



EXTENT BUSINESS SUBJECTS TEACHERS IN IMO STATE SECONDARY SCHOOLS UTILIZE SPREADSHEET SKILLS IN TEACHING BUSINESS SUBJECTS

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Abstract

The study was aimed to find out the extent business subjects teachers in Imo State secondary schools utilize spreadsheet skills in teaching business subjects. Descriptive survey research design was adopted and the population of 272 business subject teachers was studied without sampling. Trial-testing was used to establish the reliability of the instrument using Cronbach Alpha method which yielded coefficients of .90. Two hundred and sixty five (265) duly completed copies of the instrument were retrieved and used for the study. Mean and standard deviation were used to answer the research question while the t-test was used to test the null hypothesis at .05 level of significance. Findings revealed that the business subjects teachers utilize spreadsheet skills in teaching business subjects to a low extent. There is no significant difference in the mean ratings of business subject teachers with B.Sc. degree and above and those with below B.Sc. degree in secondary schools in Imo State, on the extent they utilize spreadsheet skills in teaching business subjects. Based on the findings of the study, the researchers concluded that business subjects teachers do not adequately utilize spreadsheet skills in teaching business subjects in secondary schools in Imo State. It was therefore recommended that Ministry of Education in Imo State should organize continuous training and re-training ICT programmes (in which spreadsheet skills is inclusive) for business subjects teachers to enable them update their knowledge so as to embrace spreadsheet skills for effective utilization in teaching business subjects in Imo State secondary schools.

Keywords: *Business Subjects, Utilization, Spreadsheet Skills, Teaching and Information and Communication Technology*

Introduction

Information and Communication Technology (ICT) is playing major role in the acquisition and diffusion of knowledge which are fundamental aspects of the education process. The impact of ICT on education is enormous. ICT is potentially powerful enabling tools for educational change and reform. When used appropriately, different ICT gadgets will help to expand access to education, strengthen the relevance of education to the increasingly digital workplace, and raise educational quality by helping to make teaching and learning a process that is connected to real life.



Utilization to a layman can be defined as the act of putting something into use. According to Hornby (2018), utilization is the use of something for practical purposes. It is the action of making practical and effective use of something (Murray, 2020). It can also be said to be a measurement of typically in hours or mileage to indicate how frequent a vehicle or piece of equipment is used within a given period of time, may be in a month, quarter or year (Hahn, 2019). In the utilization of Information and Communication Technology in educational sector, it is the use of ICT facilities in teaching and learning. However, in this context, it means the act of putting into use the basic ICT skills by Business Subject Teachers in teaching business subjects. According to McIntosh (2015), utilization is being defined as the act of using something in an effective way. That is to say that utilization is a way of using anything worth working without wastages.

Teaching according to Hornby (2018) is the process of showing somebody how to perform a task so that they can carry it out successfully. It also entails giving students' information about a particular subject to help them learn. According to Nwaukwa (2015), teaching is a cluster of activities that are noted about teachers such as explaining, deducing, questioning, motivating, talking attendances, keeping record of works, students meet predetermined learning goals. In addition, teaching is a deliberate effort by a matured or experienced person to impact information, knowledge, skills and so on to immature or less experienced person (Aguokpgbuo, 2002). Teaching as it relates to this study entails imparting of ICT knowledge from the business subjects teachers to students of business subjects.

According to the Federal Republic of Nigeria (FRN, 2013), business subjects are vocational subjects offered at the senior secondary school level, which include Financial Accounting, Economics, Commerce, Computer Studies/Keyboarding, Shorthand, Office Practice and Marketing. In the same view, Esene and Ohiwerei in Nwaukwa (2015) defined business subjects as vocational subjects designed for the senior secondary schools. The authors further explained that it is from this group of subjects (i.e Financial Accounting, Economics, Commerce, Computer Studies/Keyboarding, Shorthand, Office Practice and Marketing) that a business student may choose any three or more subjects in the final Senior Secondary Certificate Examination (SSCE).

Business subjects in this study encompasses vocational subjects taught at the senior secondary school level with the aim of preparing students for entry into business related areas in tertiary institutions, or to make a living in this modern society.

A spreadsheet according to Maher (2019) is an interactive computer application for organization, analysis and storage of data in tabular form and it is developed as computerized analogs of paper accounting worksheets. The program operates on data entered in cells of a table and each cell may contain either numeric or text data, or the results of formulas that automatically calculate and display a value based on the contents of other cells Maher (2019). Spreadsheet users can adjust any stored value and observe the effects on calculated values. This makes the spreadsheet useful for analysis since many cases can be rapidly investigated without manual recalculation. Modern spreadsheet software can have multiple interacting sheets, and can display data either as text and numerals, or in graphical form. Apart from performing basic arithmetic and mathematical functions, modern spreadsheets provide built-in functions for common financial and statistical operations. For instance, such calculations as Net Present Value or Standard Deviation can be applied to tabular data with a pre-programmed function in a formula. Spreadsheet programs also provide conditional expressions, functions to convert between text and numbers, and functions that operate on strings of text. Although they were first developed for accounting or bookkeeping tasks, they now are used extensively in any context where tabular lists are built, sorted, and shared (Maher, 2019).

In modern spreadsheet applications, several spreadsheets, often known as worksheets or simply sheets, are gathered together to form a workbook. A workbook is physically



represented by a file, containing all the data for the book, the sheets and the cells with the sheets. Worksheets are normally represented by tabs that flip between pages, each one containing one of the sheets, although Numbers changes this model significantly (Pardo, 2015).

Cells in a multi-sheet book add the sheet name to their reference. However, since spreadsheet program is one of the main components of an office productivity suite, which usually also contains a word processor, a presentation program, and a database management system, the Business Subjects Teachers should be able to know how to use it appropriately. The usage can be seen by entering texts or numbers into the worksheets, doing other mathematical functions like: adding; dividing and multiplying numbers within the worksheets.

Constructivist Teaching and Learning Theory

Constructivist teaching and learning theory was propounded by Jerome Bruner in 1961. He was of the opinion that the aim of education should be to create autonomous learners (i.e. learning to learn). For Bruner (1961), the purpose of education is not to impart knowledge, but instead to facilitate a child's thinking and problem-solving skills which can then be transferred to a range of situations. Specifically, education should also develop symbolic thinking in children. Bruner's work also suggests that a learner even of a very young age is capable of learning any material as long as the instruction is organized appropriately (Bruner, 1961 pgs., 21-32).

In applying Bruner's theory to this study, it will enable the business teachers help students to discover their own way of utilizing these spreadsheet skills in their own way as it encourages learner to develop their most suitable way of doing things.

Secondly, this theory will help the business subject teachers to organize their instruction/teaching spreadsheet skills in an appropriate manner that will attract full attention of the learner without being distracted or confused at any point.

Statement of the Problem

Teachers in public secondary schools are expected to apply ICT skills to support their instructional delivery and as well enable secondary school students to use these skills to meet their learning needs. Low utilization of ICT skills in teaching business subjects means producing students with only theoretical knowledge thus lacking relevant practical skills required of business' graduates for gainful employment or self-reliance. Effective utilization of ICT skills by business subjects teachers is dependent on teachers' ICT skill acquisition, level of training and re-training on the use of ICT in teaching, teachers ability in using ICT facilities for enhancing instructional delivery among others.

Business subjects teachers' over-reliance in using traditional/conventional teaching methods and obsolete instructional materials such as chalkboard, papers and typewriters among others suggest that they are not adequately utilizing ICT skills to enhance instructional delivery. The inability of business subjects teachers to utilize ICT skills in their teaching means that business subjects students on graduation may not be adequately equipped with relevant ICT skills needed for gainful employment or self-reliance in this technological age. Thus, the need to find out the extent business subject teachers utilize spreadsheet skills in teaching of business subjects in Imo State public secondary schools and thus make possible recommendations for improvement.

Research Question

This research question guided the study:

1. To what extent do business subjects teachers in Imo State secondary schools utilize spreadsheet skills in teaching business subjects?

Hypothesis

This null hypothesis was tested at .05 level of significance:



1. There is no significant difference in the mean ratings of business subject teachers with B.Sc. degree and above and those with below B.Sc. degree in secondary schools in Imo State, on the extent they utilize spreadsheet skills in teaching business subjects.

Method

Descriptive survey research design was adopted for this study because it is concerned with collecting data from members of a population in order to determine conditions that exist, opinions that are held and processes that are going on. The survey research design is deemed appropriate for this study since it sought to obtain the views and opinions of business subjects teachers on the extent they are utilizing word processing skills in teaching business subjects.

The researchers administered and retrieved copies of the questionnaire to the respondents by hand after establishing contacts with the principals of the different schools under study with the aid of three research assistants adequately briefed on the modalities for administration and retrieval of the questionnaires. However, respondents that were not able to complete their copies immediately were revisited on an agreed date. This ensured timely and high return rate of the instrument as 265 out of the 272 copies distributed were correctly filled and returned. The exercise lasted for a period of two weeks.

Data collected were analyzed using mean and standard deviation. Mean was used to answer the four research questions posed for the study while standard deviation was used to ascertain how homogeneous or heterogeneous the respondents' opinions are relative to the questionnaire items. Decision on the research questions was based on the cluster mean relative to the real limits of numbers. t-test was used to test the four null hypotheses at .05 level of significance using Special Package for Social Sciences (SPSS) version 23.0.

Results

Research Question

To what extent do business subjects teachers in Imo State secondary schools utilize spreadsheet skills in teaching business subjects?

Table 1: Respondents' mean ratings on the extent business subjects teachers utilize spreadsheet skills in teaching business subjects (N = 265)

S/N	Spreadsheet Skills	\bar{X}	SD	Remarks
1	Ability to activate data in a cell	2.18	.67	Low Extent
2	Ability to enter data in a cell	1.54	.64	Low Extent
3	Ability to format data in a cell	1.41	.58	Very Low Extent
4	Ability to draw appropriate graphs	1.40	.91	Very Low Extent
5	Ability to format data to currency, time and number	1.46	.51	Very Low Extent
6	Ability to use sum formula	1.48	.72	Very Low extent
7	Ability to change/adjust width and row height	2.45	.89	Low Extent
8	Ability to use suitable commands to select range of cells in a row	1.47	.77	Very Low Extent
Grand Mean		1.67		Low Extent



Data in table 1 shows that out of 8 spreadsheet skills listed, business subjects teachers indicated that they utilize items 1, 2 and 7 in teaching business subjects to a low extent with mean scores ranging between 1.54 to 2.45 while remaining five items are utilized for the same purpose to a very low extent with mean scores ranging between 1.40 to 1.48. The grand mean score of 1.67 shows that on the whole, business subjects teachers utilize spreadsheet skills in teaching business subjects to a low extent. The standard deviation for all the items is within the same range meaning that the respondents are not wide apart in their mean ratings.

Hypothesis

There is no significant difference in the mean ratings of business subject teachers with B.Sc. degree and above and those with below B.Sc. degree in secondary schools in Imo State, on the extent they utilize spreadsheet skills in teaching business subjects.

Table 2: T-test analysis of business subjects teachers with B.Sc. degree and above and those with below B.Sc. on the extent they utilize spreadsheet skills in teaching business subjects

Qualification	N	\bar{X}	SD	df	T-value	P-value	Decision
B.Sc. degree and Above	199	1.78	.55	263	.68	.41	Not Significant
Below B.Sc. degree	66	1.48	.66				

Table 2 shows that t-value of .68 at 263 degree of freedom with a p-value of .41 is greater than the criterion value of .05 ($.41 > .05$). Since p-value is greater than the significant value, the null hypothesis is therefore accepted. This means that there is no significant difference in the mean ratings of business subject teachers with B.Sc. degree and above and those with below B.Sc. degree in secondary schools in Imo State, on the extent they utilize spreadsheet skills in teaching business subjects.

Discussion of Findings

Findings of the study indicated that business subjects teachers in secondary schools in Imo State utilize spreadsheet skills in teaching business subjects to a low extent. The findings of the study corroborate the findings of Asogwa (2011) that majority of business teachers are still showing negative attitude in utilizing ICT skills in teaching. Ilechukwu (2011) opinioned that the wide gap between the experience of the ICT experts who developed the ICT system and the slow and sometimes unwilling designers of education instructional system planners is also a challenge to teachers utilizing ICT skills in teaching. In agreement Alu (2011) noted that the issue of ICT literacy among teachers (business subjects teachers inclusive) and availability of personal computers among teachers is lacking. Alu lamented that these situations hinder utilization of spreadsheet skills in teaching and learning in secondary schools. The author averred that there is no rigorous ICT training in the process of teacher preparation to help teachers' usage and as a result, many teachers and learners are ICT illiterate.

The findings that business subjects teachers utilize spreadsheet skills to a low extent is not surprising to the researchers considering the fact that there are lack of capacity building programmes as well as ICT training and re-training programmes for secondary schools teachers in Imo state to up-date their ICT skills to enhance their professional practice. This the researchers believed might have contributed to business subjects teachers' low level of utilization of spreadsheet skills in teaching business subjects. The findings of the study also revealed that there was no significant difference in the mean ratings of business subject teachers with B.Sc. degree and above and those with below B.Sc. degree in secondary schools in Imo State, on the extent they utilize spreadsheet skills in teaching business subjects. This suggests that business subjects teachers regardless of educational qualifications indicated that they utilize spreadsheet



skills in teaching business subjects to a low extent. This homogeneity in mean ratings could be attributed to lack of ICT facilities or poor training of business subjects teachers in ICT skills.

Conclusion

From the findings of this study, it was discovered that many of business subject teachers utilize spreadsheet skills teaching business subjects to a low extent. Despite the prevalent nature of ICT in virtually every aspect of human endeavors, they have not been widely utilized by business subjects teachers in teaching processes in secondary schools. Spreadsheet skills utilization will not only revolutionize teaching of business subjects, they will stimulate the development of students' innate technological and critical thinking abilities and acquisition of ICT skills needed to fit into the modern society after graduation. Based on the findings of this study, the researchers conclude that business subjects teachers do not adequately utilize spreadsheet skills in teaching business subjects in secondary schools in Imo State.

Recommendations

Based on the findings of this study, the researchers recommended that continuous training and re-training of ICT programmes should be provided by Imo State Ministry of Education to the business subjects teachers in which spreadsheet skills is inclusive to enable them up-date their knowledge in the use of ICT skills for effective utilization in teaching business subjects in secondary schools.

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