

*Full Length Research Paper*

# Statistical relationship between the performance of students in shorthand and typing: case study of Akwa Ibom State Polytechnic, Ikot Ekpene, Nigeria

Eddy, E. N<sup>1</sup> and <sup>2</sup>Akpan, E. E

<sup>1</sup>National Office for Technology Acquisition and Promotion, NO 1 Blantyre Street, Wuse II. P. M. B. 5074, Wuse, Abuja, Nigeria.

<sup>2</sup>Federal Polytechnic, Nasarawa, P. M. B 001, Nasarawa, Nigeria.

Accepted 09 January, 2019

**Comparative study of the relationship between the performance of students in shorthand and typing was conducted by statistical analysis of results of 84 students of secretarial studies in Akwa Ibom State Polytechnic. The analysis shows that there was no significant difference between the performances of students in typing and shorthand ( $t = 0.38333$ ,  $n = 84$ ,  $= 0.05$ ). Correlation between the two set of results was positive and significant ( $r = 0.54480$ ,  $n = 84$ ,  $= 0.05$ ). Effect size of  $d = 1.3$  was obtained. The performance of students in typing has been found to be related to the performance of students in shorthand.**

**Key words:** Student's performance, shorthand and typing, statistical relationship.

## INTRODUCTION

Development of secretarial profession has been enhanced by the introduction of computers and other electronics, which are gradually displacing the manual typewriters and similar machines. In spite of this, typing and shorthand remain the basic tools for speed attendant and efficient discharge of secretarial duties. Shorthand and typing are important operational tools for secretaries and are therefore relevant time skill subjects in any institution where secretarial training is taking place (Lawrence, 2000; The Hindu, 2003). According to the British Library National Council (2006) shorthand and typing are fundamentals skill required by the Newspaper Industry and that accurate shorthand note remain a vital requirement for all journalist. Eddy (2002) also stated that shorthand and typing are vocational tools which enable one to obtain and hold interesting and rewarding position in offices and business. O'Dea et al. (2006) stated that shorthand and typewriting are used as a personal tool by business professionals to relieve them of the burden of

writing cumbersome longhand when they make notes, compose important memoranda, draft speeches/reports, etc. Elendu (2000) stated that the basic qualification for an office employee is that he must have acquired the skill of typewriting and use of office machines (including computer) and should be able to communicate and interpret/translate the result of such communication. This implies that knowledge of shorthand and typing are also essential for a smooth running of computerized office.

Available literature reveals that shorthand and typing are complementary subjects that must be made to be compulsory to all students of secretarial studies. However, results on the performance of students in some institutions indicates that most students that performs better in typing also perform better in shorthand and vice versa. There are also reported cases where the reverse is also applicable (Eddy, 2002). From statistical point of view, it is not proper to draw conclusion from a given data without reference to the necessary statistical tools. Thus most of these studies may not be valid especially when they are not guided by statistical inferences. Akwa Ibom state polytechnic is one of the best institution in Nigeria that offers secretarial studies (Eddy, 2002). The institu-

**Table 1.** Summary of response to Question 1.

Questions	Percentage response (yes)	Percentage response (No)
1. Are you offering both shorthand and typing in your department?	100%	0%

**Table 2.** Summary of responses to questions 2 and 3.

Questions	Percentage response (yes)	Percentage response (No)
2 What are the qualifications of lecturers teaching shorthand B.Sc and Above Below B.Sc	100%	0%

tion is equipped with basic tools/machines needed for the training of secretaries. The quality of staff in the institution has also been commended. In view of these, the present study is aimed at using statistical instruments to investigate and compare the relationship between the performance of national diploma students of secretarial in shorthand and typing (Akwa Ibom State Polytechnic, Nigeria).

Numerous statistical tools are available for exploring relationship between one variable and another. Correlation coefficient shows the dependence of one variable with another, t-test shows if one variable significantly differ from the other variable while regression shows the degree of linear relationship between one variable and another (Ahukannah, 2000; Bondari, 1999; Lea, 2000; Nwaize, 2004; Rumel, 2004).

## MATERIALS AND METHODS

Materials used in the study were semester results sheets which indicated the performance of national diploma students in shorthand and typing between 2005 and 2006. These results were obtained from the department of secretarial studies, Akwa Ibom State Polytechnic, Ikot Osurua, Nigeria. These data were the sample data chosen to represent the population data and were analyzed for correlation, t-test, regression and effect size relationship using SPSS computer software, version 12.0 (Barrow, 2005; Best, 2001; Lea, 2000).

In order to ensure that typing and shorthand are given equal attention by the management of Akwa Ibom State polytechnic, the following research questions were used to developed a questionnaire. i. Are students of shorthand also students of typing? ii. Are there qualified lecturers for both shorthand and typing? iii. Is shorthand more difficult to learn than typing? iv. Is the study of shorthand and typing necessary for secretary?

A total of six structured questions were raised in the questionnaire that was distributed to 120 students chosen randomly from among national diploma students of secretarial studies. However, only 84 copies of the questionnaire were retrieved and used for the study.

The null and alternative hypothesis was also proposed as follows,  $H_0$  = Students performance in typing is related to students' performance in shorthand.  $H_1$  = Students performance in typing is not related to students' performance in shorthand

## RESULTS AND ANALYSIS OF DATA

### Analysis of questionnaire

**Research question 1:** Are students of shorthand also students of typing?

From Table 1, it can be seen that 84 students (representing 100%) accepted that they are doing both shorthand and typing. This shows that all students of shorthand are students of typing

**Research question 2:** Are they qualified lecturers for both shorthand and typing?

From Table 2, it can be seen that 84 students, representing 100% of the respondents accepted that lecturers in shorthand and typing are qualified and competent.

**Research question 3:** Is shorthand more difficult to learn than typing?

The result of the respondents (questions 3 and 4) shows that 75 students (representing 89% of the respondents) accepted that none of the subject is more difficult than the other while 11 students (representing 11% of respondents) admit that shorthand is more difficult than typing (Table 3).

**Research question 4:** Is the study of shorthand necessary for secretary?

Analysis of responses for question 5 of the questionnaire shows that 84 students (representing 100% of respondent) admitted that shorthand and typing are necessary for secretary. The students also admitted that shorthand is a vital tool for the study of secretarial administration (Table 4)

Table 5 shows statistical summary of students performance in shorthand and typing.

## DISCUSSION OF RESULTS

From the above and within the assumptions of the design of the study, it can be stated that shorthand and typing

**Table 3.** Summary of responses to question 3 and 4.

Questions	Percentage response (yes)	Percentage response (No)
3. Do you understand both shorthand and typing lecturers equally?	89%	11%
4. Is the learning of shorthand more difficult than typing?	89%	11%

**Table 4.** Summary of responses for question 5 and 6.

Questions	Percentage response (yes)	Percentage response (No)
Is the learning of typing more difficult than shorthand?	0%	100%
As a students of secretarial studies, is it necessary for you to master both typing and shorthand?	100%	0%

**Table 5.** Summary of results of students' performance in shorthand and typing.

	n	Range	Sum	Mean	Std. Error of the mean	Standard deviation
Shorthand	84	56.00	3774.00	44.93	1.8093	16.58260
Typing	84	57.00	3888.00	46.29	1.3541	12.41023

are compulsory courses for secretarial studies students of Akwa Ibom State polytechnic. The institution has qualified and competent lecturers for both shorthand and courses with respect to their performance. Although the mean percentage score of students in typing was relatively larger than their corresponding performance in shorthand, there was no significant difference between the average performance of students in shorthand and typing ( $t = 0.38222$ ,  $n = 84$ ,  $p = 0.05$ ). However, the performance of students in the two courses were below average. This may be due to the fact that shorthand and typing are technical courses which require elaborate skill and students often found it difficult to understand compare to other courses (New Era, 1990; O'Dea et al., 2005).

Correlation between the performance of students in shorthand and typing was positive ( $r = 0.545$ ) and significant at 0.01 level of significant ( $t_{cal} = 5.870$ ) (Barrow, 2005) indicating that the performance of students in shorthand relates linearly with the performance of students in typing. From the value of the correlation coefficient obtained ( $r = 0.545$ ) it can be stated that an improvement in a student's performance in shorthand implies a corresponding improvement in the student's performance in typing and that a learner who performs well in the basic skill of shorthand may have the capability, all things being equal to perform as well in typewriting. Also, a typist who performs very effectively may not be lacking in the competency of shorthand. Ahukannah (2000), also stated that shorthand and typing are related at a level which a potential secretary wants to

typing and the students are exposed to equal opportunity of learning both subjects at the national diploma level. The students also know the importance of the two improve skills. Inyang (1998) also stated that a secretary is constantly dealing with words and the larger the vocabulary at one's command, the easier will be the task of dictation and transcribing. This implies that a secretary who knows how to write good shorthand outlines will most likely be able to transcribe on a typewriter.

The regression equation representing students' performance in shorthand (Y) and students performance in typing (X) is  $Y = 0.727X + 11.23$ . The strength of this relationship as measured by the correlation coefficient ( $r = 0.545$ ) implies that the degree of linear dependence of students' performance in shorthand and typing is above average;  $-1 \leq r \leq +1$  (Barrow, 2005; Bondari, 1999).

The square of the correlation coefficient gives the coefficient of variation that is,  $r^2 = 0.2959$ . The observed coefficient of determination shows that 29.36% of the variation in students performance in shorthand can be explained by students performance in typing and that 70.64% is due to other factors that affect learning such as quality of teachers, technicality of the courses, students attitudes, availability of learning tools, etc (Denga, 1988).

From the calculated value of  $t$  and  $r^2$  effect size parameter (d or ES) can be obtained by substituting appropriate values to equations 1 and 2 (Rosenthal and Rosnow, 1991, 1996; Valentine and Copper, 2003).

$$d = 2t/(df)^{1/2} \text{ ----- } 1$$

$$d = 2r / (1 - r^2)^{1/2} \text{ ----- } 2$$

By substitution, the calculated value of effect size (d) is equal to 1.3. According to Cohren (1988), this is a large effect and it can be stated that the magnitude of variation in the performance of student in typing as a result of student's performance in shorthand is 29.59%. Also the average performance of students in typing is at the 90th percentile of the average performance of students on shorthand (Cohren, 1988). Also large effect such as the one obtained in this study has been found to be characterized by the study of potential variables or the presence of good experimental control or both (Valentine and Copper, 2003) indicating a good reliability of the experimentations and variables used in this work.

### Conclusion and Recommendation

From the forgone discussion, it is found that the study of shorthand complements typing and that the two course are necessary for the importance for the study of secretarial administration therefore we accept the null hypothesis and reject the alternative hypothesis.

Therefore if any institution of higher learning is interested in producing quality secretary to manned office administration in our industries, government establishment and schools, effort should be properly directed to the learning of shorthand and typing. One approach to this is the recruitment of quality teachers, improvement in learning environment, provision of study aids and equipments. These if done shall improve the quality of secretarial studies graduates and may go a long way in improving the nation economy through quality administration.

### ACKNOWLEDGEMENT

We acknowledge with thanks, the contributions of Dr. N. Mbaba for releasing the data and that of Nnabuk Okon Eddy, MRSC for encouraging and sponsoring the publication of the work.

### REFERENCES

Ahukannah LI (2000). Applied typing writing for schools and colleges. Rev. Educ. African Feb. Pub. Ltd, Nigeria  
 Barrow M (2005). Statistics for economic, accounting and Business Studies. Amazon. Pub. United States  
 Best J (2001). Dammed lies and statistics. Untangling numbers for the media, politicians and activist. Univ. of California press. United States  
 Bondari K (1999). Interaction in Entomology: Multiple vomparison and statistical interaction in Entomology experiment. J. Entomol. Sc. 34(1): 37-71  
 Cohren J (1988). Statistical power analysis for the behavioural sciences. 2<sup>nd</sup> edition. Lawrence earbaum Assuati. New York  
 Denga DI (1988). Educational and social psychology. Call Newspaper Limited. Nigeria  
 Eddy EN (2002). Correlation between the performance of students in shorthand and typing, Thesis submitted to the Akwa Ibom State polytechnic, Ikot Osurua.

Elendu EO (2000). Office Practice for colleges. Elendu and Co. Nigeria.  
 Inyang NI (1998). Aid to speed development No 1. Maxco Press, Nigeria  
 Lawrence RE (2000). Shorthand. A developed course. ERIC 25: 17-19  
 Lea S (2000). An idea of regression PSY2005 Statistics and Research Methods:quantitative data analysis component.Teaching monograph.Dept.of Psychology.Washington Singer laboratories. University of Exter: 1-12  
 New Era (1990). Pitman's shorthand speed examination practice No 1. Pitman Pub. UK  
 Nwaize PI, Khan AU, Ameh JB, Umoh VJ (2004). The effect of the interaction of Various spawn grain with different oil rates on corpophore net weight and stipe and pileus diameter of psathyrella atracumbunata. Intern. J. Sc. & Tech. Res. 1(2): 103-111  
 O'Dea A, Skes J, Watson J, Williams P (2005). Pitman New era shorthand. Amazon pub. London.  
 Rosenthal R, Rosnow RL (1991). Essential of behavioural researches methods and data analysis. 2<sup>nd</sup> edition. Mcgrawhill, New York  
 Rosnow RL, Rassithal R (1996).Computing contrast, effect sizes and conternulls on other people is published data. General procedures for research consumer. Psychological method, 1: 331-340 Rummel RJ (2004). Understanding correlation. Evanston Ill. Northwestern University press.  
 The British Library National Council (2006). Importance of shorthand to Journalism. Conference Paper for the training of Journalist held on June, 8<sup>th</sup> 2006  
 The Hindu (2003). Indian National Paper: Importance of shorthand highlighted. Aug, 22, 2003: 1-2  
 Valentine JC, Cooper H (2003). Effect size substances: Issue in interpretation of effect size. What Works Clearunghouse, Washington.D.C