USE OF COMPUTER ASSISTED INSTRUCTION TO IMPROVE STUDENTS' READING SKILL IN ENGLISH LANGUAGE

By

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ABSTRACT

This paper examines the use of Computer Assisted Instruction (CAI) to develop students' Reading Skill in English Language. Two objectives and two research questions were formulated to guide the study. Senior Secondary School Students two (SS II) of a selected school were the participants of this study. Due to the timeframe and nature of the research, only forty students in SS II were selected to constitute the sample size using purposive sampling technique. Twenty control and twenty treatment group were formed to test the effect of the CAI. Pre and posttest were applied to measure the effect of CAI. The findings of the study revealed that use of Computer Assisted Instruction improves students' reading skill in English language. Therefore, it is recommended that educational stakeholder should ensure that ICT facilities are sufficiently available in schools and language teachers should be adequately trained to utilize computers in their instructions.

Keywords: Computer Assisted Instruction, Reading Skill, Vocabulary and English Language.

INTRODUCTION

The globalization and the rapid growth of technology have created a serious challenge to the education system all over the world. Learning begins to shift from group tutorship to a more individualized one with an emphasis on individualized approach of teaching with absolute flexibility to provide learning opportunities to all willing member of the society regardless of the students' age, gender and ethnicity.

To facilitate the accomplishment of goals, aims and objectives of education for overall growth and development, the recent trend of information revolution and knowledge explosion in technology have enabled changes in the system of education of every nation. Technological gadgets are used in teaching and learning to simplify learning. This has necessitated a shift from instructor-centered to individualized or learner-centered education. According Ochoyi and Ukwumunu's (2008) viewpoint "…the rapid growth of technology and its utilisation in the classroom has enabled learners with optimum opportunities for delivery of instruction". Teachers and school management now focus on utilization of technology to improve instruction which is proven to be very effective and efficient. Research showed that utilization of technological facilities in the teaching and learning is very much useful in instructional management and an effective delivery of content. Abimbade, Aremu & Adedoja (2003) in Kareem (2015) described technology as "a systematic and integrated organization of man, machine, idea and procedure to achieve a desire goal". For some years, different machines and tools were invented to facilitate activities supposed to be done by a man. The most influential technology in the last millennium years is the introduction of a machine called computer (Kareem, 2015).

The ultimate goal of education in the past was accomplished through the activities of teachers, use of textbooks and some audio visual materials. A number of problems were encountered and pinpointed in the course of educational transmission from one generation to another. These include large class size, heterogeneous classes with varied individual differences, lack of suitable

textbooks and instructional facilities. These challenges paved way to the current trend in education as well sophisticated system with simplified and optimum environment for learning. Ideally, a class size in primary school should not be more than 30 to 40 pupils per class; 35 to 40 or even 50 learners in senior secondary schools. The learners are mostly grouped and taught through conventional method irrespective of their individual differences. After the proliferation of computers, the goals of education have now become multifaceted. It is believed that the goals of education cannot be accomplished through conventional methods teaching due to its complexity and multidimensional nature. Therefore, there is a serious need of using flexible and eclectic methods of teaching that enables the accomplishment of educational goals with simplicity and easiness. Scholars like Chabra and Dhamija (2013) opined that "the solution to these issues can only be attained through the use of technology in learning".

The use of the computers across all field and sectors, to great extent, has necessitated one to believe that no area or aspect of life that computer does touch. The development of computer and its utilization in instruction has created many terms such as Programmed Instruction (PI), Computer Based Instruction (CBI), Computer Based Learning (CBL), Modular Approach, Web Based Learning (WBL) and Computer Assisted Instruction (CAI). Initially, they were regarded as teaching facilities but later on, they got recognition as methods instrumented for teaching and learning. They can be manipulated and used to accomplish learning goals by giving individualized learning with utmost flexibility. In all these self-learning approaches, Computer Assisted Instruction (CAI) has been widely used and admired by many instructors due to its flexibility and vast nature. Nowadays, CAI is used to create an enabling environment for learners.

Computer-assisted instruction (CAI) is the instruction presented on a computer. CAI is an interactive, illustrative and informative instruction through aesthetic animation, sound, demonstration and annotated images. CAI enables individualized learning, student-friendly environment and gives immediate feedback which quickly motivates learners. CAI gives varied kind of activities that enables a transition from teacher-centered approach to student-centered and also fulfill group instruction (Bennett, 2012). CAI is one of the most effective way of providing individualized and flexible instruction with self-paced learning. It takes care of individual differences and allows presentation of the instruction with some ease. CAI accommodates learners' error without the risk of being ridiculed or embarrassed by peers or the instructor (Bennett, 2012).

Similarly, the application of technological tools in the field of language teaching and learning brought about a notion of Computer Assisted Language Learning (CALL) related to the use of computers for language teaching and learning. Significant use of CALL began in the 1960s. Since then, the development of CALL software ensued the modification in instructional pedagogy. As pedagogical approaches changed to audio-lingual and communicative approaches, CALL software involved simulative and more interactive programmes. Studies have indicated that approaches used in CALL influence the quality of language learning and instruction. However, some scholars like Naba'h, Hussain, Al-Omari and Shedeifat (2009) argued that CALL still lacks methods and clear theoretical foundation.

To that point, the use of computer in language instruction is not a new trend in ELT. It has been widely applied in most developed countries where technological tools are affordable and accessible. The use of computers in language teaching has a lot of instructional benefit because it makes learning fun and quite enjoyable. Therefore, the use of CAI in teaching language skills cannot be overemphasized. Many studies conducted revealed the profound importance of this method upon language learning especially reading skill. Reading comprehension is the ability of a learner to decode symbols and decipher meanings beyond the surface words' level. Teachers perceive grammar and lexical structure are more important than reading and students misperceive reading comprehension tests as time consuming, tiresome, and boring. Therefore, reading comprehension became the most neglected language skill (Liu, 2008). On the contrary,

computers have potential to address to these issues at secondary and higher secondary level (Bhatti, 2004).

CAI has been proven to be effective in teaching and learning including reading comprehension in English language. Many scientific researches and empirical studies have proven the positive effects of Computer Assisted Instruction on overall performance of students in English language. For instance, Arroyo (1992) in Al-Mansour & Al-Shorman (2012) reported a significant increases students' reading ability when CAI employed. Bhatti, (2004) found that CALL enables reading comprehension of learners. Tozcu (1998) in Al-Mansour & Al-Shorman, (2012) found significant influence of CAI on students' performance in reading. Similarly, Al-Mansour & Al-Shorman (2009) in their study observed that use of CAI along together with the conventional method improves students' achievement. Similar to this, Naba'h et al (2009) in their study revealed that use of CAI is effective in teaching grammar and reading. Chartrand, (2002), also found that use of CALL is very much effective in instruction and it is appealing to students. Dala & Rani, (2013) in their study also reported that CAI is more effective in improving learners' creativity in language than that of Programmed Instruction (P. I.) and conventional method. Macaruso & Walker (2008) found positive effect for the students who participated and used the Early Reading Program in computer software.

Despite the instructional benefits of technological tools and wide recognition of CAI in the field of language teaching and learning, there are apparent cases of language teachers' persistence to use conventional methods in their teachings. This trend is blamed to have contributed to the recent fall in the standard of the education in the whole country in general and Maiduguri in particular and subsequently it led to the mass of failure of students in West Africian Examinations Council (WAEC) and National Examination Council (NECO). Therefore, this paper tends to examine whether the use of Computer Assisted Instruction improves students' reading skill in English language.

1. Statement of the Problem

It is worrisome to note that the poor performance of students in English language at public and individual owned senior secondary schools in recent times has been explained as the major cause of decline in the general academic performance not only in English language but also in the other subjects offered in Senior Secondary levels. The recurrent failure of students in English language in Senior School Certificate Examination (SSCE) and consequently their failure to meet the entry requirement for the Nigerian universities has attracted attentions of the stakeholders all over the nation. Thus, many factors have been blamed as the major cause for this ugly trend; teachers' pedagogical approach, teachers' attitude and students' attitude and generally the laxity in their personal readings have been mentioned as some of the factors responsible. But few studies attempted to look at the teaching methods and instructional media applied by the language teachers in their teaching. Therefore, this paper tries to investigate the use of Computer Assisted Instruction to improve students' reading skill in English language.

2. Objectives of the Study

The objectives of the study are to determine:

- Effect of Computer Assisted Instruction on students' reading comprehension in English language.
- Effect of Computer Assisted Instruction on students' vocabulary development in English language

3. Research Questions

- To what extent does Computer Assisted Instruction influences students' reading comprehension in English language?
- What is the effect of Computer Assisted Instruction on students' vocabulary development in English language?

4. Scope and Limitation

The study examines use of Computer Assisted Instruction to improve students' reading skill in English language. The study focuses on students reading comprehension and vocabulary development in senior secondary schools two (SS II) of 2015/2016 academic session of Bara'imul Iman Islamic Integrated School, Maiduguri. One school was selected due to the time frame and the nature of the study. Pre and posttest were applied to both experimental and

control groups within different sessions ended in three weeks.

5. Methodology

The study employed quasi-experimental design to investigate the use of Computer Assisted Instruction to improve students` reading skill in English language. The population for this study comprised all SS II students of 2015/2016 academic session in Bara'imul Iman Islamic Integrated School, Maiduguri. The participants were grouped into two; experimental and control group. Purposive sampling technique was used to draw the target population of 40 students that were grouped into 20 experimental and 20 control group. Pre and Posttest were used to measure the effect of the Computer Assisted Instruction. The instrument titled "English Language Reading Ability Test (ELRAT)" was used to determine the reading ability of the students. Mean and Standard Deviation are used to interpret and compare the difference in performance of the students reading comprehension and vocabulary after the application of Computer Assisted Instruction.

6. Results

In order to find out the effectiveness of using Computer Assisted Instruction to develop reading comprehension ability and vocabulary retention, each part of the pre-test and posttest of the experimental and control groups was analyzed. The aim of this analysis was to reveal whether there was a significant difference between the test scores of the groups. Specifically, the mean scores and standard deviations of the pretest and posttest and both control and experimental groups were obtained.

The Table 1 shows that there was no significant difference in the performance of students in reading comprehension of both experimental and control groups. The mean score of the experimental group was 24.30 while the mean score of the control group was 23.00 and the standard deviation of both groups reads 9.504 and 9.498. Similarly, the mean score of both groups in vocabulary retention ability reads 0.20 for experimental group and 0.25 for control groups. Thus, student's ability in vocabulary retention in the pretest result was poor.

	Group	N	Mean	Std. Deviation	Std. Error Mean
Score of Reading Comprehension in the Pretest	Experimental Group	20	24.30	9.504	2.125
	Control Group	20	23.00	9.498	2.124
Vocabulary Retention in Pretest	Experimental Group	20	0.20	0.410	0.092
	Control Group	20	0.25	0.444	0.099

Table 1. Comparison of Students' Performance in Reading Comprehension Vocabulary Retention in Pretest

The Table 2 above shows that use of Computer Assisted Instruction is very much effective in developing students' reading skills. The mean score of the experimental group was 66.65 with standard deviation of 6.302. While the mean score of the control group reads 30.90 with standard deviation of 7.240. Thus, the results indicated that use of Computer Assisted Instruction influences students' reading comprehension ability. In moreover, students' vocabulary retention ability of the experimental group was higher than that of the control group. The mean score of the experimental group measuring vocabulary retention ability was 1.00 which was higher than control group's mean score .30. Thus, use of Computer Assisted Instruction to develop students' reading comprehension and vocabulary retention ability is very much effective.

Conclusion

Based on the findings of the study, it is conclusive that use of Computer Assisted Instruction improves students' reading comprehension and vocabulary retention ability. Use of CAI in language instruction is found to be effective in developing rapidly reading skills of ESL learners. Therefore, students' academic performance in other subjects improves as their performances in English language enhances.

Recommendation

Based on the findings of this study, it is recommended that

	Group	N	Mean	Std. Deviation	Std. Error Mean
Score of Reading Comprehension in Posttest	Experimental Group	20	66.65	6.302	1.409
	Control Group	20	30.90	7.240	1.619
Vocabulary Retention in Posttest	Experimental Group	20	1.00	0.000	0.000
	Control Group	20	0.30	0.470	0.105

Table 2. Comparison of Students' Performance in Reading Comprehension Vocabulary Retention in Posttest

educational stakeholders should ensure that ICT facilities are sufficiently available in schools and language teachers should be adequately trained to utilize computers in their teaching method for the maximum improvement of students in English language and subsequently for the overall improvement of academic performance of the students in the other subjects.

References

[1]. **Abimbade, A., Aremu, A., & Adedoja, G. O. (2003).** Providing Information Technology (ICT) environment for teaching and learning. In *Education in this Millennium Innovation in Theory and Practice,* 423-230.

[2]. **Al-Mansour, N. S., & Al-Shorman, R. E. A. (2012).** The effect of computer-assisted instruction on Saudi University students' learning of English. *Journal of King Saud University-Languages and Translation,* 24(1), 51-56.

[3]. **Arroyo, C. (1992).** What is the effect of extensive use of computers on the reading achievement scores of seventh grade students? (ERIC Document Reproduction Service No. Ed 353544) [Online]. Retrieved from <http://www.ed.gov/databases/ERIC_Digests/>.

[4]. **Bennet, S. M. (2012).** *The Effect of Computer Assissted Instruction on Rural Algebra Students* (Post graduate thesis) Northern Michigan University.

[5]. **Bhatti, T. M. (2004).** Teaching reading through computer-assisted language learning. *TESL-EJ,* 17(2), 11.

[6]. **Chartrand, R. G. (2002).** *The Effectiveness of using Computer Assisted Instruction in Teaching English as a Foreign Language in a Japanese Secondary School* (Fukuoka, Japan). MA TESOL Collection. Paper 389.

[7]. **Chhabra S., & Dhamija N. (2013).** Comparative study of Computer Assisted Instruction Technique (CAI) and Conventional Teaching (CT) on the achievement of pupil teachers in methods of teaching english language. *MIER Journal of Educational Studies, Trends & Practices,* 3(1), 107-118.

[8]. **Dala S., & Rani, R. (2013).** Effectiveness of Computer Assisted Instruction (CAI) improving the pupils' language creativity in English. *International Journal of Engineering Research & Technology (IJERT),* 2(7), 30-38.

[9]. **Kareem, A. A. (2015).** Effects of computer assisted instruction on students' academic achievement and attitude in biology in Osun State, Nigeria. *Journal of Emerging Trends in Educational Research and Policy Studies,* 6(1), 69-73.

[10]. **Liu, G. Z. (2008).** Innovating research topics in learning technology: Where are the new blue oceans? *British Journal of Educational Technology,* 39(4), 738-747.

[11]. **Macaruso, P., & Walker, A. (2008).** The efficacy of computer-assisted instruction for advancing literacy skills in kindergarten children. *Reading Psychology,* 29(3), 266-287.

[12]. **Naba'h, A. A., Hussain, J., Al-Omari, A., & Shdeifat, S. (2009).** The effect of computer assisted language learning in teaching English grammar on the achievement of secondary students in Jordan. *The International Arab Journal of Information Technology,* 6(4), 431-439.

[13]. **Ochoyi, U. E., & Ukwumunu, A. I. (2008).** Integration of ICT in secondary school curriculum in Nigeria: Problems and Prospects. In *Proceedings of the 49th Annual Conference of Science Teachers Association of Nigeria.*

[14]. **Tozcu, A. (1998).** *The effect of teaching sight vocabulary with computer-assisted instruction on vocabulary gain, decrease in recreation time for frequent word recognition, and reading comprehension* (Doctoral Dissertation), The University of Arizona.

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