# Game-Based Language Learning Packages and Pre-Service Teachers' Attitude to Yorùbá Orthography

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**Abstract**

*Yorùbá Orthography is a course being offered in some Colleges of Education in Southwest, Nigeria with established minimum standards. Over the years, previous studies have used variables like environmental, psychological and personal factors to investigate the gloomy outlook of pre-service teachers' attitude to Yorùbá orthography but none or little study investigated Yorùbá Word Paper Puzzle & Yorùbá Word Digital Puzzle and pre-service teachers' attitude to Yorùbá orthography. It is on that premise that this study examined the effect of Yoruba Word Paper Puzzle & Yoruba Word Digital Puzzle on pre-service teachers' attitude to Yorùbá orthography. The study used quasi-experimental research design. Colleges of Education Yoruba pre-service teachers in Southwest were randomly selected. Three research hypotheses were tested in the study at 0.05 level of significance. The Researchers used* ***Àtòjọ Ìbéèrè Ìwádìí fún Akẹ́kọ̀ọ́ Ákọtọ́ Èdè Yorùbá*** *(AIIAAY) and instructional guides* ***for data collection.*** *AIIAAY* ***was trial tested and found reliable with .65 coefficient. Result showed that null hypothesis one*** *($F_{(2;\ 38)}$ =.891; p=.424>0.05)* ***, two*** *($F_{(2;\ 38)}$ =.244; p=785>0.05) and three ($F_{(4;\ 38)}$ =.2.244; p=.098>0.05) were hereby not rejected. Findings revealed that Yorùbá Word Paper Puzzle & Yorùbá Word Digital Puzzle did not have a significant main effect on students' attitude to Yorùbá orthography. The study recommended that periodic workshops, seminars and conferences should be organized for Yorùbá language teachers in order to introduce them to the use of novel,* ***tested, interactive and learner-centred*** *game-based language learning packages.*

**Key Words**: Yorùbá Orthography, Puzzle Game, Digital, Background, Treatment

## Introduction

Game-based language learning could be simply put as learning through game playing which has defined learning objectives (Zhang, Cheng & Chen 2020; Poopon, Chansanam, Srsawat & Poochanon, 2021). It is equally defined as an approach to learning language where students explore relevant aspect of games in a learning context. It entails designing learning activities underpinned by game principles and characteristics and learning theories. Meyer (2013) reported that game-based learning of languages transcends the formal/informal context for learning – though the language may be learned in different ways in these contexts.

The Thailand Ministry of Education (n.i.d) revealed in their research that game-based language learning assists teachers' instruction and improves students' language ability. Zhang, Cheng & Chen (2020) further agreed that game-based language learning increases learners' autonomy. Likewise, they claimed that it is exciting and attractive than the conventional learning method. It is said to equally initiate and sustain learning. A study by Kapp (2012) indicated that there are several reasons to use games to enhance students' language ability. Parts of the reasons include that game-based language learning provides students with an opportunity to practice vocabulary and grammar, specific functions and other language skills.

Enyia (2012) defined orthography to be a standard way of writing a language. Enyia (2012) further put it that orthography greatly influences the production of materials to be used in all educational endeavours/practices. It also simply means the process of writing appropriately. It is signs, rules and principles that are used to write a particular language in a correct and an appropriate manner. Likewise, Nordquist (2017), Adeniyi & Adesanya (2005) and Willianson (1979) confirmed that orthography is the practice or study of correct spellings according to an established usage. In a broader sense, orthography can refer to the study of letters and how they are used to express sounds and combined to form words. Furthermore, Willianson (1979) pointed out that the orthographies of Nigerian languages are said to be characterised and similar to sound in order to allow whosoever that pronounces them be able to spell them accurately at the first instance or glance. Orthography, as highlighted by Willianson (1979) has five basic principles which are accuracy, consistency, convenience, harmonisation, familiarity.

Buck (2013) explained that the earliest proponents of creating written Yorùbá language were the Christian Missionaries but Barber **(**2016**)** revealed that Yoruba language was first produced in *Ajami (*adopted Arabic script*)* in which extensive written texts in Yorùbá began to be produced after the advent of the Christian Missions in Mid- 19th century and were written in Roman alphabets.

Johnson (1960) emphasised that it was made known that the earliest attempt to reduce

Yorùbá language into writing was in the 19th century, when the Church Missionary Society planed a mission to the Yorùbá country under the leadership of Henry Townsend and Samuel Ajayi Crowther. They made series of efforts to invent new characters, or adapt the Arabic, which was already known to Moslem Yorùbás but the Roman character was eventually adopted. This is not because it is the one best acquainted with, but also because it would obviate the difficulties that must necessarily arise if missionaries were first to learn strange characters before they could undertake scholastic and evangelistic work.

In Colleges of Education across southwest of Nigeria, existing minimum standards of when to teach which particular aspects of orthography among the pre- service Yorùbá language teachers are contained in the Nigeria Certificate in Education Minimum Standards for languages 2020. In the document, orthography is a 2-unit course in first semester of 100L with code $YOR_1111$ and titled *Àkọtọ́ Yorùbá* (Yorùbá Orthography). In the course, students are supposed to be taught the following in a chronological order;

a) A flash back on how the Yoruba language became a written language paying attention to Bowdich, Kilham, Raban, Crowther, Townsend, Lepsius, Venn's efforts.
b) The Yorùbá orthography conference of 1875 as well as different efforts directed towards Yorùbá orthography till date especially by Bamgbose 1966, 1975 and the Yorùbá metalanguage volume 1 & II.
c) Modern Yorùbá orthography with enough practical work.
d) Yorùbá dialects - Ẹ̀gbá, Ìjẹ̀bú, Àkókó, Ìkálẹ̀, etc.

The causes of poor performance of students in Yorùbá orthography in Colleges of Education have not been fully established in academic research but Adetokun (2018) insisted that students' performance is poor because they sometimes fail to put the correct tone-marks on words when answering questions in the examination. Similarly, he maintained that they did not write the appropriate spellings in spite writing Yoruba language orthography. He concluded that some selected substandard recommended texts for the course contribute to students' poor performance in Yoruba orthography. These problems according to Olasunkanmi & Odeleke (2020) have negative effect on students. They pointed out that students' failure to use Yorùbá orthography correctly has been a major contributing factor to poor academic attitude in Yorùbá language. Equally, Adetokun (2018) and Adeyinka (2019) revealed that these problems have resulted in discouraging learners in having positive attitude towards the study of Yorùbá language.

Attitude is a psychological construct. That is, it cannot directly be observed but contributes to actions and behaviour that are observable. It is a thing of the mind which determines our approach to something or individual. Makinde (1991) pointed out that attitude affects all the domains of education. He explained that it is the attitude of an individual to learning that determines his desires to perform. A study by Makinde & Adetokun (2022) found out that students' attitudes are nightmare for educators. This is so because learner's actions or forms of behaviour could be on a continuum of positive to negative or good to bad. More reason Adeyinka (2016) argued that positive attitudes enhance teaching and learning performance in the learning of a language while negative attitudes inhibit it.

Studies have indicated that games contribute to students' attitude towards language learning. Jarrah, Ammari, Al-Talafha and Khalifeh's (2021) findings showed positive attitudes among language learners towards using language games in teaching. They justified that playing games help students to release a mental image stored in long-term memory. They further wrote that language games on CDs or websites contribute to attitude which in turn leads to self-education. Jarrah, Ammari, Al-Talafha and Khalifeh (2021) further expatiate that games enable students to learn in a fun and exciting way that increases their friendly atmosphere and attitude.

Singh and Sanatombi (2013) pointed out that students have favourable attitude towards games. This is similar to Namb and Pemir's (2020) explanation that growth in students' attitude in their academics is subject to their experience in digital games. In contrary, a study conducted in mathematics by Carkaya & Aysen (2009) revealed that students' attitude does not change because of their exposure to games. They claimed that students already have positive attitudes towards their Mathematics. It is important to note that students' attitude is more likely to influence achievement than achievement influencing attitude (O'Connel, 2000).

Gerri (2008) stated "students who are disinterested or reluctant to talk in class may be encouraged to voice their opinions and ideas in the more relaxed group setting provided by game structures that foster cooperative learning" (p. 145). He further established that "there is a strong

relationship between games and development of attitudinal competencies". But he noted that not all games address cognitive and attitudinal development. In furtherance to Gerri's (2008), he reported in his study that most students are disinterested in improving their academic performance, but immediately they were involved in playing games, their got interested in the process. Likewise, he quoted one of his participants as "I don't like science at all but I like games. When game playing is involved, I always look forward to coming to class more than I usually do because I would be having fun but at the same time, I am learning something but you do not realize it" (p.48).

Gerri (2008) concluded that games develop the attitudinal capacities which may transfer to life-long learning strategies. He finally asserted that with the context of game, attitude was positively affected and the participants reported that they felt less threatened than in their traditional classroom settings. Also, that game provide avenue to stimulate learners while relieving boredom and stimulating interest. Study (Whiseand & Dunphy, 2010) showed that the use of puzzle in the classroom improved students' vocabulary. It is on this premise that the research developed the Yoruba crossword and online Yoruba puzzle games so as to improve pre-service teachers' attitude to and Yoruba orthography.

The Yorùbá Crossword puzzle has several words embedded in letters scatted in small square boxes in which players are charged to cross letters that will in turn form the standard and correct Yorùbá words. It captures conventional spellings (spelling of vowels, consonants and tones), orthography of Yorùbá names, Common Yorùbá Orthographies and word divisions. Players use pencil to trace the words out. It is a single player game and a maximum of five minutes is allotted to play the game. Some of the words that will be found in the puzzle include; Olópàá, Atòólé, Akékòó, Orímóogunje, Bádéjokòo, Àánu, Ariyiibi, Nikèe, Tìróò, Wòlíi, Bée ko, Nígbà tí, Ta ni?, Bákan náà, Wí pé, Léyìn tí etc. These words can be found either horizontally, vertically or diagonally in the chart.

In this study, self-efficacy will be chosen as moderating variables in this study. Fakeye (2012) and Tella (2015) revealed that self-efficacy is related to academic achievement and that human behaviour is generally influenced by self-efficacy, (Bandura 1997). Weiten (2001) confirmed that self-efficacy is the perception of one's own ability to perform a task successfully. When self-efficacy is high, individuals feel confident that they can execute responses necessary to earn reinforcement.

Studies in Yorùbá orthography are lopsided in favour of factors like school types, school locations, teachers' content knowledge, teachers' job satisfaction, teachers' competence, teachers' attitude as predictors of learning outcomes of students in Yoruba orthography. Whereas game- based learning has been found to be a reliable approach yet no study has paid corresponding attention to the use of game-based language learning packages to effectively improve pre-service teachers' learning outcome in Yoruba orthography. Hence, this study closed such existing gap.

**Statement of the Problem**

Yorùbá Orthography is a course being offered in some Colleges of Education in Southwest, Nigeria with established minimum standards. Evidence has shown that the performance of colleges of education students in Yoruba Orthography in the Sout-west, Nigeria is poor. Over the years, previous studies have used variables like environmental, psychological and personal factors to investigate the gloomy outlook of pre-service teachers' attitude to Yorùbá orthography, but very little study investigated Yorùbá Word Paper Puzzle & Yorùbá Word Digital Puzzle and pre-service teachers' attitude to Yorùbá orthography. It is on that premise that this study examined the effect of Yoruba Word Paper Puzzle & Yoruba Word Digital Puzzle on pre-service teachers' attitude to Yorùbá Othography among colleges of education students in the South-west Nigeria.

**Hypotheses of the Study**

The following hypotheses were formulated for this study and tested at 0.05 alpha level:

**$Ho_1$** There is no significant main effect of treatments on students' attitude to Yoruba orthography.

**$Ho_2$** There is no significant interaction effect of self-efficacy and attitude to students' attitude to Yorùbá orthography.

**$H0_3$** There is no significant interaction effect of treatments and self-efficacy on students' attitude to Yorùbá orthography.

**Methodology**

The study adopted a 3x2 pre-test, post-test, control group, quasi experimental design. The study also used a factorial matrix. This design was employed to determine the effect of puzzle game packages at 3 levels (Yoruba Word Paper Puzzle & Yoruba Word Digital Puzzle) and conventional strategies being crossed with self-efficacy at 3 levels (low, average and high). Three out of the six states

that makes up southwest zone were selected using convenient sampling techniques. One school was then purposively selected from each of the three states considering their specific characteristics of some sorts. These schools were assigned to treatment and control groups. Àtòjọ Ìbéèrè Ìwádìí fún Akẹ́kọ̀ọ́ Àkọtọ́ Èdè Yorùbá (AIIAAY), and two instructional guides were used to collect data. The data collected were analysed using inferential statistic.

**Procedure for the Experiment**

The three College of Education were grouped into two experimental (experimental 1 and 2) and one control group. The teachers for the experimental group were trained for one week using the instructional guide. All participants were given a pre-test on Yoruba Orthography achievement test on the second week before they were taught for five weeks using the instructional guides. The posttest was administered immediately after making a total of eight weeks.

**Result**

**Table 1.1: Summary of ANCOVA of Post-Attitude by Treatment and Self-Efficacy**

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|---|
| Corrected Model | 410.412[a] | 15 | 27.361 | 1.737 | .113 | .531 |
| Intercept | 216.912 | 1 | 216.912 | 13.768 | .001 | .374 |
| Pre_attitude | 63.057 | 1 | 63.057 | 4.002 | .057 | .148 |
| Treatment | 28.069 | 2 | 14.035 | .891 | .424 | .072 |
| self_efficacy | 7.697 | 2 | 3.849 | .244 | .785 | .021 |
| treatment * self_efficacy | 140.150 | 4 | 35.038 | 2.224 | .098 | .279 |
| Error | 362.358 | 23 | 15.755 | | | |
| Total | 40901.000 | 39 | | | | |
| Corrected Total | 772.769 | 38 | | | | |

**a. R Squared = .531 (Adjusted R Squared = .225)**

**Ho$_1$ There is no significant main effect of treatments on students' attitude to Yoruba orthography**

Table 1.1 shows that treatment did not have a significant main effect on students' attitude to Yoruba orthography ($F_{(2;\ 38)}$ =.891; p=.424>0.05), hence the null hypothesis is hereby not rejected. This implies that the treatment applied did not cause a significant difference in students' attitude to Yoruba orthography.

**Ho$_2$ There is no significant interaction effect of self-efficacy on students' attitude to Yoruba orthography**

Table 1.1 shows that self-efficacy did not have a significant main effect on students' attitude to Yoruba orthography ($F_{(2;\ 38)}$ =.244; p=785>0.05), hence the null hypothesis is hereby not rejected. This implies that self-efficacy categories did not cause a significant difference in students' attitude to Yoruba orthography.

**H0$_3$ There is no significant interaction effect of treatments and self-efficacy on students' attitude to Yoruba orthography**

Table 1.1 shows that the interaction effect of treatment and self-efficacy was not significant on students' attitude to Yoruba orthography ($F_{(4;\ 38)}$ =.2.244; p=.098>0.05), hence the null hypothesis is hereby not rejected. This implies that the interaction of treatment and self-efficacy did not cause a significant difference in students' attitude to Yoruba orthography.

**Discussion of Findings**

The result of the study revealed that Yoruba Crossword and Crossword Connect did not have a significant main effect on students' attitude to Yoruba orthography. By indication, the two did not cause a significant difference in students' attitude to Yoruba orthography. This result negated Jarrah, Ammari, Al-Talafha & Khalifeh's (2021) study that games enable students to learn in a fun and exciting way that increases their friendly atmosphere and attitude. Likewise, the result of this study is also against Namb & Pemir'zxs's (2020) explanation that growth in students' attitude in their academics is subject to their experience in digital games. in addition, Gerri's (2008) finding that there is a strong relationship between games and development of attitudinal competencies of students is considered untrue considering the results of this study.

The study revealed that self-efficacy did not have a significant main effect on students' achievement in Yoruba orthography. This is

against Meera & Jumana's (2015) findings that self-efficacy contributes greatly to students' achievement. Also, it does not support Meera & Jumana's (2015) position that self-efficacy influences academic outcomes and life accomplishments.

**Conclusion**

The results of the study have shown that Yoruba Word Digital Puzzle and Yoruba Word Paper Puzzle were more effective in enhancing students' achievement in Yoruba orthography than the conventional strategy. Therefore, puzzle games would help students overcome the usual apprehension associated with orthography classes and tasks which in turn would bring about better performance in Yoruba orthography and the Yoruba language generally.

**Recommendations**

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

1. Teachers of Yoruba language should adopt Yoruba Word Digital Puzzle to facilitate students' achievement in Yoruba orthography as it is the most facilitative of students' achievement in Yoruba orthography in this study.
2. Periodic workshops, seminars and conferences should be organised for Yoruba language teachers by education authorities such as Universities, Colleges of Education, Ministries of Education Post Primary Schools' Management Board, the Universal Basic Education Commission (UBEC), Nigeria Union of Teachers (NUT), E)gbe)ì Ako)ìmo)leìdeÌ LeìdeÌ YoruÌbaì and other stakeholders to introduce them to the use of novel, tested, interactive and learner-centred game-based language learning packages like Yoruba Word Digital Puzzle and Yoruba Word Paper Puzzle**.**
3. Professionals should be employed to teach Yoruba orthography at all school levels. Those who have advanced knowledge in it must be considered. Obviously, orthography plays significant roles either in external or internal examinations of Yoruba students.

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