

Digital Interactivity and Undergraduates' learning outcomes in English oracy skills: Empirical focus on Nigerian Colleges of Education

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Abstract

The study focused on the effect of digital interactive model on the spoken English skills of College (NCE) undergraduates in Ekiti and Ondo states respectively. The study was delimited to the segmental elements of spoken English. The Quasi-Experimental design based on pre-test, and post-test was utilized for the study. The study comprised a total of 200 samples of students offering English as a double major at the 100 level of the NCE programme at the College of Education, Ikere-Ekiti, Ekiti state and Adeyemi College of Education, Ondo, Ondo state. A simple random sampling technique was employed in selecting and distributing 100 samples to the control group situated at Adeyemi College of Education, Ondo, while 100 samples comprised the experimental group located at College of Education, Ikere-Ekiti. The study utilized an Achievement Multiple Choice Test. The reliability coefficient of the instrument using Pearson's Product-Moment Correlation Coefficient was 0.854 suggesting that the items have relatively high internal consistency. Initially, the samples were exposed to an Achievement Multiple Choice Test without treatment. After six weeks of treatment on the samples, a post-test was carried out on the same homogenous groups. The data collected for the study were analysed using SPSS 20. The findings of the study revealed that, undergraduates exposed to digital interactive model performed significantly better in spoken English than undergraduates taught with conventional methods. The study recommends that, lecturers should embrace active learning pedagogy during teaching, develop and sharpen their ICT skills, while Government should provide adequate funds for upgrading teaching and learning facilities in line with acceptable global standards.

Keywords: Digital interactive model, learning outcomes, spoken English, undergraduates, colleges of education.

Introduction

In Nigeria today, the dwindling academic performance of students has become a source of concern for all stake holders in the education sector (Fagbenle & Elegbeleye). Consequently, various variables that influence the communicative skills of students in English, and most importantly in Colleges of Education are underpinned in several studies including views of (Okoli, 2017). The Federal Government of Nigeria has embarked on several frantic attempts at salvaging the poor academic performance of students at the three tiers of education among which stands out the recent systematic attention on updating the knowledge and skills of pre-service teachers in the light of changes in quality delivery of educational services. Furthermore, as Fasanmi (2011) observes, teaching strategies that are teacher-centred, traditional and outdated tend to pose pedagogical challenges for schools, teachers and learners. In the same line of thought with Njoku (2017), Oladunjoye and Akinwunmi (2016) opine that learning and mastering the oral rudiments of English language is of great communicative relevance to the eventual economic, social and cultural growth of the Nigerian child. Similarly, the Federal Government of Nigeria has come up with educational programmes such as the Millennium Development Goal (MDG), World Bank Projects co - sponsored by DFID and a host of others in order to find solutions to the problem of poor learning outcomes in English language, which encompasses training and re - training workshops in globally accepted teaching strategies. Most importantly, too, is the need to upgrade the pedagogical values of pre-service teachers (undergraduates in Colleges of Education) for the benefit of children in upper primary schools. Hence, a paradigm shift from teacher-centeredness to a more active learning pedagogy in Colleges of Education, perhaps, is one major way out to equip pre-service teachers for the task ahead. This research is therefore, carried out to evaluate the effect of digital interactive model in the Language Laboratory on the learning outcome of the spoken English of Colleges of Education undergraduates in Ekiti and Ondo states in particular and Nigeria in general.

Statement of the Problem

The learning outcomes of undergraduates in the area of spoken English in particular has been a bone of contention in the Nigerian educational system. From a general perspective, it is widespread knowledge that the state of second language teaching and learning in tertiary institutions of learning, with emphasis on spoken English, is approaching a state of linguistic and communicative endangerment. In other words, the general scholarly observations tend to lean towards the inability of English Language lecturers in applying the necessary teaching and learning strategies required for 21st century students. Even, where some of the lecturers have been on the job for decades as specialists in teaching various aspects of the English language, they appear deficient in utilizing learner-centred and modern teaching techniques in imparting relevant knowledge and skills in the teaching of spoken English.

In spite of the periodical training and re-training programme organised for lecturers by organizations such as the British Council (Core Skills Training Programmes),

United Nations Educational Scientific and Cultural Organisation (UNESCO), the oral proficiency of college products continues to worsen. The insistence of lecturers in Colleges of Education on utilizing lecture methods devoid of 21st century interactive pedagogy has the potential of diminishing the oral proficiency and learning outcomes of both pre-service teachers and young learners in primary schools in Nigeria. This study, therefore, examines the effect of digital interactive model on undergraduates' spoken English in Colleges of Education in Ekiti and Ondo states, Nigeria.

Purpose of the Study

The general objective of this work aimed to investigate effect of digital interactive model on undergraduates' spoken English in Colleges of Education in Ekiti and Ondo states, Nigeria.

Therefore, the specific objectives of this study are to:

- i. determine the relevant digital facilities for teaching and learning spoken English in Colleges of Education;
- ii. investigate the effect of digital interactive model of teaching and learning on the learning outcomes of College Undergraduates' Spoken English skills.

Research Questions

The research is geared towards answering the following questions:

1. What are the relevant digital facilities for teaching and learning spoken English in Colleges of Education?
2. What is the effect of digital interactive model of teaching and learning on the learning outcomes of College Undergraduates' Spoken English skills?

Research Hypotheses

The following null hypotheses were tested in the study:

Ho1: There is no significant effect on the academic performance of students exposed to digital interactive model and students taught without digital interactive model using their pre-test and post-test scores in spoken English.

Ho2: There is no significant effect on the academic performance of male and female students exposed to digital interactive module and male and female students taught without digital interactive module using their pre-test and post-test scores in spoken English.

Review of Related Literature

In recent times, a vast number of literatures on the effect of pedagogical inputs on undergraduate's academic performance have been brought to the fore. Also, researchers have investigated, in one way or the other, the pedagogical relevance of integrating digital integrationist frameworks in the educational process.

Research work in the domain of Applied Linguistics establish the fact that many of the linguistic hindrances that are likely to interfere with students' performance in spoken English, stem from problems with the right selection and use of teaching strategies (Njoku, 2017). Pieter and Bas (2010) observe a common occurrence of teachers' over reliance on textbooks and chalkboards in fairly large classes within a traditional learning environment. Global practices in education are veering towards a learner-centred approach to teaching. Consequently, the Global Education 2030 Agenda reveals a global ambition of quality education and most importantly, a new outlook in teaching and learning strategies (The United Nations Educational, Scientific and Cultural Organisation, 2015). The wave of instructional media existing today has, perhaps, paved a way for meaningful learning to occur in Colleges of Education which are saddled with the task of training teachers specifically for pre-secondary schools. In spite of this technological explosion in the educational sector, there seems to be inadequate modern technological apparatus in Colleges to boost the academic performance of the teeming undergraduates. Furthermore, the influx of digitalized educational tools in the Nigerian education system has created vast learning options beneficial to the second language learners of English. One of such evolutions has been the use of facilities in digital language laboratories for lectures delivery. Adedara and Faboya (2011) opine that the need for significant learning outcomes may not be achievable without some degree of interaction between the learners and educational tools. In essence, the teacher only becomes a 'monitor' in the interactive process while the learners explore through cognitive processing of information displayed attractively on powerpoint slides.

Generally, Colleges of Education in Nigeria have been designed to train teachers for pre-secondary education. Unfortunately, as Ofodu (2016) observes, most English language teachers in Nigerian schools neglect the teaching of vital segmental aspects of the English language. Hence, according to Adeosun (2014), the teachers are viewed globally as major contributors to quality education for a nation's citizenry. The Education 2030 Agenda clearly states in the Incheon Declaration the urgent need to entail a new look on learning and teaching in various regions (The United Nations Educational, Scientific and Cultural Organisation). The problem of learner comfortability, as reiterated by Masir (2018), begins from the availability of current technology that would enhance the teaching and learning of speaking skills in the formal learning and teaching environment. Due to the required presence and expected utilization of computer-related systems such as laptops, projectors, and Interactive White Boards (IWB) in most Colleges of Education, it is expected that the level of undergraduates' academic performance in spoken English would be enhanced. Trevor (2016) emphasizes the relevance of a wide range of factors governing the impact of ICT in the learning environment especially in the 21st century digital world. The utilization of up-to-date technology and strategies such as digital language laboratory features come with a wide range of pedagogical options. Digital technology is the efficient teaching and learning

alternative for improving speaking skill development in the present global context (Pieter & Bas 2010; Akinwamide 2016; Richards, 2016). The undergraduates described by Chris, Rusian, Ramanau, and Simon, (2010) as “The Net Generation” would rather appreciate a technology - based learning environment where teacher, and learner can interact via sound and activity than a class devoid of relevant and motivating modern technology. Consequently, the lecturer’s inability to effectively communicate with new generation undergraduates, as pointed out by (Jeyasala, 2014), can greatly hinder effective learning.

Furthermore, teachers in interactive learning contexts, as pointed out by Ofoodu and Oyinloye (2014), can stimulate a learning environment where the learner becomes more attentive, less distracted and require fewer repetition of actions. Therefore, it is vital for the teacher and learner to become synchronized in an environment where interpersonal contact between groups being enhanced through a synchronization of teaching strategies, digital tools and the teachers’ expertise in harnessing them for effective learning to take place. Dan and Karen (2015) view such technology such as communication tools, comprising the internet, the laptop computer, and personal response systems (i.e. clickers) as game changers in the classroom learning environment. However, one major impending factor overlooked in related literature in recent times as noticed by Dan and Karen (2015) is the need to bridge the skill gap between basic knowledge of ICT and the integration of active pedagogical skills in the teaching and learning of spoken English in Colleges of Education.

Delimitation of the Study

This study is delimited to Colleges of Education, Ikere - Ekiti and Adeyemi College of Education, Ondo. Also, the study focused on the segmental aspect of the course content for spoken English for undergraduates studying English as a double major.

Significance of the Study

It is hoped that the outcome of this study would benefit major stakeholders in the teaching and learning industry, comprising undergraduates and lecturers in the higher education system, the National Commission for Colleges of Education (NCCE), Faculties of Education in Nigerian Universities and various Government and Non Governmental organisations involved in the enhancement of education in Nigeria.

Validity and Reliability of the Study

The content and face validity of the instrument was carried out by research experts in the Faculty of Education, Ekiti State University, Ado- Ekiti. Also, experts in phonetics and phonology in the Department of English, College of Education, Ikere-Ekiti adjudged the content validity of the research instrument.

The reliability of the instrument (ATULOSE) was determined by the test- retest method using Pearson’s Product-Moment Correlation Coefficient. Forty (40) students that were not part of the experiment were randomly selected for the

reliability test. The achievement test was administered on the selected students as the first test and after two weeks, the same instrument was administered on the same students. After analysing the raw scores obtained from the two tests on SPSS 20, the co-efficient(r) 0.854 which was got was considered highly reliable for the study

Data Collection

The research instrument used for the study was the Achievement Test on Undergraduates' Learning Outcome in Spoken English (ATULOSE). The researcher administered a pre-test on the samples for this study before the commencement of the treatment stage. One research assistant was involved in the administration of the ATULOSE and the teaching of the control group. The experimental group was taught by the researcher and the ATULOSE was administered simultaneously on the control and experimental groups after six weeks of intensive teaching. At the end of the six-week period of instruction, a post test was administered on the samples in form of an Achievement Multiple Choice Text. Afterwards, the test scores for the respective groups were collated by the researcher and research assistants. Data was analysed using SPSS research data analysis. An Independent Samples t-test was used to analyse data for this study. Also, the assumptions for the t-test were also taken into consideration such as homogeneity of samples and random selection of the samples. Specifically, the two hypotheses were tested at $P = 0.05$ level of significance.

Population and Sampling Techniques

The population of the study consists of 1,558 College of Education undergraduate students offering English as a double major (Part 1) from Colleges of Education in the Southwest Nigeria. The purposive sampling technique was used for the selection of two Colleges of Education in Southwest, Nigeria. The simple random sampling technique was used to select two hundred samples for the study. Furthermore, the simple random sampling technique was used to distribute 50 males and 50 females subjects each in to the experimental and control groups respectively. A total of 100subjects each were distributed in to the experimental and control groups.

Research Methodology

This study adopted a two-group pre-test, post-test and quasi-experimental design as diagrammatically represented below:

E1 - O₁ X₁ O₂ (Digital Interactive)

C - O₅ C O₆ (Lecture Method)

The Achievement Test on Undergraduates' Learning Outcome in Spoken English (ATULOSE) and marking guides were used for the study. The pre - test tagged Test A, comprised six sections covering all aspects of the course content on Spoken English ENG 111, while, for the post-test, Test B, comprised identical items but with a shuffling of sections 1 to 6. The instructional lesson package comprising the adapted Digital Interactive Model Package (DIMP) was utilized for instruction as treatment on the experimental group. The duration of the treatment lasted for six

weeks. The package comprised lecturers’ and students’ interactive activities in the digital language laboratory.

Results of Findings and Discussions

Hypothesis 1: There is no significant effect of treatment on learning outcomes of undergraduates’ spoken English skills using their pre-test mean scores.

Table 1: T-test analysis of the effect of digital interactive model on undergraduates’ spoken English skills using their pre-test mean scores.

Group	N	Mean	SD	Df	T-cal	T-tab	Decision
Control	100	17.82	5.885	98	1.02	1.98	Not Significant
Experimental	100	18.46	6.789				

Table 1 reveals that the mean value of Control Group (17.82) is lesser than the mean value of the Experimental group (18.46) with a difference of 0.64 which is very marginal. The measure of variability (Standard deviation) has a difference of 0.938 indicating homogeneity of the samples for the study. The t-calculated value (1.02) is less than the critical (table) value (1.98). This indicates that there is no significant difference in the effect of digital interactive model on learning outcomes of undergraduates’ spoken English skills using their pre-test mean scores. Hence, the null hypothesis is upheld. The findings imply that the learning outcomes of College undergraduates offering English as a double major in both control and experimental groups were equivalent before treatment. This is indicated by the marginal difference of the mean score (0.64) of the control and experimental groups before treatment.

Hypothesis 2: There is no significant effect of treatment on learning outcomes of undergraduates’ spoken English skills using their post-test mean scores.

Table 2: A t-test analysis of the effect of digital interactive model on learning outcomes of undergraduates’ spoken English skills using their post-test mean scores.

Groups	N	Mean	SD	Df	T-cal	T-tab	Decision
Control	100	34.92	5.570	98	37.40	1.98	Significant
Experimental	100	65.18	5.870	98			

Table 2 shows that the mean value of the Control Group (34.92) is lesser than the mean value of the Experimental Group (65.18) with a difference of 30.26 which is not marginal. The measure of variability (Standard deviation) reveals a difference of 0.3 which signifies homogeneity of samples for the study. The t-calculated value (37.40) is greater than the critical (table) value (1.98). This indicates that there is

significant effect after treatment on the learning outcomes of undergraduates' spoken English using their post-test mean scores. Hence, the null hypothesis is not upheld. However, in table 2, this study reveals that undergraduates exposed to the use of digital interactive model performed better than those exposed to conventional modes of instruction in the Spoken English class. This is evidenced in the mean scores of the control group (34.92) and the experimental group (65.18). The null hypothesis which states that digital interactive model would not have significant effect on undergraduates' learning outcomes in spoken English skills was not upheld. This implies that college undergraduates studying English are likely to exhibit enhanced learning outcomes which involve the utilization of relevant digital interactive features in the language laboratory. Conversely, findings in table 2 reveal that the conventional mode of instruction accompanied with a less active and visually attractive approach is unlikely to be as effective as Digital interactive model. The finding of this study is in support of the opinions of Osinaike and Adekunmisi (2012), Ofodu and Oyinloye (2014), Babalola (2016) and Akinwamide (2016) in their various works on pedagogical benefits and effectiveness of digital media in the teaching and learning context. Furthermore, Fateme (2014) and Yukiko (2016) have congruent views on the pedagogical potency of digital interactive model which provides the learner with a cognitive enhancing schema devoid in conventional and teachercentred contexts. In addition, this study aligns with the findings of Yukiko (2016) whose study re - examined digital potentials to enhance traditional pedagogical practices in higher education. The study addressed, in part, the teaching and learning conditions under which digital interactive tools are viewed as being more effective than lectures supported by material on chalkboards.

Conclusion

The results from this study have revealed that undergraduates taught with digital interactive model have better learning outcomes in spoken English skills than undergraduates taught with conventional pedagogies such as charts, flash cards, diagrams and audio aids, to mention a few. Furthermore, the use of chalkboards and white boards in teaching Spoken English skills in pre-service teacher training institutions such as Colleges of Education cannot be considered as being a globally accepted practice in the 21st century. Hence, the prevalent utilization of outdated conventional educational tools negates the ambitions of The Global Education 2030 Agenda as essentially captured in the Sustainable Development Goal 4 which aims to ensure quality education and promote lifelong learning opportunities for all. The Net Generation, which includes learners with innate desire and quest for computer based education, perhaps, would consider a monologue mode of instruction as obsolete (Chris, Rusian & Ramanau, 2010). On the part of the language instructor, digital interactive model have the potentials of creating an active learning pedagogy with the view of providing quality instruction beneficial to the learner. Hence, the teaching and learning materials would be presented in an enhanced real life context, as well as attractive colorful mode, through well packaged slides.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. The National Commission for Colleges of Education should make it mandatory for lecturers to utilize ICT based instructional tools for classroom instruction. Monitoring teams from NCCE should make unannounced visits to Colleges before accreditation exercises commence.
2. Schools of study and academic units in Colleges of Education should acquire laptop projectors and white board touch screens for academic purposes. Each school of study should acquire at least one unit through school levies, departmental levies, student associations and so on.
3. Schools of study and academic units in Colleges of Education should encourage lecturers to upgrading relevant ICT skills in their lecture delivery. Digital interactive models should be utilized at various academic events such as seminars, conferences, lectures and project presentations by final year students.
4. Major stakeholders in teacher education such as the College of Education Academic Staff Union (COEASU) and the Academic Staff Union of Universities (ASUU) should put more pressure on the Federal Government of Nigeria on the need to implement The White Paper Report on Needs Assessment Survey of the education sector in Nigeria (International Organisation of Migration, 2014).

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