

# Digitalising Yoruba Orthography Instruction Using Interactive E-Content

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## Abstract

This study examined the effects of interactive e-content package, intelligent quotient and language orientation on students' achievement in Yor6bq orthography. The study adopted the pretest-posttest, control group, quasi experimental design with a 3x3x2 factorial matrix. Participants were 80 JSS II students (in intact classes of two public schools randomly selected from two Local Government Areas in +y- State. Two instruments, Yor6bq Language Achievement Test ( $r=0.69$ ) and Language Intelligence Quotient Test ( $r=0.5$ ) were used while three hypotheses were tested at 0.05 level of significance. Data were analysed using ANCOVA. Results showed significant effects of treatment, language orientation and intelligence quotient on students' achievement in Yoruba orthography. The study concludes that teachers should consider language orientation and intelligence quotient in using e-packages for Yoruba orthography instruction. Therefore, teachers should adopt Yoruba interactive e-content package for the teaching of Yoruba orthography to improve achievement in Yor6bq language.

**Key words:** Achievement in Yor6bq Orthography, Language Orientation, Intelligence Quotient

## Introduction

Communication is the backbone of human existence and language is the key to its effectiveness which defines and describes a group of people. There are many languages across the globe. Myriads of them are by different people in the various continents. These include English, Spanish, Greek, Chinese, Italian, German, and French. Interestingly, some of these languages have variations often described as dialects within the same language. In Nigeria alone, we have about 520 spoken languages but they are all grouped under three ethnic groups. In essence, there are three dominant languages; Hausa, Igbo and Yoruba. Yoruba language is unique and it is one of the three official languages being used as a standard language in terms of reading and writing skills in all areas. This standard form is understood by its speakers irrespective of their dialects. The National Policy on Education encourages the use of the aforementioned three major Nigerian languages; Hausa, Igbo and Yoruba in the first two or three years of primary and secondary education (FGN, 2004).

Actually, Yoruba language is predominant in south-western states of Nigeria which are; +y-, +xun, Ond9, \$k8t8, )g6n, Lagos and Kwqrz. Thus, Yor6bq Language is included among the subjects being taught in schools in these states, with the recognition of its orthography.

The standardized writing system of a language is known as its orthography. Orthography consists of the symbols and conventions used in writing a language. The principles of a good orthography are well expressed by Williamson (1944). Some of these include: It must have different ways to write all

different significant sounds of the language; The same sound or word must be written same way whenever it appears; It should be convenient to use and it should be familiar as possible in appearance. The existence of orthography in a given language ensures the posterity of the language and has a definite number of sounds which it employs for communication by speech. The standardized writing system of Yor6bq language is known as its orthography and it consists of the symbols and conventions used in writing a language (O15m5y8wq, 2013).

The foundation of Yoruba orthography was laid by Bishop Samuel Ajayi Crowther who collaborated with other Christians in the early decades of 19th century where Yor6bq language was reduced to writing. (Bamgbose, 2011) stipulated that the problem of how to write the language was consistently encountered which in the long run some solutions were offered; For example, the sentence *Nwong le she nhungkpukporhtieni aduduko le sheis* Crowther's version of

*W-nl4 xeohunpúpò tìèniyàndúdúkòlèxè* meaning 'They can do a lot of things that the black man cannot do'.

Moreover, researches have been conducted in time past and this study serves as an intervention to bridge the gap between learner's achievement and orthography. Abijo (2017) opines that parental subject perception is vital to the academic performance of students, most parents wished their children follow their path of career choice by imposing the career choice on their children parents consider career for their children based on the job prospect and how the

course is ranked in the society. Most parents discourage their children from offering Yor6bq language in schools, the language is derogatorily referred to as vernacular- a language spoken by ordinary people of a place or region. This to a great extent has influenced the outcome of students' achievement in the subject. Several factors have been identified to be responsible for students' poor achievement in Yoruba orthography. These include language orientation, intelligence quotient, age, and gender. Scholarly publications have established a relationship between language orientation and academic achievement of students.

According to Ashofor, Ekele and Milcah (2016), the Yor6bq language or any other language can be used to teach in primary school level, secondary school level and higher institution particularly in the language speaking areas. This will boost and sustain the learning ability of the students since it is the language of the immediate environment. Moreover, it will enable students irrespective of their language orientation to comprehend interpret and apply appropriate punctuation in the usage of the language. If Yor6bq or other languages could be sustained and properly utilized by learners particularly in their dominant areas, it will influence the learning outcome of the students.

In addition, intelligence quotient can be another factor that could positively or the other way round affect the academic achievement of students. Students, who learn fast, think fast and who have solution to every problem tends to perform better. Masoomah and Firooz, (2012) argued that irrespective of language orientation, learners who have access to materials (textbooks and other helpful materials) should perform better. There is scholarly controversy that intelligence either has a positive or a negative effect in learning language, this study aim to find out the relationship between intelligence and language learning.

Many ICT products are creatively designed and are directly related to education, such as teleconferencing, email, audio conferencing, instructional packages, mobile learning, interactive video, e-counseling, audiocassettes and CD ROM have been used in education for different purposes (Sanyal, 2001; Sharma, 2003; Bhattacharya and Sharma, 2007). ICT has an unrecoverable influence on education. The global discovery of ICT is to reduce learner's constraints in teaching learning process (X9n1yc, 2012). This implies that ICT makes learning easy and bring it

down to the level of students. Although teachers use different instructional materials to motivate learning like using textbooks, charts, models, graphics, real objects as well as improvised materials (Awotua-Efebo, 2001). In essence, the success of achieving what they are meant to achieve in an instructional situation depends on the suitability of the instructional materials, adequacy and effective utilization of the materials. The effectiveness of instructional materials in promoting students' academic performance in teaching and learning cannot be over emphasized. Instructional materials should serve as treatment that ought to improve the quality of education for effective academic achievement of students in Yor6bq orthography. This study uses Interactive e-content as treatment.

E-content can be described as an innovative mode of computer application in teaching and learning process. It catapults teaching and learning from a traditional way of teaching and learning process to a digital level. This include text, multimedia and animation. E-content is the advancement of technology to design learning content, deliver instruction, select appropriate teaching method and material, and extend learning. E-content in education is a potent tool that may be used effectively and efficiently within the classroom to create more exciting learning environment, attract learner's attention and deliver a higher level of educational expertise to the students. E-content refers to an electronic content using multimedia components. E-Content is an instructional resource which is different from conventional content in many ways. Mohammed and Shimaa(2015) stipulated that E-content is technology based and technology does serve as an aid to learning. E-contents can be transmitted through instructional presentations and lessons

#### **Statement of Problem**

Yoruba language is one of the three core indigenous languages in Nigeria particularly spoken mainly by people of southwestern part of the country. The language is included in the curriculum to enhance students' understanding and preservation of their cultural heritage. As intrinsic as language is to the expression of culture, communicating values, beliefs and customs, students' inability to use Yor6bq orthography correctly has contributed to poor academic achievement in Yor6bq language over the years. Meanwhile, reports have shown that Information and communication technology (ICT) has relationship with learners' performance. Therefore, this study developed and examined the effects of

Yoruba interactive e-content package on junior secondary students' achievement in Yor6bq orthography. It also examined the moderating effects of students' intelligent quotient and language orientation on students' achievement in Yor6bq orthography.

### Hypotheses

**H<sub>01</sub>.** There is no significant main effect of treatment on students' Achievement in Orthography.

**H<sub>02</sub>.** There is no significant main effect of Language orientation on students' Achievement in Orthography.

**H<sub>03</sub>.** There is no significant main effect of Intelligence quotient on students' Achievement in Orthography.

### Selection of Participants

The population of the study comprised of all Junior secondary school II secondary students in Oyo State. Participants of the study were drawn from two randomly selected public secondary schools from two randomly selected Local Government Area (\*bzdzn North Local Government Area and Ak7nyc13 Local Government Area) of \*bzdzn metropolis, +y- state. A total of eighty (80) students from two Junior Secondary School two (II)

intact classes which has Hausa, Igbo or Yor6bq as their language background participated in the study.

### Methodology

This study adopted a pre-test, post-test control group quasi experimental design with a 3x3x2 factorial matrix. The two instruments, designed and validated by the researcher were Yoruba Orthography Achievement Test (YOAT) ( $r=0.69$ ) and Yoruba Language Intelligence Quotient Test (YLIQT) ( $r = 0.5$ ). The data collected were analysed using inferential statistics of Analysis of Covariance (ANCOVA). The magnitude of the differences was determined using Estimated Marginal Mean analysis. Scheffe post hoc test was used where significant main effects were obtained.

### Results

**H<sub>01</sub>.** There is no significant main effect of treatment on students' Achievement in Yor6bq Orthography.

Table 1 shows the analysis of covariance of post achievement in Yoruba. The table shows that there was significant effect of treatment on students' achievement in Yoruba orthography.

**Table 1: Analysis of Covariance (ANCOVA) of Post achievement in Yor6bq orthography by Treatment, Language orientation and Intelligence**

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	460.321 <sup>a</sup>	15	30.688	6.689	.000	.491
Intercept	388.966	1	388.966	84.780	.000	.449
Pre-Achievement	91.864	1	91.864	20.023	.000	.161
Treatment	61.187	2	30.593	6.668	.002*	.114
Language orientation	38.020	2	19.010	4.144	.019*	.074
Intelligence Quotient	46.776	1	46.776	10.195	.002*	.089
Error	477.146	104	4.588			
Total	23024.000	120				
Corrected Total	937.467	119				

a. R Squared = .491 (Adjusted R Squared = .418) \*denotes significance at 0.05 level of significance.

This result is rendered as ( $F_{(2,104)} = 6.668$ ;  $p < 0.05$ , partial  $\eta^2 = 0.114$ ). The effect size is 11.4%. This means that there is a significant difference in the pre achievement mean score and post achievement mean scores of students. Thus, hypothesis 1 was rejected. In order to determine the magnitude of the significant main effect across treatment groups, the estimated marginal means of the treatment groups was carried out and the result is presented in Table 3.

**Table 2: Estimated Marginal Means for Post Achievement by Treatment and Control Group**

Treatment	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Interactive e-content group	12.703	.533	11.646	13.761
control group	12.093	.456	11.188	12.998

Table 2 shows that students in the Interactive e-content treatment group had the higher adjusted post achievement mean score than those in the control group ( $M = 12.70$ ) had the high adjusted post achievement mean score ( $M = 12.09$ ). This order is represented as IEG > CG. Furthermore, the source of the significant difference obtained in Table 3 was traced using Tukey HSD post-hoc test.

**H<sub>02</sub>.** There is no significant main effect of Language orientation on students' Achievement in Yor6bq Orthography

Table 2 shows that there was a significant main effect of language orientation on Students' Achievement in Yor6bq Orthography ( $F_{(2,104)} = 4.14$ ,  $p < 0.05$ , partial  $\eta^2 = 0.074$ ). The effect size is 7.4%. Hence, hypothesis 2 was rejected. In order to determine the magnitude of the significant main effect across language orientation, the estimated marginal means of the groups was carried out and the result is presented in Table

**Table 4: Estimated Marginal Means for Post Achievement by Language orientation**

Language Orientation	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Hausa	11.588	.847	9.907	13.268
Igbo	12.485	.472	11.548	13.422
Yor6bq	14.073	.238	13.602	14.544

Table 3 revealed that Yor6bq Students had the highest adjusted post achievement mean score ( $M = 14.07$ ) and was followed by Igbo students ( $M = 12.49$ ), while the Hausa students had the least adjusted post achievement mean score ( $M = 11.59$ ). This order is represented as YS > IS > HS. Furthermore, the source of the significant difference obtained in Table 4 was traced using Scheffe post-hoc test

**H<sub>03</sub>.** There is no significant main effect of Intelligence quotient on students' Achievement in Yor6bq Orthography

Table 1 shows that there was a significant main effect of intelligence on Students' Achievement in Yor6bq Orthography ( $F_{(1,104)} = 10.20$ ,  $p < 0.05$ , partial  $\eta^2 = 0.089$ ). The effect size is 8.9%. Hence, hypothesis 3a was rejected. In order to determine the magnitude of the significant main effect across intelligent quotient, the estimated marginal means of the groups was carried out and the result is presented in Table 3

**Table 3 Estimated Marginal Means for Post Achievement by Intelligence**

Intelligent Quotient	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
low intelligence	11.975	.401	11.181	12.769
high intelligence	13.917	.432	13.060	14.773

Table 3 reveals that students with high intelligence had the higher adjusted post achievement mean score ( $M = 13.92$ ) while the students with low intelligence had the lower adjusted post achievement mean score ( $M = 11.98$ ). This implies that students with high intelligence performed better than students with low intelligence in Yoruba orthography.

## Discussion of Findings

### Effects of Treatments on Students' achievement in Yor6bq orthography

In table 2, the result showed that there were significant effects of treatment on students' achievement in Yor6bq orthography. The Yoruba interactive e-content package was more effective while the conventional strategy was the less effective on students' achievement Yor6bq language

orthography. Though, there is dearth of literature on the effect of Youba interactive e-content package on students' learning outcomes, the result of the study could be said to corroborate the Shabl (2012) which showed the effectiveness of e-book and its educational effect on students' performance via increasing their achievement, based on what its components of texts, audios and images, and the easy access to required information. The findings further corroborates that of

Ukohand Okeke(2012) whose study on Locus of control, study habits and gender as predictors of senior secondary school students' attitude to Physics in Ibadan Metropolis, putting the control group at a disadvantage in achievement.

#### **Effects of Language orientation on Students' achievement in Yor6bq orthography**

Furthermore, Table 2 revealed that there was a significant main effect of language orientation on students' achievement in Yor6bq orthography. That is, language orientation had an influence on students' achievement in Yor6bq orthography. The reason for the difference in respect of language orientation may be related to Nation's (2001) which found that First Language (FL) has important role to play to communicate meaning and content but this may be small sometimes. Yor6bq students outperformed their Igbo and Hausa colleagues with a mean score almost doubled on the achievement scores. The efficacy of this result is seen in Yor6bq language which is a first and primary language of the students as well as serving as the content to be learnt. The content matter may not be totally strange from the Yor6bq students but may be an entire paradigm to be learnt by the Igbo and Hausa students. However, it seems that the Igbo and Hausa students do not significantly differ in their achievement, this buttresses the place of First Language interference with the second language. It was found that the acquisition of a second language can have an effect on First Language and vice versa(Lord, 2008).

#### **Effects of Intelligence Quotient on Students' achievement in Yor6bq orthography**

There were significant main effects of intelligence on Students' Achievement in Yor6bq Orthography in table 2This implies that the intelligence level of students influences their performance in Yor6bq orthography. Intelligence itself has many aspects which may contribute to students learning. This finding is in mutual agreement with Chandra and Azimmudin (2013) who observed a significant difference between high and average IQ category secondary school students on academic achievement. This position may be due to high intelligence which enables the students to better examine contents and learning materials thereby boosting their performance as against the low level counterpart. The high IQ child will grasp the concept in less time as compared to average child and would definitely perform better than the average child

(Chandra and Azimmudin, 2013).

#### **Conclusion**

Based on the findings of this study, it could be concluded that the use of interactive e-content package was found to enhance achievement in Yor6bq orthography over what is attained with conventional teaching method. Also, the study concludes that Intelligent quotient and language of orientation have significant effect on junior secondary school II students' achievement in Yoruba orthography. This implies that if Yoruba interactive e-content package is employed to facilitate the teaching of Yoruba orthography there would be improvement in students' achievement. It equally indicates that if teachers should carefully consider the Language orientation as well as intelligence quotient of their learners, there would be better performance in Yoruba orthography which would in turn produce notable improvement in the students' learning outcomes in Yoruba orthography.

#### **Recommendations**

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

1. In order to improve students' achievement in Yor6bq language, the use of interactive e-content is recommended to secondary school Yor6bq language teachers for the teaching of the subject.
2. Students should be allowed to take responsibility of their learning and be made to take active role in the process of teaching and learning in Yor6bq language classroom instruction.
3. Government and professional bodies such as EAAIN, NTI, NUT, etc. should exposed Yor6bq teachers to the use of these treatments through seminars and workshops and in teacher training institutions to facilitate better performance of junior secondary school Yor6bq language students.
4. Yoruba teachers should select and adopt the use of Yoruba interactive e-content package to stimulate the interest of their students in the learning of Yoruba language.
5. School administrators (leadership) should motivate teachers to integrate Yoruba interactive e-content for the teaching and learning of Yor6bq language and Yor6bq teachers should be trained on its usage.

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