

## Assessing on The Utilization of Emerging Technology Tools For Teaching Among Secondary School Teachers in Ilorin Metropolis

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### Abstract

Emerging technology is a term generally used to describe a new technology, but it may also refer to the continuing development of an existing technology; This project research was aimed at finding out assessing on the utilization of emerging technology tools for teaching among secondary school teachers Ilorin metropolis. The objectives of the study were to: (i.) Examine the available emerging technology tools. (ii.) Determine secondary school teacher level of utilization of emerging technology tools for teaching (iii.) and Determine the influence of utilization of emerging technology tools by teachers on students' academic performance. A structured questionnaire tagged "Assessing on the utilization of emerging technology tools for teaching among secondary school teachers in ilorin metropolis, was utilized in the course of this research, thus a total of one hundred (100) questionnaires were administered by the researcher to teachers in randomly selected secondary schools in Ilorin metropolis. The analysis and interpretation of data gathered through the researcher-designed questionnaire was done using mean, percentage and frequency count. ANOVA was used for the hypothesis. The responses were analyzed based on research questions presented for the study using Statistical Package for Social Sciences (SPSS) at the significance level of 0.05. The research questions were analyzed with frequency count and percentage while the research hypotheses one was tested and analyzed using t-test. The findings of the study showed that; Majority of the respondents which constituted to about 54.2% of the whole sample were female; Majority of the respondents that participated in this study were those who had 10-20 years working experience .with a total of 57.7%; People with BED were majority in this study with a total of 43%; There was a significant relationship between gender and utilization of technology tools for teaching. Based on the findings from this study, the following recommendation were suggested; School management should endeavor to provide more technological tools in their schools to foster learning; Teachers should be aware of the innovations in the technology world and should know how to manipulate these tools in teaching and learning processes; and Utilize new digital apps and software (like Clickers, Socrative, Kahoot, Plickers and ReCAP) that aid them to apply formative assessment in their classrooms. These technologies collect real-time formative assessment data that help teachers provide instant feedback.

**Keywords:** *Technology; Education; Utilization; Assessment; Students.*

### 1. Introduction

Education is the acquisition of values and skills which are meant for self-actualization of individuals in which the social system has keen interest in achieving. Education is important in shaping the values of every society. It is no doubt a socially oriented activity and the adoption of Information Communication Science (ICT) in education have a positive impact in teaching, learning and research (Habib and Baba, 2017). ICT can be

adopted and utilized to enrich the system of education as it now becoming an integral part of learning process. ICT use in education are now used to meet the learning needs of individual students, increase self-efficacy and independence of learning among students and improve student's development (Ogunlade, 2016).

ICT can be regarded as the means of acquisition, processing, storage and dissemination of information by combination of computer and telecommunication tools and techniques. Anifowose (2013) asserted that communication involves the process by which information and understanding are transferred

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from one person to another. It is the basic for all human interaction for all group functioning.

ICT as an interactive tool makes teaching and learning process easier by providing rich representation of information and easy accessibility to this information (Habib and Baba, 2017). It creates conditions in which the teachers share their own knowledge with others through social communications. ICT leads to increased self-confidence among students in teaching activities and participatory learning through provision of communication skills (Mostafa, Sayed, Pari, & Maryam, 2017). The potential of ICT in the Nigerian education system has been recognized as its utilization has been encouraged in the National Policy on Education, 2013 (Agbetuyi and Oluwatayo, 2012). ICT is a strong agent for change among many educational practices as it's probing impact has certainly affected the education sector (Agbetuyi and Oluwatayo, 2012) positively and negatively.

Information and communication technology has brought about new form of literacy, which goes beyond the ability to read and write into the ability to choose appropriate technologies to conduct and carry out various activities, running on various electronic platform. There has being several misconception about ICT as it is referred to as computer and computing related activities only which is actually far from being true as ICT is an "all-encompassing term that includes the full gamut of electronic tools by means of which we gather, record and store information, and by means of which we exchange and distribute information to others" (Anderson, 2010).

The use of ICT tools such as laptop computers, electronic pads, smart phones, along with the broadband internet, interactive online technologies and cloud applications have enhanced both, teaching and learning in the schools (Barak & Ziv, 2013) by providing many tools that helps the students to assimilate and comprehend what is being taught to them faster and easier. All technology tools are either visual, audio or audio visual, however Audio-visual aids have proven to be the best tool for making teaching effective and the best dissemination of knowledge (Saima, Qadir and shazia, 2011) as they combine the technologies of audio and visual together to make learning more efficient and effective. Examples of audio visual materials are Television, Liquid Crystal Display projectors (LCD), Film projectors slide projectors, Opaque projectors (episcopes /epidiascopes),/Overhead projectors.

Teaching and learning has gone beyond the teacher standing in front of a group of students and disseminating information to them without the students' adequate participation. With the aid of ICT, teacher can

take students beyond traditional limits, ensure their adequate participation in teaching and learning process and create vital environments to experiment and explore. These new developments are strong indication that the era of teachers without ICT skills are gone. Any classroom teacher with adequate and professional skills in ICT utilization will definitely have his students perform better in classroom learning. A cursory look at the secondary schools in Nigeria has shown that many teachers in the system still rely much on the traditional "chalk and talk" method of teaching rather than embracing the use of ICT (Ajayi, 2010).

Ajayi (2010) stated that ICT is an indispensable part of educational administration as its application makes institutions more efficient and productive, thereby engendering a variety of tools to enhance to facilitate teachers pedagogical activities. Looking at the role of education in nation building and the verse population in secondary schools these days, the use of ICT in the teaching-learning process becomes imperative.

In a study conducted by Brown (2014) to show the importance of technology to teaching, he compares first year pre-service teachers enrolled in a face-to-face course against those enrolled in an online version of the same course. Success was measured with regards to final course grades and no significant difference between the two groups was found. However, findings showed that the online group showed significantly more growth in terms of their development of higher-level thinking (including critical, logical, reflective, metacognitive and creative thinking) particularly when posting to the online discussion board. He concluded that the increase in the pre-service teachers' use of higher level thinking skills from the beginning of the course to the end seems to indicate that intentional use of active learning strategies in the online course had an effect on the pre-service teacher's development of higher-level thinking.

The use of technology in Nigeria schools is still very weak, which means that education is lagging behind as new technologies, especially for learning, are not adequately embraced (Patrick, 2014). However, ICT is becoming increasingly important in our daily lives and also in the educational system. For example, the usage of ICT has challenged conventional teaching methods, transformed instructional practices and contributed to emerging new instructional methods (Tezci, 2011). Through the utilization of ICT tools such as Audio-visual material for learning in education, the teacher can be liberated from certain routine tasks and can focus on building ties with students, getting to know them, leading them to learn skills that will accompany them on

their journey towards their human development (Ikedinach, 2019).

Therefore, the needs for ICT has become necessitated for learning due to the change in the world, having moved from the analogue way of doing things to digital way. ICT tools has evolved immensely over the years, this has led to education programme being re-evaluated and redesigned to maintain the positive effect of ICT tools for learning. With rapid technological development, the need for teachers, to have knowledge, skills and strategies to integrate tools and platforms effectively is ever present (Stobaugh & Tassell, 2011) It is highly necessary to have the required knowledge needed for the succesful utilization of ICT tools for teaching, hence this study seeks to examine the teacher utilisation of ICT tools in teaching and to propose a way forward from the result obtained.

## **2. Method**

This research is a descriptive research design of the survey type. The population of the study will consist of all secondary school teachers in Ilorin metropolis. Multistage sampling technique was used for the conduct of this study. In the first stage, purposive sampling technique was used to select only teachers in the study area. Purposive sampling technique was considered appropriate as it allowed the researcher to be able to get the adequate data required for the study from the respondents. In the second stage, proportionate sampling technique was used to select 15 schools in the study area. Lastly, simple random sampling technique was used to select 10 teachers in each of the selected schools. Therefore, a total of one hundred and fifty (150) was used for this study. The questionnaire titled "Assessment and Utilization of Emerging Technology Tools for Teaching among Secondary School Teachers in Ilorin Metropolis" which contained four (4) sections; sections A, B, C and D. Section A was used to elicit information on the demographic information of the respondents which includes gender, experience and qualification. Section B was to elicit information on teachers' availability of emerging technologies. The questionnaire was validated by three lecturers in the Department of Educational Technology, University of Ilorin. Each of them were given a copy of the questionnaire for critical review and was finally ratified and approved by project supervisor. The correction made by these experts was effected and a new copy of the questionnaire was made. On approval, the researcher in collaboration with two (2) research assistants, administered the questionnaire to the one hundred and fifty (150) respondents on face-to-face basis. On spot collection of the questionnaire were made to achieve high retrieval rate. The computer aided

package known as statistical package for social sciences (SPSS) was employed to analyse data. Frequency tables was used to present the demographic data. Mean analysis was conducted to answer the research questions while the hypotheses was tested using Independent Sample t-test and analysis of variance (ANOVA).

## **3. Result and Discussion**

This section presents the results obtained from the data gathered based on research questions stated in the study as well as discussions of findings. The data presented provide a summary of the major characteristics of the respondents that were involved in the study. A total of 150 Secondary school teachers from 15 secondary schools in Kwara State. 150 questionnaires was administered to the respondents in the field but only 142 of those questionnaire were correctly filled and returned back. Hence, the analysis in this chapter would be based on the 142 questionnaires that were neatly returned. The sample size for this research was sufficient and representative. The distribution of respondents based on gender. The table revealed that 45.8% (65) of the respondents were male, while 54.2% (77) of the respondents were female. Thus, this indicated that female respondents were more than the male respondents in this study. 31.7% (45) of the respondents were between 1-10 years working experience as a teacher, while 57.7% (82) of the respondents had between 10-20 years working experience and 10.6% (15) of the respondents had between 21-30 years working experience as a teacher. This result revealed that the majority of the respondents that participated in this study were those who had 10-20 years working experience. 21 (14.8%) of the respondents had ND/HND, 51 (35.9%) had BSc while majority of the respondents 61 (45.2%) had Med and the least from the table were the respondents who had MSc which total 9 (6.3%). computerised grader and powerpoint ranked first with a mean score of 1.84, virtual reality ranked 3rd with a mean score of 1.73, e-textbook ranked 4th with a mean score of 1.70, blackboard collaborate ranked 5th with a mean score of 1.69, podcast ranked 6th with a mean score of 1.64, ipod ranked 7th with a mean score of 1.61, red pen ranked 8th with a mean score of 1.58, while Power BI ranked 9th with a mean score of 1.43 and the least from the table was simulator which ranked 10th with a mean score of 1.21. powerpoint ranked 1st with a mean score of 2.56, while blackboard collaborate ranked 2nd with a mean score of 2.54 and e-textbook ranked 3rd with a mean score of 2.47. the least three also from the table were as follows; Ipod ranked 8th with a mean score of 2.34 while red pen ranked 9th with a

mean score of 2.31 and virtual reality ranked 10th with a mean score of 2.28.

The Impact of Utilization of Emerging Technology Tools on Students' Academic Performance. item 5 which stated thus; "Teamwork and collaboration is enhanced through the utilization of Emerging technologies which necessary for good performance" ranked first with a mean score of 3.15, item 10 which stated thus; "Utilizing emerging technologies allows students to be skillful in using computer hardware therefore improving performance." Ranked 2nd with a mean score of 3.08 and item 4 which stated thus; "The use of emerging technologies eases learning and improves assimilation of students" ranked 3rd with a mean score of 2.83. Item 2 which stated thus; "Student's performance is improved because of the widened learning experience gotten from the use of emerging technologies" ranked 8th with a mean score of 2.79 and item 8 which stated thus; "Emerging technologies improves performance by increasing the level of understanding of a concept" ranked 10th with a mean score of 2.57.

The hypothesis "There is no significant difference between teachers assessment of utilisation of emerging technology tools and student gender." The result indicated that, the calculated r-value was 0.312 and a critical r-value of 0.195 (p-value .056 > 0.05 level of significance). On this basis the null hypothesis was therefore rejected. This means that there was a significant relationship between gender and utilization of technology tools for teaching.

The study examined the assessment of utilisation of emerging technology tools for teaching among secondary school teachers in Ilorin metropolis. Research question one sought for information on the available emerging technological tools. The frequency count, and mean value obtained revealed the available emerging technological tools. Table four revealed the availability of technological tools based on their order of availability. It shows that; computerised grader and powerpoint ranked first with a mean score of 1.84, virtual reality ranked 3rd against others. The level of utilisation of emerging technology tools by teachers for teaching was examined in research question two. The result of the mean value showed the utilization of emerging technology, the first top three scores were as follows; powerpoint ranked 1st with a mean score of 2.56, while blackboard collaborate ranked 2nd with a mean score of 2.54 and e-textbook ranked 3rd with a mean score of 2.47 as against other technological tools. The respondents believed that the availability and usage of technology tools for teaching has a positive impact on the teaching and learning processes. The result from the

study indicated that, the calculated r-value was 0.312 and a critical r-value of 0.195 (p-value .056 > 0.05 level of significance). This means that there was a significant relationship between gender and utilization of technology tools for teaching.

#### **4. Conclusion**

The finding from this study has made it clear that technology has come to stay especially in the educational system. The learner and teachers are well aware of the importance of these technological tools and how it could be used to make learning easy and faster. From this study, it could be concluded that both male and female has same perception about technology. The role of technology in education cannot be overemphasized so it is important for educators to inculcate it use into the daily teaching and learning sessions.

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