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Effect of Podcast-Based Instruction on Secondary School Students' Oral Communication Skills in Rivers State, Nigeria

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Abstract

This study examined the effect of podcast-based instruction on secondary school students' oral communication skills in Rivers State, Nigeria. Two research questions and two hypotheses guided the study, focusing on pronunciation improvement and gender differences in oral communication performance. A quasi-experimental research design, specifically the pretest-posttest non-equivalent control group design, was adopted. A sample of 233 students was selected using purposive and simple random sampling techniques. Data were collected using the Oral Communication Skills Performance Test (OCSPT), which was validated by experts and tested for reliability using Kuder-Richardson, yielding a reliability coefficient of $\alpha = 0.87$. The experimental group was taught using podcast-based instructional materials, while the control group received conventional lecture-based instruction over a period of six weeks. Mean and standard deviation were used to answer the research questions, while Analysis of Covariance (ANCOVA) tested the hypotheses at a 0.05 level of significance. Findings revealed that students taught using podcast-based instruction showed greater improvement in pronunciation skills, which was the specific aspect of oral communication measured in this study, compared to those taught using conventional methods. Both male and female students improved after exposure to podcast-based instruction, with females showing slightly higher gains; the difference was statistically significant. The study concludes that podcast-based instruction is an effective strategy for improving students' pronunciation skills compared to conventional methods. It is recommended that English language teachers integrate podcast-based instruction to enhance students' pronunciation development.

Keywords: Oral Communication Skills, Podcast-Based Instruction, Pronunciation Skills, Quasi-Experimental Design, Secondary School Students.

Introduction

The infusion of digital technologies into language instruction has continued to impact the ways in which English is taught and learned at secondary school. In recent years, more focus has been on learner-centred and technology-supported teaching approaches that encourage active participation in communication. The podcast-based training is a promising technique for developing learners' oral communication abilities, especially pronunciation, which is still a basic component of the efficient use of spoken languages, among the approaches. This development is strongly supported by a theoretical framework, the Communicative Language Teaching (CLT) framework, associated with Hymes (1972). Hymes' notion of communicative competence, subsequently developed by Canale and Swain (1980), states that language learning is not only about grammatical precision, but also about the ability to use language effectively in real-life social circumstances. This encompasses grammatical, sociolinguistic, discourse and strategic competence, all of which highlight meaningful interaction as the core of language learning. Hence, podcast-based training is in line with CLT in that it offers authentic language use and fosters active engagement with listening and speaking tasks.

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Oral communication, often known as Oral English or Test of Oral, is the spoken interchange of ideas, meanings and information between two or more persons or groups. It is a process of constructing and sharing meaning among participants in an interactive way (Ismail et al., 2018). Similarly, Oral English requires understanding the language's sound system and knowing how words and sentences are spoken and understood. The knowledge of the sound system of a language, and the way in which words and sentences are articulated and interpreted, is part of competence in that language.

Oral English is an important part of the English language curriculum and assessment in secondary education. The course is meant to develop students' communication ability and their overall language performance. Historically, Oral English was treated as an optional component in examinations; however, its inclusion as a compulsory element in major external examinations such as the West African Senior School Certificate Examination (WASSCE) since 1999 reflects its growing importance in language education (Yahya et al., 2020). Despite this policy change, many students still have difficulty with pronunciation and effective spoken communication, indicating a gap between curriculum aims and classroom outcomes.

One creative way that can help overcome these obstacles is podcast-based training. Unlike traditional teacher-centred methods that often impede students' opportunities to speak, podcasts allow learners many exposures to actual speech and systematically provide practice opportunities for oral expression. Activities like listening, scripting, recording and playback can help students to enhance fluency, pronunciation and speaking confidence (Palanisamy, 2025). Podcasts provide the flexibility to access learning materials outside the classroom, allowing learners to study at their own speed and practise regularly (Sandoval Zapata, 2020). Additionally, the podcast activities promote teamwork, creativity, and critical thinking since students need to collaborate to develop spoken content.

Podcast-based training has been shown by empirical studies to be useful in improving oral language skills. Wulan (2018) found that the students taught using podcasts had a significant improvement in their speaking achievement, especially in pronunciation, fluency and comprehension. Also, Ngwu and Ogah (2025) revealed that students taught with podcast-based instruction performed better in Oral English than those taught using traditional methods using the Oral English Achievement Test and ANCOVA. The results of this study indicate that podcasting can be an effective pedagogical tool for improving oral communication outcomes.

Many studies have been conducted on gender differences in oral communication performance; however, the results are still inconsistent. Studies show female pupils tend to outperform males in speaking activities. Omachonu and Chibiko (2020) found out that female students scored higher in Oral English utilising a validated 60-item Oral English Achievement Test on 151 students of JS III in a quasi-experimental approach. Also, research on speech evaluation in Indonesia by Erviona and Arsyad (2022) revealed that female students were better than male students in pronunciation, vocabulary, and comprehension. Results from this study suggest that gender could be a factor in oral language development but the magnitude of this influence may depend on instructional tactics and learning situations.

Although podcast-based learning is gaining in popularity and its advantages are becoming clear, many secondary schools continue to use traditional pedagogical methods that offer little opportunity for significant speech practice. Therefore, pupils still have problems such as bad pronunciation, low fluency and lack of confidence in spoken English. Furthermore, there is little empirical evidence on the specific effect of podcast-based education on students' pronunciation and the role of gender in affecting learning outcomes in this setting, particularly in Nigerian secondary schools. Therefore, this study explored the impact of podcast-based training on the oral communication abilities of secondary school students in Rivers State.

Effective learning and interpersonal interaction among secondary school students are dependent on oral communication skills. However, many learners still face problems with pronunciation, fluency, clarity of speech and consistency while speaking English. These issues remain in spite of ongoing focus on spoken English in the school curriculum. This indicates the need for more effective instructional approaches to enhance students' spoken language development.

To address these issues, technology-enhanced educational approaches, particularly podcast-based training, have been developed as alternative strategies to improve oral language learning. Podcasts give learners with regular exposure to models of spoken language, opportunities to practise listening and flexible access to learning materials that can enhance oral skill development. However, there is still no empirical evidence to explain how podcast-based instruction impacts the oral communication abilities of secondary school pupils in the Nigerian environment.

Moreover, previous studies have not adequately singled out podcasts as a separate educational medium, since most studies have been conducted on ICT integration or generic audio-visual resources. In addition, the findings of current studies remain inconsistent as to the usefulness of technology-supported training on oral proficiency outcomes. This lack of clarity makes it impossible to ascertain the extent to which podcast-based education enhances certain oral communication components such as pronunciation, fluency, and coherence. Thus, there is a need to study the impact of podcast-based training on the oral communication abilities of secondary school students in Rivers State.

The design of the study was to investigate the influence of podcast-based training on the oral communication abilities of secondary school students in Rivers State. The specific objectives of this investigation were:

1. To find out the influence of podcast-based training on secondary school students' pronunciation as a component of oral communication skills in Rivers State.
2. To determine the effect of gender on the oral communication abilities of secondary school students in Rivers State taught utilising podcast-based instruction.

The study was guided by the following research questions

1. What is the effect of podcast-based training on the pronunciation of secondary school students as a component of oral communication skills in Rivers State?
2. What is the effect of gender on the oral communication abilities of secondary school pupils taught with podcast-based education in Rivers State?

The following hypotheses were tested at the .05 level of significance.

1. The use of podcast-based training does not have any significant effect on the pronunciation of secondary school students as a component of oral communication skills in Rivers State.
2. There is no substantial difference in the oral communication skills of male and female secondary school pupils taught utilising podcast-based instruction in Rivers State.

Methodology

This study used a quasi-experimental, pretest–posttest non-equivalent control group design to investigate the influence of podcast-based training on secondary school students' oral communication abilities in Rivers State. This design was deemed adequate when whole classrooms were used, and random assignment of students to groups was not feasible. This design permitted the comparison of the experimental group receiving podcast instruction with the control group receiving traditional instruction. Senior Secondary Two (SS2) pupils were deemed appropriate because they had had adequate exposure to English language teaching and were able to participate meaningfully in oral communication exercises. The study focused on pronunciation as the key quantifiable element of oral communication abilities. The scoring method did not score fluency, coherence, and clarity separately to ensure consistency and reliability in assessing observable performance. In selecting the sample, a purposive sampling strategy was used to find schools with functional ICT facilities and English Language teachers capable of adopting podcast-based instruction and to pick 233 students from chosen secondary schools. A simple random sampling technique was utilised to choose the intact classes from the selected schools. The researchers assigned selected students to either the experimental or control group.

The podcast instructional materials for the experimental group were researcher-developed and selected based on the content of the SS2 English Language curriculum. The podcasts were developed by the researcher with the help of two professional English Language teachers and featured brief audio lectures on pronunciation of vowel and consonant sounds, word stress, intonation patterns and commonly mispronounced words. Each podcast was 5–10 min in length and was supplemented with guided classroom activities including listening exercises, repetition drills, and speech practice assignments. The content was examined for compatibility with students' curriculum objectives and for

appropriateness for secondary school learners. The data-gathering tool was an Oral Communication Skills Performance Test (OCSPT) constructed by the researchers. The test included structured oral exercises to assess students' pronunciation in spoken English activities. Oral responses were rated on a standardised rating scale with a maximum score of 20. The OCSPT was administered and evaluated by two qualified raters (English Language teachers). Inter-rater dependability was established using Kuder-Richardson 21, and the reliability coefficient was .88. The study tools and instructional materials were validated by face and content validation. The validation method involved three experts: two experts in English Language Education and one expert in Measurement and Evaluation. The OCSPT and podcast materials were reviewed for clarity, relevance, level appropriateness, and agreement with the research aims. Based on their feedback, improvements were made, including simplification of pronunciation exercises, clarification of scoring descriptors, and adjustment of podcast language complexity to suit SS2 learners.

Ethical approval for the study was acquired from the appropriate educational authorities in Rivers State. Permission was also obtained from the school principals, and informed consent was secured from the students and their teachers who participated. Participation was voluntary, student replies were coded to ensure anonymity, and all data were used for academic purposes only. A pretest was delivered to both the experimental and control groups to assess their beginning level of oral communication skills. The experimental group was taught using the podcast-based educational materials, and the control group was taught using the standard teaching technique. Treatment was for six (6) weeks. Both groups were given a posttest with the identical OCSPT. Data obtained for the study topics were analysed using mean and standard deviation, while Analysis of Covariance (ANCOVA) was utilised to test the hypotheses at a 0.05 level of significance.

Results

Table 1: Mean and Standard deviation of the effect of podcast-based instruction on secondary school students' pronunciation as a component of oral communication skills

Methods		Pretest	Posttest	Mean Gain
Podcast-based Instruction	Mean	7.0531	13.7611	6.7080
	N	113	113	113
	Std. Deviation	2.09949	3.81322	4.25458
Conventional Method	Mean	7.0750	9.8917	2.8167
	N	120	120	120
	Std. Deviation	1.86143	2.48963	3.05959

Table 1 shows that students taught using podcast-based instruction improved more in pronunciation skills than those taught using the conventional method. The podcast group had a pretest mean of 7.0531 and a posttest mean of 13.7611, with a high mean gain of 6.7080. In contrast, the conventional method group recorded a lower mean gain of 2.8167, increasing from 7.0750 at pretest to 9.8917 at posttest. This indicates that podcast-based instruction was more effective in improving students' pronunciation as a component of oral communication skills.

Table 2: Mean and Standard deviation of how gender influences secondary school students' oral communication skills when taught using podcast-based instruction

Gender		Pretest	Posttest
Male	Mean	7.1875	12.9531
	N	64	64
	Std. Deviation	1.99105	3.99774
Female	Mean	6.8776	14.8163
	N	49	49
	Std. Deviation	2.24195	3.30828

Table 2 shows that both male and female students improved in oral communication skills after being taught using podcast-based instruction. Male students had a pretest mean of 7.1875 and a posttest mean of 12.9531, with a mean gain of 5.7656. Similarly, female students recorded a pretest mean of 6.8776 and a posttest mean of 14.8163, with a higher mean gain of 7.9387. This indicates that podcast-based instruction improved the oral communication skills of

both male and female students, although female students demonstrated greater improvement than their male counterparts.

Table 3: ANCOVA analysis of the effect of podcast-based instruction on secondary school students' pronunciation as a component of oral communication skills in Rivers State

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	876.067 ^a	2	438.033	42.664	.000	.271
Intercept	2156.863	1	2156.863	210.077	.000	.477
Pretest	4.722	1	4.722	.460	.498	.002
Methods	872.030	1	872.030	84.935	.000	.270
Error	2361.418	230	10.267			
Total	35506.000	233				
Corrected Total	3237.485	232				

a. R Squared = .271 (Adjusted R Squared = .264)

Table 3 shows $F(1,230) = 84.935$, $p = 0.000$ ($p < 0.05$) for the effect of podcast-based instruction on secondary school students' pronunciation as a component of oral communication skills in Rivers State. The partial eta squared value of 0.270 indicates that podcast-based instruction had a large effect on students' pronunciation skills. The null hypothesis is therefore rejected, showing that there is a significant difference in pronunciation skills between students taught using podcast-based instruction and those taught using the conventional method, after controlling for pretest scores.

Table 4: ANCOVA Analysis of the difference between male and female secondary school students' oral communication skills when taught using podcast-based instruction in Rivers State

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	104.544 ^a	2	52.272	3.773	.026	.064
Intercept	1534.405	1	1534.405	110.751	.000	.502
Pretest	8.202	1	8.202	.592	.443	.005
Gender	99.987	1	99.987	7.217	.008	.062
Error	1524.004	110	13.855			
Total	23027.000	113				
Corrected Total	1628.549	112				

Table 4 shows $F(1,110) = 7.217$, $p = 0.008$ ($p < 0.05$) for the difference between male and female secondary school students' oral communication skills when taught using podcast-based instruction in Rivers State. The partial eta squared value of 0.062 indicates that gender had a small to moderate effect on students' oral communication skills. The null hypothesis is therefore rejected, indicating that there is a statistically significant difference between the oral communication skills of male and female students taught using podcast-based instruction, after controlling for pretest scores. Specifically, female students demonstrated greater improvement in oral communication skills than their male counterparts.

Discussion

The findings in Table 1 revealed that the use of podcast-based instruction considerably improved the pronunciation of secondary school pupils as against the traditional teaching approach. Results showed that the experimental group did better in pronunciation performance. It is concluded that providing students with podcast materials offers them more explicit models of speech and more consistent audio input to acquire language. This difference was further confirmed using a hypothesis in Table 3 and was statistically significant, confirming the efficiency of podcast-based education in boosting pronunciation abilities among secondary school learners in Rivers State.

This result is in line with Wulan (2018) who showed considerable increase in speaking achievement especially pronunciation among students taught via podcast-based learning and Ngwu and Ogah (2025) who also observed better oral English performance in podcast taught group. One potential explanation for this is that podcast-based training is

well aligned with the Communicative Language Teaching framework that highlights the need of exposure to authentic language input in relevant contexts and active engagement in listening and speaking tasks. Conversely, podcasts offer students frequent exposures to natural speech, helping them recognise pronunciation patterns, divide words into sounds, and gradually pick up proper articulation with practice, rather than through intense learning.

The result further adds to the current literature in that the effectiveness is evident in the secondary school setting in Rivers State. The improvement may be due to the learner-centred nature of podcast use, where students listen repeatedly, practise speaking with guidance and reflectively correct. These features lessen the dependency on instructor modelling alone and allow learners to acquire pronunciation at their own pace which is especially useful in big classroom settings where opportunities for individual speaking are typically restricted.

The findings of Table 2 in terms of gender revealed that both male and female secondary school students improved in their oral communication skills after exposure to podcast-based instruction, with female students showing greater improvement than their male counterparts, with a statistically significant difference between them as shown in Table 4. This implies that the use of podcast-based training is successful in enhancing oral communication skills across all learners, but female students benefited more from the instructional strategy than the male students. This finding is in agreement with the findings of Omachonu and Chibiko (2020) and Erviona and Arsyad (2022), which found that female learners generally performed better than male learners in oral language and communication-related activities.

The observed advantage among female students may be attributed to greater verbal engagement, higher motivation for language learning, or stronger participation in communicative learning activities, all of which may have enabled them to take fuller advantage of the opportunities provided by podcast-based instruction. From a theoretical standpoint, this pattern can be explained through Communicative Language Teaching, which prioritises interaction, input comprehensibility, and equal participation opportunities. Podcast-based instruction minimises classroom interaction barriers that sometimes reinforce gender disparities, such as anxiety in live speaking situations or uneven teacher attention. By allowing repeated, private, and self-paced exposure to spoken models, both male and female learners engage with the same linguistic input conditions, which may account for the observed absence of significant gender differences. Despite these contributions, the study has certain limitations. It was conducted in a limited number of schools in Rivers State, which restricts the generalisability of the findings to other regions. In addition, only pronunciation was assessed as a component of oral communication skills, meaning that broader aspects such as fluency, coherence, and interactive competence were not fully captured. Using intact classes may also bring in differences that already exist between groups, even if the statistics are controlled.

Furthermore, the presence of observers during oral testing could have influenced students' performance, particularly among those with higher communication anxiety. These limitations suggest that while the findings are robust within the study context, caution is needed in extending the conclusions too broadly. Future research could include a wider range of oral communication sub-skills, larger and more diverse samples, and longer intervention periods to further validate the effectiveness of podcast-based instruction.

Conclusion

The study findings led to the conclusion that podcast-based training is an effective pedagogical technique for strengthening secondary school students' pronunciation skills as a component of oral communication. Students who learnt through the podcasts did substantially better than those who learned using the traditional way. This implies that the importance of controlled exposure to real spoken language and opportunities to listen to it repeatedly is essential if you want to improve the accuracy of pronunciation. The outcome highlights the benefit of using audio-based digital resources into English language training, particularly in settings where opportunities to hear native-like speech are few. The study also finds that gender significantly affects students' pronunciation achievement when taught through podcast-based instruction, with female students showing slightly higher gains; the difference was not statistically significant, indicating the instructional method offers comparable learning benefits across gender groups. This suggests the possibility of podcast-based education to provide more equitable learning circumstances in spoken language development, where access to constant auditory input and self-paced practice lowers typical performance discrepancies. Beyond these findings the study also suggests that the quality and manner of instructional delivery are substantially related to the quality of oral communication abilities, and not only to learner characteristics. The findings

underscore the importance of revisiting the ways of teaching spoken English in Nigerian secondary schools, where traditional approaches continue to prevail, to better match classroom practices with goals of communicative competence.

Recommendations

1. English language teachers in secondary schools should use podcast-based instruction, especially as a pronunciation-support tool, making sure that classes involve structured listening, repetition, and guided speaking practice, rather than just using podcasts as supplemental materials.
2. It is recommended that teachers use gender-responsive tactics in podcast-based education to increase male students' engagement and to reduce the observed gender gap in oral communication abilities.
3. Oral English scheme of work should incorporate podcast-supported pronunciation tasks, particularly for areas which feature modelling of speech sounds, stress and intonation patterns by curriculum developers.
4. Schools need to ensure that not only are digital resources made available, but that podcasts are used in an organised way in the classroom, and that access to gadgets is matched by clear instructions for how to practise pronunciation effectively.
5. Teacher training programmes should focus on building skills for selecting or designing pedagogically acceptable podcasts, including pronunciation modelling, student engagement strategies and classroom integration methods appropriate for the secondary school context.

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