



## Factors influencing utilization of computer assisted instruction in teaching business education courses in colleges of education in North-Eastern, Nigeria

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### Abstract

The study examined the Factors Influencing Utilization of Computer Assisted Instruction in Teaching Business Education Courses in Colleges of Education in North-East, Nigeria. The study is guided by three objectives, research questions and hypotheses. The study adopted a survey research design to examine the variables under investigation. Structured questionnaires were administered to 143 business education lecturers of colleges of education in North-Eastern Nigeria. Data collected was analyzed using multiple regressions. The findings of the study revealed that technology readiness, computer self-efficacy, and Behavioral intention of business education lecturers on utilization of CAI was very high in colleges of education in North-Eastern Nigeria. The present study recommend that business education lecturers should develop more interests in online technologies and find more ways to be incorporated into teaching business education courses in colleges of education in North-East, Nigeria.

**Keywords:** CAI, technology readiness, computer self-efficacy, and Behavioral intention

### Introduction

Business education remained the foundation of human resource development which provides attitude, knowledge, skills, and understanding needed to perform in the business world as a producer or consumer of economic goods and services that business offers. Business education therefore is a vocational course that gives an individual appropriate skill, knowledge and attitude to become a teacher, self-reliant or employer (Ajisafe, Bolarinwa & Tuke, 2015) [15]. In teaching business courses, varieties of instructional methods are used for an effective instructional delivery. The method to be used by business educators depends on the nature of the course, readiness of the teacher to adopt an instructional method, nature as well as the level of the students (Barde, 2018) [13].

Information and communication technology is the physical structure of network of computer-based systems (hardware, software and media) for purposes of organizing, processing, communicating, accessing, presenting, storing, retrieving and simplifying information, when needed and in the format, it is needed (Ohiole, 2018). The use of information and communication technology (ICT) in schools has been one of the greatest innovations in teaching and learning (Iheonunekwu, Kevin & Uche, 2011) [30]. According to Osuala (2004), business educators should be trained in the relevant ICT competencies, skills, knowledge and attitude in using ICT in teaching and learning process. Thus, computers and internet, (digital technologies) creates now opportunities for teaching and learning. In developed countries of the world unlike Nigeria, development in ICT facilitates the use of computer in teaching and learning. Therefore, teaching business education courses with the use of modern technological instruments such as computer and other electronics multimedia may facilitate teaching and learning process of business education courses (Barde, 2018) [13].

A Computer assisted instruction (CAI) is virtually any kind of computer use for teaching in educational settings which

include drill and practice, tutorials, simulations and instructional management (Gana, 2013) [23]. He further maintained that CAI is the process by which written and visual information is presented in a logical sequence to a learner through a computer. Eytayo and Eytayo (2010) stated that computer is an electronic machine with multiple parts that accept data as input process it and then present result as information for use. Therefore, student learns by reading the text material presented or by observing the graphic information displayed (Emmanuel, 2015). CAI as an aspect of multimedia has been argued by Mayer and Moreno (2003) that the proposed multimedia learning environment, combining electronically supported images, sound, text and graphics with live performances, provide opportunities for personalized instruction, cooperation, feedback and creative interaction between the medium and the user.

Despite the significant of CAI in teaching and learning process as well as the government efforts in providing ICT facilities especially in Nigerian colleges of education, the level of utilization of these facilities in teaching by the colleges of education lecturers is still not impressive (Eteokleous, 2008). The predominant teaching method for instructional delivery in Nigerian schools and colleges of education inclusive is conventional lecture method (Ikechukwu, 2015) [31]. The conventional was proved to be ineffective for instructional delivery (Inuwa, Abdallah, & Hassan, 2017) [35]. However, Osuala (2004) argued that business educators should be equipped with necessary competencies, skills, and attitude towards utilizing ICT in teaching and learning process. This is because digital technologies create several opportunities for teaching and learning. Hence, there is the need for the business educators to be up-to-date in their knowledge and skills especially in computer and as well as the utilization of its facilities in teaching and learning (Okoloca, & Onaigho, 2015). Additionally, Barde (2018) [13] argued that teaching business education courses using modern technological instruments such as computer and other electronics multimedia may

facilitate teaching and learning process. Prior studies (see, for example, Fokides, 2017<sup>[22]</sup>; Paraskeva, Bouta, & Papagianni, 2008; Summak, & Baglibel, 2012) argued that technology readiness, self-efficacy and behavioural intention could influence the computer utilization. In view of these arguments, the present study therefore, intends to investigate the factors influencing utilization of CAI in teaching business education courses in colleges of education in north-eastern in Nigeria.

### **Utilization of Computer and Computer Assisted instruction (CAI)**

Utilization is the art of putting things or resources that are tangible or intangible to proper use (Okolocha, & Nwadiani, 2015). Agboeze, Ugwoke, and Onu, (2012)<sup>[3]</sup> stressed that the pace of development and utilization of computer technologies and application for educational purposes, including the teaching and learning of business education in developing countries like Nigeria, is still very low. Utilization of CAI is the proportion of available time (expressed in percentage) that a piece of equipment or facility is operated in the teaching and learning (Okolocha, & Nwadiani, 2015). According to Aykanat and Kalender, (2005), CAI is seen as the utilization of computers in all learning and teaching activities. In developed countries of the world like USA, Brazil, Japan, France, Germany, CAI has been used for more than three or four decades. The use of computer in developing countries is gradually taking roots in the educational system, especially in the pedagogical aspect (Emmanuel, 2015).

Computer assisted instruction is an automated instructional method in which a computer (electronic machine) is used to present an instruction to the learner through an interactive process (Ajelabi 2000). CAI is being used as an instructional strategy and has been utilized at all levels of education ranging from elementary school, secondary school, teachers training college, undergraduate, post graduate studies and on the job training in almost all subjects (Pritchard, 2005; & Chauhan, 1994). Gana, (2013)<sup>[23]</sup> described computer assisted instruction (CAI) as virtually any kind of computer use for teaching in educational settings which include drill and practice, tutorials, simulations and instructional management. Computer-aided instruction has a minimum of three dimensions, with the first one being teachers who serve as supervisors and controllers in learning-teaching activities. The second is the computer equipment designed to support the learning experience. And finally, the instructional software programs used to facilitate interaction between students and computers (Aksakalli, Turgut & Salar, 2016). Also, Computer Assisted Instruction is defined by Ukoha and Eneogwe (1996) as a learning process whereby a learner interacts with and is directed by computer through a course of study or learning task aimed at achieving specific instructional objectives (skill development).

### **Technology Readiness**

Technology has changed and continues to change the way people manage things in their lives, both in private and in practical life. Word processors, spell checking programmes and proof reading programmes are some of the useful technologies used in teaching and learning process (Alnahdi, 2014). Computer technology has been in use since 1970s and many countries have adopted

this technology as a medium of instruction in primary schools, secondary schools, colleges and universities (Welfred, 2013). Technology-readiness is a construct which refers to people's pr

opensity to embrace and use new technologies for accomplishing goals in home life and at work (Parasuraman, 2000). Teachers' readiness is the perception of their capabilities and skills required to integrate technology into their classroom instruction (Inan & Lowther, 2010). Technology used in schools must not only better reflect student's life outside the classroom but should also allow them to enhance their digital skills in a way that will continue to be reliable throughout their adult lives. Changing schools and making them digital ensure that children are ready for improved educational standards (Curtis, 2014).

Nwankwoala (2015) reported that availability of quality and adequate infrastructures are necessary for the accomplishment of any educational goals and objectives. According to Iman and Lowther (2010), access to computers and resources (applications) among others are factors that significantly affected technology readiness of teachers which involved the use of computer-assisted learning applications such as drill and practice, tutorials, and simulations. They further stressed that technology as a tool, involves students use of basic software applications such as word processing, presentations, databases, spreadsheets, Web 2.0 tools, and concept mapping to extend their abilities to solve problems, create products, or communicate and share their perspectives with each other.

Hazewinkel & Michiel (2001) reported that the use of CAI as an aspect of technology is successful in raising examination scores, improving student attitudes, and lowering the amount of time required to master certain material.

Zubairu, (2014) opined that ICT resources which were supposed to be used in content delivery by lecturers in Federal Colleges of Education in Nigeria are not accessible and that lecturers were not exposed and proficient in using ICT resources. He further confirmed that the major challenge facing lecturers in using ICT is the irregularity in power supply. Similarly, Information and communication technology resources such as computer, scanner, printer, public address systems, teleconferencing devices, wireless application protocols (WAP), radio and microwaves, television and satellites, multimedia computer and multimedia projector were not adequately provided for teaching and learning (Nwana, 2012). Aja, (2013) also stressed that despite the benefits of ICT in teaching-learning process, teachers and school management are not interested in using ICT for instructional purposes. This has been attributed to many factors which include inadequate funds, poor condition of electricity, teachers' incompetence and pervasive poverty in the society.

### **Concept of Self-Efficacy**

Efficacy according to Akpan (2014) means having the ability to do what is desired, or to be effective in producing the desired result. Self-efficacy is persons' beliefs that they can successfully fulfil a task or be successful in a job. Self-efficacy affects persons' resistance against difficulties, choice of activities, and their efforts and performance (Cansoy, Polatcan, & Parlar, 2018).

Self-efficacy is defined as a belief in one's own abilities to perform an action or activity necessary to achieve a goal or

task (Bandura, 1997) <sup>[12]</sup>. It is a future-oriented belief about the level of competence a person expects he or she will display in a given situation (Tschannen-Moran and McMaster, 2009). Self-efficacy is the confidence that individual has in his/her ability to do the things that he/she strives to do. Self-efficacy determines the tasks an employee chooses to learn and the targets they set for themselves (Lunenburg, 2011). To Tschannen-Moran and Wolfolk Hoy (2001) Teacher efficacy is significantly related to teachers' commitment, instructional behavior, persistence and enthusiasm, as well as student outcomes such as motivation, achievement, and self-efficacy belief. Inan&Lowther, (2010) argued that teacher belief is one of the essential factors that explain technology use. Thus teachers' confidence refers both to the teachers' perceived likelihood of success on using computer for educational purposes and on how far the teacher perceives success as being under his or her control (Peralta &Costa, 2007). Teacher self-efficacy according to Cansoy, Polatcan, and Parlar, (2018) refers to the beliefs that teachers have for individual and collective competencies that affect student learning.

Computer self-efficacy according to Christensen and Knezek (2006) <sup>[16]</sup> is the computer confidence in competence. Computer self-efficacy is based on beliefs and confidence about what a person can accomplish with the skills and knowledge of computer they already possess (Sarfo, Amankwah, &Konin, 2017). Teachers' computer self-efficacy focused on teachers beliefs and confidence in using basic computer skills, media related skills and web based skills to facilitate teaching and learning (Teo&Koh, 2010) Teachers' attitude and beliefs as well as teachers' computer competences affect teaching effects. Teacher's integration of computer technology depends on their competences and beliefs that technology can enrich the current curriculum, the teachers can make every effort to integrate computer technology into teaching (Wang, 2008). Teachers' computer self-efficacy is a strong determinant in studying teachers' behaviours with respect to the use of computers in teaching and learning (Cassidy & Eachus, 2002).

Sutton and Wheatley (2003) stressed that teachers successfully maintain conduct of the teaching and learning environment, are open to new ideas and influence students' growth emotionally and academically when they have high self-efficacy. Chacon (2005) and Ajala (2013) <sup>[6]</sup> observed that teachers with high self-efficacy beliefs are more likely to perform well in implementing innovations in the classroom, using classroom management approaches and adequate teaching methods and encourage students' autonomy, and to take responsibility for students with special learning needs than teachers with a low sense of self-efficacy. Similarly, Schwarzer and Hallum (2008) opined that teachers with high self-efficacy always try to enhance student achievement, set challenging goals for themselves and struggle to achieve these goals. On the other hand, teachers with low self-efficacy can neither meet the expectations imposed by others nor cope with stress. According to Çetin & Güngör (2014), there is a positive and significant relationship between self-efficacy towards using computers and attitudes towards computer-assisted instruction. Self-efficacy is one of the most critical factors for both learners and teachers, since it affects quality of Education (Kocabas, Ozfidan, &Burlbaw, 2018). Computer self-efficacy of teacher is therefore the extent to which

teacher is confidence in his/her ability to use of computer in order to promote students learning at a given time.

### **Behavioural Intention**

Behavioral intention as defined by Warshaw and Davis, (1985) is "the degree to which a person has formulated conscious plans to perform or not perform some specified future behavior". behavioral intention is defined as the power of one's interest in performing certain behaviors (Septiani, Handayani, and Azzahro, 2017). They further reported that in m-commerce, behavioral intention is considered as user subjectivity on their possibility of using a particular m-commerce. Behavioral Intention to use is defined as a measure of the likelihood that a person will adopt the application (Shanmugam, Savarimuthu, & Wen, 2014). Behavioural intention is an indication of a person's readiness to perform a given behaviour. Taib, Ramayah, & Abdul-Razak, (2008) opined that behavioral intention highly influenced actual behavior. Actual behavior according to Ajzen (1989), are actions which are taken in a specific scenario or situation for a specific purpose. Cheung &Veugel, (2013) argued that intention and behavior toward technology acceptance and adoption is influenced by the ability to share information in the collaborative learning environment. Oliver (1997) sees behavioral intentions as the stated likelihood to engage in a particular behavior. When a behavioral intention is formed, (Eagly&Chaiken, 1993) argued that it is often the result of generalized motivational processes that direct the behavior toward some goal. To Fishbein & Ajzen, (1975) <sup>[21]</sup> behavioral intention (BI) is the probability or a measure of strength of one's intention to perform a specific behaviour. Individual's acceptance and use of the technology is highly and significantly affect BI to use a technology, and this could lead to success of the technology adoption in the classroom (Yi, Jackson, Park, & Probst, 2006; DeLone & McLean, 1992; Fishbein & Ajzen, 1975) <sup>[21]</sup>.

### **Research Objectives**

The main purpose of this study is to investigate the factors influencing utilization of CAI in teaching business education courses in colleges of education in north-eastern in Nigeria. Specifically, the study intends to:

- 1 Examine the influence of technology readiness of business education lecturers on utilization of CAI in colleges of education.
- 2 Determine the influence of business education lecturers' computer self-efficacy on utilization of CAI in colleges of education.
- 3 Examine the influence of behavioural intention of business education lecturers on utilization of CAI in colleges of education

### **Research Questions**

The following research question will be formulated to guide the study.

1. To what extent does the technology readiness of business education lecturers influence their utilization of CAI in colleges of education?
2. To what extent does the business education lecturers' computer self-efficacy influence their utilization of CAI in colleges of education?

- To what extent does the behavioural intention of business education lecturers influence their utilization of CAI in colleges of education?

**Methodology**

A survey research design was used in this study to examine the Factors Influencing Utilization of Computer Assisted Instruction in Teaching Business Education Courses in Colleges of Education in North-East, Nigeria. A survey research design is a procedure in quantitative research in which investigators administer a survey or questionnaire to a sample or to the entire population of people to describe the attitude, opinions, behavior or character of the population (Creswell, 2012). The present study is therefore interested in using questionnaire in studying the opinions of colleges of education lecturers regarding their technology readiness, self-efficacy and behavioral intention on CAI utilization. Hence a survey design was appropriate for achieving this. The population of this study comprised 143 business education lecturers in the eight colleges of education in north-eastern Nigeria. The business education lecturers of colleges of education are considered in this present study because they are the people that handle business courses.

**Table 1:** Factors Influencing Utilization of Computer Assisted Instruction in Teaching Business Education Courses in Colleges of Education in North-East, Nigeria.

Variable	Standardized Coefficients Beta	T value	P value	Decision	
Technology Readiness	.270	2.067	.000	Rejected	
Self-Efficacy	.250	3.121	.000	Rejected	
Behavioral Intention	.390	5.393	.000	Rejected	
R. square					.33
Adjusted r square					.32

**Discussion**

The findings of this study indicated that Technology Readiness, self-efficacy and Behavioral Intention are significant predictors of Utilization of Computer Assisted Instruction in Teaching Business Education Courses in Colleges of Education in North-East, Nigeria. The finding is consistent with Iman and Lowther (2010), who stated that access to computers and resources (applications) among others are factors that significantly affected technology readiness of teachers which involved the use of computer-assisted learning applications such as drill and practice, tutorials, and simulations. Similarly, the study also agreed with the one conducted by Kamene (2014), which stated that the first stage in the successful adoption of computers in teaching Business Studies in secondary schools is that the teachers should be competent and interested users of computers and that the facilities should be easily accessible. The finding is consistent with Sarfo, Amankwah, &Konin, (2017) who argued that teachers’ belief is one of the essential factors that explain technology use. Thus, teachers’ confidence refers both to the teachers’ perceived likelihood of success on using computer for educational purposes and. In a related study, Ajala (2013) [6] observed that teachers with high self-efficacy beliefs are more likely to perform well in implementing innovations in the classroom, using classroom management approaches and adequate teaching methods and encourage students’ autonomy, and to take responsibility for students with special learning needs than teachers with a low sense of self-efficacy. The finding of the present study also agreed with the study of Cheung

**Results**

In this study, the necessary assumptions of multiple regression were properly assessed and fairly complied. Hair *et al.* (2013) recommended that when interpreting the result of multiple regression analysis, a researcher should first consider the F value, then the R-square value or adjusted R square, and follow by the individual contribution. Following their recommendation, in this study, the statistical evidence in table 1 has proved that the model was statistically significant based on the F ratio 56.607,  $p = .000$ . The result also revealed the  $R^2$  value of of .33, indicating that the model fit is large (Murphy, Myers & Wolach, 2014).

Regarding the individual contribution of the variables, the variables Technology Readiness had a standardized coefficients beta value of .270,  $p = .000$ , Self-Efficacy had .250,  $p = .000$  and Behavioral Intention had .390,  $p = .000$  (see, table 1). This indicates a significant contribution of the variables in the model, that is, Technology Readiness, Self-Efficacy and Behavioral Intention had a significant positive influence on Utilization of Computer Assisted Instruction in Teaching Business Education Courses in Colleges of Education in North-East, Nigeria.

&Veugel, (2013) who argued that intention and behavior toward technology acceptance and adoption is influenced by the ability to share information in the collaborative learning environment. The study also agreed with that of Lin and Roberts (2016) [37] who argued that Behavioral beliefs are considered the prevailing determinants of a person’s intentions and actions, influencing attitudes toward the behaviour.

**Conclusion and Recommendations**

The main purpose of this research work is to examine the Factors Influencing Utilization of Computer Assisted Instruction in Teaching Business Education Courses in Colleges of Education in North-East, Nigeria. The study had achieved all the three objectives discussed in section 1.4. The present study proved empirically that Technology Readiness, self-efficacy and behavioural intention have significant and positive influence Utilization of Computer Assisted Instruction in Teaching Business Education Courses in Colleges of Education in North-East, Nigeria. Therefore, business education lecturers should develop more interests in Computer technologies and find more ways to be incorporated into teaching business education courses in colleges of education in North-East, Nigeria.

**References**

- Abimbola. Use of computer in Nigeria education. Lagos: Raytel Communication Limited, 2012.
- Adeniyi AE. Effects of information and communication technology on secondary school students’ Economics

- performance in Kaduna state [PhD dissertation]. Zaria: Ahmadu Bello University, 2015.
3. Agboeze MU, Ugwoke EO, Onu FM. Utilization of e-learning technology resources in accounting education instructional delivery methods in Nigerian universities. *Int J Educ Res*,2012;12(1):26-38.
  4. Agboh CI. Effects of computer-assisted instructional technique on students' achievement in financial accounting in colleges of education in Southeast Nigeria. *Res J Finance Account*,2015;6(20):31-38.
  5. Aja SN. Information and Communication Technology Opportunities and Challenges in the Nigerian Education System. *J Qualitative Educ*,2013;9(3):[page range].
  6. Ajala EM. Self-efficacy, performance, training and well-being of industrial workers in Lagos. Nigeria. *Int J Psychol Stud*,2013;5(2):[page range]. doi:10.5539/ijps.v5n2p66
  7. Ajayi AI. Towards effective use of information and communication technology (ICT) for teaching in Nigerian Colleges of Education. *Asian J Inf Technol*,2008;7(5):210-214.
  8. Ajisafe EO, Bolarinwa OK, Tuke E. Issues in business education programme: Challenges to national transformation. *J Educ Pract*,2015;6(21):208-212.
  9. Ajzen I. Attitude, Personality, and Behavior. Milton Keynes: Open Univ. Press, 1989.
  10. Ajzen I. A theory of planned behaviour. [cited [date]]. Available from: <http://www.people.umass.edu/ajzen/contact.html>
  11. Babaođlan E, Korkut K. The correlation between level of classroom teachers' self-efficacy beliefs and classroom management ability perceptions. *Inonu Univ J Fac Educ*,2010;11(1):1-19.
  12. Bandura A. Self-efficacy: The exercise of control. New York: Freeman, 1997.
  13. Barde H. Evaluation of business educators computer skills for instructional delivery in technological era in colleges of education, north-eastern Nigeria [Master's thesis]. Bauchi: Abubakar Tafawa Balewa University, 2018.
  14. Baykul Y. Egitimdepsikolojideolcme: Klasik test teoriseuygulamasi (Measurement in education and psychology: Classical test theory and application). Ankara: OSYM yayınları, 2000.
  15. Cheung R, Vogel D. Predicting user acceptance of collaborative technologies: An extension of the technology acceptance model for e-learning. *Comput Educ*,2013;63:160-175.
  16. Christensen R, Knezek G. Pathway for preparing tomorrow's teacher to infuse technology. *Comput Schools*,2006;23(3/4):1-21.
  17. Curtis S. Digital learning: How technology is reshaping teaching [online]. *The Telegraph*. [cited [date]]. Available from: <http://dx.doi.org/10.4236/ce.2015.618202>.
  18. Davis FD, Bagozzi R, Warshaw PR. User acceptance of computer technology: A comparison of two theoretical models. *Manage Sci*,1989;35:982-1003.
  19. Davis FD. Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*,1989;13(3):319-340. doi:10.2307/249008
  20. Fee TY, Johari J, Mohd AFS. The influence of attitude, subjective norms, and perceived behavioural control on intention to return to work: A case of Socso's insured employees. *Kajian Malaysia*,2015;33(1):141-154.
  21. Fishbein M, Ajzen I. Belief, attitude, intention and behavior: An introduction to theory and research. Boston: Addison-Wesley, 1975.
  22. Fokides E. Greek pre-service teachers' intentions to use computers as in-service teachers. *Contemp Educ Technol*,2017;8(1):56-75.
  23. Gana CS. Effects of computer-assisted instruction with animation on achievement and retention of students of colleges of education in quantum physics [PhD thesis]. Nsukka: University of Nigeria, 2013.
  24. Ghavifekr S, Kunjappan T, Ramasamy L, Anthony A. Teaching and learning with ICT tools: Issues and challenges from teachers' perceptions. *Malays Online J Educ Technol*,2016;4(2):38-57.
  25. Hair JF, Money A, Samouel P, Page M. Research methods for business. West Sussex: John Wiley and Son Ltd, 2007.
  26. Hanif A, Qaisar FJ, Ahmed N. Behavioral intention for adopting technology-enhanced learning initiatives in universities. *J Behav Sci*,2018;28(1):88-104.
  27. Hu PJ, Clark THK, Ma WW. Examining technology acceptance by school teachers: A longitudinal study. *Inf Manage*,2003;41:227-241.
  28. Hunter AE. The effect of computer-assisted instruction and structured curriculum on struggling mathematics students. [thesis]. [Place]: Electronic theses and dissertations, 2012. Retrieved from <https://dio.org/10.18297/etd/656>.
  29. Ibrahim S. Business education as an antidote to economic challenges in Nigeria. *Vocational Business Educators*,2017;5(1):1-4.
  30. Iheonunekwu S, Kevin OE, Uche OU. Information and communication technology and students' academic performance in business studies in junior secondary schools in Arochukwu LGA of Abia State. *Knowledge Review*,2011;23(3):36-43.
  31. Ikechukwu CA. Effect of computer-assisted instructional technique on students' achievement in financial accounting in colleges of education in southeast Nigeria. *Res J Finance Account*,2015;6(20):31-38.
  32. Inan FA, Lowther DL, Ross SM, Strahl JD. Pattern of classroom activities during students' use of computers: Relations between instructional strategies and computer applications. *Teach Teacher Educ*,2009. doi:10.1016/j.tate.2009.06.017.
  33. Inije GO, Utoware JDA, Kren-Ikidi PC. Utilization of e-learning technologies in business education instructional delivery in colleges of education in Delta state of Nigeria. *Int J Educ Res*,2013;1(10):1-14.
  34. Inuwa U, Baraya AU. Relationship between attitude and financial accounting performance among secondary school students in Gombe state. *Sahel Analyst: J Manag Sci*,2017;15(4):90-99.
  35. Inuwa U, Abdullah Z, Hassan H. Assessing the effect of cooperative learning on financial accounting achievement among secondary school students. *Int J Instruction*,2017;10(2):31-46.
  36. Lawal WL, Shehu KO, Dike CH. The impact of information and communication technology on teaching and learning economics in secondary schools, Lagos state, Nigeria. *J Teach Educ*,2015;4(1):167-173.
  37. Lin MSN, Roberts KR. Predicting and explaining behavioral intention and hand sanitizer use among US Army soldiers. *Am J Infect Control*,2016. doi:10.1016/j.ajic.2016.11.008.