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Comparative Analysis of Using Computer Tutor Guide and Demonstration Methods of Teaching on Students' Skills Acquisition in Word Processing in Nigerian Universities

S.S. AMOOR, Z.B. MAGAJI
Ahmadu Bello University, Zaria, Nigeria

Abstract. The study was conducted to compare the level of skills acquired in word processing using computer tutor guide and lecture/demonstration methods of teaching in Nigerian universities. In order to achieve this, three specific objectives and three null hypotheses were postulated to guide the study. Experimental research design was used for the study. The population for the study consisted of one hundred and eighty seven (137) 200 levels students for 2015/2016 academic session in Ahmadu Bello University, Zaria, out of which 100 students (50 students in each group) were sampled using purposive sampling. The 100 Students were first pre-tested and exposed to word processing skills using computer-tutor guide and lecture/demonstration methods after which the post test was administered. The scores of the students from the two groups were analyzed using means and standard deviation. An independent sample t-test was used to test all the null hypotheses. The findings include among others that computer tutor guide group performed better than demonstration group in the level of skills acquired in word processing. Based on the findings, it was concluded that the computer tutor guide method of teaching word processing skills is more effective than lecture/demonstration methods. In view of these findings, it was recommended among others that business education lecturers in the universities should use more of computer tutor guide method in teaching skill in word processing than only depending on lecture/demonstration methods.

Keywords: Word Processing, Computer tutor guide, lecture/demonstration teaching methods

1. Introduction

Business education basically provides knowledge and skills to students that will enable them to be self-reliant and useful members of the society. Word processing is one of the courses taught in business education which requires practical skills. This course involves students learning how to type with speed and accuracy, create tables and insert figures, manipulate text, type manuscripts, letters, and memorandum, create graphics and design power-point using computers. This course is expected to be taught with proper methods of teaching. This is because when proper methods of teaching are used in teaching practical courses, it will go a long way in meeting the students' skills acquisition for self-employment and also to achieve the goals of business education programme.

One of the teaching methods that are suitable for practical courses such as word processing may be lecture/demonstration methods. Demonstration method of teaching is generally

used by the teacher to illustrate a procedure to be followed. A well planned demonstration can often crystallize a student's comprehension of a new concept more effectively in one or two minutes those hours of talk or pages of reading. The main purposes of demonstration are to establish a pattern or procedure to be used in the preparation of a given product; set a standard for work habit; motivate a desire in the minds of students to try the product.

Ajoma (2009) states that the demonstration method of teaching and learning is a method in which teachers dramatize topics to be taught be either the use of items or recorded materials while students are made to practice the skills demonstrated in readiness for the time they will be asked to display their level of efficiency in the performance or those skills. It is one of the effective method of learning word processing as it is explained the steps of an operation and shows how a process or an experiment is to be carried out, what to do and why it should be done that way. Teacher demonstration method therefore, is a teacher centred method of teaching whereby the teacher illustrates a procedure to be followed and thereafter students follow those procedures to solve the given problem practically. As good as this method is for teaching practical courses, it is observed that it may not be very effective in teaching word-processing where students are large in number, therefore, in order to achieve this objective, appropriate methods of teaching are required to be used by the lecturers such as computer-tutor guide.

Computer tutor guide involves combination of picture, sound and words used in computer. It is a motion picture method of teaching and learning which makes the event look real and students will recall that which has been taught as the activity come alive on screen. Shodeine (2001) points out that computer-tutor guide uses many small parts of microchips that controls and direct a small current, as can be seen in motion picture films, television, radio, disks, projectors and many others. Ofsted (2004) explained that computer tutor guide method of teaching is an alternative and cost effective option to the usual classroom face to face learning model. Computer learning marks the beginning of a new wave of technological development of learning in the world.

2. Statement of the Problem

The researcher's interactions with business education students in Ahmadu Bello University, Zaria revealed that students offering Word processing lack competency in typing-sitting position, speed/ accuracy and text manipulation. Also, interactions with lecturers teaching word processing in Ahmadu Bello University, Zaria revealed that lecturers use only lecture/demonstration methods to teach word processing. The researcher observed that these methods, as appropriate as they seem to be in teaching practical courses, do not deliver the desired result in teaching word processing especially where the numbers of students in the computer laboratory are too large. It is based on this that this study is conducted to compare the level of skills acquired in word processing using lecture/demonstration methods and computer tutor guide methods of teaching where the numbers of students are large in a computer laboratory in Nigerian universities.

3. **Objectives**:

The following specific objectives were raised to:

(i) determine the level of skills acquired by the students taught the sitting position on a computer using computer tutor guide and those taught using lecture/demonstration methods in universities in Nigeria.

(ii) examine the level of skills acquired by the students taught speed and accuracy using computer tutor guide and those taught using lecture/demonstration methods

(iii) determine the level of skills acquired by the students taught text manipulation and tables creation in word processing using computer tutor guide with Microsoft word and those taught using lecture/demonstration methods in universities in Nigeria.

4. Null Hypotheses

In line with the specific objectives, the following null hypotheses were postulated:

(i) There is no significant difference among students taught the sitting position on a computer using computer tutor guide and those taught using lecture/demonstration methods in universities in Nigeria.

(ii) There is no significant difference among students taught speed and accuracy using computer tutor guide and those taught using lecture/demonstration methods in universities in Nigeria.

(iii) There is no significant difference among students taught text manipulation using computer tutor guide and those taught using lecture/demonstration methods in universities in Nigeria.

5. Methodology

Research Design: The experimental research was adopted for the study. This method was chosen because the study aimed at comparing the use of computer tutor guide and lecture/demonstration methods of teaching word processing. The choice of experimental design is supported by Olayiwola (2007) who permits randomization of subjects to groups and provides some degree of control over possible extraneous variables that might affect either the internal or external validity or both.

Population: The total population of the students was 137 for 2015/2016 academic session. The population for the study comprised 200 level students of business education in Ahmadu Bello University (ABU), Zaria. A sample of 60 students was drawn from the population of the study through hat draw method. The researcher wrote thirty "CG" for computer guide and thirty 'LD" for lecture/demonstration. Those that pick "CG" fell in the group of Computer Guide and those that picked LD fell into lecture/demonstration group.

Instrument for Data Collection

Two instruments on speed/accuracy and text manipulation/tables creations were used to generate relevant data for the study. The instruments were questions for pre-test and post-test. The instruments were rated over one hundred percent (100%) each and this was adapted from typewriting-Chart by the scat gold that is pre-test and post-test. The questions for both pre and post-test comprised of a ten-minute speed and accuracy speed and a –two-paragraphed typewritten materials for text manipulations/tables creation using Microsoft word.

Instrument validation

The instruments were validated by the professionals in measurement and evaluations in Ahmadu Bello University, Zaria. Their corrections improved the instruments accordingly.

Reliability of the instrument

The reliability of the instrument was determined by the statistical analysis of the data collected from the pilot study using split half method to determine the reliability of the instrument. The reliability co-efficient calculated was 0.71 which was positive and high hence the instrument was adjudged reliable and stable.

Procedure for Date Collection

Four weeks were used to collect data for this study. In the first week, the students in both the Computer tutor group and lecture/demonstration group in Ahmadu Bello University were given pre-test on basic speed and accuracy/test manipulation/tables creation. In the second and third week the students in the computer tutor were taught speed and accuracy and text manipulation/tables creation using computer tutor while students in the lecture/demonstration methods group were also taught speed and accuracy and text manipulation/tables creation with Microsoft word using for two weeks using lecture/demonstration method. In the fourth week, the students in both the Computer tutor group and lecture/demonstration group were administered post test by the research assistants on the same two areas of word processing. The

scripts were collected, marked, scored and recorded using marking scheme.

Procedure for Data Analysis

The mean performance of students for both the pre-test and post-test for the experimental and control group was computed and compared. Mean and standard deviation were used to analyze the data to answer the research questions generated for the study. A t-test was used to test all the hypotheses at 0.05 level of significance.

Decision Rule: If the calculated t-test value is less than the table value, the null hypothesis was rejected but if otherwise, the hypothesis is retained.

6. Result

The following null hypotheses were tested and result presented in tables 1-4

Null hypothesis one: There is no significant difference among students taught the sitting position using computer tutor guide and those taught using lecture/demonstration methods in universities in Nigeria.

Table 1: **Students Taught the Sitting Position using Computer Tutor Guide and those Taught using Lecture/Demonstration Methods**

Groups	N	Mean	Std Dev.	Std Error	t-cal	t-crit	Df	sig
Computer tutor guide (Experimental)	50	18.438	3.1681	.3102	6.212	1.96	80	0.00
Demonstration Method (control)	50	15.817	2.5342	.2218				

Table 1 shows the t-test analysis on students taught the sitting position for word processing using computer tutor guide and those taught using lecture/demonstration method. The result revealed that the group exposed to computer tutor guide had the mean performance of 18.438, standard deviation 3.1681, while those taught using lecture/demonstration method had the mean of 15.817 and standard deviation of 2.5342. The r-cal stood at 6.212 and r-crit stood at 1.96. In view of this, the hypothesis was rejected. This signifies that there was significant difference among students taught the sitting position for word processing using computer tutor guide and those taught using lecture/demonstration methods.

Null Hypothesis Two: There is no significant difference among students taught speed and accuracy using computer tutor guide and those taught using lecture/demonstration methods in universities in Nigeria.

Table 2: **Students Taught Speed and Accuracy using Computer Tutor Guide and those Taught using Lecture/Demonstration Methods**

Groups	N	Mean	Std Dev.	Std Error	t-cal	t-crit	Df	Sig
Computer tutor guide (Experimental)	50	30.4333	3.6541	.3102	5.676	1.96	80	0.00
Demonstration Method (control)	50	28.1243	4.2221	.2218				

Table 2 shows the t-test analysis on students taught the sitting position for word processing using computer tutor guide and those taught using lecture/demonstration method. The result revealed that the group exposed to computer tutor guide had the mean performance of 30.4333, standard deviation 3.6541, while those taught using lecture/demonstration method had the mean of 28.1243 and standard deviation of 4.2221. The r-cal stood at 5.676 and r-crit stood at 1.96. In view of this, the hypothesis was rejected. This signifies that there was significant difference among students taught speed and accuracy using computer tutor guide and those taught using lecture/demonstration methods

Null hypothesis Three: There is no significant difference among students taught text manipulation using computer tutor guide and those taught using lecture/demonstration methods

Table 3: **Students taught Text Manipulation using Computer Tutor Guide and those Taught using Lecture/Demonstration Methods**

Groups	N	Mean	Std Dev.	Std Error	t-cal	t-crit	Df	Sig
Computer tutor guide (Experimental)	50	21.7862	2.992	.2117	6.786	1.96	80	0.00
Demonstration Method (control)	50	19.4431	2.7665	.2006				

Table 3 shows the t-test analysis on students taught the sitting position for word processing using computer tutor guide and those taught using lecture/demonstration method. The result revealed that the group exposed to computer tutor guide had the mean performance of 21.7862, standard deviation 2.992, while those taught using lecture/demonstration method had the mean of 19.7665 and standard deviation of 2.7665. The r-cal stood at 6.786 and r-crit stood at 1.96. In view of this, the hypothesis was rejected. This signifies that there was significant difference among students taught the text manipulation in word processing using computer tutor guide and those taught using lecture/demonstration methods.

7. Discussion of Findings

The first finding of the study shows that there is significant difference among students taught the sitting position on a computer using computer tutor guide and those taught using lecture/demonstration methods in universities in Nigeria. This finding is in line with Butzin, (2002) and Bracey, (2007) whose study posits that the computer tutor guide provides adequate and suitable teaching on typing-sitting position than lecture/demonstration method, especially where the teaching laboratory is not convenient for teaching.

The second finding of the study revealed that there is significant difference among students taught speed and accuracy using computer tutor guide and those taught using lecture/demonstration methods in universities in Nigeria. This finding agrees with Brown, (1990), Browne, (2002) and Irmgrad (2007) whose studies revealed that computer-tutor guide is the most effective method to teach word processing. These authors further stressed that this method is economical than the lecture/demonstration methods and it can accommodate very large number of students in one computer laboratory.

Finally, the finding of the study indicates that there is also significant difference among students taught text manipulation using computer tutor guide and those taught using lecture/demonstration methods in universities in Nigeria. The works of Dalton and Hannafin, (1990) have supported the findings of the current study by observing that text manipulation are better taught in word processing using computer-tutor guide.

8. Conclusion

Based on the findings, it is evident that the computer tutor guide method of teaching word processing skills is more effective and result-oriented than lecture/demonstration methods of teaching word processing.

9. Recommendations

Based on the findings of the study, it is hereby recommended that: -

(i) Heads of Departments of Vocational and Technical Education in Nigeria universities should double efforts to procure adequate up-to-date computers with tutor-guides for the

use of the students. This would enable students to use the tutor guide to learn sitting position even when their lecturers are not with them in the computer laboratories.

(ii) There is need for the department to encourage lecturers at different academic platforms to try as much as possible to use computer tutor guide to teach skills in word processing. Lecturers who are not versatile in the usage of computer tutor-guide should be allowed to take an in-service training to update their knowledge.

(iii) Students of business education in Nigeria universities should be encouraged to use computer-tutor-guide to practice on their own the manipulation of text even when the lecturer is not around to attend lectures with them accordingly.

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