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IMPACT OF USING ICT IN TEACHING READING COMPREHENSION IN SECONDARY SCHOOLS IN KADUNA, NIGERIA

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Abstract:
The study investigated the impact of using ICT in Teaching Reading Comprehension in Secondary Schools in Kaduna. Two randomly selected Government Secondary Schools (namely Government Secondary Schools Maraban Rido and Government Secondary School Tafawa Balewa. The schools were both tagged School 'A' and School 'B') were used for the study. The research design was pre-test, post-test, quasi experimental design. The pre-test was administered prior to teaching while the post-test was administered after six weeks of teaching. School 'A' was used as the experimental group while school B was used as the control school. The experimental school was exposed to reading comprehension lessons using ICT facilities such as computer, laptops and iPads. The control group was taught without ICT facilities. Both groups were tested after six weeks of teaching using reading comprehension test. The result revealed that the experimental group taught reading comprehension using ICT facilities performed better than the control group. Students in the experimental group were highly engaged and were able to demonstrate unique and creative ways of responding to text using the available ICT facilities. It was therefore recommended that teachers should introduce the use of ICT facilities in teaching reading comprehension in order to prepare students for the 21st century technology.

Keywords: ICT, teaching reading comprehension, secondary schools

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1. Introduction

Information and Communication Technology (ICT) according to Iwu (2006) refers to the electronic and communication devices associated with human interactive materials that enables users to employ them for a whole range of teaching and learning. Information and Communication Technology is fusion of two technologies. They are information Technology (IT) and Communication Technology (CT). ICT embraces all technologies for manipulating communication or information and also encompasses any medium used to record information such as: radio, television, etc., and technology for communication through voice and sound or images: microphone, camera, loudspeaker, telephone/mobile phones (Osu, Udosen, and Akpan, 2010). Information and Communication Technologies (ICTs) are indispensable and have been accepted as part of the contemporary world especially in the industrialized societies to the extent of giving a new phase to the education system in terms of pedagogical approach (Ololube, 2006).

According to Fari (2010), information and communication technology facilities are described as all the facilities available for the identification, generation, processing, storage, packaging, preservation, conservation and transfer of information regardless of time and distance constraints. It is a powerful tool for participating in global markets, promoting political accountabilities; improving the delivery of basic services; and enhancing local development opportunities (UNDP, 2006). ICT facilities influences and affects peoples' private and corporate work life in one way or the other. These ICT facilities are all encompassing in areas like technology, social, political, economic, education, etc., for global transformation. The National Policy on Education states that education is an instrument for effecting national development (FRN, 2004), and hence, makes the incorporation of ICT into teaching-learning process a vital instructional tool in fostering the national educational goals and hence, national development and the role of ICT in educational sector is believed to set the pace for any form of innovation and changes that can ever happen to any nation. Therefore, in line with the forgoing it is imperative for teachers who serve as key implementers of the nations' education policy to be well-informed and adequately equipped with ICT facilities in order to function productively in this age of information explosion and technological advancement. The present study is therefore, aimed at determining the effectiveness of using ICT in teaching reading comprehension in secondary schools in Kaduna.

2. Review of Related Literature

Most scholars would agree that reading is one of the most important skills for educational and professional success. In highlighting the importance of reading comprehension, Olaofe (2013) stated that reading is the most important activity in any language class, not only as a source of information and a pleasurable activity, but also as a means of consolidating and extending one's knowledge of the language. Reading reinforces the learner's other language skills. Oyetunde (2009) confirms that those who read more, have

larger vocabularies, do better on test of grammar and write better. Yusuf (2013) while accepting the significance of reading for meaning, claimed that all reading activities serve to facilitate communication fluency in each of the other language skills.

In view of the importance of reading in our day to day lives any effort geared towards improving reading skills is a step in the right direction. Therefore, introducing the use of ICT in teaching reading comprehension in schools could assist students to improve their reading ability.

For the purpose of this paper, it is important at this point, to explain what Information and Communication Technology entails. ICT is a combination of three concepts, namely, information, communication and Technology. Information is a message that is transmitted and received in the process of communication and these messages, ideas or feelings are shared by both the receiver and sender at the same time. Communication refers to any process in which people share the same information, ideas and feelings. It involves spoken and written words, body language, personal mannerisms and style (Okorie, 2010). Technology refers to the systematic application of the tools and art. In practice, communication cannot be effective if information is not accurately received by the target audience, the passage of information cannot be complete without the instruments of communication and feedback. Technology makes communication easier, faster and effective. Today, information and communication technology use a combination of computer, telecommunication and information systems services and products. Hence, communication serves as a connection-link between the teacher and the learners for effective pedagogy to take place in the classroom.

According to Uzoigwe (2001), ICT involves all technologies employed in order to facilitate the collection, storage, retrieval and communication of information by the fastest means. Anderson and Glen (2003) defined ICT as generally related to those technologies that are used for accessing, gathering, manipulating, and presenting or communicating information. The technologies could include hardware (e.g computers and other devices); software applications; and connectivity (e.g access to the internet, local networking infrastructure, videoconferencing).

Students of the 21st century regard technology tools as appealing and as a result, the tools are seen as motivating factors that draw and maintain students' attentiveness. Reynolds, Treharne, & Tripp (2003) found that students were interested in the work that made use of ICT tools and that they were more motivated to complete their work and consequently stayed to complete schoolwork during leisure time.

Information and Communication Technologies (ICT) is fundamental to life in our modern technological society. To equip students to be literate lifelong learners and global citizens of the 21st century, there may be needed to successfully integrate ICT into reading component of the English language curriculum in secondary schools.

ICT is a valuable tool to enhance teaching and learning. For teachers, ICT is a professional resource, a mode of classroom delivery, and a source of valid and valuable text types. For students, ICT provides opportunities to communicate more effectively and to develop Reading skills including skills in critical literacy. It is a valuable tool for

researching, composing and responding, and viewing and representing in English language.

Reynolds et al (2003) in their survey of teachers on the use of ICT in British secondary schools reported that ICT tools enabled students to "express themselves more clearly" within the subject of literacy. Tools such as word processors, presentation software, and text to speech software were also used to scaffold student writing, reading, and spelling and literacy skills. Teachers, in turn, claimed that students were "*more resourceful, creative and had an enhanced sense of achievement in learning*" when working on projects that incorporate ICT tools (Reynolds et al., 2003, p. 161).

The result of the study conducted by Harrison, Lunzer, Tymms, Fitz-Gibbon, and Restorick, (2004) revealed increases in achievement within math and reading levels of students who used, and had access to, technology within their learning environments on an ongoing basis. Within these learning environments teachers taught with and students learned with and from technology which in turn is attributed to increased achievement (Reynolds et al 2003, Harrison et al, 2004). It is in line with the foregoing that this study sets out to determine the effectiveness of using ICT in teaching reading comprehension in secondary schools in Kaduna.

2.1 Objective of the Study

To determine the impact of using ICT in teaching reading comprehension in secondary schools in Kaduna.

2.2 Research Question

What is the impact of using ICT in teaching reading comprehension in secondary schools in Kaduna.

2.3 Hypothesis

There is no significant difference in the performance of students taught Reading Comprehension using ICT and those taught without ICT facilities.

3. Methodology

The study was carried out using two randomly selected Government Secondary Schools. The two schools were Government Secondary School Maraban Rido and Government Secondary School Tafawa Balewa. The two schools were located far apart to minimize interaction. Government Secondary School Maraban Rido was used as the experimental group while Government Secondary School, Tafawa Balewa was used as the control group. Intact classes made up of thirty (30) students were used from each school.

3.1 Research Design

A pre-test post-test quasi experimental design was used for the study. The pre-test was administered eight weeks (8 weeks) before the commencement of teaching (treatment) in order to establish the homogeneity of the two groups. The post-test was administered eight weeks after teaching to determine the impact of the use of ICT in teaching reading comprehension.

3.2 Instrumentation

The instruments used for the study is reading comprehension test. Students were tested using a comprehensive reading comprehension test based on the passages that they were taught. Students were given twenty questions to answers (multiple choice, fill in the blanks and open-ended questions).

3.3 Administration of the Instrument/treatment

A pre test was administered to both control and experimental groups to establish the homogeneity of the students. The experimental group was taught reading comprehension using ICT such as computers, laptops and iPads for eight (8) weeks while the control group had their normal reading comprehension lessons taught by their teacher using the traditional method without ICT facilities. The experimental group were treated with reading comprehension passages downloaded on their computers, laptops and iPads. Students read the passages from their computer screens, laptops and iPads and they were also exposed to some other reading activities as well.

3.4 Data Presentation and Analysis

Table 1: Pre-test scores of students in the Experimental and Control Groups

Group	N	Mean pre test	Standard deviation
Experimental	30	47.45	8.50
Control	30	47.20	8.47

Table 1 revealed that the performance of students in the pre test of the experimental group and control group were at par. The result of the pre-test therefore indicates the homogeneity of the two groups.

Table 2: Post-test scores of students in the Experimental and Control Groups

Group	N	Mean post test	Standard Deviation
Experimental Group	30	52.74	8.50
Control Group	30	48.51	8.47

Table 2 shows the scores of students in the two groups (Experimental and Control groups). The post test scores show a general improvement in students' performance.

Table 3: Comparison of the mean scores of students of the Experimental and Control group using t-test

Group	N	Mean	Standard deviation	Standard error	DF	t calculated	t critical
Experimental Group	30	52.74	8.50	1.09	58	2.725	1.96
Control Group	30	48.51	8.47	42			

4. Discussion of Findings

The result of the analysis of data on Table 1, 2 and 3 revealed that the experimental group performed better than the control group. The mean scores of students in the experimental group were slightly higher than those of the control group. One can therefore conclude that the use of ICT such as computers, laptops and iPads in teaching reading comprehension in secondary schools is quite effective. The result of this study illustrates statistically significant findings that ICT does play a role in students learning and performance. These findings are in line with those of Reynolds et al (2003) Harrison et al (2004) who revealed that the use of ICT facilities enrich students' learning by facilitating understanding.

From the findings of this research it is apparent that ICT does affect achievement by way of increasing test scores, motivation or facilitating collaborative learning. ICT tools, and more generally technology, do not guarantee success, however. Learning environments must be rooted in teacher support and scaffolding activities. Activities must be rich in content and advance thinking by requiring students to work through complex problems rather than perform low level processing tasks. This study also agrees with Wenglinsky (2006) who states that teachers must not use technology as mere "*drilling machines*" but should incorporate tools that can serve as "*catalysts of creativity*" (p. 30).

Furthermore, this study implies potential benefits from using information technology to improve students' reading comprehension. The study revealed that information technology provided a very motivating environment for students by developing new skills in reading comprehension thus, making teaching and learning more pleasurable, relevant, and interesting.

This study's result is a wake-up call for action for teachers of English as a second language. If they become more aware of their students' traditional learning styles, they can introduce new methods that rely on the use of information technology in classrooms to improve their students' reading comprehension.

4.1 Conclusion

Utilization of ICT facilities is meant to serve as an orientation stimuli to support teachers' teaching strategies and not to replace them. A paradigm shift from the traditional "*chalk and talk*" form of teaching through the use of ICT could make teaching-learning process more real and practical thereby resulting in better performance of students academically. This study has revealed that the use of ICT could help teachers to be more effective in

teaching and resourceful in content delivery. It has also revealed that it could make teaching tasks to become less cumbersome and productive thereby improving students' academic performance. It is worth noting that one very positive feature of ICT use in reading comprehension lessons is that both teachers and students are very keen in sharing their knowledge to help and support one another. This has the effect of accelerating the learning process. Most importantly however, the use of ICTs in the classroom signals a shift from the conventional position of power held by the teacher to a more collaborative approach to learning. Generally, computer-based activities allow the teacher to assume the role of facilitator whilst students take on an increasing responsibility for their own learning. The use of ICTs can shift the emphasis of activities away from the teacher to the students, thus enhancing social interaction. Teachers can use a range of ICT facilities such as computers, laptops, iPads, and even mobile phones as tools for delivery of lessons in reading comprehension.

4.2 Recommendations

Based on this research, information communication technology facilities can have a positive effect on students' performance in reading comprehension. Technology, however, is not a saviour for poor teaching practices. When incorporating ICT into reading comprehension lessons, teachers must monitor proper usage so that all tasks are value-added and contribute to the overall learning process.

- There is need for teachers to introduce the use of ICT facilities such as computers, laptops, iPads etc. in teaching reading comprehension in order to prepare students for the 21st century technology.
- Schools should provide adequate ICT facilities for teachers to use in teaching reading comprehension. This will make their lessons more lively and interesting. If possible, students should have one computer or laptop or iPad each to themselves.
- Teachers should consider practical realities in their schools before they begin to plan specific ICT activities for their classroom. In particular, they will need to consider the number of computers, laptops, iPads etc. available and the number of students in their class. Ideally, it is best to have two or three students working at one computer, laptop or iPad.
- Using ICT may demand a lot from the teacher, not only in terms of designing purposeful learning activities, but also with regards to classroom organization and the use of different teaching styles. Teachers therefore need to be patient and be willing to put in painstaking effort in assisting students to learn effectively with the use of ICT facilities. For instance, teachers need to be more mobile in the classroom, engaging students in detailed discussion and working closely and personally with individual students or small groups of students.
- Teachers need to decide how they want ICT to feature in their reading comprehension lessons. Teachers can use ICT at the introductory, middle or concluding part of the lesson. Students themselves could use ICT either as part of

the learning process or as presentation tools. Teachers should be encouraged to constantly use ICT such as computers, laptops and iPads to facilitate the learning process.

- The use of ICT requires regular power supply which is not available in most schools. There is a need for an alternative arrangement to be made such as the use of generator set.
- Funding is fundamental as the ability to acquire ICT facilities rest squarely on what is available to schools and teachers. The Federal, State and Local Governments should make funds available to schools for the purchase of ICT facilities to support secondary schools by providing ICT facilities.

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