Multimodal CAI) on students' achievement in Book-keeping and Accounting component of Business Studies.

Table 3: Analysis of Covariance (ANCOVA) showing effect of treatment on students' Achievement in Book-keeping and Accounting component of Business Studies.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	605.035[a]	24	25.210	8.388	.000	.856
Intercept	393.125	1	393.125	130.803	.000	.794
Pre-achievement	16.389	1	16.389	5.453	.026	.138
Treatment	82.879	1	82.879	27.576	.000*	.448
Error	102.186	34	3.005			
Total	8730.000	59				
Corrected Total	707.220	58				

Significant at P<0.05

Table 3 showed that the value of F-sig (.000) is less than the F-cal (27.576) at 0.05 level of significance. Hence, the null hypothesis that treatment has no significant main effect on students' achievement was rejected

Table 4: Bonferroni Pairwise Comparison of Post-Achievement score of Treatment and Control Group

Treatment	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Treatment	13.239*	.394	12.439	14.039
Control	9.690*	.378	8.922	10.459

Table 4 revealed that students' achievement mean score of students in the treatment group (13.239) was significantly different from their counterparts who were in the control group.

H_o2a: There is no significant main effect of gender on students' attitude to Book-keeping and Accounting component of Business Studies.

Table 5: Analysis of Covariance (ANCOVA) showing effect of gender on students' Attitude to Book-keeping and Accounting component of Business Studies.

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2281.054[a]	24	95.044	3.648	.000	.720
Intercept	498.683	1	498.683	19.138	.000	.360
Pre-attitude	307.354	1	307.354	11.796	.002	.258
Treatment	459.707	1	459.707	17.643	.000	.342
Gender	55.006	1	55.006	2.111	.155*	.058
Error	885.929	34	26.057			
Total	122732.000	59				
Corrected Total	3166.983	58				

Significant at P<0.05

Table 5 showed that the value of F-sig (.155) is greater than the F-cal (2.111) at 0.05 level of significance. Hence, the null hypothesis that gender has no significant main effect on students' attitude was accepted.

H_o2b: There is no significant main effect of gender on students' Achievement in Book-keeping and Accounting component of Business Studies.

Table 6: Analysis of Covariance (ANCOVA) showing effect of gender on students' Achievement in Book-keeping and Accounting component of Business Studies.

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	605.035[a]	24	25.210	8.388	.000	.856
Intercept	393.125	1	393.125	130.803	.000	.794
Pre-achievement	16.389	1	16.389	5.453	.026	.138
Treatment	82.879	1	82.879	27.576	.000	.448
Gender	9.961	1	9.961	3.314	.077*	.089
Error	102.186	34	3.005			
Total	8730.000	59				
Corrected Total	707.220	58				

Significant at P<0.05

Table 6 above showed that the value of F-sig (.077) is greater than the F-cal (27.576) at 0.05 level of significance. Hence, the null hypothesis that treatment has no significant main effect on students' achievement was rejected.

H_o3a: There is no significant main effect of learning style on students' attitude to Book-keeping and Accounting component of Business Studies.

Table 7: Analysis of Covariance (ANCOVA) showing effect of learning style on students' Attitude to Book-keeping and Accounting component of Business Studies

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2281.054[a]	24	95.044	3.648	.000	.720
Intercept	498.683	1	498.683	19.138	.000	.360
Pre-attitude	307.354	1	307.354	11.796	.002	.258
Learning style	89.047	6	14.841	.570	.752*	.091
Error	885.929	34	26.057			
Total	122732.000	59				
Corrected Total	3166.983	58				

Significant at P<0.05

Table 7 above revealed that the value of F-sig (.752) is greater than the F-cal (.570) at 0.05 level of significance. Hence, the null hypothesis that treatment has no significant main effect on students' achievement was accepted.

H_o3b: There is no significant main effect of learning style on students' Achievement in Book-keeping and Accounting component of Business Studies.

Table 8: Analysis of Covariance (ANCOVA) showing effect of learning style on students' Achievement in Book-keeping and Accounting component of Business Studies

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	605.035[a]	24	25.210	8.388	.000	.856
Intercept	393.125	1	393.125	130.803	.000	.794
Pre-achievement	16.389	1	16.389	5.453	.026	.138
Treatment	82.879	1	82.879	27.576	.000	.448
Gender	9.961	1	9.961	3.314	.077	.089
Learning style	30.286	6	5.048	1.680	.156*	.229
Error	102.186	34	3.005			
Total	8730.000	59				
Corrected Total	707.220	58				

Significant at P<0.05

Table 8 above revealed that the value of F-sig (0.156) is greater than the F-cal (.156) at 0.05 level of significance. Hence, the null hypothesis that learning style has no significant main effect on students' achievement was accepted.

Discussion of findings

The findings of this study showed that students taught with Multimodal Computer Assisted Instructional Package (MCAIP) had their attitude and achievement improved than their counterparts who were taught with the conventional method. The statistically significant difference observed was due to the fact that CAI mode of instruction provides individualized learning that is

active, interactive and engaging for learners and adjust the pace and feedback based on the students' progress. Also, the tutorial mode of CAI is useful for introducing new topics. So, students taught with MCAIP had a higher comparative advantage in learning book- keeping and accounting which students were just being introduced to at the junior secondary school level. This finding is in tandem with the claim of Laleye (2019), Adeshina and Hanna (2016), and Yusuf and Afolabi (2010) who found out that students taught with CAI performed significantly better than those taught without CAI. In like manner, the higher attitude score of students was due to the fact that educational games are very effective for enhancing students' attitude towards a subject. This is line with the findings of Chawla and Deshwal (2013) who submitted that educational games help to motivate learners to interact with instructional materials.

The findings also revealed that the effect of Computer Assisted Instructional Package (MCAIP) on attitude and achievement of students did not depend on gender. The improvement in the attitude of the male students who participated in the study was not in any way better than that of the girls. Both male and female junior secondary school students had their attitude purely influenced and improved by their exposure or interaction with the Computer Assisted Instructional Package which was employed by the teacher. This suggests that the teachers of Business Studies do not need to hesitate to use the multimodal computer assisted instructional package to teach the Book-keeping and Accounting component of Business Studies. This equally suggests that irrespective of the school type, either mixed or only particular single gender schools, the multimodal CAI package is suitable to effect positive change in students' disposition to the Book-keeping and Accounting component of Business Studies.

Similarly, findings of this study revealed that the effect of Multimodal Computer Assisted Instructional Package (MCAIP) on attitude and achievement in of students the Book-keeping and Accounting component of Business Studies did not depend on their learning styles. It shows that the diverse learning styles of the students were taken care of by the package. This implies that the features of Multimodal Computer Assisted Instructional Package (MCAIP) suitably appeals to the various categories of learning styles exhibited by the learners at the junior secondary school level. Thus, it is recommended that the teachers should use the Multimodal Computer Assisted Instructional Package to teach the Book-keeping and Accounting component of Business Studies Junior secondary school students. By so doing, both the attitude and achievement in the subject, Business Studies will be reasonably improved.

Finally, the findings of this study suggest that should situation arise, in which the teacher is required or compelled to teach this level of students remotely, the multimodal computer assisted instructional package will come handy for the teacher to successfully tutor the students and achieved the learning objectives irrespective of the students' gender and learning styles. This is a good indication for open and distance learning which is a very germane mode of leaning in the digital or twenty-first century and beyond.

Conclusion and Recommendations

In conclusion the findings of the study showed that the use of Multimodal Computer Assisted Instructional Package improves students' attitude and achievement in Business Studies regardless of their gender and learning styles. Thus, it is recommended that the teachers should use the Multimodal Computer Assisted Instructional Package to teach the Book-keeping and Accounting component of Business Studies junior secondary school students. Consequently, both students' attitude and achievement in Business Studies, with particular reference to the Book-keeping and Accounting component, would be reasonably improved in junior secondary schools in Nigeria.

References

Abello, R. and Palacio, J. 2007. Relación de burnout y rendimiento académico con la satisfacción frente a los estudios en estudiantes universitarios. Avances en Psicología Latinoamericana, 252, 98-1l1. Recuperado de http://www.scielo.org.co/pdf'apl/v25n2/ v25n2a7.pdf.

Adeshina, E.A. and Hanna, O.Y. 2016. Effects of computer assisted instruction on independent learning skills of economics students in secondary schools In Kaduna State, Nigeria. European Journal of Alternative Education Studies. 1.2:85-93. Retrieved from: https://oapub.org/edu/index.php/ejae/article/view/352

Busari, O. O., Ernest, S. B. and Ugwuanyi, P. N. 2016. Effect of Computer Assisted Instruction CAI on Senior Secondary Students' Achievement in Chemical Reaction and Equilibrium in Egbeda Local Government Area of Oyo State. International Journal of Secondary Retrieved Education. 4.4:39-43. http://www.sciencepublishinggroup.com/ journal/anddoi= 10.11648/ j.ijsedu.201 60404 August 7, 2021. from: on

Chawla, A. and Deshwal, P. 2013. Effectiveness of Computer Assisted Instruction on Academic Achievement of Students in Social Science. Darpan International Research Analysis. 1.6:1-4.

Dalmolin A., Mackeivicz G., Pochapski M., Pilatti G., and Santos F. 2018. Learning styles Preferences and E-learning Experiences of Undergraduate Dental Students. Revista de Odontologia da UNESP 4.7:3.

Eyo, U. E. 2018. Effects of Computer Assisted Multimedia Instruction on Senior Secondary School Students' Achievement in Biology in Two Educational Zones of Niger State, Nigeria, West Africa. IOSR *Journal of Research and Method in Education IOSR-JRME.* 8.2:53-59 Retrieved from https://pdfs.semanticscholar.org.

Eze. J. 2011. Benefits of Career Development. Retrieved on July 2, 2021 from http://www.managementstudyguide.com/Federal Republic of Nigeria FRN 2014. National Policy on Education. Lagos: NERDC Press

Ibitoye, O. 2019. Factors Affecting Students' Attitude towards Business Education in Secondary Schools in Ibadan North Local Government, Oyo State, Nigeria. *KIU Journal of Social Sciences.* 53: 19 -24

Federal Republic of Nigeria (FRN, 2013). *National Policy on Education*. Nigerian Educational Research and Development Council (NERDC) Press. 6th Edition. ISBN: 978-054-216-7.

Laleye, A. M. 2019. Effects of a Computer-Programmed Instructional Strategy on Basic Science Learning Outcome in Two Instructional Settings in Ondo State, Nigeria. International Journal of Scientific Research and Management 1JSRM. 0702. PP. 869- 876. Retrieved 24/8/2021 from https://pdfs.semanticscholar.org /034c/c43ed667a4defd

Mutai, K. J. 2011. Attitudes towards Learning and Performance in Mathematics among Students in Selected Secondary Schools in Bureti District, Kenya Masters Dissertation. Retrieved from http:/firlibrary.ku.ac. ke/bitstream/handle/123456789/609/ JACKSON%20 KIPRO NOH.pdf

Nwogu, U. F. 2012. Strategies Considered Effective by Business Educators for Improving the Teaching of Business Subjects at the Senior Secondary School Level. An M.Sc Thesis, Department of Vocational Education, Nnamdi Azikiwe University, Awka.

Sakina, Y. 2016. Assessment of skills acquisition for self-reliance in Business Studies curriculum among junior secondary school students in Kaduna State, Nigeria. Unpublished doctoral dissertation. Ahmadu Bello University, Zaria, Nigeria.

Sarmah, A., and Puri, P. 2014. Attitude towards Mathematics of the Students Studying in Diploma Engineering Institute Polytechnic of Sikkim. Journal of Research and Method in Education. 46. Retrieved from http://www.academia. cdu/download/36434404/ B04630610,pdf

Syyeda, F. 2016. Understanding Attitudes towards Mathematics ATM Using a Multimodal Model: An Exploratory Case Study with Secondary School Children in England. Cambridge Open-Review Educational Research e-Journal. 3, 32-62. Retrieved from http://corerj.soc.srcf.net/? page_ id=224 Tahar,

Udoukpong, B. E, Emah. I. E., and Umoren, S. E. 2012. Business Studies Achievement 13de9d9436fca9b6054fc9.pdf Differences of Secondary School Juniors in Akwa Ibom State of Nigeria. International Education Studies. 5.2:35-43.

Willcox. M. and Del R. 2011. Factores de riesgo y protección para el rendimiento académico: Un estudio descriptivo en estudiantes de Psicología de una universidad privada. Revistade http://www.rieoei. 551, 1-9. Recuperado de Iberoamericana de Educación. org/deloslectores /3878Wilcox.pdf

Wokocha, K. D., Wolugbom, R. K., Appah, C. N. and Science Students' Learning Outcome in Two Instructional Settings in Ondo State, Nigeria. International Journal of Scientifc Research and Management LJSRM.0702. PP, 869- and76. Retrieved 24/8/2021 from https://pfs. semanticscholar.org /034c/c43ed667a4defd 13de9d9436fca9b6054fc9.pdf

Yusuf, M.O. and Afolabi, A.0. 2010. Effects of Computer Assisted Instruction CAI on Secondary School Students' Performance in Biology. Turkish Online Journal of Educational Technology. 8.1:62-69. Retrieved from https://www.learntechlib. org/p/55757/.