



## **EFFECT OF PEER-TUTORING TECHNIQUE ON SECONDARY SCHOOL SLOW LEARNERS' ACQUISITION OF KEYBOARDING SKILLS IN ANAMBRA STATE**

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### **Abstract**

*The need to improve students' acquisition of skills necessitated this study to investigate the effect of peer-tutoring technique on secondary school slow learners acquisition of keyboarding skills in Anambra state. The study adopted quasi-experimental research design, specifically pre-test, post-test non-equivalent control group design. The population of the study was 148 male and female slow learners' students of senior secondary Two (SS2) students in Ogidi education zones. Purposive sampling technique was used to select Ogidi education zone out of six education zone in Anambra state. Simple random sampling technique was used to select two public co-education secondary school in the area with a total of 29 slow learners' students. The experimental group were 14 students (6 male and 8 female) while the control group were 15 (7 male and 8 female). The instrument for data collection comprised 50 items multiple choice test was developed together with practice drill exercise by the researcher. The reliability co-efficient of 0.78 was obtained using Kuder-Richardson (KR-20) formular. Instructional peer-tutoring was employed for teaching the experimental group while conventional method was used in teaching the control group. A lesson plan was developed to guide the lesson. Five measures were adopted to control the extraneous variables. The data obtained for the study was analysed in statistical package for social scientists (SSPSS) version 20 using mean to answer the research questions and standard deviation to determine how close or otherwise are scores of students to mean. Analysis of covariance (ANCOVA) was used to test the hypotheses. The findings of the study revealed that there is significant difference in mean achievement score of students taught keyboarding skills using peer-tutoring and those exposed to conventional method. Gender is not a significant factor on the effect of peer-tutoring technique on secondary school slow learners acquisition of keyboarding skills in Anambra state. Based on the findings of the study, it was recommended that the Education Research and Development Council should include instructional peer-tutoring in the curriculum to improve the slow learners acquisition of keyboarding skills in secondary schools.*

### **Introduction**

In the bid to curb poverty and unemployment problem in Nigeria, The Federal government of Nigeria engaged in education reform to improve students' acquisition of skills and competencies that will make them self reliant and employment provider. In line with that, the Nigeria educational research and development council (2012) came up with



curriculum structure for the 3-year senior secondary education as compulsory cross cutting subjects in four distinct field of study to include science/ mathematics, humanities, technology and business. Subjects offering from the compulsory cross cutting subjects are core subjects in the specialized fields of study; elective subjects and trade/ entrepreneurship.

Thirty four (34) subjects were listed under trade/ entrepreneurship among which include: Marketing, GSM maintenance, store keeping date processing and keyboarding. Whereas Nigerian system of education encompasses Nursery education, primary education, secondary education (junior & senior), tertiary institutions comprising colleges of education, Polytechnics and University education. Keyboarding therefore is taught at junior secondary level under business studies as prevocational which is compulsory for all the students and at senior secondary level (vocational) which is one of the subjects in trade entrepreneurship.

Keyboarding is the process of using the appropriate finger on a typewriter or computer system keyboard to feed information in the system. Oakman in Mclean, Chadd and Maxam (2011) define keyboarding as the process of inputting data into a computer using a keyboard. Keyboard is a primary communication device in a computer system. Robinson (2009) sees keyboard as a complex skill made up of finely discriminated movement patterns that depend upon interrelated sensory perceptual, mental and motor input and output which must occur close together in time. The emphases on keyboarding are learning proper techniques, basic hand position, posture and practice in key stroking. The training fundamentally focuses on how to use the computer to obtain and produce information using keyboard. Keyboarding is a skill which is required whenever you need to type. Yin (2002) identified five computer based technology skills needed for, the modern workforce beyond 2000 as keyboarding, word processing, spreadsheet, database and internet skills.

Keyboarding skills are set of skills required to operate a keyboard smoothly while typing. This involves understanding the computer keyboard layout and its functions. Developing proper keyboarding techniques and use of computer encourages the formation of good keyboard skills (Crews; North & Erthel, 2006). With the proliferation of information and communication technology throughout both working and personal worlds,



the need for keyboarding skill is growing. Studies have indicated the need for keyboarding and computer skills ( Anderson & Wiggss, 1999; Hames, 1999; Debell & Chapmen, 2006; Ryker and Anderson, 2000; Bureau of labor statistics of the U.S. Department of labor, 2003) Therefore in order to continue to be competitive internationally and locally, developed and developing countries both require an educated and computer literate workforce.

Students who are proficient with keyboard skills have chances of employment opportunities and being productive in the work place upon graduation. Lack of computer skills limit a person's ability to be productive in the work place. A major concern in the work place is productivity. Thus the emphases on students' acquisition of keyboarding skills depends on teaching technique / method employed and the students learning ability. Such as slow learning ability and high learning ability students.

Slow learners have been identified as students who are doing poorly in school, yet are not eligible for special education (Shaw, Grimes and Bulman, 2005).

Borah (2013) defines slow learners as students with below average cognitive abilities who cannot be termed disabled. Slow learners struggle to cope with the conventional method but could not meet up with the academic demands of the instructions given to them. Their performances are always below the acceptance level of good performance. Slow learners in this context refer to students whose performance evaluations over the years remain consistently below the baseline of good performance after instructions. However, the way a subject is taught could have significant effect on the performance of the concerned students. Therefore if a slow learner is given special technique / method other than conventional method(board and chalk method/ demonstration) it could enhance their performance. In a study conducted by Azubuike (2012), It was found that slow learners who are taught biology concepts using peer-tutoring technique performed higher than those taught biology using expository method.

Peer-tutoring involves people from similar social groupings who are not professional teachers helping each other to learn while learning themselves. The group could be the students of the same learning level working together or students of varying learning levels working together. Igbo (2007) defines peer-tutoring as a teaching process whereby a student who has proficiency in a skill teaches another student under the



teacher's supervision. The teacher shows a student how to perform the skill and the student in turn trains a second student on the same or similar skill. Other scholars such as (Topping, 2011; Cartedge and Musti-Rao, 2013; Nnaka, 2011; Lipponen, 2012; Collin, 2011; Ginstrong-Block Fentuzzo, and Miller, 2013) see peer-tutoring as the acquisition of knowledge and skill through active helping and supporting among learners of equal status or level. It involves pupils playing the role of a tutor and a tutee serving as academic tutors and tutees.

The justification for the use of peer-tutoring technique for acquisition of keyboarding skills was based on the assumption that direct interaction among students promotes active learning while students feel more comfortable and open when interacting with their peer group. They share a similar discourse which allows for a greater understanding (Brewer, Reid and Rhiene 2010). In peer-tutoring, students both male and female receive more time for individual learning.

Gender could be a factor in acquisition of keyboarding skills. Gender is a term that describes behavior and attributes of an individual on the basis of being male or female in a given society (Uwameiye and Osondu, 2009). According to Okeke (2008), there are many challenges posed by gender where certain subjects and activities are attributed as masculine and others feminine. For example, a study conducted by Amoar and Uwa (2015) on secretarial option in colleges of education found that secretarial education where keyboarding is housed is meant for the female gender.

The problem of this study is that graduates of varying levels of education in Nigeria are unemployed. They engage in various social vices ranging from pilfering to kidnapping and adoption. This could be due to lack of competencies and skills for employment opportunities or for self reliant. This could be improved through acquisition of computer based technology skills needed for the modern workforce, among which is keyboarding skills. A survey conducted by Jobberman, a leading recruitment agency in West African region in Kazeem (2016) found that 47% of Nigerian graduates are unemployed. Jobberman describes the new data as sign of the need for urgent action on both public and private sector operators as employers have attributed the problem to the quality of education and described some the graduates as unemployables as they lack required skilled. Subsequently, in another study conducted by Kazeem (2017), reveals that



Nigeria's unemployment problem was showing no signs of slowing down. It is on this note that the study was conceived to determine the effect of peer-tutoring technique on secondary school slow-learner acquisition of keyboarding skills in Anambra State, Nigeria with the view of improving graduates employment opportunities. Specifically, the study determined:

1. Effect of peer-tutoring technique and conventional method on the slow learners' acquisition of keyboarding skills in secondary school in Anambra state.
2. Effect of peer-tutoring techniques and conventional methods on secondary school male and female slow learners acquisition of keyboarding skills in Anambra state.
3. Interaction effect of teaching methods and gender on secondary school slow learners' acquisition of keyboarding skills in Anambra state.

### **Research Questions**

The following research questions guided the study:

1. Is there any effect of peer-tutoring technique and conventional method on secondary school slow learners' acquisition of keyboarding skills in Anambra state
2. Is there any effect of peer tutoring technique and conventional method on secondary school male and female slow learners acquisition of keyboarding skills in Anambra state?
3. Is there any interaction effect of teaching method and gender on secondary school slow learners acquisition of keyboarding skills in Anambra state?

### **Hypotheses**

1. Peer tutoring and conventional method had no effect on secondary school slow learner acquisition of keyboarding skills in Anambra state
2. Peer tutoring technique and conventional method had no effect on secondary school male and female slow learners' acquisition of keyboarding skills in Anambra state
3. Interaction effect of teaching method and gender had no effect on the secondary school slow learners' acquisition of keyboarding skills in Anambra state

### **Method**

Then study adopted quasi-experimental research design of non-equivalent pretest and post-test control group. This design was considered appropriate as intact classes were used. The design concurs with the assertion of Nworgu (2015), that quasi-



experimented designs are best used when intact classes are used and non-randomization of subject is applied.

The study was conducted in Ogidi education zone in Anambra state, Nigeria. Anambra State is a state in South-eastern Nigeria and occupies a total land space of 4,844 km<sup>2</sup>. Anambra shares a border with Delta State in the west, Imo State in the south, Enugu state to the East and Kogi State to the north. The state has six education zones made up of Aguata, Otuocha, Onitsha, Ogidi, Nnewi, and Awka. Anambra state is not only known for success in commercial activities but also for her academic prowess. The choice of this area was made because the area has many secondary schools with slow learners in addition to the fact that a research of this kind has not been undertaken in the area.

The population of the study was 148 male and female slow learners' students of senior secondary Two (SS2) students in the year 2018 in Ogidi education zone made up of forty secondary schools with twenty six co-educational schools. Purposive sampling technique was used to select Ogidi education out of six education zone in Anambra State. Simple random sampling technique was used to select two public co-educational secondary schools. A flip of coin was used to assign the two schools to experimental group and control group. Simple balloting was used to choose two streams of class, from two secondary schools which were designated experimental and control groups respectively with a total of 29 slow learners' students. Slow learners' students experimental group were 14 students (6 males and 8 females) while the control group was 15 students (7 males and 8 females). Both experimental and control group was taught the topics in keyboarding by the subject teacher using conventional method while, experimental group was further paired, for every one slow learner, with corresponding one high learner ability because they were the group to which treatment was given. The slow learners were identified by their teachers respectively based on the following: (a) scores were consistently low in achievement test, (b) ability to learn necessary academic skills at a rate and depth below average of same age peers, (c) masters skills slowly and some skills may not be mastered at all.

The teaching of the lesson in both experimental and control group took place after school hours in order not to disrupt the normal school activities since the researchers did



not use the whole class. Both the experimental and control groups were taught using the conventional method. But the experimental groups were further paired, for every high learner ability; there was corresponding slow learner ability. Both regular keyboarding teacher and peer tutor used the lesson plan prepared by the researcher. The peer tutor taught keyboarding using the language level of the slow learner ability students. The keyboarding teacher in the experimental school monitored the students and intervened in their discussion when necessary.

The instrument titled “Keyboarding Skills Acquisition Test (KSAT) was developed by the researcher based on four content areas in SSII scheme of work namely: word processing, word processor, facilities available in word processor and features of word processor. The instrument was divided into two sections. Section A sought the students’ bio data while Section B was made up of two parts. Part one made up of 50 multiple questions and part two practice drills. Both multiple questions and practice drills were used for the pretest and post test except that they were reshuffled/re-arranged with the colour of paper changed before they were given as post test. The pretest was used to establish the base line of slow learners before the start of the treatment while the post test was used to determine the effect of peer-tutoring technique on slow learners acquisition keyboarding skills.

The instrument was subjected to both content and face validity. The content validity was accomplished by ensuring that the test reflected the test blueprint. Face validity was established by evaluation of the test item by two lecturers in the department of vocational education and a lecturer from the department of educational foundation, Nnamdi Azikiwe University Awka.

In order to ensure that the items were consistent, test-retest reliability was used. The instrument was administered on twenty slow learners from secondary school in Awka education zone. KSAT was administered in two occasions on slow learners with interval of two weeks as interval of 7-14 days was appropriate (Nworgu, 2015). The scores obtained from the tests were correlated using pearson product moment correlation which produced a reliability coefficient of 0.78. The value was considered as an acceptable level of reliability. This was supported with the view of Ogundere (2008) that 0.70 or above is an acceptable reliability value.



KSAT was administered as a pretest to both experimental and control groups before treatment. Post test was administered after the teaching of keyboarding skills for a period of four weeks. The scores of multiple questions and practice drill were added and scored over 100.

The research questions were answered using mean and standard deviation. The null hypotheses were tested at 0.05 level of significance using Analysis of Covariance (ANCOVA). In answering the research questions, excess of post-test mean over pretest mean score indicated mean gain. In the test of null hypotheses using ANCOVA, p-value was used to determine the rejection or otherwise of the null hypothesis. Null hypothesis was rejected if p-value was less than or equal to the level of significance (0.05) otherwise, it was not rejected

### Results

**Table1. Means, Adjusted Mean Scores, Standard Deviations and Standard Error of the Pre and Post Tests of Acquisition of Keyboarding skills Among Slow Learners**

Treatment Group	Pretest		Posttest			
	Mean	SD	Mean	SD	Adjusted Mean	SE
<i>Control group (n=15)</i>	21.73	5.39	28.53	4.56	28.80	1.03
Male (n=7)	19.57	4.50	27.42	5.06	28.47	1.55
Female (n=8)	23.62	5.65	29.50	4.17	29.13	1.40
<i>Experimental group</i>	23.50	5.37	43.00	4.88	43.06	1.08
Male (n=8)	22.50	5.65	40.37	4.37	40.40	1.39
Female(n=6)	24.83	5.15	46.50	3.08	45.71	1.64

Table 1 shows pretest mean scores of 21.73 and 23.50 for the control and experimental groups respectively. The Posttest and adjusted mean scores for the control group were 28.53 and 28.81 while that of the experimental group were 43.00 and 43.06. Based on gender, the pretest mean scores of male in control and experimental groups were 19. 57 and 22.50; posttest mean scores were 27.43 and 40.38 while the adjusted mean scores were 28.48 and 40.41 respectively. For the female, the pretest mean scores were 23.63 and 24.83 for the control and experimental; posttest were 29.50 and 46.50 and adjusted posttest mean scores were 29.14 and 45.72.





## Effect of Peer tutoring technique and conventional method on secondary school slow learners' acquisition of keyboarding skills

There was a significant effect of peer tutoring on students' acquisition of keyboarding skills after controlling for the baseline differences among the groups using the pretest. This shows that the adjusted mean score on acquisition of keyboarding skills for slow learners exposed to peer tutoring (Mean = 43.06) was significantly greater than mean score of those exposed to conventional method (Mean = 28.81);  $F(1, 23) = 5.00, p = .035$ , partial  $\eta^2 = .179$ . (See table 2)

### The Main and Interaction Effects of Gender and treatment on Acquisition of keyboarding skills among slow learners.

The analysis in table 2 revealed a non significant main effect of gender on the acquisition of keyboarding skills among slow learners,  $F(1, 23) = 3.48, p = .075$ , partial  $\eta^2 = .131$ . Equally, the interaction term showed a non significant interaction effect of gender and treatment on the acquisition of keyboarding skills among slow learners,  $F(1, 23) = 2.35, p = .139$ , partial  $\eta^2 = .093$ . (See table 2)

Table 2. Main and Interaction Effects of Treatment and Gender on Posttest Test Scores on Acquisition of Keyboarding Skills Using Analysis of Covariance

Source	Type III Sum of Squares	Df	Mean Square	F	P-value	Partial Eta Squared
Corrected Model	1746.191 <sup>a</sup>	5	349.24	21.65	.00	.83
Intercept	1031.32	1	1031.32	63.93	.00	.74
Pre_Test	85.53	1	85.54	5.30	.03	.19
Group * Pre_Test	.73	1	.73	.05	.83	.002
Group	80.72	1	80.72	5.00	.04	.18
Sex	56.16	1	56.16	3.48	.08	.13
Group * Sex	37.96	1	37.96	2.35	.14	.09
Error	371.05	23	16.13			
Total	38700.00	29				
Corrected Total	2117.24	28				

a. R Squared = .825 (Adjusted R Squared = .787)

## Discussion of Findings

The results from Table 1 shows that students exposed to peer-tutoring technique had higher achievement mean scores compared with students in the control group. The achievement difference was further strengthened by analysis of covariance in Table 2 which shows there is a significant difference in the mean achievement scores of students taught using peer-tutoring technique and those taught using conventional



method. This implies that peer-tutoring technique is significantly superior to the conventional method in enhancing students' acquisition of keyboarding skills. This high achievement may have been as a result of the active and cooperative participation of the peer tutor and slow learner due to direct interaction. Students feel more comfortable and open when interacting with their peer group. This finding is in conformity with the finding of Azubuiké (2012) Igboanugo (2013) and Olawoyin (2015). Azubuiké (2012) pointed out that slow learners taught Biology using peer-tutoring performed better than those taught using conventional method. Igboanugo (2013) and Olawoyin (2015) revealed that there was significant difference between the mean achievement scores of students taught business studies using reciprocal peer-tutoring and those taught using conventional method.

The result of the findings in Table 1 shows that male and female slow learners ability taught keyboarding acquisition skills with peer-tutoring performed better than those taught keyboarding using conventional method. These findings were further strengthened by the analysis of covariance which shows that there is no significant difference in the mean achievement score of male and female students taught keyboarding using peer-tutoring and those taught using conventional method. This result is in agreement with Obiunu (2008) whose result indicated that gender has no significant impact on career decision process of subjects in the treatment (RPT) group of post test. Also Abubakar and Adegboyege (2012) reported that gender was insignificant in the academic performance of students in mathematics. In contradiction to the findings of Amoor and Umar (2015) found that secretarial education where keyboarding is housed is meant for the female gender. Also Okeke (2008) posited that there are many challenges posed by gender where certain subjects and activities are attributed as masculine and others, feminine. This contradiction could be based on the wrong stereotype that certain professions are meant for a particular gender not ability.

## **Conclusion**

Based on the findings of this, the following conclusion were drawn: The slow learners taught keyboarding skills using peer-tutoring performed better than those taught using conventional method. There was significant difference between the mean achievement scores of slow learners taught keyboarding skills using peer-tutoring and



those taught using conventional method. The study also showed no significant difference between the mean achievement scores of male and female slow learners taught keyboarding skills using peer-tutoring and conventional method of post test.

### **Implications of the Study**

The implications of this study was based on the findings that peer-tutoring is more effective technique for teaching key boarding compared to the conventional method. The fact that academic achievement of slow learner students when peer tutoring is adopted is not significant with regard to gender suggests that slow learner students will perform better when exposed to peer-tutoring technique irrespective of their gender.

Furthermore, the findings that academic achievement of slow learners taught keyboarding with conventional method is not significant with respect to gender means that gender is not a significant factor in the area of keyboarding skills using conventional method.

### **Recommendations**

1. Peer-tutoring should be adopted in secondary school by keyboarding teachers for teaching keyboarding so as to improve acquisition of keyboarding skills of slow learner ability students.
2. Curriculum planners should include peer-tutoring technique as instructional strategy to enhance keyboarding skills of slow learners.
3. Enlightenment programme should be carried out by government and secondary school education board to enlighten students on the benefit of peer-tutoring and how effectively peer-tutoring technique can be in enhancing their acquisition skills in keyboarding and other skill based subjects.

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