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EFFECTS OF TYPING TUTOR SOFTWARE ON SECONDARY SCHOOL STUDENTS' ACCURACY IN COMPUTER KEYBOARD OPERATIONS IN ENUGU STATE

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Abstract

The purpose of this study was to determine the Effects of Typing Tutor Software on Secondary School Students' Accuracy in computer keyboard operations. Six research questions and nine hypotheses guided the study. Quasi experimental research design was adopted in the study. This study was carried out in Enugu State. The population for the study consisted of all senior secondary school two (SS2) students in all the 233 secondary schools in Enugu State. A sample of (287) Senior Secondary school two (SS2) students was used for the study. Based on gender, the sample consisted of (156) students from male schools and (131) students from female schools. Also, the sample was composed of (146) students in treatment group and (141) students in the control group. Purposive, stratified and random sampling techniques were used to draw two male and female students in secondary schools from the population. Instruments used for data collection is Computer Keyboard Operations Accuracy Test (COKOAT). The instruments were constructed by the researcher and validated by three research experts. The validated copies of the instruments were subjected to test of stability and internal consistency. Reliability coefficients of .71 and .68 were obtained for COKOIS and COKOSAT respectively using Cronbach Alpha method. Mean with standard deviation were used to answer the research questions while Analysis of Covariance (ANCOVA) was used to test the hypotheses at .05 significance level. Major findings of the study revealed that students taught computer keyboard operations with typing tutor software exhibited higher accuracy than those taught with expository method. It was recommended among other things that use of typing tutor software for teaching

secondary school computer keyboard operations should be adopted by all male and female students in secondary schools in Enugu State.

Introduction

Computer education, according to Gerald (2017) involves computer literacy and all processes of making a learner computer skilled. Computer literacy infers ability to tell the computer what you require it to do and fathom what the computer says. To be computer skilled means to have the ability to examine, create and talk the computer language. Computer education also represents computer training, Computer Assisted Instruction (CAI), and Computer Appreciation. Computer education plays a vital role not just in learning computer studies or computer science but also in learning every other subject.Ilyasu (2016) warned that to ignore computer education amounts to accepting to remain backward and obsolete. This is because the world is advancing at a quick rate. Events have moved to the electronic stage with the computer at the center. This change has brought a lot of advancement and change into education/teaching and learning. The 3R's which structures the center of the old game plan of education has seen course of action of reform changes. The world is presently in the time of information development or Information Communication Technology age, thusly, there is a need to stay avant-garde with time. The computer can serve as an assiduous, consistent and evaluating teacher which has a couple of systems for instruction at its disposal. Ilyasu further hinted that a computer can show words to be spelled, sound to be made, instructions to be taken after, pictures and symbols to be responded to by touching. Computer can be brought into play to survey understudy's performance and direct understudy backward, forward and sideways to fit learning activities. Its understanding, memory and unending farthest point for unobtrusive components are assets that oppose contention from traditional educator.

Melky (2016) listed other values of computer education to include;

(i) It lends a hand to students to learn at their own specific pace.

(ii) It produces great time saving over conventional classroom instruction or teaching.

(iii) It consents to students control over their learning rate and progression.

(iv) It bestows fitting feedback.

(v) It progresses individualized instructions through personalized responses to learner's action to capitulate a high rate of stronghold.

(vi) It bestows a more encouraging helpful environment particularly for slower learners.

(vii) It bestows suitable record-keeping and along these lines screens progression of students.

(viii) It puts additional information in the hands of teachers.

(ix) Peculiarity or innovation of working with a computer built up student's inspiration.

(x) It grants tried and true rule from learner to learner in spite of instructor/learner at whatever point of the day and territory.

(xi) It endows with instructions to learners at comparative expenses as compared to other media.

John (2017) averred that computer might be brought into play to handle the incredibly complex ventures that are keys for more individualized learning. The computer can present definite test, give extended programs to suit solitary needs, and outfit prescriptive assignments that may suggest the understudy/student to a course book, an examination of laboratory or an advice with the teacher. John added that the computer is determined and consistent in its strategy for operation, as it doesn't encounter the evil impacts of tiredness or nonappearance of attentiveness like people. Computer carries out multi-valuable parts in teaching and learning strategies at all levels. At the vital and higher levels of education, students can research and make learning through computer program. In schools, computer can be brought into play to store the step by step or week by week impression of examinations. It can be exercised to mix and separate shading or colors, scan, draw, layout diverse things and make graphs and outlines for instructional purposes. Information can be secured in manual records in the computer magnetic disks and recouped when required, (John, 2017).

Undoubtedly, secondary school students cannot harvest these benefits of computer except they master the computer keyboard operations. This is because the keyboard is the primary or most commonly available computer input device. A computer keyboardist a typewriter-style device which uses an arrangement of buttons or keys to act as mechanical levers or electronic switches. Neso (2015) narrated that following the decline of punch cards and paper tape, interaction via teleprinter-style keyboards became the main input method for computers. Keyboard keys (buttons) typically have characters engraved or printed on them, and each press of a key typically corresponds to a single written symbol. However, producing some symbols may require pressing and holding several keys simultaneously or in sequence. While most keyboard keys produce letters, numbers or signs (characters), other keys or simultaneous key presses can produce actions or execute computer commands.

Gbemisola (2016) stated that in normal usage, the keyboard is used as a text entry interface for typing text and numbers into a word processor, text editor or any other program. In a modern computer, the interpretation of key presses is generally left to the software. A computer keyboard distinguishes each physical key from every other key and reports all key presses to the controlling software. Keyboards are also used for computer gaming either regular keyboards or keyboards with special gaming features, which can expedite frequently used keystroke combinations. A keyboard is also used to give commands to the operating system of a computer, such as Windows' Control-Alt-Delete combination.

Mastery of computer keyboard operations according to Nuhu (2016), can be seen in a student's accuracy in handling the keyboard. This mastery, Nuhu argued is a predictor of students' accuracy in computer studies. Nuhu therefore alleged that students perform poorly in computer studies mainly because they lack adequate keyboard operational skills. Ilyasu (2016) further collaborated Nuhu's view and further blamed the problem of students' computer keyboard operations inefficiency to inadequate teaching strategies adopted by secondary school teachers. According to Ilyasu, most secondary school computer teachers adopt lecture method for teaching computer studies. Lecture method of teaching refers to that teaching method in which the teacher gives a comprehensive description or explanation of an idea or a topic to a listening audience (class).

Purpose of the Study

The purpose of this study was to determine the Effects of Typing Tutor Software on Secondary School Students' Accuracy in computer keyboard operations in Enugu State. Specifically, the study aimed at determining the effects of Typing Tutor software on Secondary Senior School Two (SS2) Students';

i. Accuracy in computer keyboard operations
ii. Accuracy in computer keyboard operations with regard to their gender (male/female)

Research Questions

The following research questions shall guide the study

1. What are the mean computer keyboard operations accuracy scores of the students in both treatment and control groups in pretest and posttest?
2. What are the mean computer keyboard operations accuracy scores of the students in male and female secondary schools in both treatment and control groups in pretest and posttest?

Hypotheses

The following research hypotheses shall be tested at .05 level of significance

1. There is no significant difference between the mean computer keyboard operations accuracy scores of students in the treatment and control groups.
2. There is no significant difference between the mean computer keyboard operations accuracy scores of students in male and female secondary school in treatment and control groups.
3. There is no significant interaction between teaching strategy and school ownership on students' mean accuracy scores in computer keyboard operations.

Methodology

Quasi experimental research design was adopted in the study. This study was carried out in Enugu State. The population for the study consisted of all senior secondary

school two (SS2) students in all the 233 secondary schools in Enugu State. A sample of (287) Senior Secondary school two (SS2) students was used for the study. Based on school ownership, the sample consisted of (156) students from male schools and (131) students from female schools. Also, the sample was composed of (146) students in treatment group and (141) students in the control group. Purposive, stratified and random sampling techniques were used to draw two male and female secondary schools from the population. Instruments used for data collection is Computer Keyboard Operations Accuracy Test (COKOAT). The instruments were constructed by the researcher and validated by three research experts. The validated copies of the instruments were subjected to test of stability and internal consistency. Reliability coefficients of .71 and .68 were obtained for COKOIS and COKOSAT respectively using Cronbach Alpha method. Mean with standard deviation were used to answer the research questions while Analysis of Covariance (ANCOVA) was used to test the hypotheses at .05 significance level.

Results

Hypothesis 1

There is no significant difference between the mean computer keyboard operations accuracy scores of students in the treatment and control groups.

Hypothesis 2

There is no significant difference between the mean computer keyboard operations accuracy scores of students in male and female secondary school in treatment and control groups.

Hypothesis 3

There is no significant interaction between teaching strategy and school ownership on students' mean accuracy scores in computer keyboard operations.

Table 9: ANCOVA analyses of the students' Accuracy scores

Source	Sum of Squares	DF	Mean Square	F	Sig.	Remark
Corrected Model	201.188	3	67.063	1.723	0.011	
Intercept	97.203	1	97.203	2.496	0.010	Significant
Method	79.111	1	79.111	2.032	0.010	Not
Gender	350.002	1	350.002	8.991	0.092	significant
Method*Gender	203.404	1	203.404	5.225	0.100	Not
Error	10900.011	280	38.929			significant
Total	11830.919	287				

Method (treatment and control) as main effect gave an f value of 2.032 and this significant at 0.010. Since 0.010 is less than .05, this means that at .05 significant level,

the f value of 2.032 is significant. Therefore, hypothesis 1 is rejected as stated, indicating that there is a significant difference between the mean accuracy scores of students in the treatment and control groups.Gender as main effect gave an f value of 8.991 and this is significant at 0.092. Since 0.092 is greater than .05, this means that at .05 significant level, the f value of 8.991 is not significant. Therefore hypothesis 2 is not rejected as stated, indicating that there is no significant difference between the mean accuracy scores of male and female school students. The interaction effect (method*gender) gave an f value of 5.225 which is significant at 0.100. Since 0.100 is greater than .05, this means that at .05 significant level, the f value of 5.225 is not significant. Therefore, hypotheses 3 is not rejected as stated, indicating that there is no significant interaction effect between method and school ownership on students' accuracy in computer keyboard operations in this study.

Summary of Findings

The results presented above can be summarized thus:

1. Students taught computer keyboard operations with typing tutor software achieved higher accuracy than those taught with expository method.
2. Male and female secondary schools' students taught computer keyboard operations with typing tutor software did not differ significantly in their accuracy.
3. There was no significant interaction between teaching methods and school ownership on the student's accuracy in computer keyboard operations.

Discussion

According to the summary of findings, the difference between the mean accuracy scores of the groups was significant in favor of the experimental group. Simply put, the students who were taught computer keyboard operations with typing tutor software attained higher accuracy in keyboard operations than their counterparts who were taught same content without typing tutor software. This finding is in agreement with the findings of Audu (2015), Gbemisola (2016) and Hanks (2017). These researchers (Audu, Gbemisola and Hanks) found in their separate studies that typing tutor software excited the students thereby increasing their accuracy in keyboard operations. However, the finding made in this study is a sharp contrast with the findings of Adejumo (2012), Nuhu (2016), Byke (2017) and Rabbat (2017). Nuhu (2016) reported in his findings that animations in typing tutor software inhibited students' accuracy in computer keyboard operations. Adejumo (2012), Byke (2017) and Rabbat (2017) in their separate studies found no significant difference between the accuracy of students taught computer keyboard operations with typing tutor software and their counterparts taught without typing tutor software. Nuhu (2016) as reported above argued that animations in typing tutor software only produce emotional interest while expository method encourages cognitive interest.

Cognitive interest is produced by seeing relationship(s) between incoming information and background knowledge (Nneji, 2015). The truth remains that typing

tutor software can elicit both emotional and cognitive interest. There must therefore be a problem somewhere that leads to variation in findings. In trying to proffer solution, Hanks (2017) advised that though play and amusement are necessary in teaching and learning, efforts should be made to ensure that play and amusement do not overshadow the intended lesson. Hanks further warned about use of seductive details in computer software. Such details are capable of seducing the learners and taking their attention out of the objectives of the lesson. This calls to mind the need to apply caution in the design of various typing tutor software. Also important is the need to improve experimenters' techniques of controlling extraneous variables.

Recommendations

From the finding of this study, the following recommendations are made:

1. Use of typing tutor software for teaching secondary school computer keyboard operations should be adopted by all male and female students in secondary schools in Enugu State.
2. Nigerian teacher education curriculum should emphasize use of typing tutor software in microteaching and teaching practice exercises to avail teachers more practical knowledge during their training.
3. Periodic practical oriented workshops and seminars should be organized for computer teachers on use of typing tutor software for teaching computer.
4. Computer sets, projectors, electricity generating sets, imp-rest for petrol or diesel and fortified security networks should be provided for all secondary schools.
5. Supervisors and other monitoring agents should ensure that computer sets provided in various secondary schools are put to use.
6. All male and female secondary schools should either employ a computer programmer or sponsor their computer teachers on a mandatory computer programming course.

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