



Integration of New Technologies in Teaching and Learning of Accounting in Public Tertiary Institutions: A critical role of an Accountancy Educator

Felicia Ogonna Nwokike¹

Department of Technology and Vocational Education
Enugu State University of science and Technology, Nigeria
ogonnanwokike@yahoo.com

Abstract

This study was carried out in public tertiary institutions in Enugu State, Nigeria to determine the extent of integration of new technologies in teaching/learning of accounting by accountancy educators. In order to achieve the objective of the study, two research questions and two Null hypotheses were formulated and answered. Survey research design was adopted for the study and a structured questionnaire was developed for data collection. The population comprised 80 accountancy educators drawn from public tertiary institutions in Enugu State. Mean and standard deviation were used to analyze the data collected from the respondents, while ANOVA was used to test the hypotheses at 0.05 level of significance. The findings of the study revealed that technological equipment provided for teaching accounting were not provided to a large extent and also accountancy educators do not extensively integrate new technologies in teaching and learning of accounting in tertiary institutions in Enugu state of Nigeria. Based on the findings of the study, it was recommended that new technological equipment should be made available to a large extent by relevant federal and state governments for use in teaching and learning of accounting and also, Provision should be made for training and re-training of accountancy educators on the use of new technological equipment for proper integration in teaching/learning of accounting in public tertiary institutions in Enugu state, Nigeria.

Keywords: New Technologies, Integration, Teaching and Learning, Accountancy Educators, Closing the Gap.

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INTRODUCTION

Technology is having increasing impact in accounting education. Accounting is the process of recording, classifying summarizing and interpreting the financial transaction of business organization. This is in conformity with Longe and Kazeen (2012) that accounting is the process of recording, classifying, summarizing, analyzing and interpreting financial transactions and communicating the results to the users of such information. Chukwu (2004) opines that accounting is the processes of recording classifying, summarizing, analyzing and interpreting financial transactions and communicating the results to the users of such information. Accounting information can be used for decision making. Accounting provides students with the information needed for decision making and exposes them to various users of accounting information. Such users of accounting information include equity investor group, the loan creditor group, the government and other regulatory bodies, the business group, the management employees and the general public (Nwoha in Nwokike 2010). Each of these users has their different interests in the accounting information. According to Okoli (2013), accounting is a service activity that provides quantitative information about economic entities that are useful in making economic decisions. Similarly, Agomuo (2014) notes that accounting information is essential to the decision system because it provides qualitative information for planning, control and evaluation of business activities. Agomuo stresses that accounting is an information system that measures, processes and communicates financial information about an identifiable economic entity. An economic entity is a business that has a legal and independent existence. Accounting information is very crucial and relevant for making economic decisions.

Fouche (2006) notes that the ever-changing corporate world, the lack of skill on the part of the learners, and resistance to change by accounting educators are affecting accounting education. Accountancy educators need not resist change rather they need to embrace the new technology. Accountancy educators need to close the gap between the traditional and technical method of data processing by integrating new technologies in teaching and learning of accounting in tertiary institutions. With the continued emergence of new technologies in the accounting profession, a skill that is relevant to succeed today may not be the same now and beyond 2020. Amiya (2014) notes that remarkable improvements have taken place in all sphere of human activities in all societies since the advent of new technologies. Moreover, the methods and techniques in reporting information to the management in all electronic office of today has changed as a result of new technologies.

Integrating new technologies into teaching and learning entails making new technologies to become part and parcel of teaching and learning of accounting in public tertiary institutions in Enugu State. Technology acts as a tool for creating a constructive learning environment thereby adding quality to teaching and learning. New Technologies imply new innovations and applications of concepts, principles and processes for the improvement of human life. According to Onojetah (2014), new technologies are also known as information and communication Technology (ICT), electronic technologies and e-learning. New technologies are used to facilitate and support teaching-learning, incorporating a variety of learning strategies and technologies. New technologies consist of computer, scanners, printers, intranet, internet, e-mail, videophone system, teleconferencing devices, wireless application protocols (WAPS), radio and microphones, television and satellites, multimedia computer and multimedia projectors. Accountancy educators need to revolutionize in their teaching strategies by integrating these new technologies in teaching and learning of accounting in order to tackle the challenges of the information age (Ololube, 2013; Ololube et al., 2013).

Rhodes (2013) indicates that a gap has been identified in the skills and knowledge of accounting diploma graduates thereby creating a need for the integration of ICT in accounting education to close the gap. The International Society for Technology in Education (2000) defined successful schools as those that provided integrated technology experiences for their students to increase their technology capabilities (Brenda, Joe, Greg, Sharon, Dana, Ginny & Don 2004). Onojetah (2014) observed that higher education institution that fails to incorporate new technologies cannot seriously claim to prepare their students for life

in the 21st century. Consequently, one of the critical roles of an accountancy educator in public tertiary institutions is the integration of new technologies in teaching and learning of accounting.

One of the objectives of information and communication technology as stated in the Nigerian National Policy on ICT (2001) is to integrate information and communication technology into the mainstream of education and training. When the accountancy educators fail to play their role in integrating these new technologies in teaching and learning of accounting, Nigerian accounting graduates may lag behind in their skills and competencies when compared to accounting graduates in other developed countries. Also a gap may likely exist between the skills acquired and the ones needed in the field of work. Against this background that the researcher sought to determine the extent of availability of new technological equipment in public tertiary institutions in Enugu State of Nigeria and also the extent of integration of new technologies by accountancy educators in teaching accounting.

Purpose of the study

The general purpose of the study was to determine the extent of integration of new technologies in teaching and learning of accounting in public tertiary institutions in Enugu State. Specifically the study sought to:

1. Determine the extent of the availability of new technological equipment for teaching and learning of accounting in public tertiary institutions in Enugu State.
2. Determine the extent of the integration of new technological skills by accounting educators in public tertiary institutions in Enugu.

Research Questions

The under listed research questions guided this study:

1. What extent is the new technological equipment available for teaching/learning of accounting in accredited public tertiary institutions in Enugu State?
2. What extent are the new technological skills integrated in teaching/learning of accounting in public tertiary institutions in Enugu State.

Hypotheses

The following hypotheses were tested at 0.05 level of significance:

1. There is no significant difference in the mean ratings of accountancy educators in Universities, Polytechnics and Colleges of Education on the extent of the availability of new technological equipment for teaching and learning of accounting in public tertiary institutions in Enugu State.
2. There is no significant difference in the mean ratings of accountancy educators in Universities, Polytechnics and Colleges of Education on the extent of integration of new technological skills in teaching-learning of accounting in public tertiary institutions in Enugu State.

METHOD

Descriptive survey design was used. This is because the study involved collection of data from a group of individuals deemed to be the representative of the population. The population for the study comprised 80 accountancy educators made up of 32 accountancy educators in the Universities, 34 accountancy educators in the Polytechnics and 14 accountancy educators in Colleges of Educations. The area covered the four public tertiary institutions in Enugu State: University of Nigeria Nsukka, Enugu State University of Science and Technology (ESUT), Institute of Management and Technology, Federal college of Education Eha-Amufu and Enugu State College of Education (Technical) Enugu.

As a result of the manageable size of the population, no sample was drawn. A structured questionnaire instrument made up of 31 questionnaire items was used. The instrument had four point scale with response items as very great extent (VGE), great extent (GE), low extent (LE) and very low extent (VLE). Eighty copies of the questionnaire were distributed and duly collected, indicating 100% return rate. The researcher made use of three trained research assistants. One trained research assistant from each of the three tertiary institutions. The researcher administered the instrument to the respondents personally in her own institution, ESUT. Data collected were analyzed using mean with standard deviation while ANOVA was used to test the two hypotheses at 0.05 level of significance and 77 degree of freedom.

RESULTS

Research question 1

What extent is new technological equipment available for teaching/learning of accounting in public tertiary institutions in Enugu State?

Table 1: Mean scores on the extent of availability of new technological equipment in public tertiary institutions in Enugu State.

S/N	New Technological equipment	VGE	GE	LE	VLE	\bar{X}	SD	DEC
1	Computers (Desktop)	16	44	20	0	2.95	0.67	Agree
2	Computers (laptop)	16	36	28	0	2.85	0.73	Agree
3	Internet facilities	12	20	24	24	2.25	1.04	Disagree
4	Intranet facilities	0	20	28	32	1.85	0.79	Disagree
5	Slide projectors	4	32	40	4	2.45	0.67	Disagree
6	Interactive white board	32	8	28	12	2.75	1.14	Agree
7	Electronic board	0	32	44	4	2.35	0.57	Disagree
8	Overhead projectors	0	36	24	20	2.20	0.81	Disagree
9	Printers	28	36	8	8	3.15	0.73	Agree
10	Scanners	12	52	12	4	2.90	0.70	Agree
11	Teleconferencing devices	0	40	16	24	2.20	0.87	Disagree
12	Multimedia computers	0	16	36	28	1.85	0.73	Disagree
13	Multimedia projectors	0	16	36	28	1.85	0.73	Agree
Grand mean						2.43	0.72	

Table1 shows the extent of availability of new technological equipment for teaching/ learning of accounting in public tertiary institutions in Enugu State. The analysis shows mean ratings of 2.25, 1.85, 2.45, 2.35, 2.20, 2.20, 1.85 and 1.85 for items 3, 4, 5, 7, 8, 11, 12 and 13 respectively. On the other hand, mean ratings of 2.95, 2.85 and 3.15 were obtained for items 1, 2 and 9. A grand mean of 2.43 with a standard deviation of 0.72 were obtained for all the 13 items. This indicates that the respondents agreed that the technological equipment is available to a low extent.

Research question 2

What extent are the new technological skills integrated in teaching/learning of accounting in public tertiary institutions in Enugu State.

Table 2: Mean scores on the extent of integration of new technological skills in teaching-learning of accounting in public tertiary institutions in Enugu State

S/N	Technological skills	VGE	GE	LE	VLE	\bar{X}	SD	DEC
1	Computer operation skill	12	24	44	0	2.60	0.73	Agree
2	Accounting software	16	20	44	0	2.65	0.79	Agree
3	Programming languages	0	0	60	20	1.75	0.43	Disagree
4	World wide web	12	16	48	4	2.45	0.80	Disagree
5	Word processing software	12	16	52	0	2.50	0.74	Agree
6	Data base software	4	16	44	16	2.10	0.77	Disagree
7	Window software	0	16	48	16	2.04	0.63	Disagree
8	Spread sheet software	8	12	44	16	2.15	0.85	Disagree
9	Graphic software (Adobe)	4	8	28	48	1.70	0.84	Disagree
10	System analysis & design	0	20	40	20	2.0	0.21	Disagree
11	File directory management	0	24	48	8	2.20	0.60	Disagree
12	E –business	0	20	40	20	2.0	0.71	Disagree
13	Intranet and extract	0	20	52	8	2.15	0.57	Disagree
14	Presentation software	0	36	32	12	2.30	0.71	Disagree
15	Computer hardware	0	40	40	0	2.50	0.50	Disagree
16	Communication software	0	20	40	20	2.0	0.71	Disagree
17	Technology management & budgeting	4	16	48	12	2.15	0.73	Disagree
18	Management information	4	32	32	12	2.35	0.79	Disagree
Grand mean						2.19	0.75	Disagree

Table 2 shows the extent of integration of new technological skills for teaching-learning of accounting in public tertiary institutions in Enugu State. The analysis shows mean ratings of 1.75, 2.45, 2.10, 2.04, 2.15, 1.70, 2.0, 2.20, 2.15, 2.30, 2.0, 2.15, and 2.35 for items 3, 4, 6, 7, 8, 9, 10, 11, 12, 14, 16, 17 and 18 respectively. Further, mean ratings 2.60, 2.65, 2.50, and 2.50 are obtained for items 1, 2, 5 and 15. A grand mean of 2.19 with standard deviation of 0.75 were obtained for all the 18 items, thereby indicating that accountancy educators agree that technological skills are integrated in teaching/learning of accounting to a very low extent.

Hypothesis 1

There is no significant difference in the mean ratings of accountancy educators in Universities, Polytechnics and colleges of education on the extent of availability of new technological equipment for teaching/learning accounting in public tertiary institutions in Enugu State.

Table 3: Comparison of analysis of variance (ANOVA) of accounting educators in Universities, Polytechnics and colleges of education on the extent of availability of new technology equipment for teaching/learning of accounting

Source of Variation	Df	Sum of squares (SS)	Mean of squares (Ms)	F.cal	Critical value of F.
Between groups	2	1.66	-0.83		
Within group's	77	130.37	1.69	-0.49	2.21

Table 3 shows the comparison of analysis of variance (ANOVA) of accountancy educators mean ratings in universities, polytechnics and colleges of education in public tertiary institutions in Enugu State. The result in table 3 shows that the F. ratio calculated is -0.49 which is less than the critical F ratio of 2.21. Therefore, hypothesis 1 is accepted. Hence, there is no significant difference in the mean ratings of accountancy educators in universities, polytechnics and colleges of education on the extent of availability of new technological equipment for teaching/learning of accounting in public tertiary institutions in Enugu State.

Hypothesis 2:

There is no significant difference in the mean ratings of accountancy educators in universities, polytechnics and colleges of education on the extent of integration of new technologies in teaching /learning of accounting in public tertiary institutions in Enugu State.

Table 4: Comparison of analysis of variance (ANOVA) of accountancy educators in Universities, Polytechnics and colleges of education on extent of integration of new technological skills in teaching and learning of accounting in public tertiary institutions in Enugu State

Source of Variance	Df	Sum of squares (SS)	Mean of square (MS)	F.cal	Crit. Value of F.
Between groups	2	0.0064	0.0032		
Within groups	77	57.1564	0.7422	0.00	0.21

Table 4 shows the summary of analysis of variance (ANOVA) of accountancy educators. F computed is 0.00 while F. critical is 2.21 at 0.05 level of significance at 77 degrees of freedom. Since F. computed (0.00) is less than the F. critical (2.21), thus hypothesis 2 is rejected. Therefore, significant difference exist in the mean ratings of accountancy educators in universities, polytechnics, and colleges of education on the extent of integration of new technologies in teaching/ learning of accounting in public tertiary institutions in Enugu State of Nigeria.

DISCUSSION OF RESULTS

The result of the analysis of research questions one showed that new technological equipment available for teaching accounting in public tertiary institutions in Enugu State were available to a low extent. From all indication, non availability and acute shortage of this new technological equipment may likely impede their integration in teaching accounting.

The finding of this study tallied with the finding of Owenbiugie and Ojewale (2014) who found that the extent of availability of overhead projectors and internet facilities in schools was very low. Equally consistent with this finding was the view of Azih and Nwosu (2012) who posited that apart from computer, all other e-facilities were provided in the tertiary institutions in small quantity.

Further, the result of hypothesis one revealed that significant difference did not exist in the mean ratings of accountancy educators in universities, polytechnics and colleges of education on the extent of new technological equipment for teaching/learning of accounting in Enugu State.

The result of research question two showed that new technological skills were integrated in teaching/ learning of accounting to a low extent. One should not be surprise with the result of the finding since the technological equipment was available to a low extent. Consequently, the integration of the new technological skills would not be very successful because of the acute shortage of new technological equipment. This finding was in line with Azih and Nwosu (2012) who noted that only computers were utilized in the teaching and learning of business education courses. These findings also concurred with the finding of Etonyeaku (2013) that some lecturers used some of the ICT facilities but not extensively.

The test of hypothesis two (H₀₂) showed that significant difference did not exist in the mean ratings of accountancy educators in universities, polytechnics and colleges of education on the extent of integration of new technological skills in teaching/learning of accounting in tertiary public institutions in Enugu State of Nigeria.

CONCLUSION

Based on the findings of the study, it can be concluded that new technological equipment were not readily available for use in accredited public tertiary institution in Enugu State. Further, accountancy educators did not extensively use them in teaching and learning of accounting. This might be as a result of the new technological equipment which was not available to a high extent. This might result to the accountancy educators and their students' inability to possess mastery of the new technological equipment and the gap would continue to exist between what is taught in the school and the real field of work. Therefore, this gap needed to be closed by accountancy educators.

Recommendations

The following recommendations were proffered:

1. New technological equipment should be made available to a large extent by relevant federal and state governments for use in teaching accounting
2. Provision should be made for training and re-training of accountancy educators on the use of new technological equipment for proper integration in teaching/learning of accounting
3. Provision of new technological equipment by the institution should be a pre requisite for accreditation of public tertiary institutions in Enugu State of Nigeria.

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¹ Nwokike, Felicia Ogonnia is a lecturer in the Department of Technology and Vocational Education of Enugu State University of Science and Technology, Enugu, Nigeria. She obtained her M.Sc and Ph.D in Business Education with emphasis in Accounting Education from Enugu State University of Science and Technology. She has presented papers in many conferences within Nigeria. Her research focus is in Business, Accounting and Entrepreneurship Education. She is a member of Association of Business Educators of Nigeria.

