INFLUENCE OF INTRODUCING INFORMATION AND COMMUNICATION TECHNOLOGY INTO THE TEACHING AND LEARNING OF SHORTHAND IN POLYTECHNICS IN NIGERIA

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Abstract

The study was carried out to discover if introducing ICT into the teaching and learning process can influence effective shorthand learning in Polytechnics in Nigeria. To reach the study's goal, one particular purpose, two research questions, and one null hypothesis were presented to lead the investigation, which was conducted using a descriptive survey research methodology. A total of 250 students in a Polytechnic were sampled for the study. The researcher used a structured questionnaire developed and validated for data collection. Using the test-retest reliability approach, the instrument's internal consistency was assessed, yielding a value of 0.71 using Pearson Product Moment Correlation. The data collected through the questionnaire were analysed using the mean to address the research questions and Chi-square to evaluate the study's null hypothesis. The study concluded, among other things, that the EasyScript system impacts the efficacy of shorthand learning among students at a Nigerian Polytechnic and that there is a link between the EasyScript system and students' interests. The following recommendations were made based on the findings: The National Board for Technical Education (NBTE) shall set procedures to guarantee that the EasyScript system is integrated into shorthand teaching and learning. It will represent the enormous developments that have occurred in the ICT world. Instructors should refresh and develop their skills following any alphabetic or computer-based shorthand methods to gain greatly from the information age. Finally, students should be motivated and equipped with the EasyScript system of alphabetic shorthand, which is fully compatible with ICT, to acquire the necessary skills to become employable or innovative in an ever-changing world.

Keywords: *ICT, Shorthand, Vocational Education, e-learning*

Introduction

Information and communication technologies (ICT) have evolved into an effective tool that has revolutionised how we view the world and live. The importance of information and communication technologies (ICTs) in any enterprise and the world cannot be overstated. Telephones, fax machines, and computer communication networks via the internet conduct and facilitate modern-day business. E-commerce, e-government, e-machine, e-banking, and e-education are a few examples.

Information and Communication Technology (ICT) and e-learning are represented by tools such as computers, internet and intranet, World Wide Web (WWW), teleconferencing, video conferencing devices, and mobile phones. There are also interactive whiteboards, dedicated e-learning centres, search engines and machines such as Google, e-libraries and projectors. According to Ebisine (2011), data capture, multimedia software for simulations, publishing and presentation, digital recording, and computer and computer projection technology enhance teaching and learning. Mobile technologies like Internet-enabled cell phones and hybrid devices, according to Hunsinger (2005), are applications used for delivering learning content, facilitating learning processes, and enhancing the administration and teaching in tertiary education.

It has been discovered that ICT facilities have the potential to improve teaching and learning in the educational system. In higher education programmes like Vocational Education, new technology is already altering teaching and learning processes (Onojetah, 2013). Many educational issues such as the need for easier information sharing (Oriola, 2017), improved communication using electronic facilities and pedagogical improvements through simulations, virtual experiences and graphic representations have compelled higher educational institutions to adopt new technologies ((Sife, Lwoga and Sanga, 2007).

According to Bamidele (2016), ICT is a revolution involving computers, the internet, and other telecommunication technology in every aspect of human endeavour. Apagu (2015) defined ICT as the management and processing of information (text, photos, graphs, instructions, and so on) for use with electronic and communication devices like computers, cameras, and phones. Similarly, Olorunsola (2007) defines ICT as electronic or computerised equipment that is aided by human and interactive materials that may be utilised for various teaching and learning purposes and personal usage. ICT might be described as the processing and exchanging of information using multiple technologies for information manipulation and communication based on these concepts.

The use of ICTs in the education system comprises integrated technologies, which entails applying digital teaching materials that enhance integration between courses of disciplines. Cross-curricular application of ICT would be an excellent way to compensate for the low number of computer science lessons by using computer tools and new methods in other subjects of study (Nagel 2013).

Afemikhe (2017) stated that ICT use in education currently assumes a central place as we enter the era of knowledge explosion, globalisation and technology. He further noted that Technology-aided instruction positively affects the instructional process and students' learning.

Several researchers have discovered that using ICTs is critical for giving sufficient possibilities for learners to function in an information age such as the one we live in. According to Yelland (2001), traditional education environments cannot be claimed to be ideal for preparing students, particularly students of skill-related courses or disciplines, to operate or be productive in today's diverse, complex, and dynamic workplace. Consequently, any higher education level that fails to incorporate or incorporate new technologies into their various forms of learning cannot claim to be developing its students for lifelong living in the 21st Century. ICT occupies a central place without which the desired objectives of any educational programme cannot be achieved. To this end, institutions of learning should focus on introducing ICT tools in the teaching and learning shorthand instead of advocating for the outright extinction of the course from Vocational Education Programme under irrelevance. It is believed that this will go a long way in developing students' skills, competencies, motivation and knowledge (Grabe & Grabe, 2007).

Aduwa-Ogiegbaen and Iyamu (2005) opined that new technologies in their various forms and descriptions could activate the users' senses of sight, hearing, and touch and provide exceptional and higher interactive potentials to develop their individual, innovate-onal and creative abilities.

Shorthand has been a key skill course in the vocational education programme for over a century, fully grooming business educators to perform specific duties in various offices. Among these responsibilities are principally taking dictation in shorthand, which is eventually transcribed into longhand, and the capacity to successfully transmit knowledge to others when the situation requires it. As a result, it has been a valuable instrument in delivering vocational education services for more than a century.

Shorthand, often known as "short-writing," is a shortened symbolic writing style that improves writing speed and brevity compared to longhand, the more usual form of writing a language. The term stenography originates from the Greek words stenos (narrow) and graphein (writing) (to write).

There are many different types of shorthand. A standard shorthand system uses symbols or abbreviations for words and phrases, allowing someone well-versed in the system to write as rapidly as the words are spoken. The abbreviation methods are alphabet-based and employ a variety of abbreviating techniques. Several autocomplete programmes based on word lists, whether standalone or incorporated in text editors, feature a shorthand option for commonly used phrases. Many journalists utilize shorthand writing to take notes rapidly at press conferences and other situations.

Before developing recording and dictating devices, shorthand was more extensively utilized. With the advent of ICT facilities, emphasis is placed on alphabet-based or computer-based shorthand methods of writing. According to Belgium (2013), Shorthand in the 21st Century involves using sophisticated shorthand machines, specially designed computer software, and state-of-the-art wireless and internet technology with which skilled reporters instantly

produce text from speech and simultaneously transmit it anywhere in the world. Garfield *(1985) observed that* shorthand is not only a topic of major scientific business significance. Its linguistic, historical, technological and sociological ramifications are fascinating. Presumably, the two major aims of shorthand are to reduce redundancy and convey as much information as possible with the smallest amount of writing. These goals are certainly laudable, particularly in this verbiage-ridden age of the "information explosion.

In emphasizing the importance of shorthand, Executive Secretary Magazine (2014) asserted that in recent years, there had been a myth that shorthand is no longer required for most administrative professionals in this digital world. However, as most administrators know, shorthand is still a sought-after skill. In reality, most administrative professionals understand that every word matters. Therefore, learning alphabetic shorthand or speed writing ensures you never miss anything. In a similar view (Garfield, 1985) believes that considering the stress placed on lectures in high school and college, it is ironic that we do not teach students shorthand so they can take proper notes. It is a skill that will aid them as much as typing and computer programming. If nothing else, shorthand teaches one to listen.

With the advent of ICT, Belgium (2013) opined that there are more sophisticated ways of writing shorthand, including Closed Captioning - "Subtitles" of live broadcasts on a TV monitor. CART – Communications Access Realtime Translation - is one reporter instantly converting speech to text and displaying it on a screen for one viewer or many.

Various systems of rapid writing based on alphabetic print or computer-based have been devised. Speedwriting, Stenoscript, Forkner, Easyscript, AlphaHand, Baine's Typed Shorthand, HySpeed Longhand, Abbreviatrix, Quickhand, and Carter Briefhand are just a few examples.

Easy-Script is a grammar-based or computer-based approach that exploits students' knowledge of prefixes and suffixes to reduce the need to memorize meaningless shorthand symbols. It is a significant benefit over standard shorthand training and writing methods.

Easy-Script (ES) method is learned quickly at a writing speed of up to 60 wpm (Words Per Minute), attainable in four hours. It has easy retention and transcription because it uses ABC alphabets compatible with new technologies. This user-friendly technique is a stress-free alternative to the conventional method and offers optional computerized transcription. It is the case with all alphabetic or computer-based methods of teaching and learning shorthand. Many countries have moved away from teaching and writing the traditional writing of symbols in the wake of new technologies.

Statement of the Problem

The importance of ICT in the teaching and learning process has become one of the most widely discussed issues in contemporary education. Education professionals argued that ICT tools have the prospects for improving teaching and learning. However, introducing these tools into the teaching and learning of shorthand has not been given the desired attention. Despite the relevance of shorthand to a learner's intellectual growth, it is a well-known truth that interest in the subject has been rapidly diminishing in recent years. Tertiary institutions no longer accord shorthand its much-deserved importance even in an ICT age. Almost all learning disciplines have

emphasized the need to integrate ICT into their various courses. The opposite seems to be the case with shorthand. The question is, can ICT tools influence shorthand's effective teaching and learning process? This is what the study envisioned to ascertain.

Purpose of the Study:

The study's main purpose was to examine if introducing ICT tools in the Polytechnic level of education can influence effective teaching and learning. Specifically, the study examined if:

- EsayScript System can influence shorthand learning effectiveness in Moshood Abiola Polytechnic, Ojere, Abeokuta, Ogun State.
- EasyScript System can influence students' interest in Moshood Abiola Polytechnic, Ojere, Abeokuta, Ogun State.

Research Questions

- To what extent can the EasyScript System influence shorthand learning effectiveness in Moshood Abiola Polytechnic, Ojere, Abeokuta, Ogun State?
- To what extent can the EasyScript System influence students in Moshood Abiola Polytechnic, Ojere, Abeokuta, Ogun State?

Research Hypothesis

The following was tested at a 0.05 level of significance.

- There is no significant relationship between the EasyScript System and effective learning of Shorthand in Moshood Abiola Polytechnic, Ojere, Abeokuta, Ogun State.

Method

The descriptive survey approach was chosen since it required data collection from individuals based on their ideas, perceptions, and other factors. The study population comprised 250 National Diploma11 (ND 11) Moshood Abiola Polytechnic, Ojere, Abeokuta, Ogun State. Due to the small population size and the study's purpose, a purposive sampling technique was used. Purposive sampling, also known as judgmental sampling, is utilized when a researcher selects his sample based on whom he believes is acceptable for a certain study, according to Owoyele, Ezike, and Ajayi (2017). Purposive sampling, also known as judgmental sampling, is utilized when a researcher selects his sample based on whom he believes is acceptable for a certain study, according to Owoyele, Ezike, and Ajayi (2017). A structured questionnaire with 20 questions was used as the study's instrument.

The respondents were asked to score their opinions on a four-point scale of Strongly Agreed = SA, Agreed = A, Disagree =D, and Strongly Disagreed = SD, with ratings of 4, 3, 2 and 1 for each. A business educator validated the questionnaire. The instrument's reliability was tested using Pearson Product Moment Correlation, and a reliability index of 0.71 was obtained. Out of the 250 copies of the instrument distributed by the research assistant, only 210 copies representing 84%, were properly filled and used for the study. To answer research questions,

data were analyzed using descriptive statistics of mean, while the Chi-Square statistic was used to test the hypothesis at the 0.05 level of significance. Acceptance was given to questionnaire items with a mean value of 2.5 or above. Any mean score equal to or less than 2.49, on the other hand, was rejected. The null hypothesis will be sustained if the estimated Chi-square value is larger than the critical value, indicating no significant link. If the computed Chi-square is smaller than the critical value, the null hypothesis is rejected since there is a meaningful association.

Results

Research Question One: To what extent can EsayScript System influence shorthand learning effectiveness in Moshood Abiola Polytechnic, Ojere, Abeokuta, Ogun State?

The data collected for the influence of EasyScript shorthand on learning effectiveness are presented in table 1:

Table 1: Mean scores of the **extent to which EasyScript System influences shorthand learning effectiveness.**

S/N	Items	Mean	Remark
•	It promotes the guidance of students through the individualized pathway	2.73	Accepted
2.	Easily understood because of grammar alphabets.	3.00	Accepted
3	Enhances instructor's support.	2.87	Accepted
4.	Providing learning opportunities "anytime anywhere".	2.79	Accepted
5.	Application of simple rules stimulates students' interest.	2.70	Accepted
6.	It promotes proficiency in shorthand skills.	3.42	Accepted
7.	Easy to comprehend shorthand principles.	3.50	Accepted
8.	Enhances skills retention.	3.56	Accepted
9.	It reinforces basic language skills.	3.12	Accepted
10.	It provides a flexible system, unlike the symbols method.	3.80	Accepted
11.	It does not involve complex rules.	3.54	Accepted.
12.	It promotes the use of common abbreviations.	3.66	Accepted
13.	Faster than non-alphabetical systems.	2.88	Accepted
14.	It reduces the memorisation of symbols.	3.75	Accepted
15.	Transcription time is reduced.	3.23	Accepted
16.	It promotes the application of new technology.	3.51	Accepted
	Grand Mean	**3.25**	**Accepted**

Source: Field Survey: 2019

Table 1 revealed that the respondents' mean score ranged from 2.70 to 3.80, with a grand mean of 3.25. It implies that the EasyScript system influences shorthand learning effectiveness.

Research Question Two: To what extent can the EasyScript System influence students' interest in Moshood Abiola Polytechnic, Ojere, Abeokuta, Ogun State?

The data collected for the influence of EasyScript shorthand on students' interest are presented in table 11:

Table 11: Mean scores of the extent to which EasyScript System influences students' interest.

S/N	Items	Mean	Remark
1.	Little time is needed to comprehend lessons. .	2.64	Accepted
2.	Elimination of constant practices.	2.57	Accepted
3.	Shortness of words makes writing very fast.	3.01	Accepted
4.	Compatible with standard computer/cell phone keyboard	2.58	Accepted
5.	Perfect for note-taking in all fields.	2.50	Accepted
6.	No differentiation between strokes.	3.80	Accepted
7.	Modern facilities are readily available.	3.10	Accepted
8.	It reduces the tension involved in dictation sessions.	2.91	Accepted
9.,	It enhances academic success.	2.86	Accepted
10.	It enhances learning.	3.00	Accepted
	Grand Mean	**2.90**	**Accepted**

Source: Field Survey: 2019

The result in table 11 showed that the mean scores of the respondents ranged from 2.57 to 3.64, with a grand mean of 2.90. It implies that the EasyScript system influences students' interest.

Null Hypothesis

There is no significant relationship between the EasySript system and effective shorthand learning in Moshood Abiola Polytechnic, Ojere, Abeokuta, Ogun State. Questionnaire items 1-16 were used to test the hypothesis. The result of the Chi-square statistical analysis is presented as follows in Table 111.

Table 111: Chi-square analysis of the relationship between EasyScript system and effective shorthand learning in Moshood Abiola Polytechnic, Ojere, Abeokuta, Ogun State.

N			210
Chi-Square			571.249
Df			15
Asymp. Sig.			.000
Monte Carlo Sig.	Sig.		.000
	95% Confidence Interval	Lower Bound	.000
		Upper Bound	.007

Table 111 exhibited a significance value of—000 due to data analysis. The null hypothesis that there is no significant relationship between the EasyScript system and effective

shorthand learning in Moshood Abiola Polytechnic, Ojere, Abeokuta, Ogun State is hereby rejected. The hypothesis was rejected because the computed significance is less than the alpha significance of 0.05.

Discussion of Findings

Reactions of students on the extent to which the EasyScript system influences learning effectiveness in research question one indicated a significant relationship between the EasyScript system and shorthand learning effectiveness. From the analysis result above, a grand mean of 3.25 was obtained, which is above the rejection level. It is in keeping with Belgium's (2013) argument that in the twenty-first century, competent reporters use sophisticated shorthand machines, specifically developed computer software, and cutting-edge wireless and internet technologies to make text from voice and broadcast it anywhere in the globe. The findings further support Garbe & Garbe's (2007) argument that incorporating new technology into shorthand teaching and learning will help students enhance their abilities, competencies, motivation, and knowledge. Afemikhe (2017) is in total support that technology-aided instruction positively affects the instructional process and students' learning.

In response to the second study question, the results revealed that the EasyScript system impacts students' interest since the grand mean of all ten items on the amount to which the EasyScript system influences students' interest was 2.90, which is above the rejection threshold. It agrees with *Garfield's (1985) observation that* shorthand is not only a major scientific business significance topic. Its linguistic, historical, technological and sociological ramifications are fascinating. This finding also aligns with Aduwa-Ogiegbaen and Iyamu's (2005). The opinion is that new technologies in their various forms and descriptions can activate the users' senses of sight, hearing and touch and provide exceptional and higher interactive potentials to develop their individual, innovational and creative abilities. Furthermore, Belgium's (2013) assertion that there is more sophisticated writing shorthand, including Closed Captioning and CART – Communications Access Realtime Translation, is also relevant to this finding. Students tend to be interested in fascinating, innovative, creative, and technologically based studies.

There is no significant relationship between the EasyScript system and shorthand learning effectiveness concerning the hypothesis. The analysis showed the p-value to be less than the alpha level. The null hypothesis, which states that there is no significant relationship between the EasyScript system and shorthand learning effectiveness, was rejected, implying a significant relationship between the EasyScript system and shorthand learning effectiveness.

Based on the analysis in table 3, this result showed a significant value of .000 for the hypothesis. This finding aligns with Jegbufume, Utebor and Kifordu (2014), who found out that with the convergence of ICT, the educational domain has opened up innovative teaching and learning methods, especially in tertiary institutions. The study further supports Yelland's (2001) thesis that traditional education environments are unsuitable for preparing students, particularly those in skill-related courses or disciplines, to operate or be productive in today's society's diverse, complex, and dynamic workplace.

Conclusion

Based on the study's findings and discussions, it was determined that the EasyScript method significantly impacted successful shorthand learning at Moshood Abiola Polytechnic, Ojere, Abeokuta, Ogun State. Therefore, integrating the EasyScript system into the teaching and learning of shorthand will help open up innovative teaching and learning methods in higher institutions.

Recommendations

Based on the findings and discussions above, the following recommendations were made:

- National Board for Technical Education (NBTE) should put mechanisms in place to ensure the integration of the new EasyScript system into the teaching and learning of shorthand to reflect the tremendous changes in the ICT world.
- Tutors should update and upgrade themselves in line with all alphabetic or computer-based shorthand systems to move with the age of ICT to benefit immensely in this age of information explosion.
- Students should be motivated and equipped with the EasyScript system of alphabetic shorthand, which is fully compatible with ICT, to acquire the necessary skills to become employable or innovative in an ever-changing world.

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