

Integration of Educational Technology in Accounting Education: Evidence from Selected tertiary institutions in North West region of Nigeria

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Abstract

This research paper investigates the Integration of Educational Technology in Accounting Education. Specifically, the study aims to; Ascertain whether Educational technology helps to influence the culture of computer literacy in future accountants and to examine whether educational technology has remarkable effect in teaching and learning of accounting education. Two hypotheses were raised in this study. A descriptive survey research design was employed in this study. The study was conducted in North West region of Nigeria. The population of the study comprises all the final year students in Accounting Education Department in the five (5) Federal Colleges of Education in North West region of Nigeria. A simple random sampling technique was used to select 100 (20 from each school) students as respondents and a well structured questionnaire titled "Integration of Educational Technology in Accounting Education. "(IETAE)". Simple alternative or multiple choice of responses of 2 (Two) point of scale of AGREE or DISAGREE were made available for the respondents to tick. Frequency and percentages was used to analyze the data collected while Chi-Square (X^2) technique was used to test the hypothesis. The findings showed that Educational technology helps to influence the culture of computer literacy in future accountants. The study also deduced that Educational technology has remarkable effect in teaching and learning of accounting education. The outcome of this study provides important information on the need for integration of educational technology in accounting education. The study recommends among others that The Nigeria tertiary institutions offering accounting education should create more attention to the areas of educational technology curriculum coverage as this will help the students to be well equipped to meet labour market demands.

Keywords: Accounting Education, Educational Technology, Information and Communication Technology, Teaching and learning.

Introduction

The rapid growth in Educational technology have brought remarkable changes in the twenty-first century, as well as affected the demands of modern societies. Educational technology is becoming increasingly important in our educational system. Therefore, there is a growing demand on educational institutions to adopt the use information technology to teach and impart knowledge the students need for the 21st century. Realizing the effect of Information technology in the workplace and everyday life, today's educational institutions try to restructure their educational curricula and classroom facilities in order to bridge the existing technology gap in teaching and learning. This restructuring process requires effective adoption of technologies into existing environment in order to provide learners with knowledge of specific subject areas, to promote meaningful learning and to enhance professional productivity (Tomei, 2005).

Previously, accountants in organizations employed socially acceptable behavioral method of reporting accounting transactions and events in order to generate books such as profit and loss account, balance sheet,

income and expenditure account, cash flow statement amongst others. There is an indication by professional organizations around the world that today's accountant differs dramatically from the accountant of the past (Bolt-lee and Foster, 2002). This is as a result of the fact that the new professional requires a value-added focus from time of entry to time of mandatory retirement. Accounting as one of the subjects in business education is equipped with the function of developing in students certain skills, knowledge, attitudes and values towards solving problems and towards satisfaction of real life needs in life (Saleme, 2013). Unfortunately, accounting education seems to be lacking in the inculcation of ICT knowledge and skills in accounting students (Rhodes, 2013). This is evidenced in a research study carried out by Wessels (2007) where he found out that students has limited exposure to the use of ICT with particular emphasis on the use of accounting packages and that is why according to Rhodes (2013), accounting education has not gotten to the level expected of it by the industry itself. This is because, employers of labour or industries expect the turning out of accounting graduates who must have acquired reasonable levels of accounting skills to enable them add value to the industries they would find themselves in someday. In a bid to close the identified gap in the skills and knowledge of accounting students, there is the need to integrate Educational technology and accounting education in Nigeria.

Concept of Educational Technology

Educational technology is a systematic and organized process of applying modern technology to improve the quality of education (efficiency, optimal, true, etc.). It is a systematic way of conceptualizing the execution and evaluation of the educational process, i. e. learning and teaching and help with the application of modern educational teaching techniques. It includes instructional materials, methods and organization of work and relationships, i.e. the behavior of all participants in the educational process. The term "teaching resources" is commonly used, although they are not synonymous (Pedagoški leksikon, 1996). The word technology is derived from the Greek word "techno" which means the willingness, skills, knowledge of the way, rule, skill, tools and "logos" which means science, word, learning, mental state. There is no single term for educational technology. Different countries use different terms and synonyms as educational technology, educational equipment, AV resources and the technology of teaching.

Terminological differences mostly occur on the grounds of the approach to the technical characteristics and the use of modern appliances, and not their actual application in teaching i.e. their actual pedagogical application. For this reason, there are different opinions among teachers in the field of social and technical sciences. Therefore, the application of educational technology requires knowledge from several areas: pedagogy, psychology, didactics, computer sciences and informatics. Because of this diversity, there are also different perceptions of educational technology, where every author defines the concept of educational technology, according to their needs. Educational technology is still not being applied sufficiently, mostly for reasons of lack of school equipment necessary resources and insufficient qualification of teachers for the implementation of these funds.

Educational technology has three domains of use:

- Technology as a tutor (computer gives instructions and guides the user)
- Technology as a teaching tool and
- Technology as a learning tool.

Depending on the use and benefits, the research by Lowther et al., (2012) suggests that education technology has not yet taken its place, in spite of their recommendations. This is probably the reason for the statute of the social company. Leu et al., (2009) state that children in poorer areas very rarely use the Internet as a learning tool.

Concept of Accounting Education and Information Technology

There have been several researches on discovering the solution to high unemployment rate amongst higher institution graduates with particular emphasis on accounting education graduates ever since the issue became a national phenomenon especially since the incidence of economic downturn years back (Udepi, 2013). Paramount amongst the solutions proffered is for the potential graduates to be well equipped with necessary

information technology skills, having recognized its potentials in preparing students for the labour market. Lopez (2003) opined that using information technology provides better opportunities for accounting education students in higher institutions for the acquisition of valuable information technology knowledge and skills which are fundamental for gaining employment in the present day job market. This is therefore to say that educational technology equips students for most future careers (Udepi, 2013).

Information technology refers to the application of various software and hardware that supports all of those activities involving information (Igbaji, 2014). According to OECD (1987), Information technology is “a term used to cover technologies used in the collection, processing and transmission of information”. Ebijuwa and Anyakoha (2005) define information technology as “tools and as well as means used for collection, capture, process, storage, transmission and dissemination of information”. Ukpabor (2006) opined that information and communication technologies are vast web of high speed digital communication networks involving delivering of information, education and entertainment services to schools, offices, homes amongst others.

Factors Influencing Teachers’ adoption of Information Technology

Before the review of factors influencing the adoption of the use of information technology by teachers, the concepts of adoption is described. Rangaswamy & Gupta, (2000) describes adoption as the decisions that individuals make each time that they consider taking up an innovation. Similarly, Rogers (2003) defines adoption as the decision of an individual to make use of an innovation as the best course of action available. Rogers (2003) argues that the process of adoption starts with initial hearing about an innovation to final adoption.

Personal Characteristics

Personal characteristics such as educational level, age, gender, educational experience, experience with the computer for educational purpose and attitude towards computers can influence the adoption of information technology, Schiller (2003). Teachers are implored to adopt and integrate information technology into teaching and learning activities, but teachers’ preparedness to integrate ICT into teaching determines the effectiveness of the technology and not by its sheer existence in the classroom (Jones, 2001). The attitudes of teachers towards technology greatly influence their adoption and integration of computers into their teaching. According to (Russell & Bradley, 1997), anxiety, lack of confidence and competence and fear often implies information technology takes a back seat to conventional learning mechanisms. Therefore, an understanding of personal characteristics that influence teachers’ adoption and integration of ICT into teaching is relevant.

Teachers’ attitudes

To successfully initiate and implement educational technology in school’s program depends strongly on the teachers’ support and attitudes. It is believed that if teachers perceived technology programs as neither fulfilling their needs nor their students’ needs, it is likely that they will not integrate the technology into their teaching and learning. Among the factors that influence successful integration of information technology into teaching are teachers’ attitudes and beliefs towards technology (Hew and Brush, 2007; Keengwe and Onchwari, 2008). If teachers’ attitudes are positive toward the use of educational technology then they can easily provide useful insight about the adoption and integration of information technology into teaching and learning processes.

Computer self-efficacy

Research has been conducted on teacher’s self-efficacy and reported to have greater effect on their use of information technology. Self-efficacy is defined as a belief in one’s own abilities to perform an action or activity necessary to achieve a goal or task (Bandura, 1997). In real meaning, self-efficacy is the confidence that individual has in his/her ability to do the things that he/she strives to do. Thus teachers’ confidence refers both to the teachers’ perceived likelihood of success on using information technology for educational purposes and on how far the teacher perceives success as being under his or her control (Peralta & Costa, 2007). Teachers’ computer self-efficacy is described as a judgment of their capability to use a computer (Compeau & Higgins, 1995). According to Liaw, Huang and Chen (2007), teachers’ computer self-efficacy influences their use of

information technology in teaching and learning. Similarly, (Yuen & Ma, 2008) revealed that the Hong Kong teachers' implementation of information technology was depended on simplicity of computer use and perceived teacher self-efficacy.

Teacher's workload

Many studies have revealed that the workloads of teachers influence their acceptance of technology in classrooms. For example, Samarawickrema & Stacey (2007) investigated factors related to the use of learning management system in a large multi-campus urban university in Australia. They adopted case study method and purposive sampling to select 22 participants used web-based methods to teach both on- and off- campus students for the study. The findings of the research found that increased workload coupled with teaching with technology was critical to the participants of the study. Factors reported to contribute to increased workload were course maintenance and constant upgrades, student emails, the learning of new skills and the continuous search of sustainable strategies.

Accessibility

Access to information technology infrastructure and resources in schools is a necessary condition to the integration of information technology in education (Plomp, Anderson, Law, & Quale, 2009). Effective adoption and integration of information technology into teaching in schools depends mainly on the availability and accessibility of information technology resources such as hardware, software, etc. Obviously, if teachers cannot access information technology resources, then they will not use them. Therefore, access to computers, updated software and hardware are key elements to successful adoption and integration of technology. A study by Yildirim (2007) found that access to technological resources is one of the effective ways to teachers' pedagogical use of information technology in teaching. Further a study of 814 faculty members in higher education in Turkey showed that majority of the respondents reported having access to computers and the internet. 82.5% and 81.2% of faculty members had access to computers and internet respectively (Usluel, Askar & Bas, 2008).

Research Hypotheses

This research study sought to investigate the integration of educational technology and accounting education in Nigeria. The research hypotheses are stated below:

Ho1: Educational technology cannot help to influence the culture of computer literacy in future accountants.

Ho2: Educational technology has no remarkable effect in teaching and learning of accounting education.

Methodology

A descriptive survey research design was employed for the purpose of this study. The purpose was to collect detailed and truthful information regarding the roles Educational management plays in teaching and learning of accounting education in tertiary institutions. The study was conducted in North West Zone of Nigeria. North West Zone of Nigeria comprises of seven (7) states namely: Jigawa, Kano, Kebbi, Kaduna, Kastina, Sokoto and Zamfara. The population of the study comprises all the final year students in Accounting Education Department in the five (5) Federal Colleges of Education in North West region of Nigeria. The Colleges of Education include: Federal College of Education (Technical), Gusau, Zamfara State. Federal College of Education, Kano. Federal College of Education, Kastina. Federal College of Education (Technical). Bichi. And Federal College of Education, Zaria.

The choice of final year students stems from the fact that they had undergone courses in Accounting Education and Educational Technology. Therefore, they are in the best position to be used in this research paper.

A simple random sampling technique was used to select 100 (20 from each school) students as respondents and a well structured questionnaire titled "Integration of Educational Technology in Accounting Education. (IETAET)". Questionnaire is a common instrument of investigation in a social science. Simple alternative or multiple choice of responses of 2 (Two) point of scale of AGREE or DISAGREE were made available for the respondents to tick. Face and content validity were established by giving the draft of the research instrument to two experts, one from Accounting Education Department and one from Educational technology department. They were requested to assess the instrument in terms of the content coverage and relevance of questions to the

research hypothesis raised. These experts made useful inputs, observation and comments which were used in modifying the instrument. Frequency and percentages was used to analyze the data collected while Chi-square was used to test the hypothesis.

Hypotheses Testing

Hypothesis I

Educational technology cannot help to influence the culture of computer literacy in future accountants.

Table I.

Responses	Hypothesized proportion	Observed (O)	Freq	Expected (E)	Freq.	Chi Square
Agreed	0.5	37		50		3.38
Disagreed	0.5	63		50		3.38
		100				6.76
Significant Level	0.05					
P-Value (Asymp. Sig)	0.009322					
Chi-Square	6.76					
Critical Value	3.841459149					

Source: Researchers Analysis 2020.

The analysis in the table above shows that hypothesis 1 has a calculated value of 6.76 and a critical value of 3.84 at 0.05% level of significance and 1 degree of freedom (DF). Based on the above analysis, for which the calculated value is above the critical value, the null hypothesis which state that Educational technology cannot help to influence the culture of computer literacy in future accountants is rejected while the alternative hypothesis is accepted. The analysis above therefore deduced that Educational technology helps to influence the culture of computer literacy in future accountants.

Hypothesis II

Educational technology has no remarkable effect in teaching and learning of accounting education.

Table II

Responses	Hypothesized proportion	Observed (O)	Freq	Expected (E)	Freq.	Chi Square
Agreed	0.5	39		50		2.42
Disagreed	0.5	61		50		2.42
		100				4.84
Significant Level	0.05					
P-Value (Asymp. Sig)	0.027807					
Chi-Square	4.84					
Critical Value	3.841459149					

Source: Researcher's Analysis 2020

The analysis in the above table shows that hypothesis II has a calculated value of 4.84 and a critical value of 3.84 at 0.05% level of significance and 1 degree of freedom (DF). Based on the above analysis, for which the calculated value is above the critical value, the null hypothesis which state that Educational technology has no remarkable effect in teaching and learning of accounting education is rejected while the alternative hypothesis is accepted. The analysis above therefore deduced that Educational technology has remarkable effect in teaching and learning of accounting education.

Conclusion

The application of educational technology enhances skills and cognitive characteristics. With the help of new technology comes an explosion of learning and receiving new information, especially on mobile devices. In Nigeria today, the increasing competitive pressure as a result of technological development has led to survival challenges of many accounting graduates and demanded for improvement in quality of services rendered in the preparation of financial statements. Although many employees are yet to adopt the use of information and communication technology (ICT) as part of their jobs, this calls for a great need to integrate educational technology in accounting education so as to enable accounting graduates to be able to compete in the global technological world. This study investigates the need for integration of educational technology in accounting education and the study concludes that; Educational technology helps to influence the culture of computer literacy in future accountants. The study also concludes that Educational technology has remarkable effect in teaching and learning of accounting education.

Lastly, the development and application of new technologies grows beyond the question of whether teachers are well equipped and trained to keep up with them, however, the responses of the selected students shows that most accounting education students do not have access to the use of educational technologies which is as a result of schools not sufficiently equipped with modern Educational Technological Facilities.

Recommendation

The following recommendations were made in this research paper;

- The Nigeria tertiary institutions offering accounting education should create more attention on integrating educational technology into their teaching and learning process as this will help the students to be well equipped to meet the labour market demands.
- Adequate training in the areas of Educational technology should be organized for accounting educators to educate them on how to overcome unnecessary phobia they may encounter during instructional process.
- The school authorities/government should establish well equipped ICT centres for the students so as to ensure constant exposures and practice, which in turn will widen their knowledge in the use of Educational Technological devices in learning Accounting Education.

References:

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

Compeau, D.R., & Higgins, C.A. (1995). Computer self-efficacy: Development of a measure and initial test. *MIS Quarterly*, vol.23, no.2, pp. 145-158

- Ebijuwa, A. (2005). Information and communication and technology in university libraries: The Nigeria experience. *Journal of Library and Information Science*, 7(1): 23-30
- Hew, K. F., & Brush, T. (2007). Integrating technology into K-12 teaching and learning: current knowledge gaps and recommendations for future research. *Educational Technology Research and Development*, vol. 55, pp. 223-253.
- Jones, C.A. (2001) Teach Support: Preparing teachers to use technology. *Principal Leadership*, vol. 1, no. 9, pp. 35-39.
- Keengwe, J., & Onchwari, G. (2008). Computer technology integration and student learning: Barriers and promise, *Journal of Science Education and Technology*, vol. 17, pp. 560– 565.
- Leu, D. J., O’Byrne, W. I., Zawlinski, L., McVerry, G., & Everett-Cacopardo, H. (2009). Expanding the new literacies conversation. *Educational Researcher*, 38(4), 264-269.
- Liaw, S., Huang, H., & Chen, G. (2007). Surveying instructor and learner attitudes toward Elearning. *Computers & Education*, vol. 49, no. 4, pp. 1066-1080
- Lowther, D. L., Inan, F. A., Ross, S. M., & Strahl, J. D. (2012). Do one-to-one initiatives bridge the way to 21st century knowledge and skills?. *Journal of Educational Computing Research*, 46(1), 1-30.
- Organization for Economic Community Development (1987). *Are women sustainable in infotech industry? Women and emerging technologies*, British Council Division, British Deputy High Commission, Chennai, 1996
- Pedagoški leksikon* (1996). Beograd: Zavod za udžbenike i nastavna sredstva.
- Peralta, H., Costa, F.A. (2007). Teachers’ competence and confidence regarding the use of ICT. *Educational Sciences Journal*, vol. 3, pp. 75-84
- Plomp, T., Anderson, R. E., Law, N., & Quale, A. (Eds.). (2009). *Cross-national information and communication technology: policies and practices in education*. Charlotte, N.C.: Information Age Publishing.
- Rangaswamy, A. and S. Gupta. 2000. *Innovation adoption and diffusion in the digital environment: some research opportunities*.
- Rogers, E.M. (2003). *Diffusion of innovations*. New York: Free Press
- Russell, G., & Bradley, G. (1997). Teachers’ computer anxiety: Implications for professional development. *Education and Information Technologies*, vol. 2, pp.17-30.

- Salome, E. & Chukwunwendu, A. (2013). Integrating information and communication technology (ICT) in accounting education instruction in Ekiti State Universities. *International Journal of Business and Social Sciences*, 5(6): 195-204.
- Samarawickrema, G. & Stacey, E. (2007). Web-based learning and teaching: A case study in higher education Distance Education, vol. 28, no. 3, pp. 313-333.
- Schiler, J. (2003). Working with ICT: Perceptions of Australian principals, *Journal of Educational Administration*, vol. 41, no. 3, pp. 171-185.
- Tomei, L. A. (2005). *Taxonomy for the technology domain*. USA: Information Science Publishing.
- Ukpebor, N. (2006). The use of ICT as instructional materials in schools: Mathematics implication for secondary schools. *ABCUS of Nigeria*, 31(1):80.
- Usluel, Y. K., Askar, P., & Bas, T. (2008). A Structural Equation Model for ICT Usage in Higher Education. *Educational Technology & Society*, vol. 11, no. 2, pp. 262-273.
- Yildirim, S. (2007). "Current Utilization of ICT in Turkish Basic Education Schools: A Review of Teacher's ICT Use and Barriers to Integration". *International Journal of Instructional Media*, vol. 34, no.2, pp. 171-86.
- Yuen, A. H. K., & Ma, W. W. K. (2008). Exploring teacher acceptance of E-learning technology. *Asia-Pacific Journal of Teacher Education*, vol. 36, no. 3, pp. 229-243.