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DEMOGRAPHIC FACTORS AS CORRELATES OF E-LEARNING COMPETENCIES OF COMPUTER EDUCATION LECTURERS IN COLLEGES OF EDUCATION IN SOUTH-EAST, NIGERIA

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Abstract

The purpose of this study was to determine this demographic factors as correlates of e-learning competencies of computer education lecturers in colleges of education. The study adopted correlational survey research design. The study was carried out in South-East geopolitical zone, Nigeria using government owned colleges of education in the state. The population for the study was thirty one (31) computer education lecturers/instructors from the three (3) government owned colleges of education in South-East, Nigeria. The entire population was studied due to the fact that it is manageable. Hence, total population sampling technique was used. The instrument that was used for the study was a structured questionnaire titled "Demographic factors as Correlates of e-Learning Competencies of Computer Education Lecturers (DCeCCEL) questionnaire". The research instrument was subjected to face validation by three experts. Two experts in the Department of Computer & Robotics Education and one in the Department of Industrial Technical Education, all in Faculty of Vocational and Technical Education (VTE), University of Nigeria, Nsukka. The internal consistency of the questionnaire was determined using Cronbach Alpha reliability test which yielded co-efficient of 0.89. The instrument for data collection was administered by the researchers. The data collected was analyzed using Point Bi-serial Correlation. The null hypotheses were tested using Point Bi-serial correlation for hypotheses one to four and multiple regressions for hypothesis five at 0.05 level of significance. The findings from the study revealed a very weak relationship among age, marital status, gender, educational qualification and e-learning competencies of computer education lecturers'. In addition, the findings on hypothesis tested revealed that there was no significant difference among computer education lecturers' age, marital status, gender, educational qualification and their e-learning competencies. It was therefore concluded that lecturers should always use e-learning resources for academics and research needs irrespective of any demographic factors.

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INTRODUCTION

Introduction of computing technology is now widely adopted throughout the world for storing, gathering of information, constructing knowledge, performing simulations, distance learning, and global collaboration for lifelong learning and work. Technology is comprised of the products and processes created by engineers to meet the societal needs and wants. According to Cohen (2007), introducing the technology into classrooms has made it possible for the learners to learn up to four times more effective than traditional education approaches. Involvement of technology within the students' learning process and the teachers' delivery process is more effective than the traditional classroom (Charp & Sylvia, 2003). The technology-based education can improve learning and teaching experiences, increase interaction with others who are geographically remote and also provide richer communication opportunities (Charp & Sylvia, 2003).

The power of emerging computing technologies has indeed transformed every aspect of human endeavour in new ways that are enabled by powerful technologies. These technologies aid the running and managing of the daily teaching and learning processes more efficiently, boost students' satisfaction and improve students' academic performances. With the advent of advanced and innovative computing technologies is not only having impact on day-to-day activities but also changes the learning process (Aminul, Rahim, Liang, & Momtaz, 2011). This is seen in the current use of the internet technology for teaching and learning, which enables learners receive and interact with educational materials and resources online, as well as engaging teachers with students in ways that previously may have been impossible (Kirkwood, 2001). Many studies have indicated that the use of technology has an effect on all aspects of teaching and learning (Cohen, 2001; Bebell & O'Dwyer, 2010; Fleischer, 2012; Zurita & Nussbaum, 2004).

The integration of technology into education requires new learning approaches to the curriculum because of the new ways of exploring information and resources. Dewar and Whittington (2000) commented that the new technologies provide opportunities for creating learning environments that enhance learning and achievement. However, inappropriate uses of technology can become ineffective to learning (Bayraktar, 2002). Thus, it is important to understand what the technology is, how to use it and, its importance in the learning environment (Smolin & Lawless, 2003). The purpose of providing the technology such as e-learning in schools is to improve student learning outcome and is not just to provide state-of-the-art equipment.

Electronic learning or e-learning is learning utilizing electronic technologies to access educational curriculum outside of a traditional classroom. Dormant (2002) defined e-learning as learning experience that uses technology to design, deliver, select, administer, support and extend the learning process. According to Kapp (2003), e-learning is delivery of training materials, information and connect directly to an individual or student by taking advantage of Web browser technology to purposefully change behaviour or attitude. Hall and Snider (2000) assert that e-learning is a process of learning via computers over internet and intranets and referred to as web-based training, online training, distributed learning or technology for learning. E-learning material consists of graphics, text, video, audio; animation or virtual environment and text materials can be delivered in many forms. For example, the learning material can be presented through electronic chatting, interaction through videoconference, discussion through e-mail, simulations, online quizzes or tests or assignments. Elearning can be CD-ROM based, network-based, intranet or extranet-based, internet-based, among others. Learner has the flexibility to choose the form and channel that most suite their preference. Contextually, e-learning is an extremely flexible education method that teachers can use to deliver instructions to students anytime, anywhere via internet to achieve educational goal. E-learning increases the flexibility in the transferability and sharing of knowledge because learners can learn from anywhere and at any time. However, for effective adoption of e-learning by the teachers and students, certain competences must be acquired (Cavanaugh, 2001).

Competency is more than just knowledge or skills. It involves the ability to meet complex demands, by drawing on and mobilizing psychosocial resources (including skills and attitudes) in a particular context. A competency is the capability to apply or use a set of related knowledge, skills, and abilities required to successfully perform critical work functions or tasks in a defined work setting (Cooper, 2000). Competencies often serve as the basis for skill standards that specify the level of knowledge, skills, and abilities required for success in the workplace as well as potential measurement criteria for assessing competency attainment. According to Delamare and Winterton (2005), competencies are the characteristics of a person that are related to superior performance in a job and can be common across situations. For example, the ability to communicate effectively is a competence that may draw on an individual's knowledge of language, practical IT skills and attitudes towards those with whom he or she is communicating (OECD, 2003). The European Commission's Cedefop glossary (Cedefop) (2014) approaches skills and competencies as follows: a skill is seen as the ability to perform tasks and solve problems while a competency is seen as the ability to apply learning outcomes adequately in a defined context (education, work, personal or professional development). A competency is not limited to cognitive elements (involving the use of theory, concepts, or tacit knowledge); it also encompasses functional aspects (involving technical skills) as well as interpersonal attributes (e.g., social or organizational skills) and ethical values (Mulder, Weigel, & Collins, 2006). A competency is therefore a broader concept that may actually comprise skills as well as attitudes, knowledge, among others. Traditionally, cognitive competencies in critical thinking, analysis, and problem solving have been regarded as key indicators for success. However, changing economic, technological, and social contexts in the 21st century mean that interpersonal and intrapersonal competencies have become much more important than in the past. Employers are increasingly valuing soft skills such as teamwork and leadership skills. Therefore, competency is a skill required by a worker to carry out some tasks efficiently and effectively without much delay. Pellegrino and Hilton (2012) stated that peoples' skills are an important determinant of occupations and wages, concluding that people's social skills and demography affects their job prospects.

Demography is the study of the size, territorial distribution, and the composition of population (age, gender, marital status, educational qualification among others), changes therein, and the components of such changes, which may be identified as natality, mortality, territorial movement (migration), and social mobility (change of status) (Hauser & Duncan in Lucas, 2002). According to Abadina and Mba (2014), demography is the study of the overall social positions of individuals within the social and economic domain. This entails occupation and income, educational attainment or level and family structure or size. Furthermore, it encompasses the study of the size, structure and distribution of the populations of human beings.

Demographics may also be defined as the quantifiable characteristics of a given population. According to Popoola and Akande (2009), demography is the study of population that involves birth, death and diseases in a particular community. Modern day demographic study is however not only population conscious but also has a time dimension (Popoola & Akande, 2009). Demographic variables or factors have also been defined by Palakurthic and Parks (2000) as the socio-economic characteristics of sales force personnel like age, educational qualification, sex, marital status and years of service. Based on this definition, Hassan and Ogunkoya (2012) identified demographic variables as education, gender, marital status and years of service. According to Oyewole and Popoola (2015), demographic variables are personal factors that include age, gender, educational level, tenure or working experience, job level and monthly salary. Age is the duration of a being, which is between the beginning and any the stipulated time of existence. Research has revealed that age is positively related to organizational commitment (Isaiah & Ugboro, 2006). Mungania (2003) describing e-learning users as middle-aged people account for the great part of the educational approach's audience, with 80% of the polled respondents belonging to the lower that 45 years age bracket. Sarwar and Azmat (2013) stated that decision making power strengthens

with age and people become more and more rational and can view the long-time benefits of a particular study programmes and hence the career. Also, some people may think that certain career may be reserved until they attain certain age. In some organizations or institutions, the marital status of an individual determines the kind of work he/she will do.

Marital status is the condition of being married or unmarried of male/female. Marital status has emerged as a reliable predictor of organizational commitment and is positively associated to the organizational commitment (Ishaque, Rehman, Shareef, & Mahmood, 2010). Marital status or civil status is any of several distinct options that describe a person's relationship with a significant other (Beattie, 2001). Married, single, divorced, and widowed are examples of civil status. Civil status and marital status are terms used in forms, vital records, and other documents to ask or indicate whether a person is married or single. A status of married means that a person was wedded in a manner legally recognized by their jurisdiction. A person's specified civil status might also be married if they are in a civil union or common-law marriage. The civil status of a person who is legally separated is married. Whether a cohabiting couple (such as in a domestic partnership) have a civil status of married depends on the circumstances and the jurisdiction (Renwick & Tosi, 2007). In addition to those who have never married, single status applies to people whose relationship with a significant other is not legally recognized. The nature and character of different demographic factors which have the potential for influencing teachers' prospect has occupied the centre stage of the theory and practice of teaching and learning in colleges of education. Consequently, a research conducted by Aminul, Rahim, Liang and Momtaz (2011) showed that, demographic factors determine the strength or inconsistency of college of education lecturers' in discharging their duties.

Colleges of Education are higher institutions for teacher training programmes with the mandate to produce quality teachers for the basic education sub-sector. It equally prepares students to be productive members of the society (Jegede & Owolabi, 2003). In developed countries, Colleges of Education are seen as the gateway to providing not only an educated citizenry but also a capable workforce for national development. According to Jegede and Owolabi (2003), Colleges of Education are now being recognized as the cornerstone of the educational system in the 21st century. It therefore means that quality College of Education program is indispensable in creating a bright future for individuals and nations alike. Jacob and Tomoko (2001) also stated that Colleges of Education are crucial for economic growth. Colleges of Education therefore provides countries with the skills and knowledge needed for economic growth, including furthering learning and training of professionals such as technicians, scientists and entrepreneurs. These colleges can also be decisive in fostering positive social and civic values and yield considerable private returns, offering young people the chance to acquire skills that were unlikely to be developed in the primary and secondary schools. This in turn enables youth to develop job-oriented skills, participate fully in the society, take control of their own lives and continue learning.

Learning in the tertiary institutions including colleges of education are today driven by ICT. In the same view, Akinbote (2001) stated that the educational system is gradually becoming a system of technology, especially in the present knowledge driven economy. Based on the advances in science and technology which continues to revolutionize the global world, the Federal Ministry of Education introduced the study of computer in schools like the study of computer education in colleges of education, and the use of Information and Communication Technology (ICT), at all levels of education in Nigeria (FGN, 2004). Computer education brings students into contact with the computer so that they can use it, appreciate its potentials, understand how it works and learn to apply the knowledge and skills to solve emerging problems (Aminu, 2000). The knowledge and skills acquired in this area may be very high, high, low or very low, depending on the individual exposure to computer facilities. Computer education is of paramount importance to national development and it is on this premise that the government of Nigeria sought to introduce computer studies in the educational system from primary through to

tertiary institutions (Ogwo, Onwe, & Maidoh, 2015). An attempt to popularize computer education in Nigeria evolved in 1988 when the Nigerian Federal Government launched the National Policy on Computer Education at primary, secondary and tertiary levels with the aim of equipping the individual or students with thorough understanding of the concept of computers in order to fit into the next century (Okebukola, 2004). The objectives of the programme, as contained in the address of the then Federal Minister of Education, Professor Jubril Aminu, to the Ad-hoc Committee on Computer Education in Nigeria (FGN, 1998) are to: bring about a computer education society in Nigeria within a short period of time and enable the present generation of school children at all levels to appreciate the potentials of the computer and to be able to use the computer in various aspects of life and later occupations. Nwangwu (2010) referred to computer education as the study of computer and its applications, which involves knowing how computers work and how they are used to solve different kinds of problems. Ibezim and Obi (2011) defined computer education as a course of study in higher institutions that has the objective of training people in skill acquisition in the use of computers to solve problems. Computer education is classified as a vocational course and hence taught by computer education lecturers who are professionally trained to implement computer education curriculum at all levels of education (Nwangwu, 2014). At the tertiary level like colleges of education, an e-learning platform which is an offshoot of computer education has been procured for subsequent implementation. However, despite many years and several attempts at implementing e-learning in colleges of education, e-learning is yet to be fully implemented (Tarus, Gichoya, & Muumbo, 2015). Also, lecturers in colleges of education who are supposed to be the pioneers of e-learning prefer the use of the chalk and board method of instructional delivery. This attitude may be as a result of the correlation between demographic factors and the lecturers' competence in the use of e-learning.

Correlation is a relationship that quantifies the extent to which two quantitative variables (demographic factors and e-learning competencies) are associated. When high values of demographic factors are associated with high values of e-learning factors, a positive correlation exists. When high values of demographic factors are associated with low values of learning competencies, a negative correlation exists (Nawaz, & Kundi, 2010). This attitude to e-learning may be as a result of demographic factors of the lecturers. Therefore, this present study seeks to determine the demographic factors as correlates of e-learning competencies of computer education lecturers in colleges of education in South-East, Nigeria.

Statement of the Problem

E-learning has become a new paradigm and a new philosophy in educational section with a mission to serve as a development platform for present-day society based knowledge. For a very long time successive governments in Nigeria have consistently formulated policies which were directed towards ensuring that there are equal and adequate educational opportunities at all levels. As far back as 1977, government began searching for alternative models to the traditional conventional system, which was rather restricted and limited in scope. In response to the need for a more elastic and accessible model of education, government opted for a semblance of e-teaching and e-learning educational system. Thus, it can be said that the foundation of e-teaching and e-learning educational system in Nigeria was laid through the National Policy on Education of 1977, subsequently revised in 1981. The current National Policy on Education (NPE) recognized the place of e-learning educational system in achieving lifelong education and affirms that lifelong education shall be the basis of the nation's education policy. The National Commission for Colleges of Education (NCCE) which is the supervisory body for colleges of education in Nigeria established under ACT 31 1989, has developed and implemented e-learning platform for all colleges of education in Nigeria. Presently, almost all colleges of education have been provided with e-learning facilities, but it has been noticed that the receptiveness and competencies of lecturers varies towards e-learning in Colleges of Education in South-East, Nigeria.

Computer education lecturers who ought to be pioneers of the new e-learning platforms still prefer the traditional way of teaching and abandoning the various e-learning platforms in their colleges even though they are aware of the advantages which e-learning platform provides. There is a strong assertion that there may be some factors responsible for this unhealthy situation in the use of the provided elearning platforms in the colleges of education. This research therefore seeks to discover how demographic factors such as age and marital status affects the competencies of these computer education lecturers in colleges of education and how these lecturers can improve their competencies and receptiveness towards e-learning.

Purpose of the Study

The major purpose of the study is to determine this demographic factors as correlates of e-learning competencies of computer education lecturers in colleges of education in South-East, Nigeria. The study specifically sought to determine:

1. The relationship between age and the e-learning competencies of computer education lecturers in colleges of education in South-East, Nigeria.
2. The relationship between marital status and the e-learning competencies of computer education lecturers in colleges of education in South-East, Nigeria.

Research Questions

1. What is the relationship between age and the e-learning competencies of computer education lecturers in colleges of education in South-East, Nigeria?
2. What is the relationship between marital status and the e-learning competencies of computer education lecturers in colleges of education in South-East, Nigeria?

Hypotheses

The following null hypotheses were formulated to guide the study and were tested at 0.05 level of significance.

Ho_1. There is no significant difference in the mean responses of computer education lecturers in colleges of education in South-East on the relationship between age and e-learning competencies.

Ho_2. There is no significant difference in the mean responses of computer education lecturers in colleges of education in South-East on the relationship between marital status and e-learning competencies.

METHODOLOGY

This study adopted a correlational survey research design. The study was carried out in South-East geopolitical zone of Nigeria. The population for the study consists of thirty one (31) computer education lecturers from the three (3) government owned colleges of education in South-East, Nigeria, namely: Federal College of Education Eha-Amufu, Enugu State, Federal College of Education Umunze, Anambra State and Alvan Ikoku College of Education Owerri, Imo State. The entire population was studied due to the fact that it was manageable. Hence, total population sampling technique was used. A structured questionnaire containing 30 items in four clusters was used to collect data for the study.

The instrument was faced validated by three experts in the field. The data collected were analyzed using Point Bi-serial Correlation for the research questions and hypotheses of no significant difference at 0.05 level of significance. The responses to the items were interpreted by describing the strength of the correlation using the guide suggested by Evans in Ohanu (2016), for the absolute value of r as follows: Very Weak Relationship (0.00 – 0.19), Weak Relationship (0.20 – 0.39), Moderate Relationship (0.40 – 0.59), Strong Relationship (0.60 – 0.79) and Very Strong Relationship (0.80 – 1.00).

Based on the above limits, any item that has a correlation of 0.00 – 0.19 was regarded as Very Weak Relationship, 0.20 – 0.39 regarded as Weak Relationship, 0.40 – 0.59 regarded as Moderate Relationship, 0.60 – 0.79 regarded as Strong Relationship, and 0.80 – 1.00 regarded as Very Strong Relationship.

RESULTS

The result of the study was obtained from the analysis of the data collected and null hypotheses formulated to guide the study.

Research Question One: What is the relationship between age and the e-learning competencies of computer education lecturers in colleges of education in South-East, Nigeria?

Hypothesis One: There is no significant difference in the mean responses of computer education lecturers in colleges of education in South-East on the relationship between age and e-learning competencies.

The data for answering research question one and hypothesis were presented in Table 1.

Table 1: Analysis of Variance and Point-Biserial Correlation between Age and e-learning competencies of computer lecturers in colleges of education in South-East, Nigeria.

	Age	E-learning Competencies	N	r_{pb}	Remark	Fvalue	Sig.	Decision
Age	1	-0.18	31	-0.18	Very Weak Relationship	0.96	0.34	NS
E-learning Competencies	-0.18	1						

Data analyzed in Table 1 showed that there is very weak negative relationship (r_{pb} = -0.18) between age and e-learning competencies of computer education lecturers. Inference drawn from the result is that age does not affect e-learning competencies of computer education lecturers. The Table further revealed that the F-value (0.96) reached a significance of 0.34 which is greater than 0.05 level of significance. Thus, indicating that there is no significant difference in the mean responses of computer education lecturers in colleges of education in South-East Nigeria on the relationship between age and e-learning competencies. Since the associated probability value (0.34) is greater than 0.05 set as level of significance for testing the hypothesis, the null hypothesis (H_{O1}) is therefore upheld.

Research Question Two: What is the relationship between marital status and the e-learning competencies of computer education lecturers in colleges of education in South-East, Nigeria? **Hypothesis Two:** There is no significant difference in the mean responses of computer education lecturers' in colleges of education in South-East on the relationship between marital status and elearning competencies.

The data for answering research question one and hypothesis were presented in Table 2.

Table 2: Analysis of Variance and Point-Biserial Correlation between marital status and e-learning competencies of computer lecturers in colleges of education in South-East, Nigeria.

	Marital Status	E-learning Competencies	N	r_{pb}	Remark	Fvalue	Sig.	Decision
Marital Status	1	-0.03	31	-0.03	Very Weak Relationship	0.03	0.86	NS
E-learning Competencies	-0.03	1						

Data analyzed in Table 2 showed that there is very weak negative relationship (r_{pb} = -0.03) between marital status and e-learning competencies of computer education lecturers. . Inference drawn from the result is that marital status has no effect on e-learning competencies of computer education lecturers. The Table further revealed that the F-value (0.03) reached a significance of 0.86 which is greater than 0.05 level of significance. Thus, indicating that there is no significant difference in the mean responses of computer education lecturers in colleges of education in South-East Nigeria on the relationship between marital status and e-learning competencies. Since the associated probability value (0.86) is greater than 0.05 set as level of significance for testing the hypothesis, the null hypothesis (H_{O2}) is therefore upheld.

Discussion

The finding that age has a very weak relationship with e-learning competencies of computer education lecturers negates the findings of Ogunkola (2010) who stated that age contributed significantly to the prediction of students' academic achievement in Integrated Science, that, age is a good predictor of academic achievement. This present study also disagrees with the findings of Ng and Feldman (2009), who found a moderate positive relationship between age and performance. However, to affirm McEvoy and Cascio (2007), who stated that age was largely unrelated to performance and Dur (2005) who reported that there is no significant relationship between performance and age are in line with the present findings of this study.

The finding that marital status has a very weak relationship with e-learning competencies of computer education lecturers' affirms the findings of Ekundayo (2010) who examined the influence of gender, marital status and religious affiliation, as factors of academic performance among Nigerian education majors. Ekundayo reported that marital status had no significant influence on academic performance of the education major students. According to Islahi and Nasreen (2013) stated that marital status is a very interesting trend of influence on the effectiveness of male and female teachers. Similar observations were reported by Agrawal (2003) and Tyagi (2013). On the contrary, Vijayalakshmi (2002) reported that marital status did not have any significant influence on the teacher effectiveness which is in line with the findings of this present study.

Conclusion

This study highlights the demographic factors as correlates of e-learning competencies of computer education lecturers in colleges of education in South-East, Nigeria. Many lecturers are not well prepared to take the challenge of delivering instructions through e-learning platform, because of the unexpected complexities of the application of IT as a learning tool that requires commitment as there is no strict rules on the learning times.

The study revealed that there was a very weak significant level of correlation between the age of the computer education lecturers and e-learning competencies in colleges of education. In addition, the study ascertained that there was a very weak correlation between the marital status of the respondents and e-learning competencies in colleges of education. It is therefore important to note that as lecturers, there is always the need to consult and use e-learning resources for academics and research needs irrespective of any demographic factors. Lecturers' demographic factors like age, marital status among others should not be a barrier to e-learning resources use and as a result, lecturers of all ages and marital status should endeavor to acquire knowledge required to enable them make effective use of the eLearning resources anytime and anywhere.

Recommendations

Based on the findings and conclusion of this study, the following recommendations were made:

i. School administrators should ensure that adequate e-learning facilities are provided to enable lecturers and students have free access to the facilities.

ii. Both young and old lecturers should be encouraged by school authority and also ensure that lecturers are sensitized on the benefits available in the use of e-learning resources.

iii. Regulatory agency in charge of ICT should ensure that the cost and access to the use of elearning and the Internet should be made affordable irrespective of the age, level of education, marital status and gender so as to be privileged to use the e-learning.

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