

EFFECTS OF E-LEARNING TOOLS ON STUDENTS' ACADEMIC PERFORMANCE IN SECONDARY SCHOOLS IN ILORIN METROPOLIS, NIGERIA

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ABSTRACT

The study sought to determine the effect of e-learning tools on the students' academic performance in secondary schools in Ilorin metropolis, Nigeria. Descriptive research design of survey type was adopted for this study, a total of three hundred and thirty (330) teachers made up the sample of the study drawn from 10 public and private schools each. The instrument for the study consisted of twenty (20) items questionnaire generated to answer the research questions and hypotheses. The data were presented and analyzed using descriptive statistics of frequency distribution analysis (FDA). The study found that there is positive and significant relationship between the use of e-learning tools and students' academic performance. Based on the findings of the study, it was concluded that students' use of e-learning tools has significant effect on their academic performance. Thus, it is affirmed that e-learning tools would significantly promote students' interest in the learning contents, make learning easy for students, allow students and motivate students towards better academic performance. The study recommends that the use of e-learning tools and technology in secondary schools should be encouraged so as to improve students' academic performance significantly.

INTRODUCTION

Education is a vital activity and quality education has traditionally been associated with strong teachers having high degree of personal contact with learners. The significance of education, particularly in a developing country like Nigeria has increased because of the need to catch up with the developed world in several areas, particularly in global competitiveness and best practices. As the world grows more towards being a global village, the need to innovate in teaching practices with particular reference to Information Communication Technology, ICT, becomes imperative if attempt is to be made to bridge the gap between the developing and developed world.

E-learning according to Aboderin (2015), encompasses an ample array of systems, from the teacher using visual effects to students accessing academic materials

online and teaching delivered entirely with the use of computer. E-learning is learning utilizing electronic technologies to access educational curriculum outside of a traditional classroom (www.e-learning.gov, 2019). It (e-learning) involves the use of network technologies to create, foster, deliver and facilitate learning and it encompasses face-to-face, distance, mixed and blended delivery models that utilizes electronic means, a unifying term used to describe the fields of online learning, web-based training and technology delivered instructions

E-learning has received much attention from various institutions and academic scholars in the past few years. E-learning is a computer based educational system that enables learner to learn anywhere and at any time. E-learning is mostly delivered through the internet, although in the past it was delivered using a blend of computer-based methods like CD-Rom (Epignosis, 2014). The use of e-learning tools in respect to learning process is critical for the successful implementation of various learning environments (Abdullah & Azzedine, 2011). Galy, Downey and Johnson (2011) noted that modern classroom, whether online or schools-based, use e-learning tools and learning management systems that capture student cognition and engages them in the learning process via technology, while increasing their need for self-directedness.

Imperatively, the role that ICT play in the educational and learning environment cannot be over emphasized. The use of ICT in modern learning environment ranges from slide use of computers in practical aspects to an online learning experience which enhances and improves students' intellectual and learning behavior (Smith, 2003). With the introduction of computers, the precursor of our modern-day ICT, and the promising potentials of computer-based instruction and learning, many researchers and institutions were motivated to invest viable resources so as to ensure the possibility of computers enhancing learning culture. Many authorities believe that computers should be brought into the education system because of the expectation that students would benefit quantitatively from computers by providing them with the software and hardware for an effective learning process (Wheeler, 2010).

The digital age has transformed the way people communicate, network, seek help, access information and learn. We must recognize that young people, particularly students, are now an online population and internet access is through variety of means, such as computers, television and mobile phones (Tapscott, 2005; Al Ansari, 2006). Thus, as technology becomes more and more embedded in our culture, students must be provided with relevant and contemporary experiences that allow them to successfully engage with technology and even prepare them for life after school. The use of e-learning tools, it is believed, would have a positive influence on both students' achievement, motivation and learning process.

The use of Information Communication Technology, ICT in education lends itself to more student-oriented learning settings. With the world moving rapidly into digital media and information, the influence of ICT on both education and students' learning behavior is becoming more and more important and this importance will continue to grow in the 21st century. Web Based Training and its newer and more general synonymous term e-Learning are two of today's buzz-words in the academic world (Odhiambo, 2013). Decision-makers associate with its new ways of learning that

are more cost efficient than traditional learning strategies and which allow students to better control the process of learning because they can decide when, where and how fast to learn. The emergence of e-learning according to Ani and Ahiauzu, (2008), has tremendously transformed information-handling and management in academic environments.

Although, classrooms are considered a face-to-face learning environment, yet the installation of ICT equipment such as web-based tools and other technologies would positively influence students' blended learning situation. This is because there appears to be some consensus that both teachers and students feel that ICT use in the class greatly contributes to students' motivation and engagement in learning. A very high percentage (86%) of teachers worldwide agree that students are more motivated and attentive when computers are in their study programmes so as to remain relevant in the rapidly changing condition for educational services (Salau, 2012). In this study, a research regarding the use of ICT and its influence on students' academic performance and learning outcome was provided.

For many years, educational researchers have maintained an interest in the effective prediction of students' academic achievement at school. Societies all over the world strive to achieve quality education for her citizenry. In order to achieve this noble course, so many factors must be put into consideration. Among them is the introduction of ICT into education particularly at classroom level a result of technological development. We are in the world of digital age where ICT needs to be introduced into classrooms to enhance learning and develop students' digital experience. Students' learning behavior and understanding have been the issue in many research studies as teachers have been observed complaining of the difficulties involved in classroom management practices due to lack of concentration by the students. This greatly affects the teaching-learning process. It is believed that proper use of ICT will foster learning and motivate students to come to class and engage in classroom activities. For instance, Becker, 1997 cited in Youseff & Dahmani, 2008, is of the view that the use of ICT in... education will allow for a shift from teacher-centered approach to student-centered approach thereby improving teaching and learning.

Evidence exist to suggest that different teaching delivery styles can have different degrees of success as measured in terms of academic performance or achievement. In relation to online teaching, a growing number of studies have contended that e-learning improves students' performance in education. These studies claim that ICT have a potential to innovate, accelerate, enrich and deepen skills, to motivate and engage students, to help relate school experience to work practices, create economic viability for tomorrow's workers, as well as strengthen teaching and helping schools change (Al-Ansari, 2006; Alkhalaf, Drew & AlHussain, 2012; Lemke & Coughlin, 1998: cited in Yusuf,2005; Smith and Hardaker, 2000). The potential of e-learning to significantly affect education in a developing country like Nigeria is thus significant. For example, Osunade, Ojo & Ahisu, 2009, in their research work, reported that the use of e-learning has the following significant effect on the students: (i) has an

edit effect in terms of quality of student work and practical examples through visualization; (ii) improves language skills through visualization; (iii) equalizes individual differences and particularly has dramatic effects for students with special needs; (iv) facilitates self-pacing with increased capacities to deal with individual learning styles, as students can work at their own pace and intensity suitable to their needs; (v) enables collaborative learning with little indication of the isolated learner amongst other advantages.

According to Barker & Wendel (2001) students in virtual schools showed greater improvement than their conventional school counterparts in critical thinking, researching, using computers, learning independently, problem-solving, creative thinking, decision-making, and time management. A study by Calderoni (1998) revealed that academic advantages over traditional classroom instruction were demonstrated by students in Mexico's Telesecundaria program, who were "substantially more likely than other groups to pass a final 9th grade examination" administered by the state; by students taking a chemistry by satellite course (Dees 1994); and by students learning reading and math via interactive radio instruction (Yasin & Lubers 1998). Kearsley (2000) noted that given instruction of equal quality, groups of students learning online generally achieve at levels equal to their peers in classrooms. Equality between the delivery systems has been well documented over decades for adult learners. Evidence to date convincingly demonstrates that when used appropriately, electronically delivered education— 'e-learning'— can improve how students learn, and can deliver high-quality learning opportunities to all children" (National Association of State Boards of Education, 2001).

On one hand, it is noted that e-learning is at least as effective as traditional instructional strategies (Rosenberg, Grad & Matear, 2003), and that there are no major differences in academic performance between the more traditional and more technology-oriented modes of instruction (Cavanaugh, 2001). Other studies however, find that greater online teaching has a negative impact on performance (Johnson, 2005). For instance, Adeyemi (2011) is of the view that despite the claims that e-learning can improve the quality of education, making materials available online results in improved learning results only for specific forms of collective assessment; resistance to change from traditional pedagogical methods to more innovative, technology-based teaching and learning methods by both students and teachers; lack of qualified personnel; inadequate ICT infrastructure as a result of underfunding. Abulibdeh, and Hassan (2011), were also of the view that e-learning makes learners undergo contemplation, remoteness and lack of interaction or relation, making it require strong inspiration and skills to the management of time so as to reduce such effects. They also found that clarifications, offer of explanation and interpretation is less effective in e-learning; deteriorate institutions', teachers' role and several other identified challenges. Identifying the actual impact of e-learning on students, schools and the wider environment when put to use is actually difficult because of its newness and diversity of the programmes and the complexity of factors affecting outcome, measuring of its impact is an emerging issue and closely related on how the technology is used as an educational tool and other factors.

The prediction and explanation of academic performance and the examination of the factors relating to the academic achievement are topics of greatest importance in different educational levels. Studies have shown that prior academic performance is an important predictor of performance at various levels of education. Students' performance remains one of the key determinants of the success of any technological innovation and initiative in any school and their academic performance and attitudes towards computers are suggested as having an influence on their use of e-learning tools. As ICT are being increasingly used in education, the need to monitor their impact on students' academic performance is ever more needed. This is because it is quite important to show the relationships between technology use and students' academic performance. There is also a need to show that education should be seen as using technology not only as an end in itself, but as a means to promote creativity, empowerment and equality and produce efficient learners and problem solvers. Many academic researchers have tried to answer this question at theoretical and empirical levels. But as ICT entails evolving technologies and their effects are difficult to isolate from their environment, the relationship between the use of e-learning tools and student educational performance is unclear, and contradictory results are presented in the literature (Youssef & Dahmani, 2008) as explained earlier. Therefore, this study examined the effects that e-learning tools have on student's academic performance in secondary schools in Ilorin metropolis, Kwara State, Nigeria.

The ability to effectively manage learning time is an important element in of electronic learner success (Kearsley, 2000). Palloff and Pratt (1999) hinted that interacting in a Web-based course can require two to three times the amount of time investment than in a face-to-face course. Roblyer (1999) pointed that students who have difficulty managing time are more likely to achieve less in a distance course or drop out altogether. Gibson (1998) equally mentioned that a key construct relating to distance learners' persistence is their self-efficacy for learning at a distance and that personal perceptions of competence (self-efficacy) are related to learners' perceptions of their ability to manage time effectively. Studies also suggest that student academic performance may be affected by both engagement effects and learning-style effects. Carini, Kuh, and Klein (2006), found that, although in general, the relationship between engagement and performance is complex; engagement is positively correlated with student performance. Their conclusion is supported by a number of empirical studies: Rodgers and Ghosh (2001) identified that 'effort' (or engagement) levels were highly significant in determining student examination performance though Davies and Graff (2005) study made in an e-learning context found that online engagement had no statistically-significant impact on examination performance.

Other studies in this area have examined the issue of what determines the amount of time that a student spends on e-learning. Arbaugh (2000) is of the opinion that 'time' will depend on the student's attitude to the perceived usefulness, and also the ease of use, of this delivery medium. It is suggested that students who spend more time on internet-based courses tend to be the ones who take more ownership of the learning process, and as a consequence receive the greatest learning benefit (good performance

as measured by grades). From this, it can be inferred that we might expect to find a significant, and positive, relationship between the level of e-learning engagement and academic performance as students who use their time efficiently are more likely to learn and/or perform better than students who do not have good time management skills. Zimmerman and Risemberg (1997) opined that self-regulated learners know how to manage their time because they are aware of deadlines and how long it will take to complete each assignment. They prioritize learning tasks, evaluating more difficult from easier tasks in terms of the time required to complete them. They are aware of the need to evaluate how their study time is spent and to reprioritize as necessary.

Purpose of the Study

The purpose of this study was to examine the effects of e-learning tools on secondary school students' academic performance in Ilorin metropolis. The specific objectives are:

1. Determine the level of students' Utilization of E-Learning Tools for Learning?
2. Evaluate the effects of E-Learning Tools and Students' Motivation to Learn?
3. Examine the effects of E-learning Tools and Student Engagement in Academic Activities?
4. Determine the effects of E-learning Tools and Students' Academic Performance?

Research Questions

The following research questions were raised to provide answers sought in this study:

1. What is the level of students' Utilization of E-Learning Tools for Learning?
2. What are the effects of E-Learning Tools and Students' Motivation to Learn?
3. What are the effects of E-learning Tools and Student Engagement in Academic Activities?
4. What are the effects of E-learning Tools and Students' Academic Performance?

METHODOLOGY

The study adopts descriptive survey research method as the research design. A survey method for this study is quite appropriate in the measurement of respondent's opinion on the issue related to e-learning tools and students' academic performance. Likert-type items on a five-point scale for closed-ended questionnaires was employed to measure the respondents' perceptions on various issues relating to e-learning tools and students' academic performance in Ilorin metropolis of Kwara State, Nigeria.

The population for the study comprises of all the teachers and principal of secondary schools in Ilorin metropolis made up of Ilorin East, West, South and Asa Local Government Areas, Kwara State. This include both the private and public secondary schools totaling eighty-six (86) (Kwara State Government, 2015). The total number of teachers in these (86) secondary schools as at the time of this study are one thousand, eight hundred and ninety-three. To arrive at the appropriate sample size for the teachers to be selected as respondents, Yamene's formula is applied. Thus, three

hundred and thirty (330) teachers were selected as samples among twenty (ten public and ten privates) randomly selected schools.

Data was collected with the use of questionnaire administration. The questionnaire was structured into two main parts. The first part focused on the demographic characteristics of the respondents. The second part focused on twenty-item questions related to issues of e-learning and students' academic performance. These were formulated as to provide answers to the research questions. Three hundred and thirty (330) copies of questionnaires were administered across twenty secondary schools in Ilorin metropolis, Kwara State. In measuring of the respondents' opinions as expressed in the questionnaires, Likert rating scale of five points was employed. Saunders, Lewis and Thornhill, (2000) assert that the Likert-style rating method of questionnaire design enables researcher to determine the views of the respondents on how they agree or disagree with a series of statements. It also has the advantage, in that, it enables numerical value to be assigned to cases for easy quantitative analysis (Zinberg, Revelle & McDonald, 2006).

The researchers-designed questionnaire was validated by experts which involved two senior lecturers in the Faculty of Education in a tertiary institution for vetting, correction and approval. The reliability of the instrument was measured by performing a reliability test using Cronbach alpha test to check the consistency and accuracy of the measurement scales. A reliability coefficient of 0.71 was obtained, indicating questions in each construct are measuring a similar concept. The questionnaire was administered personally by the researchers to the respondents in the selected secondary schools, with the approval of the respective school authorities. The respondents were given a twenty-four hours period to fill the questionnaire so as to allow for proper reflection on the options before being filled. All completed questionnaires were collected and collated for data analysis.

The study used both qualitative and quantitative analysis of data in determining the relationship of variables involved in the study. The data obtained from the field were presented using descriptive statistics (frequency distribution analysis, FDA i.e. Frequency Count).

RESULTS

The responses to the questionnaire administered showed that a total of three hundred and thirty (330) copies of questionnaire were administered to the respondents. Two hundred and eighty-eight (288) copies of the questionnaire representing 87.3% were returned and considered fit for the study. This implies that majority of the respondents positively responded to the questionnaire, making it adequate the study. (State the Research Question you intend to answer before placing each table)

Table 1: Students' Utilization of E-Learning Tools for Learning

| S/N | Items | Strongly Agreed (%) | Agreed (%) | Undecided (%) | Disagreed (%) | Strongly Disagreed (%) |
|-----|---|---------------------|------------|---------------|---------------|------------------------|
| 1. | E-learning tools are readily available in my school | 40 (13.9) | 22(7.6) | 14(4.9) | 79(27.4) | 133(46.2) |
| 2. | I use educational blog for class interaction | 61(21.2) | 39(13.5) | 21(7.3) | 65(22.6) | 102(35.4) |
| 3. | Students read e-books and e-journals to enhance academic performance. | 12(4.2) | 38(13.2) | 14(4.9) | 81(28.1) | 143(49.7) |
| 4. | Students process assignments with the computer | 23(8.0) | 17(5.9) | 11(3.8) | 85(29.5) | 152(52.8) |
| 5. | Students use e-learning tools for study | 33(11.5) | 22(32.2) | 16(5.6) | 93(7.6) | 124(43.1) |

Table 1 shows that 73.6% of the respondents affirmed (disagreed) that e-learning tools are not available in their schools; 58% disagreed, 7.3% of the respondents were undecided and 35.6% agreed that they do not use educational blogs for class interaction and; 77.8% of the students agreed that they do not read e-books and e-journals to enhance academic performance. Also, 82.3% of the students do not process assignments with the computer. 3.8% of the respondents were undecided while 13.9% of the students claimed that they process assignments with the computer. The table further shows that 75.3% of the students do not use e-learning tools for study. 5.8% of the respondents were undecided while 19.1% say they use e-learning tools for study.

Table 2: Effect of E-Learning Tools and Students' Motivation to Learn

| S/N | Items | Strongly Agreed (%) | Agreed (%) | Undecided (%) | Disagreed (%) | Strongly Disagreed (%) |
|-----|--|---------------------|------------|---------------|---------------|------------------------|
| 1. | I love new innovation that motivate students towards learning | 121(42.0) | 108(37.5) | 18(6.3) | 22(7.6) | 19(6.6) |
| 2. | E-learning tools promote students' interest in the learning content | 118(41.0) | 106(36.8) | 27(9.4) | 23(8.0) | 14(4.8) |
| 3. | E-learning tools make learning easy for students | 144(50.0) | 83(28.8) | 26(9.0) | 14(4.9) | 21(7.3) |
| 4. | E-learning tools allow students to apply skills and knowledge gained practically | 91(31.6) | 88(30.6) | 25(8.7) | 31(10.8) | 53(18.4) |
| 5. | E-learning tools motivate students towards better academic performance | 108(37.5) | 103(35.8) | 35(12.2) | 21(7.3) | 21(7.3) |

Table 2 shows that 79.5% of the respondents support that they love new innovation that motivate students towards learning while 6.3% were undecided while 14.2% of the respondents did not agree that they love new innovation that motivate students towards learning; 77.8% of the respondents supported that e-learning tools promote students' interest in the learning content, 9.4% were undecided, while 12.8%

disagreed. Also, 78.8% of respondents affirmed that e-learning tools make learning easy for students. 9.0% were undecided, while 12.2% disagreed, and 62.2% of respondents affirmed that e-learning tools allow students to apply skills and knowledge gained practically. 8.7% of the respondents were undecided, and 29.2% of the respondents disagreed; 73.3% of the respondents agreed that e-learning tools motivate students towards better academic performance. 12.2% were undecided and 14.6% disagreed This implies that e-learning tools could promote students' interest in the learning content, would make learning easy, as well as motivate students towards better academic performance thereby enhancing students' academic performance.

Table 3: Effect of E-learning Tools and Student Engagement in Academic Activities

| S/N | Items | Strongly Agreed (%) | Agreed (%) | Undecided (%) | Disagreed (%) | Strongly Disagreed (%) |
|-----|---|---------------------|------------|---------------|---------------|------------------------|
| 1. | E-learning tools in improving student's study skills | 140(48.6) | 88(30.6) | 24(8.3) | 15(5.2) | 21(7.3) |
| 2. | Use of e-learning tools waste students' time | 55(19.1) | 29(10.1) | 26(9.0) | 79(27.4) | 99(34.4) |
| 3. | E-learning tools provide students with some of the pre-requisite skills for academic preparedness | 122(42.3) | 92(31.9) | 24(8.3) | 24(8.3) | 29(10.1) |
| 4. | E-learning tools ensure that students learn independently | 131(45.5) | 72(25.0) | 24(8.3) | 29(10.1) | 32(11.1) |
| 5. | E-learning tools encourage students' class participation | 122(30.2) | 87(22.2) | 24(8.3) | 35(12.2) | 20(6.9) |

Table 3 shows that 79.2% of the respondents agreed that e-learning tools help in improving student's study skills with 8.3% of the respondent's undecided and 12.5% disagreed; 29.2% of the respondents support that use of e-learning tools waste students' time. 9.0% of the respondents were undecided and 61.8% of the respondents did not agree that use of e-learning tools waste students' time; 74.2% of the respondents agreed that e-learning tools provide students with some of the pre-requisite skills for academic preparedness. 8.3% of the respondents were undecided, while 17.4% of the respondents strongly disagreed; 70.5% of the respondents agreed that e-learning tools ensure that students learn independently. 8.3% of the respondents were undecided while 21.2% did not agree and; 52.4% agreed that e-learning tools encourage students' class participation. 8.3% of the respondents were undecided while 19.1% did not agree.

Table 4: Effect of E-learning Tools and Students' Academic Performance

| S/N | Items | Strongly Agreed (%) | Agreed (%) | Undecided (%) | Disagreed (%) | Strongly Disagreed (%) |
|-----|---|---------------------|------------|---------------|---------------|------------------------|
| 1. | E-learning tools are essential for students' academic performance | 110(38.2) | 76(26.4) | 34(11.8) | 27(9.4) | 41(14.2) |
| 2. | E-learning tools provide learning opportunities that enhance academic performance | 113(39.2) | 95(33.0) | 21(7.3) | 27(9.4) | 32(11.1) |
| 3. | E-learning tools improve students' organizational skills | 116(40.3) | 107(37.2) | 18(6.3) | 19(6.6) | 28(9.7) |
| 4. | E-learning tools promote students' self confidence | 122(42.4) | 101(35.1) | 25(8.7) | 19(6.6) | 21(6.8) |
| 5. | E-learning tools help students' link academic subjects to examination demands | 141(49.0) | 82(28.5) | 23(8.0) | 17(5.9) | 25(8.7) |

Table 4 shows that 75.4% agreed that e-learning tools is essential for students' academic performance while 23.6 disagreed; 72.2% also agreed that e-learning tools provide learning opportunities that enhance academic performance. 20.5% disagreed and 11.1% were undecided; 77.5% agreed that it improves students' organizational skills, 16.3% disagreed and 6.7% were undecided; that e-learning tools promotes students' confidence (77.5%) while 13.4% disagreed and 8.7% were undecided and; it was also observed that 77.5% of the respondents supported that e-learning tools help students link academic subjects to examination demands, 7.4% disagreed and only 1.1% were undecided, implying that e-learning tools improved students' academic performance.

DISCUSSION

It was found that that there is a positive and high level of the utilization of e-learning tools and students' academic performance. This agrees with the study of Odhiambo, 2013; Osunade, Ojo & Ahisu, 2009. They found that the higher the level of utilization of e-learning tools, the better the students; academic performance. Lack of availability of e-learning tools in schools affects the use of e-learning tools (Adeyemi, 2011). Also, that resistance to change from traditional pedagogical methods to more innovative, technology-based teaching and learning methods by both teachers and students makes utilization of e-learning tools low (Adeyemi, 2011).

The study equally showed that usage of e-learning tools have significant effect on students' motivation to learn Retrieved from Osunade, Ojo & Ahisu, 2009; Salau, 2012) as it was found to develop communicative and awareness of different audiences, facilitates self pacing with increased capacity to deal with individual learning styles amongst other positive benefits which explains that usage of e-learning tools has a combine effect of 89.8% on the variation of students' motivation to learn because it promote students' interest in the learning content; make learning easy for students; allow students to apply what have been learnt to the real world situation and essentially motivate students towards better academic performance. Rhis contrasts the finding of Johnson (2005) who found that greater online teaching has a negative impact on academic performance.

The study also found that e-learning tools have significant effect on students' effective engagement in academic activities. This also agrees with previous studies (Carini, Khu & Klein, 2006; Osunade, Ojo & Ahisu, 2009; Rogers & Ghosh, 2001) as Osunade et. al. (2009) claimed among other results of their findings that e-learning has dramatic effects on students' desire to learn impacts on resource-based learning and access to real world information through the web. E-learning tools is perceived to help in improving student's study skills; it provides students with some of the prerequisite skills for academic preparedness; ensure that students learn independently thereby improving students' confident and encourage students' class participation. On academic performance, results from the study indicate that e-learning tools is essential for students' academic performance, provide learning opportunities that enhance academic performance and improves students' organizational skills as observed by Odhiambo, (2013); Baker & Wendel, (2001); Calderoni, (1998) in their studies.

CONCLUSION

This study examined the effect of e-learning tools on student's academic performance in Ilorin metropolis. The study shows that e-learning tools are essential for enhancing students' academic performance, because it encourages students' class participation, ensure that students learn independently which boost students' confidence and provide learning opportunities that enhance academic performance. Therefore, the study conclude that students use of e-learning tools have significant effect on their academic performance. Thus, it is affirmed that e-learning tools would significantly promote students' interest in the learning content, make learning easy for students, allow students to apply skills and knowledge gained practically and motivate students towards better academic performance. Moreover, effective usage of e-learning tools would equally help in improving student's study skills, provide students with some of

the prerequisite skills for academic preparedness, help students to link academic subjects to examination demands and improve students' organizational skills. e-Learning is a new and innovative way of learning that is more cost efficient than some traditional learning strategies and allow students to better control the process of learning because they can decide when, where and how fast to learn. Its emergence (e-learning) has significantly transformed information-handling and management in academic environments. its use in our secondary school system will go a long way in improving student-teacher, student-student interaction thereby promoting quality learning

RECOMMENDATIONS

Integration, proper and effective utilization of e-learning tools in the teaching and learning process will bring about benefits in the academic and non-academic field to both the students and teachers. Therefore, in line with the findings of the study, the following recommendations are made:

- i. The use of e-learning tools in secondary schools should be encouraged across all the secondary schools so as to improve students' academic performance significantly.
- ii. The school management and education development board in the state should as a matter of necessity put more e-learning facilities and equipment in place providing solutions to specific problems of curricula. The management of secondary schools and government agency(ies) in charge of secondary schools' development should recognize the impact and applicability of e-learning tools to enhance qualitative and quantitative decision-making in the successful academic output.
- iii. Teachers should orientate and encourage the students towards the use of e-learning tools in the classroom and also encourage the use of social media website that focus on promoting teaching and learning.
- iv. Students should also help themselves by utilizing the mobile technologies majorly for academics.

REFERENCES

- Abdullah, A. & Azzedine, L. (2011). A novel outcome - based educational model & its effect on student learning. *Curriculum Development & Assessment. Journal of Information Technology Education*, 38 (3): 44 -45.
- Abulibdeh, E.S., & Hassan, S.S. (2011). E-learning interactions, information technology self efficacy and student achievement at the University of Sharjah, UAE. *Australasian Journal of Educational Technology*, 27(6): 1014-1025.
- Aboderin, O.S. (2015). Challenges and prospects of e-learning at the National Open University of Nigeria. *Journal of Educational Technology*, 9: 207-216.

- Adeyemi, T.O. (2011). Impact of information and communications technology (ICT) on the effective management of universities in South-West Nigeria. Retrieved from: <http://www.scihub.org/AJ SMS>. on 3rd March, 2019
- Al-Ansari, H. (2006). Internet use by the faculty members of Kuwait University. *The Electronic Library*, 24, (6): 79-803.
- Alkhalafi, S., Drew, S. & Alhussain, T. (2012). Assessing the impact of e-learning systems on learners: A case study in KSA. *Social Behavioral Sciences*, 47, 98-107. Retrieved from: www.sciencedirect.com on 23 February, 2019.
- Ani, Okon E. & Ahiauzu, B. (2008). Towards effective development of electronic information resources in Nigerian University Libraries. *Library Management* 29(6/7): 504 – 514.
- Arbaugh, J. B. (2000). How classroom environment and student engagement affect learning in internet-based MBA courses. *Business Communication Quarterly*, 63(4), 9-26.
- Barker, K., & Wendel, T. (2001). E-learning: studying Canada's virtual secondary schools. Kelowna, BC: Society for the Advancement of Excellence in Education. Retrieved from: <http://www.excellenceineducation.ca/pdfs/006.pdf>. on 11 March, 2019.
- Calderoni, J. (1998). Telesecundaria: Using TV to bring education to rural Mexico. Education and Technology Technical Notes Series: World Bank Human Development Network. Retrieved from: [http://wbln0018.worldbank.org/HDNet/HDdocs.nsf/C11FBFF6C1B77F9985256686006DC949/1635F1703FE053B385256754006D8C3F/\\$FILE/telesecundaria.pdf](http://wbln0018.worldbank.org/HDNet/HDdocs.nsf/C11FBFF6C1B77F9985256686006DC949/1635F1703FE053B385256754006D8C3F/$FILE/telesecundaria.pdf). On 12 March, 2019
- Carini, R.M., Kuh, J.D. & Klein, S.P. (2006). Student engagement and student learning: Testing the linkages. *Research in Higher Education*, 47, 1-32.
- Cavanaugh, C. S. (2001). The effectiveness of interactive distance education technologies in K-12 learning: A meta-analysis. *International Journal of Educational Telecommunications*, 7(1), 73–88.
- Davies, D., & Graff, M. (2005). Performance in e-learning: online participation and student grades. *British Journal of Education Technology*, 36, 657-663.
- Dees, S. (1994). *An investigation of distance education versus traditional course delivery using comparisons of student achievement scores In: Advanced placement chemistry and perceptions of teachers and students about their delivery system (satellite course)*. Northern Illinois University.
- E-learningnc (2019). What is e-learning. Retrieved from: www.elearningnc.gov. on 12th April, 2019 at 10:58 am
- Epignosis L.L.C, (2014). E-learning concepts, trends, applications. Book 5.

- Galy, E., Downey, C., & Johnson, J. (2011). The effect of using e-learning tools in online and campus-based classrooms on student performance. *Journal of Information Technology Education, 10*:209-230.
- Gibson, C. C. (1998). The distance learner's academic self-concept. In C. C. Gibson (Ed.) *Distance learners in higher education: institutional responses for quality outcomes* (p. 65-76). Madison, WI.: Atwood Publishing.
- Johnson, G.M. (2005). Student alienation, academic achievement, and WebCT use. *Educational Technology and Society, 8*, 179-189.
- Kearsley, G. (2000). *Online education: learning and teaching in cyberspace*. Belmont, CA.: Wadsworth.
- Kwara State Government (2015). *Number of secondary schools in Kwara State*. Department of statistics, information unit, Kwara state ministry of education, Ilorin, Nigeria.
- National Association of State Boards of Education. (2001). *Any time, any place, any path, any pace: Taking the lead on e-learning policy*. Alexandria, VA: author.
- Odhiambo, S. O. (2013). *The impact of e-learning on academic performance: a case study of group learning sets*. A master of arts in sociology project of the department of sociology and social work, college of humanities and social sciences, university of Nairobi.
- Osunade, O., Ojo, M., & Ahisu, V. (2009). The role of internet in the academic performance of students in tertiary institutions. *Journal of Education Research, 1*: 30-35
- Palloff, R. M., and Pratt, K. (1999). *Building learning communities in cyberspace: Effective strategies for the online classroom*. San Francisco: Jossey-Bass.
- Peigrum, W.I., & Law, N. (2003). *ICT in education around the world: Trends, problems and prospects*. UNESCO - International Institute for Educational Planning. Retrieved from: www.worldcatlibraries.org/wxpa/ow/O2d077080fcf3210al9afeb4d_a09e526.html on 20th May 2017
- Roblyer, M. D. (1999). Is choice important in distance learning? A study of student motives for taking internet-based courses at the high school and community college levels. *Journal of Research on Computing Education, 32*(1), 157 – 171.
- Rodgers, T., & Ghosh, D. (2001). Measuring the determinants of quality in UK higher education: A multinomial logit approach. *Quality Assurance in Education, 9*, 121-126.

- Rosenberg, H., Grad, H. A., & Matear, D. W. (2003). The effectiveness of computer-aid, self-instructional programs in dental education: A systematic review of the literature. *Journal of Dental Education*, 67(4), 524–532.
- Salau, K. (2012). Effects of connectivity & dispersal on interacting. *Journal of Educational Technology*, 22 (6): 88 - 89.
- Saunders, M., Lewis, P. & Thomhill, A. (2000). *Research Methods for Business Students*. New Jersey, Englewood Cliffs: Prentice-Hill.
- Smith, M.K. (2003). Introduction to informal education. Retrieved from: <http://www.infed.org/i-intro.htm> on 13 July 2016
- Tapscott, S.J. (2005). Teaching & learning with the next generation. *Innovate*, 3 (4).
- Wheeler, S. (2010). Using wikis to promote quality learning outcomes in teacher training (full text). *Learning, Media & Technology*, 34 (1), 1 - 10.
- Yasin, K. & Luberrisse, Y. (1997). Meeting the needs of a new democracy: Multichannel learning and interactive radio instruction in Haiti: A case study. Washington, DC: USAID. Retrieved from: <http://ies.edc.org/pubs/book11.htm>.on 12 March, 2019
- Youssef, A., Ben, & Dahmani, M. (2008). *The impact of ICT on student performance in higher education: direct effects, indirect and organizational change*. Main, 5 (February 2008).
- Yusuf, M. O. (2005). Information and communication technology and education: Analyzing the Nigerian National Policy for Information Technology. *International Education Journal*, 6 (3): 3 16-321.
- Zimmerman, B. J., & Risemberg, R. (1997). Self-regulatory dimensions of academic learning and motivation. In G. D. Phye (Ed.) *Handbook of Academic Learning: Construction of knowledge* (p. 105-125). San Diego, CA.: Academic Press.
- Zinberg, G.M., Revelle, F, & McDonald, A. (2006). Human nature and models of consumer decision making. *Journal of Advertising*, 21(4): 2-3.