

DIGITAL INSTRUCTIONAL APPLICATIONS AND STUDENTS' PERFORMANCE IN ORAL ENGLISH: A FOCUS ON SECONDARY SCHOOLS IN EKITI STATE, NIGERIA

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Abstract

This study focused on the effect of digital instructional application on senior secondary students' performance in Phonics in Ekiti State, Nigeria. The focus involves the effect of Elsa Speak, a digital instructional application, on senior secondary students' performance in Oral English. The quasi-experimental research design was used for the study. The population consisted of 14,533 senior secondary school 2 students in Ekiti State. Using multistage sampling procedure, fifty pupils each were randomly selected from two senior secondary schools in Ikere and Ado Ekiti. Furthermore, the Equivalent technique was utilized in distributing fifty male and female pupils into the experimental and control groups respectively. The instrument tagged Oral English Performance Test was used for data collection with 0.72 as reliability coefficient. Data was collected with the Oral English Performance Test (OEPT). Data was analyzed using Analysis of Variance (ANOVA) and Analysis of Covariance (ANCOVA). The two hypotheses were tested as 0.05 level of significance. Findings revealed significant effect of Elsa Speak, a digital instructional app on the young learners' pronunciation of isolated and connected speech in English. However, the study revealed that gender had no significant effect on the students' performance. Recommendations based on findings included the need for a relearning programme of teachers in charge of phonics, among others.

Keywords: Digital instruction applications, students, performance, oral English, secondary schools, Ekiti State.

Introduction

In Nigeria today, stakeholders in the educational sector are concerned about the deteriorating performance of students in English, and most especially at the penultimate stage to tertiary education. It is equally worrisome that teachers who handle phonics involving pronunciation and drills at the senior secondary school class tend to underutilize the use of modern technology. Babalola (2016) prescribes the 21st teacher for meaningful and effective learning outcomes based on the use of relevant and up to date pedagogies in the English language class. Furthermore, the relevance of English Language to the educational development of Nigerians have been hinged on several efforts made to assist Nigerians, and most especially, the Nigerian child, in removing linguistic and communicative barriers that could later prevent them from functioning properly in life. The issue of poor performance of students in learning

how to articulate speech sounds and intonation patterns in English has been narrowed down to the underutilization of interactive educational devices in the oral English lesson.

The English language curriculum for senior secondary schools in Nigeria comprises the inclusion of Phonics as a means for remediating student's deficiencies in spoken English. In addition, the teachers, in most cases, rely on conventional methods of exposing these students to pronunciation drills in segmental and suprasegmental features of English. The Vision 2030 document emphasizes the use of learner friendly strategies for the global benefit of the child. One of these benefits includes the use of digital instruction for teaching and learning second languages in developing nations such as Nigeria. A recent nationwide survey on the condition of teaching English Language conducted by the National Teachers' Institute that most primary schools in Nigeria lack basic and up to date instructional media and that majority of English teachers show less proficiency in the use of spoken English for instructional purposes (MDGP. 2006). Consequently, the students taught by such ineffective and inefficient English teachers are bound to exhibit poor oral traits through their inability to pronounce and spell basic English structures, probably, due to the absence of motivating and interesting educational media. In this regard, Faloye, Obateruand Alonge (2021) suggests the use of educational media that can be readily available to the teacher and at the same time, be used to arouse students interest in learning the oral aspect of English.

The 21st century can be considered as an era of digital inflow with emphasis on the immense pedagogical benefits in education. Thus, it is vital at this juncture, to accentuate the importance of the correlation between utilization of the digital pedagogical tools and the access to these educational learning materials in the learning outcomes of students. The essence of the 21st century learners' attainment, which includes the present digitally-inclined learners: The Net Generation, could be viewed to be predicated on the teaching and learning strategy employed by the lecturer. In addition, most studies suggest that although today's students come to the classroom with some digital skills, the use of digital media for studying might be quite different and the transfer of these skills is not automatic. The simple fact that students are dexterous in manipulating various social media spaces does not, perhaps, correlate with relevant academic tasks.

The reliance on technology for instructional purposes has witnessed a boost with the influx of digital applications designed for teaching and learning oral features of English. Recently, the introduction of *Elsa Speak* in the oral English class at pre-tertiary and tertiary levels of education in Nigeria, to some extent, has been used by digital enthusiasts, including English language teachers. This application features on android phones and app stores with the intent of allowing unrestrained access by students and teachers. Also, the Elsa Speak app provides vast self-evaluative menus for assessing and remedying speech deficiencies from basic to advanced levels of learning. Oladunjoye and Akinwumi (2016) agree that the teaching of pronunciation and spelling in English need to be supported with digital devices especially when it involves second language learners of English. With the global shift in instruction from teacher-centered to a more learner friendly pedagogy, language educators in Nigeria are concerned with the rate of success in using digital instruction devices cum applications in Nigerian schools in general and secondary school education in particular. More so, students at the final levels of senior secondary schools need to be adequately tutored in oral English as a prerequisite to gain admission in to universities, colleges of education or polytechnics.

Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

1. There is no significant difference in the effect of digital instructional application and conventional method on students' performance when taught oral English..
2. There is no significant difference in the performance mean scores of male and female students exposed to digital instructional application and conventional method in oral English.

Review of Related Literature

There are a good number of literatures on the use of audio visuals in teaching Oral English at the various levels of education in Nigeria. A vast number of teachers and educators have in one way or the other contributed to literature on types of pedagogy used in enhancing students' performance in oral English at various educational levels. Aborisade (2011) concedes to the fact that most instruction in the English language lesson, in general, fall into the category of teacher-centeredness where the chalk-talk syndrome is prevalent during formal instruction. Consequently, Oyinloye and Fasae (2018) advocate for teachers' desires towards innovative approaches in embracing communicative approaches and teaching strategies in the ESL class.

The 21st century comes with intense advocacy for learner friendly strategies expected to be part of the teaching and learning process needed in the language lesson. Specifically, stakeholders in second language teaching in secondary schools noticed the dwindling performance of students in oral English, perhaps, due to the neglect of learner -friendly devices. Usman and Mustafa (2014) opined that teaching methods used for teaching phonics in English in Nigerian senior secondary schools appeared to affect students' ability to speak good English. In the same vein, Faloye (2022) reiterates the need for teachers of Phonics in secondary schools to display adequate dexterity in digital manipulation of instructional tools. From a general point of view, most English language teachers seem to rely on conventional methods of teaching students how to correctly pronounce speech sounds of English without considering the phonological interference inherent in the students' repertoire. According to Anand, et al (2014) digitalized instruction in the oral English class, which includes e-features such as mobile devices and relevant speech enhancing applications, e-mailing, social media utilization provides vital assistance for the students and teachers through exposure to native-like models of pronunciation drills while reducing the level of teacher dominance.

ELSA Speak is viewed as an artificial intelligence (AI)-powered language application created to assist non-native speakers of English in attaining international intelligibility levels of proficiency in spoken English (Becker, Kimberly & Edalatishams, Idée, 2019). The Elsa Speak digital app has potentials for interactive learning within a digital interface made relative easy for all levels ranging from basic to advanced. Empirical studies have confirmed the effectiveness of digital instructional apps as facilitators of students' performance in pronunciation and spelling in English. Consequently, Eisenmann and Summer (2012) posit that secondary school teachers handling Phonics or related subjects such as Oral English need to be encouraged to utilize the vast digital opportunities available for making the oral English lesson attractive instead of clinging to the traditional and less productive use of the chalk board and text books. Many educators, such as Faloye and Obateru (2021) agree that students in Nigerian schools tend to enjoy learning how to pronounce English structures when the

lessons are backed up with motivating and real life scenes in digital mode, films, advertisement and colourful educational documentaries. Fatiloro, (2015) observes that it is rarely common to find English language teachers in Nigerian public schools use digital-based instruction such as digital apps to provide the necessary stimuli for learning how to pronounce sounds in English. However, Mercy (2019) notices that such phenomenon are common in developed countries where factors that facilitate the use of digital instructional devices present: factors such as constant power supply, good teacher-training programs, affordable cost of instructional media and maintenance services. The good news, however, is that the developed world now sees the need to assist developing countries like Nigeria in providing a conducive and well- funded educational environment. Furthermore, many private and missionary schools in Nigeria are providing the Nigerian child with quality linguistic cum communicative education. in terms of teaching and learning tools relevant to the 21st century needs of the Nigerian child in general and secondary education beneficiaries in Nigeria.

Theoretical Framework

The study is grounded on Vygostky's (1934) theory of Constructivism which is a proponent of the Social Constructivist theory of learning. Generally, Constructivism bifurcates in to three main philosophically-based theories: Cognitive Constructivism, Social Constructivist and Radical Constructivism (Suhendi, 2018). A prominent feature of social constructivism places much emphasis on task-based learning, experimentation involving self-structured and self-motivated processes of learning. This principle , to a large extent, considers futuristic means of providing learners with self-help strategies with the aid of emerging technologies for teaching and learning a second language.

The theory assumes that learner-friendly pedagogy would afford learners sufficient instructional time to discover real-life challenges while constructing problem -solving strategies in the process of learning how to communicate in English. The relevance of the social constructivism theory to this study is hinged, among others, on the assumption that learning with technology and learner-friendly pedagogy would afford learners sufficient instructional time to discover real-life challenges while constructing problem -solving strategies in the process of learning how to communicate in English.

Conceptual Framework: Model for Teaching with Technology

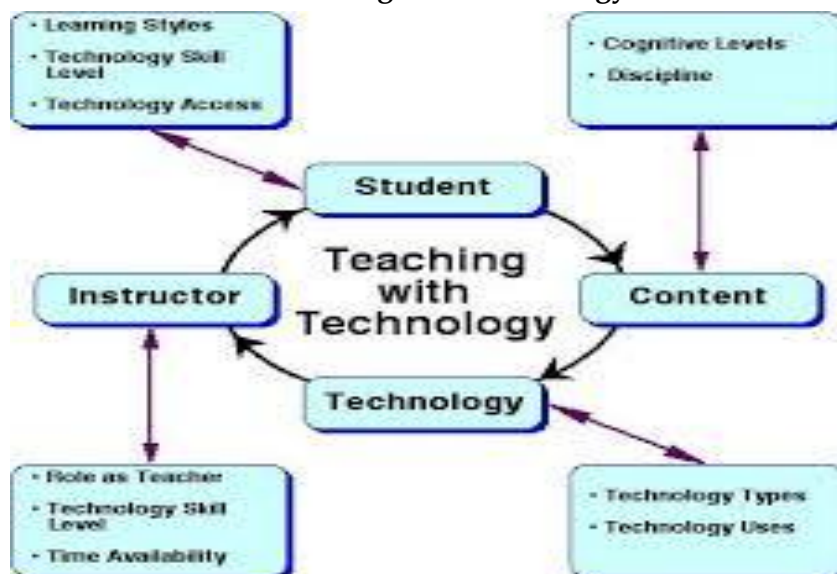


Figure i: Model for Teaching with Technology

Source: <https://crlt.umich.edu/inst/model>.

Methodology

This study adopted the quasi-experimental design of the two group type. The study comprised the experimental and control groups. The population of this study comprised 14,533 senior secondary school 2 students in Ekiti State. Multistage sampling procedure was used in selecting a randomly sample of fifty SSS 2 students from secondary schools in ado-Ekiti and Ikere-Ekiti respectively. Therefore, the experiment consisted of a total of fifty male and fifty females. A research instrument tagged Oral English Performance Test (OEPT) was designed by the researcher to collect data for the study. The reliability of Oral English Performance Test was established through test-retest method and analyzed using Pearson Product Moment Correlation analysis with a reliability coefficient of 0.72. The experimental procedure was done in three stages: the pre-test stage, treatment stage and post-test stage. A digital interactive guide was utilised for the treatment stage while the usual syllabus for Phonics served as the conventional method. The hypotheses were tested using inferential statistics of Analysis of Variance (ANOVA) and Analysis of Covariance (ANCOVA).

Results

Hypotheses 1: There is no significant difference in the effect of digital instructional application and conventional method on students' performance when taught oral English.

Table I: Summary of ANOVA on the performance of students taught with digital instruction app using their pre-test and post –test scores in Oral English

Source	Type III Sum of Square	Df	Mean Square	F-Cal	F-table	P-value
Corrected Model	857.020	3	285.67	7.60	2.60	0.000
Intercept	91506.420	1	91506.42	2434.69	3.84	0,0
Test	375.380	1	375.380	9.988	3.84	0.002
Group	386.420	1	386.420	10.28	3.84	0.002
Test group	95.220	1	95.220	2.533	3.84	0.113
Error	7366.560	99	37.584			
Total	99730.00	100				

In table I, there is a significant difference between the main effect of treatment on the performance of students since P-value (0.002) is less than 0.05 and F-calculated (9.988) is greater than F-table (3.84). Also, there is a significant difference between the main effect of the group on the performance of students since p-value is less than 0.05 and the f-calculated (10.281) is greater than f-table (3.84). However, the interactive effect of a test and group has no significant effect on the performance of the students at 0.05 level significance because p-value (0.1130) is greater than 0.05 and f-calculated (2.5330) is less than f-table (3.84). The interpretation of the data above reveals that the group of students taught with digital instructional app performed better than the control group that were not taught with digital instructional app.

Hypotheses 2: There is no significant difference in the performance mean scores of male and female students exposed to digital instructional application and conventional method in oral English.

Table 2: Summary of ANCOVA of the performance of male and female students taught with digital instructional application and male and female students taught without digital instructional application using their post-test scores in Oral English.

Source	Type III Sum of Square	Df	Mean Square	F-Cal	F-table	P-value
Corrected Model	437.377	4	109.344	5.97	2.46	0.000
Intercept	5593.052	1	5593.052	305.216	3.94	0,000
Pre-Test	1.457	1	1.457	0.080	3.94	0.779
Group	423.557	1	423.557	23.114	3.94	0.986
Gender	5.402E-03	1	5.402E-03	0.000	3.94	0.986
Group Gender	4.359	1	4.359	0.238	3.94	0.627
Error	1749.863	95	18.325			
Total	53980.000	100				
Corrected Total	2178.240	99				

From table 2, the results show that there is a significant difference between the main effects of group on the performance of students since the p-value (0.000) is less than 0.05 and the f-calculated (23.114) is greater than f-table (3.94) at 0.05 level of significance. However, the main effect of gender on the performance of pupils has no significance because the p-value (0.986) is greater than 0.05, and f-calculated (0.000) is less than f-table (3.94). Likewise, there is no significant difference between the interactive effect of gender and group on the performance of students using their post-test scores in oral English, while the pre-test is used as co-variance; because the p-value (0.67) is greater than 0.05, the f-cal (0.238) is less than f-table (3.94) at 0.05 level of significance. The interpretation of the above data signifies that gender has no significant effect on the performance of male and female students in Oral English.

Discussion and Conclusion

It could be stated from the major findings of the study that, statistically, a significant number of revelations have emerged concerning the effect of digital instructional applications on students' performance in Oral English in senior secondary schools in Ekiti state. The application of the digital instructional application, Elsa Speak, showed significant effect on the performance of students in Phonic lessons. This might have resulted from the interactive pedagogy interfaced with the application which comprised digital interaction through various audio-visual interventions between the students and real-life presentations by native speakers of English. This finding is corroborated in the study of Adeosun (2014) who underpinned the importance of digital interactive strategies in boosting students' performance in oral communicative skills. Also, it is in concord with the study of Ofodu and Oyinloye (2014) that utilization of interactive digital facilities enhanced students' proficiency in spoken English.

Furthermore, the utilisation of digital applications such as Elsa Speak in place of the conventional approach to Phonics could be regarded as significant performance enhancers of students' conversational skills in English. This was observed by the researcher as a positive pedagogical process which could reinforce students' oral skills in conversational discourse supported by digital apps. This assertion buttresses the studies of Ogu (2016), Oyinloye and Fasae (2018) and Faloye (2022). Hence, this finding aligns with the paradigmatic shift from a teacher-centred pedagogy to a learner-based mode of teaching English while focusing on the digital applications.

The findings as shown in Table 2 revealed there is no significant difference in the performance mean scores of male and female students taught with digital instructional applications and conventional methods. It implies that the main effect of gender on performance of students towards oral English is not significant. Though there is no significant difference in the performance of male and female students in with digital instructional applications and conventional method, treatment had significant effect on students' performance in oral English devoid of gender. This finding contradicts the study by Giowka (2014) that impact of gender on the performance of students in oral skills in English revealed a significant difference between female and male students. However, this finding corroborates a study by Babalola (2016) that gender had no significant impact on the learners' ability in oral communication in English. The interpretation could be based on the possibility of gender translating to the equality in opportunities of learning and resource utilization without necessarily being gender biased.

In conclusion, the use of digital instructional applications are expected to demystify the learning of oral English due to its multifaceted aesthetic and pedagogical components. Presently, Phonics is used as a medium for teaching pronunciation and related phonemic units of English sounds in secondary schools in Nigeria. However, with the global shift towards digital interactive strategies of teaching, students should be well prepared to confront more communicative challenges prior to tertiary education. Hence, the timely introduction and sustenance of the utilisation of digital instructional tools for learning how to speak good English cannot be overemphasised. Moreover, the era of talk-chalk and analog teaching strategies are becoming obsolete as more varieties of digital technology flood the educational sphere of life.

Recommendations

Based on the findings of this study, the following recommendations are proffered:

1. The Ministry of Education should organise training and retraining workshops for English language teachers handling Phonics in senior secondary schools in Ekiti state. This would afford the teachers to relearn how to use various digital apps for educational purposes.
2. The Government set up monitoring units for the onsite evaluation of teaching strategies utilised in schools.
3. The Government and stakeholders in the educational sector should support secondary schools by providing digital gadgets to schools. This support programme should be done phases through out the six senatorial districts in Ekiti state.
4. Non-governmental agencies should be approached by the Ministry of Education for assistance in organising technical meetings involving teachers handling Phonics in secondary schools in Ekiti state.

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