Challenges and Prospects of E-learning at the National Open University of Nigeria

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Abstract

This descriptive survey using a questionnaire investigated the challenges and prospects of e-learning at the National Open University of Nigeria (NOUN). The sample for the study consisted of 250 students randomly selected from five faculties at NOUN's Akure Study Centre, with 50 students randomly selected from each faculty. The questionnaire was validated by experts in computer science education, educational technology and tests and measurement. Findings revealed that challenges included lack of enough computers, shortage of Internet facilities, students' lack of access to e-learning facilities and tools, high cost of software and erratic power supply (a major challenge), while prospects included promoting distance learning, extending the frontiers of knowledge, eradicating e-illiteracy, and making education more effective. Recommendations were, among others, that an enabling environment for e-learning should be ensured, assurance of a constant power supply, education stakeholders should ensure procurement of requisite information and communication technology (ICT) equipment and make it available for students' use, with maintenance and upgrading as the need arises. Finally, the study revealed that the e-learning influences students' ICT competence.

Keywords: *Challenges, Prospects, E-learning, and National Open University of Nigeria*

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Introduction

Developments in information and communication technologies (ICTs) have impacted all sectors of society, including the education sector. In higher education application of ICTs in the form of e-learning is already changing teaching and learning processes. There are many pedagogical and socio-economic factors that have driven higher learning institutions to adopt e-learning. These include greater information access; greater communication; synchronous learning; increased cooperation and collaboration; cost-effectiveness (e.g. by reaching different students and in greater numbers); and pedagogical improvement through simulations, virtual experiences, and graphic representations. Both trainers and learners can choose more appropriate applications which are flexible in time, in place, personalized, reusable, adapted to specific domains and more cost-efficient (Adomi, 2005; Fisser, 2001; Pelliccione, 2001; Olabode, Marlien & Jacobs et al , 2005; Bruno, 2007).

E-learning refers to the use of ICT to enhance and/or support learning in tertiary education. However, this encompasses an ample array of systems, from students using e-mail and accessing course materials online while following a course on campus, to programmes delivered entirely online. E-learning can be of different types; a campus-based institution may be offering courses, but using E-learning tied to the Internet or other online network (Lorrain et al, 2007). E-learning is not only about training and instruction but also about learning that is tailored to the individual. Different terminologies have been used to define learning that takes place online (Lorrain *et al*., 2007; Oye 2011). The early use of computers and ICT were geared to support classroom instructional methods. Gradually, as more and more personal computers became available, the concept and practice of online classes was investigated and explored by some pioneering colleges and universities.

E-learning refers to the use of ICTs to enhance and support the teaching and learning process. It allows for efficient transfer of knowledge anywhere and any time, regardless of subject matter, and opens up a world of learning unavailable in most corners of the world. At the same time e-learning empowers learners with the information technology awareness and skills crucial to succeed in today's global knowledge economy.

Ajadi, et al (2008) Olaniyi (2006) explain that the commonest type of e-learning adopted in Nigerian schools is in the form of lecturers' notes on CD-ROM, which can be played as and when the learners desire. They noted that some institutions adopted the use of Intranet facilities; however, this is not well maintained because of challenges of irregular power supply and the high cost of running generators. Most students in Nigeria go to a cyber café to access Internet facilities.

Despite all these and other challenges facing e-learning in Nigeria's educational institutions, institutions such as the University of Ibadan, Obafemi Awolowo University, University of Benin, University of Abuja, University of Lagos, and the National Open University of Nigeria (NOUN), among others, have facilities for e-learning. This number may seem very low (compared to other parts of the world and the usefulness of e-learning in economic development), but is so because of the location of most institutions, bandwidth issues and mostly the challenge of electricity supply. Although most of the educational institutions (private and public) have started setting up ICT centres for Internet services alone, without taking into consideration other components of an e-learning centre (Ajadi et al., 2008).

Generally students' attitudes toward e-learning are positive (El-Gamal & El-Aziz, 2011). Nassoura (2012) pointed out that many students had positive attitudes towards e-learning because it had a positive impact on their motivation as well as self-esteem. Student skill in technologies is a significant predictor of attitudes toward ICT and e-learning (Liaw, Chang, Hung, & Huang, 2006; Liaw & Huang, 2003; Liaw & Huang, 2011; Mitra, 1998). The level of access to technology and its reliability influence students' attitude to use of ICTs to support learning (Papaioannou & Charalambous, 2011; Paris, 2004; Sweeney & Geer, 2010). Daniel (2009) describes four obstacles affecting the implementation of e-learning in developing countries as follows:

- Connectivity: Limited or lack of connectivity in many developing countries, including at Nigeria's universities, impedes access to online learning (e.g. e-learning).
- Equipment: E-learning requires equipment that can facilitate learning, but in some of Nigeria's universities equipment such as computers, digital technology, and the Internet are not available for proper utilisation.
- Software: Software enables educators to design and develop learning content. This software is costly and not available for use in some of Nigeria's universities to facilitate e-learning programmes.
- Training: No combination of connectivity, equipment and software will achieve anything if people are not trained to use them.

Computers bring a lot of information into the classroom and therefore offer the potential to overcome the shortage of learning resources (Gjørling, 2005). Advancements in online technologies have also facilitated a convergence of distance and campus-based learning, which provides greater

flexibility (Bennett & Lockyer, 2004). ICT use can influence teaching and learning styles by changing the emphasis from a teacher-centred to a learner-centred style and provides opportunities to improve information-reasoning skills, communication skills, higher-thinking skills, creativity, and problem solving (Shaikh & Khoja, 2011; Yusuf & Afolabi, 2010).

Purpose of the Study
The purpose of this study is to investigate and identify the challenges and prospects of e-learning at NOUN. Specifically, the study examined:
1) Attitudes of students towards e-learning,
2) The various challenges of e-learning at NOUN,
3) Prospects of e-learning,
4) Availability of e-learning facilities/tools, and
5) The influence of e-learning on students' ICT competence.

Research Questions
In trying to find solutions to specific problems raised, the following research questions were generated:
1) Do students at NOUN show positive attitudes towards the use of computers?
2) Does NOUN have enough e-learning facilities?
3) What are the challenges for e-learning at NOUN?
4) What are the prospects of e-learning at NOUN?
5) Does e-learning influence students' ICT competence?

Method

This study took the form of a descriptive survey, and the sample for the study consisted of 250 students randomly selected from five faculties at NOUN's Akure Study Centre, with 50 students drawn from each faculty. A questionnaire titled 'Challenges and Prospects of E-learning in National Open University of Nigeria' designed by the researcher was used to collect the data. The instrument was validated by experts in computer science, educational technology and tests and measurement. To ensure reliability of the instrument the Cronbach alpha statistics technique was employed; a reliability coefficient of 0.84 was obtained. The data collected were analysed through the use of descriptive statistics such as frequency count and bar chart.

Results

Research Question 1: Do students in NOUN show positive attitudes towards use of computers?

Figure 1 shows that only 34 of the respondents strongly agreed that e-learning has assisted their overall learning, while 145 agreed that e-learning has assisted their overall learning; 70 disagreed, while 1 strongly disagreed that e-learning has assisted their overall learning. Of the respondents 97 strongly agree that they plan better for their learning with e-learning, while 75 agreed, 77 disagreed and 1 strongly disagreed. Eighty-three of the respondents strongly agreed that e-learning motivates them to be self-dependent, while 64 agreed, 95 disagreed and 8 strongly disagreed. Of the respondents 91 strongly agree that they can access the school portal without any assistance, while 57 agreed, 90 disagreed and 12 strongly disagreed. Seventy-seven of the respondent strongly agreed that they can login and log off successfully during examinations/ Tutor-Marked Assignment (TMA) while 64 agreed, 78 disagreed and 79 strongly disagreed.

Figure 1 shows that majority of the respondents indicate that NOUN students show positive attitude towards the use of e-learning.

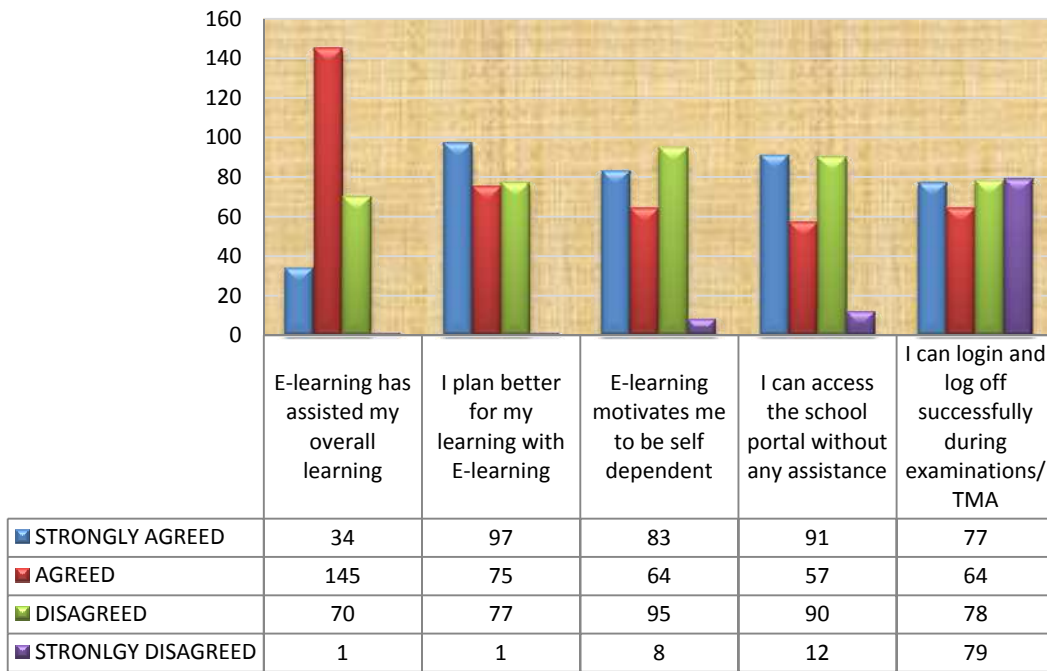**Graph summary of attitudes of students toward the use of computers**

	E-learning has assisted my overall learning	I plan better for my learning with E-learning	E-learning motivates me to be self dependent	I can access the school portal without any assistance	I can login and log off successfully during examinations/ TMA
▪ STRONGLY AGREED	34	97	83	91	77
▪ AGREED	145	75	64	57	64
▪ DISAGREED	70	77	95	90	78
▪ STRONLGY DISAGREED	1	1	8	12	79

Figure 1. Attitude of students towards the use of computers.

Research Question 2: Does NOUN have enough e-learning facilities and equipment?

Figure 2 shows opinions on the availability of e-learning equipment and facilities at NOUN's Akure Study Centre. Of the respondents 73 strongly agreed that enough computer sets and laptops are available at NOUN, 1 agreed, 88 disagreed and 88 strongly disagreed. Two of the respondents strongly agreed that there are Internet facilities at NOUN, 73 agreed, 88 disagreed and 87 strongly disagreed. Eighty-six strongly agreed that projectors and projector screens are available at NOUN, 58 agreed, 97 disagreed and 9 strongly disagreed. 87 strongly agreed that video cameras and compact disks are available for teaching and learning at NOUN, 2 agreed, 51 disagreed and 110 strongly disagreed. One hundred and eight respondents strongly agreed that fax machines and handsets are available at NOUN, while 39 agreed with this, 31 disagreed and 72 strongly disagreed.

Figure 2 shows that most of the respondents agreed that NOUN's Akure Study Centre does not have enough e-learning equipment and facilities.

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Graph summary of availability of e-learning facilities

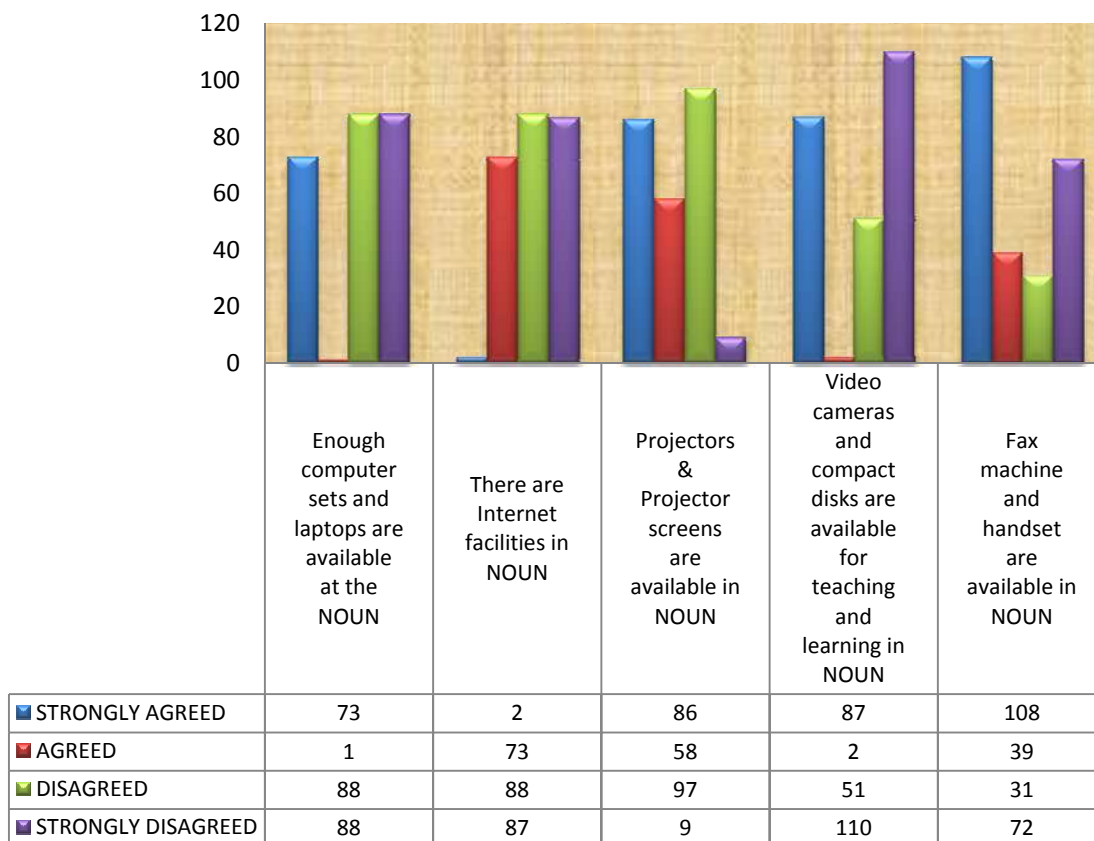|	Enough computer sets and laptops are available at the NOUN	There are Internet facilities in NOUN	Projectors & Projector screens are available in NOUN	Video cameras and compact disks are available for teaching and learning in NOUN	Fax machine and handset are available in NOUN
STRONGLY AGREED	73	2	86	87	108
AGREED	1	73	58	2	39
DISAGREED	88	88	97	51	31
STRONGLY DISAGREED	88	87	9	110	72

Figure 2. Opinions on availability of e-learning facilities

Research Question 3: What are the challenges for e-learning at NOUN?

Figure 3 shows a summary of opinions on the challenges of e-learning at NOUN's Akure Study Centre. Of the respondents 94 strongly agreed that students do not have equal access to e-learning facilities and tools, 85 agreed with this, 55 disagreed and 16 strongly disagreed. One hundred and fourteen of the respondents strongly agreed that students of NOUN are afraid of operating computers and other e-learning tools, 71 agreed, 53 disagreed, and 12 strongly disagreed. Sixty-six respondents strongly agreed that an Internet connection is not always available, due to the high cost of Internet connectivity, 119 agreed, 51 disagreed, and 14 strongly disagreed. Of the respondents 92 strongly agreed that the erratic power supply is a major challenge to e-learning, 81 agreed, 61 disagreed, and 16 strongly disagreed. Eighty strongly agreed that the high cost of software is also a major challenge to e-learning, while 78 agreed, 63 disagreed and 29 strongly disagreed with this.

Figure 3 shows that most of the respondents agreed that students show positive attitude toward e-learning at NOUN.
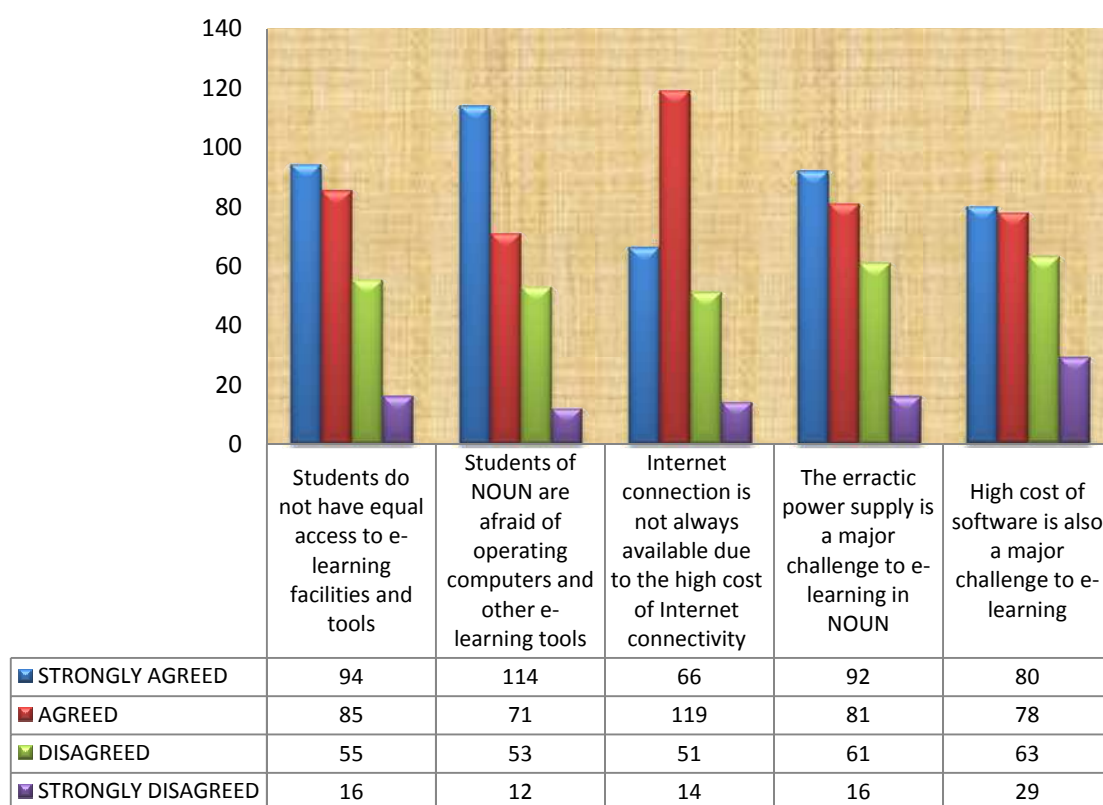
Graph summary on challenges of e-learning at NOUN

	Students do not have equal access to e-learning facilities and tools	Students of NOUN are afraid of operating computers and other e-learning tools	Internet connection is not always available due to the high cost of Internet connectivity	The erractic power supply is a major challenge to e-learning in NOUN	High cost of software is also a major challenge to e-learning
STRONGLY AGREED	94	114	66	92	80
AGREED	85	71	119	81	78
DISAGREED	55	53	51	61	63
STRONGLY DISAGREED	16	12	14	16	29

Figure 3. Opinions on challenges of e-learning at NOUN

Research Question 4: What are the prospects of e-learning at NOUN?

Figure 4 shows opinions on the prospects of e-learning at NOUN's Akure Study Centre. Of the respondents 103 strongly agreed that e-learning will promote distance learning if adequately utilised, while 87 agreed, 51 disagreed and 9 strongly disagreed. In terms of whether e-learning will extend the frontiers of knowledge in the nearest future, 139 of the respondents strongly agreed while 74 agreed, 26 disagreed and 11 strongly disagreed. One hundred and nine strongly agreed that e-learning will eradicate e-illiteracy, while 40 agreed, 94 disagreed and 7 strongly disagreed. Of the respondents 78 strongly agreed that e-learning will make education generally more effective, while 73 agreed, 87 disagreed and 12 strongly disagreed. Ninety-eight respondents strongly agreed that e-learning has helped them to overcome the problem of shortage of learning resources; 48 agreed, 97 disagreed and 7 strongly disagreed.

Figure 4 shows that the majority of the respondents agreed on the items regarding the prospects of e-learning at NOUN.

The Challenges and Prospects of E-learning in National Open University of Nigeria

Graph summary on prospects of e-learning at NOUN

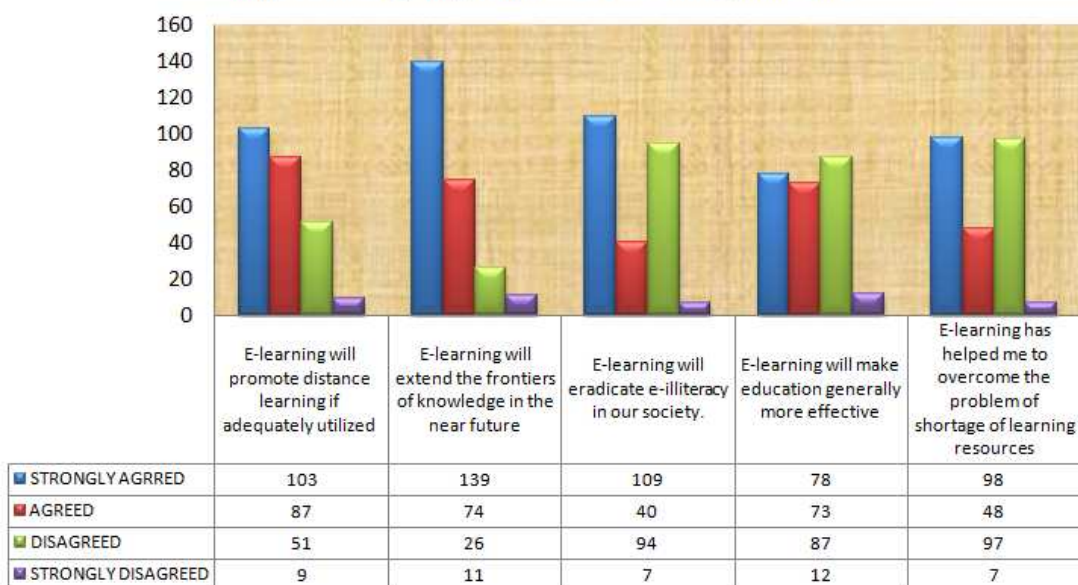|	E-learning will promote distance learning if adequately utilized	E-learning will extend the frontiers of knowledge in the near future	E-learning will eradicate e-illiteracy in our society.	E-learning will make education generally more effective	E-learning has helped me to overcome the problem of shortage of learning resources
STRONGLY AGRRED	103	139	109	78	98
AGREED	87	74	40	73	48
DISAGREED	51	26	94	87	97
STRONGLY DISAGREED	9	11	7	12	7

Figure 4. Opinions on prospects of e-learning at NOUN

Research Question 5: Does e-learning influence students' ICT competence?

Figure 5 shows that 73 of the respondents strongly agreed that the use of e-learning develops their ICT competency, while 147 agreed, 21 disagreed and 9 strongly disagreed. Of the respondents 108 strongly agreed that they learn one thing or another about computers in the process of e-learning, while 42 agreed, 93 disagreed and 7 strongly disagreed. Sixty-four of the respondents strongly agreed that e-learning has improved their typing speed, to which 88 agreed, 22 disagreed and 76 strongly disagreed. Of the respondents 111 strongly agreed that e-learning helped them to know how to surf the Internet perfectly, while 35 agreed, 91 disagreed and 13 strongly disagreed. Eighty-one of the respondents strongly agreed that e-learning has helped them to know how to retrieve information from a compact disk, and 58 agreed, 101 disagreed and 10 strongly disagreed with this.

From Figure 5 it can be seen that the majority of respondents agreed that e-learning influences students ICT competence.

Graph summary of the effect e-learning at on students's ICT competence
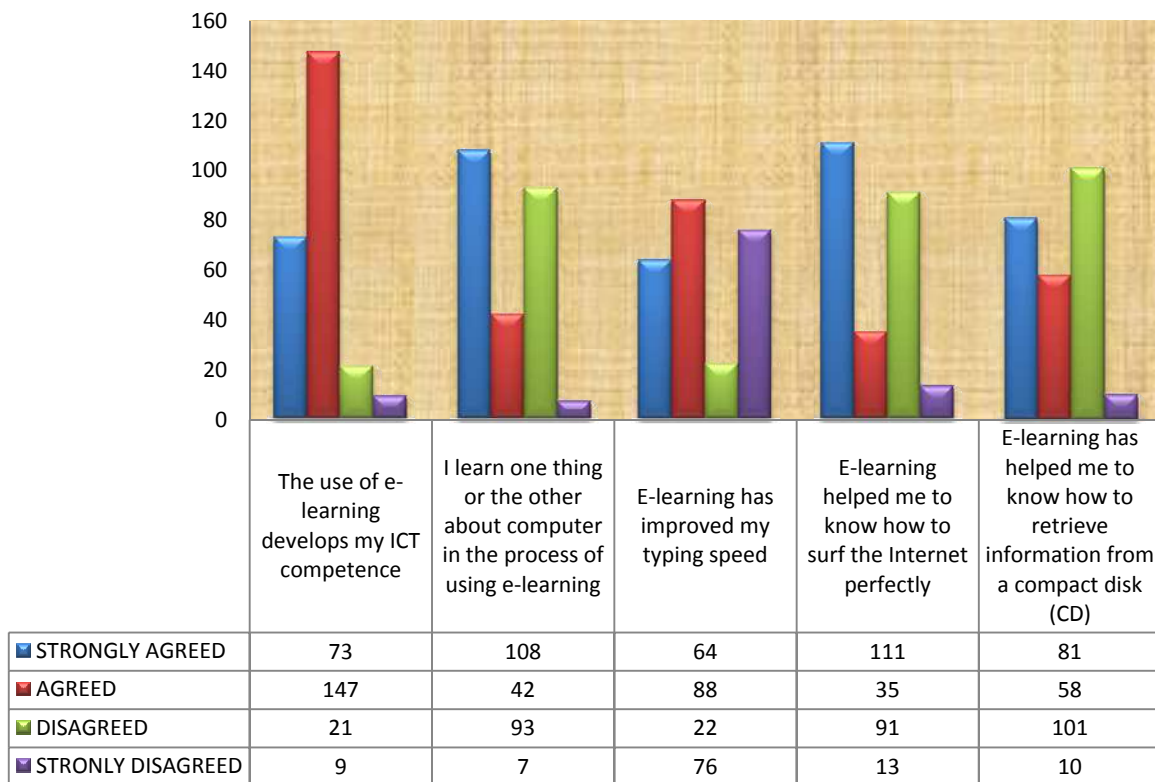

	The use of e-learning develops my ICT competence	I learn one thing or the other about computer in the process of using e-learning	E-learning has improved my typing speed	E-learning helped me to know how to surf the Internet perfectly	E-learning has helped me to know how to retrieve information from a compact disk (CD)
◼ STRONGLY AGREED	73	108	64	111	81
◼ AGREED	147	42	88	35	58
◼ DISAGREED	21	93	22	91	101
◼ STRONLY DISAGREED	9	7	76	13	10

Figure 5. Opinions on the effect of e-learning at NOUN on ICT competence

Discussion and conclusion

According to the findings of this study, the majority of the students showed positive attitudes towards the use of computers, confessed that e-learning has assisted their overall learning and that are able to plan better for their learning with e-learning. The study also revealed that e-learning motivates students to be self-dependent. This result is in consonance with the findings of Lynch (2008), who stated that e-learning enables the individual to plan and direct his/her own learning process.

Findings from this study revealed that NOUN does not have enough e-learning facilities and equipment such as computers and laptops, Internet facilities, projectors and screens, video cameras, compact disks and fax machines. This is also in line with the findings of Omofaye (2007), who observed that NOUN does not have the necessary funding to acquire this e-learning infrastructure. Non-availability of these facilities contributes to challenges of e-learning in terms of its utilisation for instructional purposes.

This research also found that students at NOUN do not have equal access to e-learning facilities and tools, that they are afraid of operating computers and other e-learning tools, and that the Internet connection is not always available due to the high cost. The erratic power supply is a major challenge to e-learning – as is the high cost of software. All of these findings are consistent with those of a study carried out by Ajadi *et al.* (2008). The findings of this study also revealed that e-learning has promising prospects for the near future, as the majority of respondents revealed that e-learning has helped them to overcome the problem of a shortage of learning resources, and they feel that e-learning will make education generally more effective, and will eradicate e-illiteracy in society and extend the frontiers of knowledge. This is in agreement with the opinions of Kompf (2005), Bennett and Lockyer (2004), and Rogers and Finlayson (2004).

Finally this research work revealed that the e-learning influences students' ICT competence.

Recommendations

Based on the findings of this research and its conclusions, the following recommendations are made:

- The Federal Government, as the proprietor of NOUN, should provide adequate funds for the institution to acquire the necessary e-learning facilities for students' to access. An Internet connection with a standby power-generating set should be provided.
- Students and lecturers alike should learn how to utilise ICT facilities for instructional or educational purposes. Schools should adopt the use of e-learning for teaching and learning.
- Education stakeholders should ensure a constant power supply and procurement of the requisite ICT equipment for students' use.
- Education stakeholders should make efforts to ensure that an enabling environment is in place to drive away any possible obstacles to the usage of ICT at NOUN. ICT tools should constantly be upgraded to keep them current.
- Lecturers should undergo training in appropriate skills in e-learning, and should be given computers to enable them to prepare their e-learning lectures and notes.

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