



## Evaluating the effectiveness of interactive radio instruction in teaching indigenous languages to native and non-native speakers in Nigeria

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### Abstract

This study aimed to investigate the effect of interactive radio instruction on the academic achievement of native and non-native speakers taught indigenous languages. The study was quantitative research and a quasi-experimental design was employed, involving one experimental and one control group comprising 92 senior secondary class 2 students from two schools in Education District 5 of Lagos State. A Yoruba language achievement test (YLAT) was used for data collection, validated by experts, and tested for reliability with a coefficient of 0.85. Both groups underwent pretests, four weeks of treatment, and post-tests. The experimental group, exposed to IRI, achieved a mean score (28.66, 12.25) significantly higher than the control group's mean score (12.92, 6.11). The result of the ANCOVA test on the post-test achievement scores showed that the difference in the performance between the students in the experimental class and control class was significant,  $F(1, 90) = 17.85$ ;  $p < 0.05$ . The analysis revealed a significant difference in achievement between the IRI and lecture groups. These findings highlight the effect of IRI in learning Yoruba language. It was recommended that learners should be encouraged to practice the Indigenous languages outside the classroom through interaction with native speakers to immerse and strengthen their language skills and enhance comprehension.

**Keywords:** Interactive Radio Instruction, Indigenous Language, Achievement, Yoruba Language.

### Introduction

The linguistic diversity of Nigerian and other African societies is greatly impacted by the quality of teaching and academic achievements in schools. Indigenous languages are vital for transmitting and maintaining cultural heritage, encouraging social engagement, and fortifying communal bonds, they are an essential part of any society. Orji and Udeze (2021) describe Indigenous languages as those that originate within a community, are linguistically unique, and are spoken primarily by members of that community.

In response to the need to preserve these languages, the Nigerian government introduced a multilingual policy, designating three major Indigenous languages Igbo, Hausa, and Yoruba as

languages of immediate communities. The Federal Government of Nigeria mandated that:

Igbo, Hausa, and Yoruba be recognized as national languages and included in academic courses at all Nigerian secondary schools and Universal Basic Education (UBE) programs.

Incentives be provided for teachers to improve their skills in these languages, ensuring their retention in the teaching profession.

From Basic 1-6, the language of the immediate community will be employed as the medium of teaching.

Yoruba, Igbo, and Hausa language courses be promoted in all Nigerian educational institutions and colleges,

recognizing the importance of language graduates in non-educational fields (FRN, 2014).

Yoruba is spoken by people around the world, including in countries like Cuba, the Republic of Benin, Brazil, Côte d'Ivoire, and Gambia, but is primarily spoken in Nigeria, where Yoruba speakers constitute around 23.7% of the population (Bendor-Samuel, 2023). According to Anyadiegwu and Nwode (2023), Yoruba should be taught as a subject of study in upper basic (7-9), senior secondary schools (SSS), and higher education, and used as a medium of instruction in Nigerian Basic Schools 1-6 in southwestern Nigeria. Relevant government agencies, including the Nigerian Educational Research and Development Council (NERDC), the National Council on Education (NCE), and the Joint Consultative Committee on Education (JCCE), have adopted the Yoruba language into the country's multilingual policy (Adekunle, 2021).

However, there are significant barriers to teaching and learning the Yoruba language in Nigerian schools. These include a lack of qualified Yoruba teachers, inadequate pedagogical materials, insufficient resources for Yoruba language instruction and development, and an inefficient curriculum. These challenges have contributed to the neglect of the conditions necessary for the language's progression, particularly in developing effective communication skills (both oral and written) for learners at all levels (Ayo & Oludele, 2019).

The poor utilization of resources prevalent in emerging countries like Nigeria has been attributed to deficiencies in various subjects, impacting overall educational standards (Okeowhor, Okoh, Baakel & Okolo, 2019). One promising yet underutilized resource is Interactive Radio Instruction (IRI). IRI has the potential to address these educational deficiencies by providing consistent, high-quality instruction and uniform educational content, especially in underserved areas. IRI involves the use of radio to broadcast lessons to listeners in a formal educational setting. In IRI, audio instructors facilitate while teachers, subject matter experts, and educational technologists prepare lesson

content. These lessons are designed to include skills, knowledge, activities, games, and exercises aligned with the curriculum's intended learning objectives.

Lessons in IRI include deliberate pauses and silences to allow facilitators (classroom teachers) and learners to actively participate in various activities during the lesson. Activities in IRI include presentations, verbal reactions, exercises, competencies, time management, and assignments. IRI is developed with techniques that vary depending on the subject, scope of learning, and class levels of the recipients.

### **Problem statement**

Quality learning in schools today involves interactive instruction, active learning, and the use of diverse instructional resources, which promote social interaction, hands-on activities, and exposure to various learning modalities. In Nigeria, a nation with a diverse population, native and non-native speakers of a language are frequently present in any typical language classes. However, the percentage of proficient Yoruba speakers and writers is continuously declining, with many unable to write and speak the language correctly (Abdulkareem & Effiong, 2016). Scholars like Olagbaju (2020) have emphasized the urgent need for Multilingual Education in Nigeria to preserve Indigenous Languages like Yoruba language in both written and spoken forms.

Despite efforts to promote the Yoruba language, its instruction faces significant challenges, including a lack of qualified teachers, ineffective teaching methodologies, and inadequate resources. These issues have hindered effective learning and contributed to the language's decline (Fasinro *et al.*, 2024)

IRI has proven effective in managing overcrowded classrooms, compensating for the lack of professional teachers, and ensuring the proper execution of the curriculum. Its accessibility and low cost make it a valuable resource for reaching both teachers and learners in remote areas with poor infrastructure. Given these advantages, IRI represents a promising solution to

the challenges faced in teaching the Yoruba language.

The purpose of this study was primarily to investigate the effect of interactive radio instruction on the academic achievement of native and non-native speakers taught Indigenous languages (Yoruba Language).

### Research question

What is the effect of interactive radio instruction on the academic achievement of native and non-native speakers taught Indigenous languages (Yoruba Language)

### Null Hypothesis

H<sub>01</sub>: There will be no statistically significant difference in the effect of interactive radio instruction on the academic achievement of Native speakers and Non-native speakers taught indigenous language (Yoruba Language).

### Theoretical framework

The study was influenced by Albert Bandura's Social Learning Theory. Albert Bandura established Social Learning Theory (SLT) in the 1960s. It emphasises the relevance of social interactions and observations in the learning process. The concept indicates that individuals may learn new behaviours and skills by observing and modelling the activities of others. Bandura hypothesised that learning is impacted by both cognitive and environmental components, rather than just external inputs. He emphasised the significance of observational learning, in which learners learn by witnessing the actions of others, and argued that cognitive processes like attention, retention, and motivation play essential parts in this process (Rumjaun & Narod, 2020).

In language learning, SLT can be applied effectively by leveraging opportunities for non-native learners to observe and interact with native speakers of the target language (Yaqobi, 2022). Learners can observe and model pronunciation and grammar through audio recordings, Interactive Radio Instruction (IRI), and other communication forms. Reinforcement, whether positive (e.g., praise) or negative (e.g., constructive criticism), further enhances the learning process by encouraging the repetition of desirable behaviours.

### Key concepts of SLT include:

- i. **Observational Learning:** Individuals can learn new behaviours and skills by observing others. This can occur through direct observation or via media such as books, films, television, and radio programmes.
- ii. **Modelling:** SLT suggests that individuals are likely to model behaviours observed in others, especially those who are perceived as successful or influential.
- iii. **Reinforcement:** Behaviours are more likely to be repeated when they are reinforced positively or negatively.
- iv. **Self-Efficacy:** SLT also emphasises the significance of self-efficacy, or belief in one's capacity to complete a task and achieve a goal, which is influenced by prior experiences and social interactions.

SLT's principles can be directly applied to Yoruba language learning through IRI. IRI provides learners with consistent exposure to native speakers and structured language usage, enabling them to observe and model proper pronunciation, intonation, and grammar. Interactive elements of IRI, such as prompts for student responses and participation, reinforce language skills and build self-efficacy.

### Implications for teaching and learning the Yoruba language:

- i. **Role Modeling:** Audio lesson facilitators can model Yoruba language skills for students to observe and imitate, including proper pronunciation and word usage.
- ii. **Peer Reinforcement:** Encouraging positive feedback between classroom teachers and peers can build confidence in using Yoruba.
- iii. **Interactive Learning:** Group discussions and language games embedded into IRI lessons can promote social interaction and modelling of Yoruba skills.

- iv. Exposure to Culture: Exposure to Yoruba culture enhances understanding and contextualizes language usage.

Research has shown that SLT can be effective in promoting language learning outcomes. Li, Hong and Craig (2023) found that SLT-based language learning programs were associated with improved speaking skills in English language learners and learning outcomes in Chinese language learners.

### ***Application of SLT to Interactive Components of IRI***

The interactive Radio Instruction programme was based on Social Learning Theory (SLT), emphasising the importance of modelling, reinforcement, and observation in learning. Through guided pauses that enable students to follow language patterns, pronunciation, and grammatical structures, the IRI programme applied observational learning and modelling

Prompts and interactive elements were used in the IRI lessons to actively engage students which offered practice opportunities and an element of instant feedback. Constructive feedback from the classroom teachers during prompts helped learners improve their replies and gain confidence in their language usage. These interactive elements guarantee that students are actively engaged in their learning process rather than passively absorbing knowledge

### ***Language Acquisition for Non-Native Speakers***

The use of SLT extends beyond language learning, especially for non-native speakers who frequently need extra assistance to close linguistic and cultural gaps. IRI lessons were designed to gradually proceed from easy to difficult language problems, hence scaffolding learning. This methodical approach was necessary to support non-native speakers. During the design of the programmes some English language words were embedded particularly for non-native speakers of Yoruba to build connections with the lessons. This integration enhances learners' retention by situating language within meaningful and familiar contexts, thus making it easier for non-native speakers to relate to and apply what they have learned. Moreover, iterative feedback pauses

within IRI lessons allow learners to practice repeatedly, refining their skills with each cycle and gradually building competence and self-efficacy.

### ***How SLT Shaped the Design of IRI Content***

The Social Learning Theory (SLT) was a foundation for the design and development of the Interactive Radio Instruction (IRI) content. Learners can pick up new behaviours and abilities through modelling, reinforcement, and observation which are the basis of this theory. These ideas guided the design and delivery of IRI classes, guaranteeing that they were not only participatory but also beneficial to the social and cognitive processes necessary for language learning.

A key component of SLT is observational learning and modelling, A native speaker who is also a qualified Yoruba teacher served as the radio teacher during the lessons, providing proper grammar and pronunciation to give students a trustworthy benchmark to follow, these were purposefully incorporated into audio content. Learners were able to digest and practice what they had learnt, which improved practice and retention. Learners were encouraged to mimic linguistic patterns through various interactive activities scheduled during the pauses, which allowed for reinforcement through instant feedback from classroom teachers, classmates or sometimes by the radio teacher.

### **Literature review**

#### ***Interactive Radio Instruction***

Elliot & Lashley (2017) describes interactive radio instruction (IRI) as a technique for improving the quality of interaction and learning that occurs inside established educational frameworks where learning involves the use of radio to broadcast lessons to listeners in a formal educational setting

Learning is achieved in IRI using existing resources such as teachers, games, instructional materials, and other locally accessible materials and in conjunction with broadcast capabilities from radio services and other resources to achieve effective teaching and learning (Verlunum Celestine *et al.*, 2024). Facilitators and teachers

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participating in interactive radio instruction (IRI) enjoy opportunities and access to contemporary curriculum-based materials, as they would be exposed to new pedagogical models for successful teaching and learning.

The exposures in IRI potentially revealed learning about local cultural artefacts, songs, games, knowledge of the local community, instructional materials, books, pictures, paintings, and use of locally available materials (Elliot & Lashly, 2017). According to Alotaibi (2014), IRI had given advantages of better learning opportunities and learning outcomes than traditional classrooms where qualified teachers were limited, and instructional facilities were virtually non-existent.

The content and contexts of materials for Interactive Radio Instruction (IRI) are drawn from approved curriculums for different subjects as recommended for particular ages and classes. The methodology is learner-centred and achieved via exchanges between facilitators, radio characters, teachers, and students. The objective of the IRI learning style is to democratise learning opportunities and to infuse learning with a more proactive methodology, which would accommodate both external and internal learning resources to raise the standard of instruction in a variety of academic areas and to support teacher development. Interactive radio instruction (IRI) has been implemented in some developing nations of the World such as Nicaragua where it was first used for the Radio mathematics programme developed by Stanford University in the USA in the 1970s. Berman (2008) reported on the 1980s curriculum implementation through IRI in Kenya, according to Berman, it was originally applied to execute the radio language arts (RLA) curriculum for third graders in Kenya.

The IRI classes are structured to involve scheduled lessons at appointed times/periods. The classes are organised with expectations for questions and comments from respondents which are expected to be clarified by teachers and generalised areas of misconceptions are to be treated in follow-up episodes of the programme. Interactive radio instruction was reported in the literature to have been beneficial to about 20

developing nations in South America, Asia, and Africa which primarily resolves issues of overcrowded classrooms, lack of professional teachers and/or shortage of teachers (Nwokedi et al, 2023).

IRI has proved to be useful in the proper execution of curriculum and in raising the standard of learning and education. The important opportunity in IRI was the accessibility and low cost of radio services for learning. It is an excellent tool for learning and broadcasting educational content that simply requires a radio and an adult facilitator to reach many teachers and students who are separated due to location and inadequate infrastructure (Archana, 2010).

### *Strategies for effective use of Interactive Radio Instruction in the classroom*

To integrate Interactive Radio Instruction systematically into classroom instruction, the following steps are germane for it to be successful

- (i) Analyse: learners: the learners' characteristics such as age, level, peculiarity instructional needs etc. are to be taken into consideration to determine their suitability for the radio lesson. Intended programme objectives must be converted to behavioural objectives suitable to measure and observe behavioural changes in learners
- (ii) Preview: the teacher must preview the recorded lesson content to familiarize with the objectives and activities of the upcoming class, a week before the class. This review will allow the teacher to anticipate potential challenges or areas where students may need additional support, enabling the teachers to effectively facilitate the activities and guide students through the learning process
- (iii) Prepare the environment: The teacher must ensure that learners listen to the programme in an environment free from external noise and distractions. The sitting arrangement should also ensure that all students have equal opportunities to listen to the programme

- (iv) Prepare the audience: teachers should review previous lessons and help students establish a link between the previous experience and the present topic
- (v) Present materials to students
- (vi) Evaluate: Assessment should be done to determine the effectiveness of the material. Quizzes or Tests should be administered in form of a formative assessment to measure knowledge gains and areas of difficulty for students. Practical tasks that require students to apply what they learned during the IRI session should also be encouraged.

### ***Trends in the Radio for Educational purposes***

The US Agency for International Development (USAID) provided funding for the Community Participation for Action in the Social Sector (COMPASS) initiative, which ran between 2004 to 2009. The primary aim of the educational initiative was to enhance literacy and mathematics instruction providing over 700,000 students who were enrolled in 1,400 schools. IRI was an essential element of the plan for achieving this goal and was designed to also give school-age children health and education strategies. In collaboration with the Nigerian federal government, COMPASS was established in the Federal Capital Territory (FCT), Lagos, Kano, Bauchi, and Nasarawa.

To enhance health and education in their communities, COMPASS encouraged Nigerians from all walks of life to study, plan, and take action (Solomon & Sankey, 2010). To involve local communities in the development of high-quality, integrated health and education services, this five-year project brought together the expertise of American partners Pathfinder International, Creative Associates International, Inc., Johns Hopkins University Centre for Communication Programmes, Management Sciences for Health, and Constella Futures, as well as Nigerian partners Adolescent Health and Information Project, Civil Society Action Coalition on Education For All, Federation of Muslim Women's Associations of Nigeria, and the Nigerian Medical Association. The basic education aspect of the initiative was carried out by Creative Associates International,

Inc. in conjunction with local NGOs, PTAs, teachers' organisations, and federal and state ministries of education and health. The primary aim of the educational aspect was to enhance the literacy and mathematics instruction provided in elementary schools. The education aspect sought to accomplish the following goals:

Teachers employing industry-standard best practices to raise students' literacy and mathematics proficiency.

Enrolment, retention, and achievement in literacy and math of students. females in particular are all rising steadily.

The school climate encourages female engagement.

PTAs and local communities taking the initiative in enhancing the standard of education in their respective communities.

Lagos State E-learning Radio and Television Programme (2020): The outbreak of the coronavirus disease (COVID-19) worldwide pandemic affected practically every facet of human activity and the educational sector was not left out, Schools were shut and students were left without access to education. Given the fact that Nigeria already had about 10 million out-of-school children the pandemic brought another challenge that could further increase the number, the Lagos State Government through its Ministry of Education and Lagos State Universal Education board came up with the idea of airing educational programs via the radio and Television for all students in both public and primary school. The programme started with mainly the SS3 students by was later expanded to cover all students from primary to secondary level.

The program partnered with various stakeholders such as NAJIA FM, SOUTH SAHARAN, WAZOBIA FM WAZOBIA MAX TV, EKO 89.5 FM etc. According to the State Commissioner of Education, the radio programmes intend to keep pupils preoccupied at home throughout the lockdown. The teaching curriculum, according to the State Commissioner of Education, intends to keep pupils preoccupied at home throughout the lockdown time. She advised guardians and parents to notify their

children and ensuring that they tune in and make the most of the excellent lessons and educational content.

### ***Indigenous Language***

Indigenous languages preserve and transmit Indigenous societies' knowledge and wisdom using stories, proverbs, folktales, myths, poetry, and songs that express meanings about individuals, society, culture, and relationships with environment. However, in Africa, the dominance of colonially imposed languages (English, Portuguese, French) as the language of education and commerce has harmed the role of Indigenous languages and their perception by Indigenous people, particularly in the modern world of work and academia (Manyike & Shava, 2018).

### **Methods**

The study was a quasi-experimental design that employed a quantitative data collection technique involving one experimental and one control group. The population of the study comprised all Yoruba language students in Senior Secondary Class 2 (SS2) in Education District 5. The sample was made up of 92 SS2 students offering Yoruba Language in two intact classes in Education District 5 of Lagos State.

A convenient sampling technique was used to select two schools for the study based on their readiness to take part in the study. There were 47 students (35 native and 12 non-native) in the experimental class (IRI) and 43 students (31 native and 14 non-native) in the control (lecture). The students were chosen from SS2, as the content of the school's educational programme at that stage was consistent with the kind of content the testing situation needed.

Achievement data were collected through a Yoruba language achievement test (YLAT). This instrument comprised 30 multiple-choice items. The Instrument was validated by educational technology and Yoruba language experts to ensure the face and content validity was met. A test-retest reliability technique was done to determine the reliability of the instrument which was done on a sample of the population. A reliability coefficient of 0.85 was obtained.

Lesson plans were developed for both the experimental class and the control class to ensure uniformity of lesson content across both groups. The experimental and control classes were firstly subjected to a pretest followed by 4 weeks of the treatment then a post-test was carried out using the same achievement measures. The lesson content of the experimental and control classes was on "Ami Ohun and Silebu" for four weeks. In the experimental class, the teaching and learning of the concept were done using Interactive Radio Instruction lessons to teach Ami Ohun and Silebu. The implementation of the IRI lesson in the classroom followed a 4-step process. These are:

1. Pre-lesson activity: the class teacher was given a copy of the recorded lesson content to familiarize with the objectives and activities of the upcoming class, a week before the class. This review allowed the teacher to anticipate potential challenges or areas where students may need additional support, enabling the teachers to effectively facilitate the activities and guide students through the learning process. This was also done to enable the teacher to cater for the diversity in the class since the class contains both native and non-native speakers of the language. Preparation of the physical classroom environment to support the IRI session, ensuring that seating arrangements and equipment necessary for the class were in optimum condition.

2. Introduction: this was done to set the stage for the class. A general theme song of the programme played to give the students a sense the class was about to commence. The introduction of the topic was done and the lesson objectives were listed to the students. This warm-up activity was done to provoke the curiosity of learners and arouse their interest in the class, encourage active listening, note-taking, and participation in interactive activities during the lesson.

3. Active Listening and Interactive Activities: when the lesson commenced. The radio teacher set the pace of the lesson by transmitting the content of the class. Students were taught Ami Ohun and Silebu. The contents of the class included Itumo Ami Ohun, Iruru Ami Ohun Ede Yoruba, ko Apeere ami Ohun, Silebu eleyo oro ise, Silebu Olopo oro-ise, Oro to ni Amulumala Ohun,

Itumo Silebu, during this period students paid attention to the radio teacher and took down notes. Interactivity in the programme was characterized by scheduled pauses built into the radio class. During these pauses the planned repetition of key areas of knowledge was done where the students responded to the radio teacher’s instructions by repeating words, sentences and gave examples. These pauses were also characterized by allowing the classroom teacher to take questions from the students and clear their misconceptions thereby facilitating the construction of knowledge by students.

4. Extension Activities: this was generally done by the classroom teacher to enrich students' experiences during the radio lesson, fostering a deeper understanding of the subject matter. This was done by asking and answering questions based on the concluded classes.

In the control group, the teachers taught the class using the traditional lecture method where students were generally passive learners listening to the explanations of the teachers, writing down notes, and asking questions to clear their misconceptions. As the lesson progressed, the teacher discussed the topic and used relevant examples relating to the topic. The students were advised not to cause disarray for the duration of the presentation and were encouraged to pay keen attention to the presentation made by the teacher.

All experimental and control group students were post-tested using the same instrument. After the treatment in both groups, the participants were given the same achievement measure as the pre-test and were asked to answer them. Instructions were identical to the pre-test. Quantitative data generated in the study were analysed using IBM-SPSS Version 23. Since the study only involved one dependent variable which was students' academic achievement and random assignment was not to both experimental and control groups in selecting the sample of the study, the suitable analysis tool was the analysis of covariance (ANCOVA).

The data analysis for the study was done using analysis of covariance (ANCOVA) to analyse the effect of teaching methods on the dependent variable. This method was chosen to control for any pre-existing differences in students' performance, as random assignment to experimental and control groups used an intact class. The analysis was performed using IBM-SPSS version 23. Descriptive statistics were calculated for both the pre-test and post-post-test achievement scores to provide an overview of the performance of students in the experimental and control groups. The mean score and standard deviation were reported for both groups. ANCOVA was used to analyse the effect of teaching methods on post-test achievement scores while pre-test achievement scores were used as a covariate.

**Results**

**Table 1:** Means and SD on the Posttest on the academic achievement of native and non-native speakers taught Indigenous languages (Yoruba Language) using IRI and Lecture method

	Group	Origin of students	N	Mean	Std. Deviation
Post-test Achievement	Interactive Radio	Native speaker	35	28.66	3.56
		Non-native speaker	12	12.25	1.36
	Lecture	Native speaker	31	12.92	1.97
		Non-native speaker	14	6.11	1.56

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The findings derived from the descriptive analysis indicate that the mean score of students in the experimental and control classes were identical before the use of the intervention. Specifically, the mean score after the use of the interventions for the experimental class was 28.66 and 12.25 while the mean score for the control class was 12.92 and 6.11

**Table 2:** ANCOVA Summary of Posttest Achievement Scores of Students with Pretest Achievement Scores as Covariate

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	8.12	2	7.42	.14	.87
Intercept	6856.49	1	8714.74	207.56	.00
Pre-test Achievement	6.87	1	6.87	.04	.84
<b>Origin</b>	<b>65.83</b>	<b>1</b>	<b>47.43</b>	<b>17.85</b>	<b>.00</b>
Error	7446.67	90	44.75		
Total	71356.12	92			

The ANCOVA test on the post-test achievement scores indicated a difference in performance between students in the experimental class and control class was significant  $F(1, 90) = 17.85$ ;  $p < 0.05$ . This indicates that the difference observed between achievement in the experimental and control classes is statistically significant, thus, the intervention that was administered, which involved teaching native and non-native students Yoruba language using IRI, can be attributed to the experimental class's students' significant increase in academic performance.

### Discussion

The results from the descriptive statistics in Table 1 showed that students who are native-speaker and were taught Yoruba language with IRI had the highest mean scores when compared to non-native speakers. However, results from the analysis of covariance in Table 2 showed a statistically significant difference of language speaking origin on achievement  $F(1, 90) = 17.85$ ;  $p < 0.05$ . Hence, the null hypothesis that states that there will be no statistically significant difference in the effect of interactive radio instruction on the academic achievement of Native speakers and Non-native speakers taught indigenous language (Yoruba Language) is hereby rejected.

### Null Hypothesis

There will be no statistically significant difference in the effect of interactive radio instruction on the academic achievement of Native speakers and Non-native speakers taught indigenous language (Yoruba Language).

The finding of this study resonates with Borgonovi and Ferrara (2020), whose study explored how language differences affected native and non-native speaking students of immigrant origins' academic performance. According to the study, learners from immigrant backgrounds who habitually use a language different than the language of instruction at home run the risk of failing their coursework. This indicates that the more a child's language in the exam differs from the language they use at home, the bigger the penalty, which supports their assumptions. The relationship between language and academic accomplishment is particularly unfavourable, due to the numerous obstacles that children must overcome to become proficient academically, making language barriers more important.

The finding of this study is at variance with Buehler, Van Loon, Bayard, Steiner and Roebbers (2021) examined the metacognitive monitoring of native and non-native-speaking schoolchildren. They concluded that there was no significant difference in the monitoring resolution or recognition performance of native and non-native speaking children in the paired-associates test.

Similarly, A study conducted by Wenz, Al Baghal and Gaia (2021) investigated the impact of

respondents' English language proficiency. After being asked if they were non-native or native English speakers, respondents were requested to indicate how difficult it was for them to read and speak the language. The results revealed a significant difference in both groups' English language proficiency and competency. Non-native speakers particularly highlighted having trouble with their language ability. In their study, Kisser, Wendell, Spencer, and Waldstein (2012) found that non-native English speakers did noticeably worse on neuropsychological tests involving language processing, such as category fluency and letter fluency. They also did worse on attention and language tests.

Based on the findings of this study, it appears that students who are native speakers of Yoruba language outperformed non-native speakers across both intervention groups when taught Yoruba language using different methods. The native speakers of Yoruba typically have a deeper understanding of the language, including vocabulary and grammar where their natural language proficiency enables them to comprehend accurately when compared to non-native speakers (Banjo, 2024)

Native speakers generally have greater exposure to the language in their daily lives through interactions with family members, peers, media, and the community at large, the consistent exposure to the use of language outside of the classroom reinforced learning and facilitated language acquisition for native speakers. Also, Familiarity with the cultural context and awareness enhanced their comprehension and interpretation of Yoruba language materials used during the study. Teaching methods and materials were aligned with the linguistic and cultural background which to native speakers, provided them with more relevant and engaging learning experiences. Additionally, the instructional approach was based on the characteristics of students of certain language proficiency levels, inadvertently providing native speakers with more tailored support.

## Conclusion

The findings of this study underscore the significant role that language proficiency plays in

academic achievement, particularly when teaching Indigenous languages like Yoruba. Native speakers demonstrated higher mean scores than non-native speakers when taught using Interactive Radio Instruction (IRI), highlighting the inherent advantages of cultural and linguistic familiarity. The statistically significant difference observed in the academic performance between native and non-native speakers suggests that language background is crucial to educational outcomes. The findings suggest that educators should consider language background when designing and implementing instructional methods for teaching indigenous languages. Tailoring teaching strategies to address the specific needs of non-native speakers could help bridge the performance gap and enhance language acquisition for all students.

## Recommendations

Based on the findings of this study the following recommendations are made.

### *For Learners:*

Native and non-native learners should be encouraged to practice the Yoruba language outside the classroom through interactions with native speakers, participation in cultural activities, and regular listening to Yoruba media, including radio programmes as immersion will help strengthen their language skills and enhance comprehension.

Non-native speakers should be provided with or seek out additional resources like language apps, Yoruba-English dictionaries, and audio-visual materials that can aid in bridging the language gap.

### *For Teachers:*

Teachers should strive to incorporate culturally relevant materials that resonate with native and non-native speakers and make lessons engaging by including stories, songs, and other cultural elements familiar to Yoruba native speakers and also accessible to non-native speakers.

Conduct frequent formative assessments to monitor students' progress and adjust teaching

methods accordingly. This will help identify struggling students early and provide the necessary interventions.

### For Policy Makers:

Policymakers should ensure that the curriculum accommodates the linguistic diversity of students. Curriculum guidelines should include recommendations for culturally relevant teaching practices and materials that consider the varied language backgrounds of learners.

Investment in professional development for teachers should be made, focusing on strategies for teaching indigenous languages to diverse groups of learners. Training should cover differentiated instruction, the use of IRI, and other innovative teaching methods that enhance language learning for both native and non-native speakers.

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All authors have declared that there is no conflict of interest.

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