Perceived Influence of Shorthand and Typewriting on Students' Performance in Information and Communication Technology in Rivers State Universities

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ABSTRACT
The study examined the perceived influence of shorthand and typewriting on students' performance in information and communication technology (ICT) in Rivers State Universities. The study adopted the descriptive survey design. Two research questions and two hypotheses guided the study. The population of the study was six hundred and seven students (607) of Office Management and Technology (OMT) extraction in Business Education (69 from Rivers State University, Port Harcourt, 138 from University of Port Harcourt and 400 from Ignatius Ajuru University of Education). Out of this population, a purposive sample of 90 Business Education students who had taken shorthand and typewriting as well as ICT from Rivers State University, Ignatius Ajuru University of Education and University of Port Harcourt responded to the research instrument (30 respondents from each university). Mean and standard deviation were used to analyse the research questions while ANOVA was used to test the hypotheses at 0.05 level of significance. The findings revealed that Shorthand skill has no influence on students' ICT performance and ought to be removed from the curriculum for Business Education and Office Management and Technology. Typewriting was found to have a considerable influence on students' ICT performance except in areas of website design skills, digital camera skills and computer networking skills. It was recommended that Shorthand be removed from the Business Education curriculum while Typewriting and ICT skills be promoted and given the pride of place in Business Education and Office Management and Technology curriculum. This would position students for global competition and performance in this ICT-driven world.
Keywords: Perceived Influence, Students' Performance, Shorthand, Typewriting, Information and Communication Technology

INTRODUCTION
The perception of students on the influence of shorthand and typewriting on performance in information and communication technology is the focus of empirical exploration in this study. Perception is the organisation, identification and interpretation of sensory information in order to represent and understand the presented information or the environment. Perception is shaped by learning, memory, expectation experience (Wikipedia, 2019). Influence, according to Oxford Advance Learner's Dictionary by Hornby (2010) is the capacity or power of persons or things to be a compelling force or to produce effects on the actions, behaviours or opinions of others.

Simply put, the capacity of skills in shorthand and typewriting to produce performance in information and communication technology (ICT) evaluated from the perspectives of students (perceived influence) is the crux

of this study. Koko (2015) described shorthand as a method of writing by sound and written signs based on the sounds of English words which are divided into forty consonants, vowels and diphthong signs. Amesi and Okiridu (2019) furthered this apt description by submitting that shorthand is an elegant system of taking rapid notes. Koko (2015) also described typewriting as one of the means of data processing which has undergone different changes. Koko opined that recent development in science and technology brought about by the advent of computer technology have shown the obvious need of speed and accuracy in data processing practices.

Student's performance, for the purpose of this study, connotes academic performance. Academic performance according to Amiel Murray-ward in Oyeyemi (2017), is the outcome of education and the extent to which a student, teacher or institution has achieved her educational goals. It can also be described as the observable and measurable behaviour of a student in a particular situation (Yusuf in Oyeyemi, 2017). Asuru in Oyeyemi (2017) submitted that academic performance is the measure of the extent to which a learner has acquired certain information or mastered certain skills based on planned programme of training or instruction. Asuru in Oyeyemi (2017) identified the achievement test as very relevant. Information and communication technology (ICT), according to Onwuachu and Agim (2018), involve various forms of technology such as computers, digital forms of communication, educational and social tools that enable communication and collaboration among users. Taher in Onwachu and Agim (2018) submitted that information and communication technology (ICT) is an umbrella term that includes any communication device or application encompassing: radio, television, cellular phones, computers and network hardware and software, satellite systems and others, as well as the various services and applications associated with them such as video conferencing and distance learning. The major limiting factor to the application of ICT in Nigeria is poor supply of electricity (Ogunji, 2012; Aguba, 2012; Alumode, 2012).

Influence of Shorthand and Typewriting Skills on information and Communication Technology (ICT) Skills

Skills enumeration in shorthand and typewriting may just be summarized as shorthand writing skills and keyboarding or typewriting skills (Koko, 2015). Koko further opined that these skills are being superceded by information and communication technology skills.

Information and communication technology skills according to Turner in Owuachu and Agim (2019) are skills required to operate or use computer, tablet or mobile phone, send email, browse the internet, make a video call among others. They are the skills needed to use efficiently the elementary functions of information and communication technologies to access, retrieve, store, produce, present and exchange information and to communicate and participate in collaborative networks via the internet. Turner in Owuachu and Agim (2018) identified the following as ICT skills:

Downloading software from the web skills, computer software installation skills, webCT or Blackboard teaching skills/E-learning skills, videoconferencing skills, computer-related storage devices (disks Zipdisks, DVDs, CDs, USB drives) skills, scanner application skills, personal digital assistants (PDAS) skills, deep web knowledge/skills, educational copyright knowledge/skills, computer security knowledge/skills, word processing skills, spreadsheet skills, database skills, electronic presentation skills, web navigation skills, website design skills, e-mail management skills, digital camera skills, computer networking skills, file management and windows explorer skills.

The skill of shorthand writing faded away with the advent of pocket tape recorders (another product of technology) which could faithfully record speech (Amesi & Okiridu, 2019). Oborah and Eze (2013) as well as Robert (2011) observed that the traditional skills of manual typewriting are dropped for information and communication technology (ICT) and keyboarding. Oborah and Eze (2013) submitted further that keyboarding by touch is infused into ICT. This has the implication of inputing keyboarding (the upgraded typewriting skill) into ICT as a feeder skill for use in word processing, desktop publishing and web design software according to Oborah and Eze (2013), this change was due to the current global developments in ICT. The skill of typewriting (though facing out and helpful in data processing) has not met the obvious need of skill and accuracy provided for with computer technology (Koko, 2015).

Oborah and Eze (2013) as well as Koko (2015) have not made any case for possible influence of shorthand and typewriting on performance in information and communication technology. Only typewriting (though declared as facing out) is seen as a feeder skill relative to data and word processing in information and communication technology. Supporting this position with the declaration of progressive extinction for shorthand, Abdullahi (2009), Fidler (2015), Parkinson (2016) and Onwuachu and Agim (2018) see no influence of shorthand and typewriting on

performance in information and communication technology. They advocated the replacement of shorthand and typewriting skills with information and communication technology skills. Owizy (2015) as well as Abiodun and Yemisi (2017) however disagreed with this position upholding the continuous relevance of shorthand in modern office operation.

Statement of the Problem

Shorthand and typewriting (despite the question of its relevance) is still being offered as a course in Business Education and in Office Management and Technology (OMT). It is however being offered alongside Information and Communication Technology in our schools. It was found that students' performance in shorthand and typewriting influence their performance in Information and Communication Technology (Koko, 2015).

The researcher's observation is contrary to the earlier submission by Koko (2015) that some students with typewriting and shorthand skills perform better in ICT in the areas of word processing skills, spread sheet skills and even data base skills among other ICT skills. This presents a seeming justification for the relevance of shorthand and typewriting in our school system. This study therefore sought to determine the influence of shorthand and typewriting skills on students' performance in Information and Communication Technology (ICT) in Rivers State universities.

Purpose of the Study

The aim of this study was to assess the perceived influence of shorthand and typewriting skills on students' performance in information and communication technology in Rivers State universities. Specifically, the study sought to:

1. Determine the influence of shorthand skills on students' performance in information and communication technology in Rivers State universities.
2. Determine the influence of typewriting skills on students' performance in information and communication technology in Rivers State universities.

Research Questions

Two basic questions guided the study:

1. What is the influence of shorthand skills on students' performance in information and communication technology in Rivers State universities?
2. What is the influence of typewriting skills on students' performance in information and communication technology in Rivers State universities?

Hypotheses

Two hypotheses were formulated and tested at 0.05 level of significance:

1. There is no significant difference between the mean responses of students in Rivers State University, Ignatus Ajuru University of Education and University of Port Harcourt on the influence of shorthand skills on students' performance in information and communication technology in Rivers State Universities.
2. There is no significant difference between the mean responses of students in Rivers State University, Ignatus Ajuru University of Education and University of Port Harcourt, on the influence of typewriting skills on students performance in ICT in Rivers State Universities.

METHODS

The study adopted the descriptive survey research design. This was because the study involved collection of data from respondents located in the three government owned universities in Rivers State. A population of 607 Business Education students of OMT extraction was used for this study out of which a purposively chosen sample of 90 Business Education students (OMT extraction) who had taken shorthand and typewriting as well as information and communication technology as courses accepted to participate in the survey such that 30 respondents were from Rivers State University (RSU), 30 respondents from Ignatius Ajuru University of Education (IAUE) and 30 respondents from University of Port Harcourt (Uniport). Data were collected through self–structured questionnaire of 20 items derived from research questions. The questionnaire was titled: Perceived Influence of Shorthand and Typewriting on Students' Performance in Information and Communication Technology (PISTSPICT). The questionnaire was designed on a four point rating scale of High Influence (HI), Moderate Influence (MI), Low Influence (LI) and Very Low Influence (VLI) with nominal values of 4, 3, 2 and 1 respectively. The questionnaire was content–validated by three specialists (two from Business Education and one from measurement and evaluation). In line with the technical advice given by the three experts, amendments were made to improve the clarity and relevance of the instrument. Twenty (20) copies of the questionnaire were used for test retest method within a time interval of two weeks as a trial in Kenuel Benson Polytechnic to secretarial studies students who have taken shorthand and typewriting as well as information and communication technology as courses. This 20 respondents were outside the selected population and sample of the research to test the reliability of the instrument. A reliability coefficient value of 0.82 was obtained using the Pearson Moment Correlation Coefficient (See

Appendix B.) The data were finally collected by the researcher with the aid of three trained research assistants positioned in the three universities focused for data collection. The research questions were analysed using mean and standard deviation. The cut-off point was fixed as 2.50 and it was concluded that any value below 2.50 mean score was regarded as low influence while above 2.50 was moderate influence or high influence. The two null hypotheses were tested at 0.05 level of significance using ANOVA. The decision rule was: reject the null hypothesis if the f-calculated is greater than the f-critical value or otherwise accept the null hypothesis. For easy interpretation of table, the following is relevant:

3.50 – 4.00   = High Influence
2.50 – 3.49   = Moderate Influence
1.50 – 2.49   = Low Influence
0.50 – 1.49   = Very Low Influence

RESULTS

Research Question 1: *What is the influence of shorthand skill on students' performance in information and communication technology in Rivers State universities?*

Table 1: Mean Ratings of Students on the Influence of Shorthand Skills on Students Performance in Information and Communication Technology in Rivers State Universities.

S/N	Items	RSU			IAUE			Uniport		
		Mean	SD	Decision	Mean	SD	Decision	Mean	SD	Decision
	The following are influence of shorthand skills on students' performance in ICT:									
1.	Downloading software from the web skills	1.50	0.72	Low influence	1.47	0.83	Low influence	1.13	0.34	Low influence
2.	Computer software installation skills	1.00	0.00	Low influence	1.00	0.00	Very Low influence	1.00	0.00	Very Low influence
3	WebCT or Blackboard teaching skills	1.07	0.25	Low influence	1.07	0.25	Very Low influence	1.00	0.00	Very Low influence
4	Video conferencing skills	1.47	0.83	Low influence	1.07	0.25	Low influence	1.00	0.00	Very Low influence
5.	Computer –related storage device (CDs, USB, DVD) skills	1.50	0.72	Low influence	1.13	0.34	Low influence	1.13	0.34	Low influence
6.	Scanner application skills	1.00	0.00	Very Low influence	1.00	0.00	Very Low influence	1.00	0.00	Very Low influence
7	Personal digital assistants (PDAs) skills	1.00	0.00	Very Low influence	1.00	0.00	Very Low influence	1.00	0.00	Very Low influence
8	Deep Web skills	1.00	0.00	Very Low influence	1.00	0.00	Very Low influence	1.00	0.00	Very Low Influence
9	Educational copy right skills	1.47	0.83	Low influence	1.50	0.72	Low influence	1.13	0.34	Low influence
10	Computer security skills	1.00	0.00	Very Low influence	1.00	0.00	Very Low influence	1.00	0.00	Very Low influence
	Total	12.01	3.35		11.24	2.39		10.39	1.02	
	Grand means	**1.20**	**0.34**	**Low Influence**	**1.12**	**0.24**	**Low Influence**	**1.04**	**0.10**	**Low influence**

Source: Field Survey, 2019

The analysis of items 1-10 used to answer research question one in Table 1 above indicates that the mean score of all the ten items were found to be less than the fixed score of 2.50 for moderate influence. This can also be ascertained in the grand mean values found to be less than the fixed score for moderate influence (1.20, 1.22, 1.04 < 2.50). The analysis therefore revealed that shorthand skills had no influence on students' performance in information and communication technology skills in Rivers State universities.

Research Question 2: *What is the influence of typewriting skills on students' performance in information and communication technology in Rivers State universities?*

Table 2: Mean Ratings of Students on the Influence of Typewriting Skill on Students' Performance in Information and Communication Technology in Rivers State Universities.

S/N	Items	RSU			IAUE			Uniport		
		Mean	SD	Decision	Mean	SD	Decision	Mean	SD	Decision
	The following are influence of typewriting skills on students' performance in ICT:									
11.	Word processing skills	3.83	0.37	High influence	3.73	0.57	High influence	3,83	0.37	High influence
12	Spreadsheet skills	3.40	0.80	Moderate influence	3.67	0.61	High influence	3.67	0.61	High influence
13	Database skills	3.0.3	1.11	Moderate influence	3.40	0.80	Moderate influence	3.03	1.11	Moderate influence
14	Electronic presentation skills	2.93	1.24	Moderate influence	2.92	1.23	Moderate influence	2.95	1.26	Moderate influence
15	Web navigation skills	3.73	0.57	High influence	3.03	1.11	Moderate influence	2.93	1.24	Moderate influence
16	Web site design skills	2.46	1.23	Low influence	1.47	0.83	Very low influence	1.07	0.25	Very low influence
17	E-mail management skills	3.83	0.37	High influence	3.73	0.57	High influence	3.03	1.11	Moderate influence
18	Digital camera skills	2.46	1.23	Low influence	1.50`	0.72	Low influence	2.46	1.23	Low influence
19	Computer networking skills	2.46	1.23	Low Influence	2.30	1.35	Low Influence	2.46	1.23	Low influence
20	File management and windows explorer skills	3.03	1.11	Moderate Influence	3.67	0.61	High Influence	3.73	0.57	High Influence
	Total	31.16	9.26		29.42	8.40		29.16	8.98	
	Grand Means	**3.12**	**0.93**	**Moderate Influence**	**2.94**	**0.84**	**Moderate Influence**	**2.92**	**0.90**	**Moderate Influence**

Source: Field Survey, 2019

Table 2 revealed the mean responses of respondents used to answer research question two in which the mean scores of items 11-15, 17 and 20 were generally greater than 2.50 index score for moderate influence, on the contrary items 16, 18 and19 generally revealed means scores less than the 2.50 index score for low influence. On the whole, the grand mean scores (3.12, 2.94, 2.92) were found to be greater than the fixed index score of 2.50 for moderate influence. Based on the analysis, it was found that, on the whole, typewriting skills had influence on students' performance in ICT in Rivers State Universities.

Test of Hypotheses

Hypothesis 1: There is no significant difference between the mean responses of students in Rivers State University, Ignatus Ajuru University of Education and university of Port Harcourt regarding the influence of shorthand skills on students' performance in Information and Communication Technology (ICT) in Rivers State Universities.

Table 3: Analysis of Variance (ANOVA) Summary of the Mean Responses of Student Regarding the Influence of Shorthand Skills on Students' Performance in Information and Communication Technology in Rivers State Universities.

Sources of Variation	SS	DF	MS	F-calculated	F-critical	Decision
Between Groups	0.043	2	0.022			
Within Groups	26.158	87	0.301	0.073	3.10	Accepted
Total	**26.201**	**89**				

Source: Field Survey, 2019

Table 3 shows the computation of ANOVA test statistics of respondents' ratings on the influence of shorthand skills on students' performance in information and communication technology in Rivers State universities at 0.05 level of significance. Guided by the decision rule to reject the null hypothesis if F-calculated is greater than F-critical value or otherwise accept the null hypothesis, and considering the fact that F-calculated is less than F-critical, the null hypothesis is therefore accepted. It can therefore be concluded that the responses of students regarding influence of shorthand skills on students' performance in information and communication technology (ICT) in Rivers State Universities were not significantly different statistically.

Hypothesis 2: There is no significant difference between the mean responses of students in Rivers State University, Ignatius Ajuru University of Education and University of Port Harcourt regarding the influence of type-writing skills on students' performance in information and communication technology (ICT) in Rivers State universities.

Table 4: Analysis of Variance (ANOVA) Summary of the Mean Responses of Students Regarding the Influence of Typewriting Skill on Students' Performance in Information and Communication Technology in Rivers State Universities.

Sources of Variation	SS	DF	MS	F-calculated	F-critical	Decision
Between Groups	0.079	2	0.0395			
Within Groups	195.032	87	2.242	0.018	3.10	Accepted
Total	**195.111**	**89**				

Source: Field Survey, 2019

Table 4 shows the computation of ANOVA test statistics of respondents' rating on the influence of typewriting skills on students' performance in information and communication technology in Rivers State Universities at 0.05 level of significance. Guided by the decision rule to reject the null hypothesis if F-calculated is greater than F-critical value or otherwise accept the null hypothesis; and considering the fact that F-calculated is less than F-critical, the null hypothesis is therefore accepted. It can therefore be concluded that the responses of students regarding the influence of typewriting skill on students' performance in information and communication technology (ICT) in Rivers State Universities were not significantly different statistically.

DISCUSSION

Influence of Shorthand Skills on Students' Performance in Information and Communication Technology in Rivers State Universities

The findings of research question one proved that shorthand is not a skill of influence relative to students' performance in ICT skills of downloading software from web, installation of computer software, WebCT or blackboard teaching, video conferencing, computer related storage device like CDs, USB, DVD usability, scanner application, personal digital assistants application, Deep web knowledge, educational copyright knowledge and computer security knowledge. This finding is in agreement with the findings of Fidler (2015), Parkinson (2016) and Onwuachu and Agim (2019) who opined that shorthand skill is obsolete and the influence relative to ICT is non-existent in our contemporary world. These researchers advocated the supersession of shorthand skill with ICT skills. The result of hypothesis one showed that there is no significant difference between the mean responses of students in Rivers State University, Ignatius Ajuru University of Education and University of Port Harcourt regarding the zero-influence of shorthand on students' performance in ICT in Rivers State Universities. This simply authenticated the

findings of research question one earlier stated. This proved the incapacity and zero based influence of shorthand relative to student's performance in ICT. This finding is in tandem with the findings of Onwuachu and Agim (2019) who found that shorthand skill has no place or influence in the present day ICT dominated world. It is empirically justifiable therefore to submit that shorthand skill has no influence on students' performance in ICT in Rivers State universities. As a corollary therefore, investment in shorthand skill development in students should be replaced with investment in ICT skills development in students. This would position students of Business Education in universities properly in this ICT–driven world.

Influence of Typewriting Skills on Students' Performance in Information and Communication Technology in Rivers State Universities

Findings from research question two proved the influence of typewriting skills in ICT in the areas of word processing, spreadsheet skills, database skills, electronic presentation skills, web navigation skills, e-mail management skills and file management and windows explorer skills. The influential capacity of typewriting skills on students' ICT performance was found to be non-existent in the area of web site design skills, digital camera skills and computer net-working skills. This finding is in partial agreement with the findings of Oborah and Eze (2013) that typewriting skills can be infused into performance in ICT in word processing and desktop publishing. It however disagreed with the position of Oborah and Eze (2013) that typewriting skills can influence students' performance in web design software. Result of hypothesis two proved that there is no significant difference between the mean responses of students in Rivers state University, Ignatus Ajuru University of Education and University of Port Harcourt regarding the influence of typewriting skills on students' performance in ICT in Rivers state universities. This is an affirmation of all the findings in research question two. This reinforces the fact that typewriting skill is partly influential to student's performance in ICT in specific areas like word processing, spreadsheet application, and others while it has no influence relative to students' performance in ICT in areas like website design skills digital camera skills and computer networking skills. This latter position advocates the replacement of typewriting skill with modern ICT and keyboarding skills to achieve very high level of speed and accuracy accordingly. This is in agreement with Koko (2015), Owuachu and Agim (2018) and Oborah and Eze (2018). These advocated the extinction of the old traditional typewriting skill and the promotion of ICT and computer, keyboarding skill by touch. Deductively speaking therefore, since shorthand skills have no influence on students' performance in ICT and typewriting skills have some influence on students' performance in ICT particularly when upgraded to computer keyboarding skills with influence in some areas of students performance in ICT, the position that shorthand and typewriting be discarded is only partly supported by this study. Computer keyboarding skill with typewriting skill is a factor of influence in students' performance in ICT. More investment in typewriting or modern keyboarding skills and ICT skills for students is imperative to position students for global performance.

CONCLUSION

This study has actually established the incapacity of shorthand and a significant capacity of typewriting to really influence students' performance in ICT in Rivers State universities. One can therefore conclude that while shorthand skills have no influence on students' performance in ICT in Rivers state universities, typewriting, now called computer keyboarding skills have a significant influence.

Educational Implications

1.   The implication of the insignificant influence of shorthand skills on students' performance in ICT is that the business education curriculum and office management and technology curriculum have no place for shorthand in this ICT-driven world.

2.   The implication of the capacity of typewriting skills to influence students' performance in ICT is that computer keyboarding skills should be promoted and given the pride place in business education curriculum and office management and technology curriculum.

RECOMMENDATIONS
Based on the findings of the study and conclusion, the following recommendations were made:
1. Business Education curriculum should be reviewed to reflect the extinction of shorthand from the curriculum.
2. More investment in students' ICT and computer keyboarding skills should be promoted to position students for global competition and performance in ICT for business and business education.

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