

## **Audio Compact Disc and Audio-Visual Podcast Instructional Resources and Students' Achievement in English Listening Comprehension**

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### **Abstract**

The study investigated the effects of Audio Compact Disc (ACD) and Audio-Visual Podcast (AVP) instructional resources on students' achievement in English listening comprehension. One research question and hypothesis guided the study. Quasi-experimental research design was adopted. Specifically, 2x2 pre-test post-test non-equivalent factorial design. Purposive and simple random sampling techniques were utilized in selecting 182 respondents from a population of 1,286 senior secondary school students in the Umuhia Education Zone. The Listening Comprehension Test (LCT) adopted from the 2019 WAEC English past questions was used for data collection. Mean and standard deviation were used to answer the research questions while Analysis of Covariance (ANCOVA) was used to test the null hypotheses at 0.05 level of significance. The findings revealed that both ACD and AVP instructional resources have positive effects in terms of increasing the students' achievement in English listening comprehension, however, AVP instructional resources, proved to be slightly more effective. Based on the findings, it was recommended that English language teachers should adopt the ACD and AVP instructional resources when teaching English listening comprehension to enhance students' achievement. Examination Bodies such as WAEC and NECO should reintroduce the actual practical English listening comprehension testing in external examinations since the practical-based mode of testing English listening comprehension is more productive and valid as it makes candidates proficient in their use of language in real life.

**Keywords:** Audio Compact Disc, Audio-Visual Podcast, instructional resources, achievement, English language, listening comprehension

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## **Introduction:**

The English Language has gained global recognition and pride of place in the world as the language of communication. It has become the language of instruction and education in Nigeria, and its importance cannot be over-emphasized in the teaching and learning process. The National Policy on Education (FRN, 2013) emphasizes, that students should be properly educated so that they can acquire the skills and competencies needed to help them function effectively in the society they live in. The realization of this educational goal is of utmost importance in the teaching and learning process. Ngonebu et al. (2017) observe that the teaching of the English language is very vital in the Nigerian education system as the English Language is the country's prime language of communication, administration, education and judiciary. The Nigerian education system has given much attention to the teaching and learning of the English language in all learning scenarios. The English language is studied as a core subject and equally used as the language of instructional delivery of virtually all the subjects in the school curriculum. The National Policy on Education (FRN, 2014) stipulates that English language teaching in the school curriculum should be compulsory, across upper primary, secondary school, and Tertiary levels of education. Admission into tertiary institutions is based on a compulsory Credit Pass and above in English language for qualification.

## **Literature Review:**

Listening comprehension is a conscious and cognitive effort to make meaning out of what is heard from spoken language. Listening comprehension is a receptive skill. Tompkins, et al. (2013) conceptualized listening comprehension as one's ability to comprehend spoken language at the discourse level including conversations, intonation, stress and narratives, and informational texts that involve the processes of extracting and constructing meaning. Hamouda (2013) views listening comprehension as an interactive process in which listeners are involved in constructing meaning. Listeners comprehend the oral input through sound discrimination, previous knowledge, grammatical structures, stress and intonation, and other linguistic or non-linguistic clues (Pourhosein & Sabouri, 2016). Nadig (2013) defines listening comprehension as the various processes of understanding and making sense of spoken language. In this study, listening comprehension could be seen as giving attention to sounds or actions of spoken language. It involves knowing speech sounds, comprehending the meaning of individual words, and understanding the syntax of sentences. The objectives of listening comprehension as outlined in the English language curriculum are to enable students, to acquire the listening ability needed for learning and communication, to comprehend and respond critically to speech and opinions heard, to enable students to understand the main ideas and the specific information of the listening comprehension. To listen carefully, and make inferences about what is heard to improve the language (Bisong, et al, 2024). To enable students, to understand the English language better towards achieving communicative competence.

The ability to participate and comprehend speech communication is one of the current concerns to educators in second language learning especially for students who are being trained to make a career in English. Asogwa et al. (2022a) aver that learning listening comprehension will enable students to listen effectively which in turn will improve their listening abilities and stimulate their interest in listening comprehension. Nunan (2015) and Nkanu et al. (2023) lament that most schools lack appropriate digital instructional resources for learning listening comprehension and language in general. The students do not practice listening comprehension in

school using digital technological devices which has caused inclined in achievement and proficiency in language learning (Nkanu et al., 2024). This may also contribute to incompetence in English language teaching.

The teaching of listening comprehension in Nigerian secondary schools is done using the classroom teachers as models with the English textbooks as a guide, as well as the use of drills by the teachers and repetitions by the students. This rote learning approach is always the method that teachers use to keep information in the brains of the students (Imoke et al, 2023). This persistent repetition after the teacher is also used in teaching other English vowels and consonants, stress patterns, intonation and others for learning to take place and increase achievement and recall. English teachers draw the organs of speech for the students on the chalk/whiteboard, especially in the absence of any instructional material. Many English teachers make a compulsory effort to provide phonetic charts bearing the English vowels and consonants, which are presented to the students to see the various organs of speech in English. The teachers teach the classification of vowel sounds, the part of the tongue involved in the production of the vowel, the length and quality of the vowel, the degree of openness or closeness of the mouth while producing the vowel, and the shape of the lips. The teachers also, teach the consonants, produce the sounds, and ask the students to repeat the consonant sounds (Imoke et al. 2021). The teachers also teach the classification of the consonants, the place of articulation, the manner of articulation and the state of the glottis in consonant sounds. This is done in all the topics in listening comprehension. These modes of teaching English listening comprehension have been used for decades in Nigerian secondary schools.

Despite the effort in teaching receptive skills through exposure to meaningful use of the language in English class, yet, low achievement in listening comprehension persists among students. Johnson et al. (2021a & 2021b) and Odey et al. (2024) emphasize the need for instructors at every level of education to embrace the benefits of 21st-century technology in the classroom to increase students' achievement. Nowadays, many digital instructional resources like Audio Compact Disc (ACD) and Audio-Visual Podcast (AVP) have been used by different educators and researchers to improve students' listening abilities. There is a need for more innovative self-activity-based instructional resources that could at least try to encourage the students to acquire oral proficiency and listening ability the way it should be acquired (Asogwa et al, 2022b). The use of digital instructional resources to teach English as a second language has been greatly expanded in recent decades and has also been construed by educators as a vibrant alternative to traditional pedagogy. Audio compact discs and audio-visual podcasts may be offered as alternatives, without neglecting the target of improving teaching quality. McCaughey (2015) asserts that short audio lessons may make learners be silent and capture their attention as they would want to get all the lessons. Choo & Melor-Md (2016) state that Audio Clip lessons and activities may motivate the students and make them see learning as fun and interesting, thereby increasing their achievement. Audio compact discs have been proven by many researchers to be an effective instructional resource in teaching second language learners. ACD instructional resources can combine the advantages and success of traditional teaching mode with the innovations of new technologies in teaching English as a second language.

The audio compact disc is a precast plastic disc containing digital data that is scanned by a laser beam for the reproduction of recorded sound and other information. Since its commercial introduction in 1982, the audio CD has almost completely replaced the phonograph disc<sup>2</sup> for high-

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<sup>2</sup> or record

fidelity recorded music. Muhammad and Hassan (2018) define an audio CD as a compact disc used to reproduce sound.<sup>3</sup> Robert (2016) outlines the importance of audio CDs as thus the availability, accessibility, affordability and portability of audio compact discs guarantee their usage in language teaching. This study views an audio CD as a compact disc containing audio tracks that allow the listening of music, speeches, stories, lessons and other audio files for a better understanding. Learning with an audio CD is self-educating. It may integrate audio experiences within and outside classrooms for a better understanding of the lesson contents.

Despite the prominence, the English language has gained in the Nigerian education system and its importance as the country's language of instruction, college students who are in training to become professional teachers have continued to record poor academic performance in the English language. The student's inability to attain the expected level of achievement in the English language was attributed to teaching strategy and poor listening ability in second language learning. Other studies have attributed the decline in achievement to the inability to effectively utilise practical-based modes of testing and the use of inappropriate instructional resources in teaching English listening comprehension. Perceptibly, these poor achievements tend to affect both genders. However, the practical-based mode of testing English listening comprehension could be more productive and valid as it makes these would-be teachers proficient in their use of language in real-life situations as emphasis is placed on performance rather than the knowledge of the language. Through the use of digital instructional resources, different tasks that could aid extensive English listening comprehension activities could be employed by language teachers to guarantee effective teaching and learning. Therefore, the purpose of this study is to determine the effects of audio compact discs and audio-visual podcast instructional resources on secondary school students' achievement in English listening comprehension.

### **Research Question:**

The research question guided the study was "What are the effects of ACD and AVP instructional resources on students' achievement in English listening comprehension?"

### **Research Hypothesis:**

The null hypothesis formulated for the study was that "there is no significant difference in the mean achievement scores of students taught English listening comprehension using ACD and those taught with AVP instructional resource."

### **Methodology:**

The study adopted a quasi-experimental research design. The design is a 2x2 pre-test-post-test non-equivalent factorial research design. This design was adopted since it was not possible to randomize the subjects of the study without disrupting the school setting, class arrangement, routine timetable, and other programmes (Nwachukwu, 2007).

The population of this study is 1,286 senior secondary two students from Umuahia Education Zone in Abia State. The sample for this study consisted of 182 students, 85 males and 97 females from two co-educational secondary schools drawn using purposive and simple random sampling techniques. A purposive sampling technique was used to select 14 schools out of the 38

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<sup>3</sup> voice and music

secondary schools in the study area. The criteria for inclusion were it must be a co-educational school. The schools must have facilities that can effectively aid audio-visual instructional content delivery with student access. A simple random sampling technique was used to select two schools from the 12 schools that met the criterion above. This was achieved through balloting without replacement. In drawing the two schools, the names of the 14 schools were written each on a piece of paper, folded, put in a container and shuffled. The researchers randomly drew one school at a time from the container without replacement until the two schools were selected. A simple random sampling technique was also utilized to assign the two schools into two groups.<sup>4</sup>

The instrument for data collection was the Listening Comprehension Test (LCT). The test was adopted from English paper 3 past questions for 2019 WAEC. The instrument was divided into two sections A and B. Section A elicited demographic data from the respondents while section B comprised a 60-item test which was scored using the WAEC standard of marking English paper 3, which is one mark for each correct answer totalled 60 marks. The LCT was administered to the students as a pre-test before the commencement of the treatment. One week after the treatment, it was readministered again as a posttest.<sup>5</sup>

The data collected were analyzed using Mean and Standard Deviation to answer the research questions, while Analysis of Covariance (ANCOVA) was used to test the hypotheses at a 0.05 level of significance. The ANCOVA was used because it is the best statistical tool to be used in a pre-test post-test situation where the pre-test scores served as covariates and one or more of the independent variables is at a categorical level. In this case, gender was a categorical variable with two levels and the pre-test scores served as a covariate, hence the use of ANCOVA was very appropriate. The decision rule for testing the hypotheses was as thus reject the null hypothesis(H<sub>0</sub>) if the associated or exact probability value associated with the test statistics is less than 0.05 (p < 0.05), otherwise, do not reject.

## Results:

**Table 1: Pre-Test and Post-Test Mean Achievement Scores of Students in English Listening Comprehension When Taught Using ACD and AVP Instructional Resources<sup>6</sup>**

Instructional Resources	N	Pre-test		Post-test		Adjusted Mean Score
		$\bar{X}$	SD	$\bar{X}$	SD	
Audio CD (ACD)	95	29.42	3.76	55.22	3.03	55.23
Audio-Visual Podcast (AVP)	87	29.41	2.31	56.23	2.90	56.25

Results in Table 1 showed the effects of audio CD (ACD) and audio-visual podcast (AVP) instructional resources on the mean achievement scores of students in English listening comprehension. The result shows that students who were taught using the ACD instructional resources had a mean achievement score ( $\bar{X} = 29.42$ , SD = 3.76) in the pre-test and a mean achievement score ( $\bar{X} = 55.22$ , SD = 3.03) in the post-test, while, those taught using the AVP instructional resources had a mean achievement score ( $\bar{X} = 29.41$ , SD = 2.31) in the pre-test and a mean achievement score ( $\bar{X} = 56.23$ , SD = 2.23) in the post-test. The post-test standard deviations of 3.03 and 2.90 for students taught using the ACD and AVP instructional resources

<sup>4</sup> Experimental groups 1 & 2 respectively

<sup>5</sup> it was not shuffled, because it is a standardized instrument

<sup>6</sup> Note: N = Number of Respondents,  $\bar{X}$  = Mean, SD = Standard deviation

respectively indicate that the achievement scores of students in the ACD instructional resources group were slightly widespread than the scores of students in the AVP instructional resources group. The posttest adjusted mean scores of 55.23 and 56.25 for students taught using the audio CD (ACD) and audio-visual podcast (AVP) instructional resources respectively, this implies that both audio CD (ACD) and audio-visual podcast (AVP) instructional resources have positive effect in terms of increasing students' achievement scores in English listening comprehension, however, the audio-visual podcast (AVP) instructional resources proved to be slightly more effective.

**Hypothesis Testing:**

**Table 2: Analysis of covariance (ANCOVA) of the difference in the mean achievement scores of students taught mean achievement scores of students taught English listening comprehension using ACD and those taught with AVP instructional resource<sup>7</sup>**

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared ( $\eta^2_p$ )	Dec.
Corrected Model	53.995 <sup>a</sup>	4	13.499	1.510	.201	.033	
Intercept	6217.326	1	6217.326	695.625	.000	.797	
PreAchvt	.029	1	.029	.003	.955	.000	
Group	47.089	1	47.089	5.269	.063	.020	NS
Gender	5.850	1	5.850	.655	.420	.004	NS
Group * Gender	2.227	1	2.227	.249	.618	.001	NS
Error	1581.983	177	8.938				
Total	566356.000	182					
<b>Corrected Total</b>	<b>1635.978</b>	<b>181</b>					

The result in Table 2 showed that there is no significant difference in the mean achievement scores of students in English listening comprehension when taught using ACD and those taught with AVP instructional resource, ( $F(1, 177) = 5.269, p = .063, \eta^2_p = .020$ ). This is because the associated probability (Sig.) value of .063 is greater than the 0.05 level of significance at which the result is being tested. Hence, the null hypothesis one ( $H_{01}$ ) which stated that there is no significant difference in the mean achievement scores of students taught English listening comprehension using ACD and those taught with AVP instructional resources is not rejected. Moreover, the effect size difference ( $\eta^2_p = .020$ ), indicates that a 2% variance exists between the mean achievement scores of students taught using the two instructional resources. This means that there is no significant difference between the effects of audio CD (ACD) and audio-visual podcast (AVP) instructional resources on students' mean achievement scores in English listening comprehension.

**Discussion:**

From the findings of this study, it was discovered that both audio CD (ACD) and audiovisual podcast (AVP) instructional resources have a positive effect in terms of increasing students' achievement scores in English listening comprehension, however, the audio-visual

<sup>7</sup> Note: df = Degree of Freedom, F = F-ratio, Sig. = Significant/probability value, Dec. = Decision, NS = Not Significant, S = Significant

podcast (AVP) instructional resources proved to be slightly more effective. Further analysis, however, revealed that there is no significant difference between the effects of audio CD (ACD) and audio-visual podcast (AVP) instructional resources on students' mean achievement scores in English listening comprehension. In essence, both audio CD (ACD) and audio-visual podcast (AVP) instructional resources, when adopted in teaching English listening comprehension, are likely to produce similar results in terms of students' level of achievement in English listening comprehension.

The above finding is in agreement with the finding of the study by Sarani et al. (2014) which showed that teaching listening comprehension using audio and video-based tasks had a significant effect on the learners' listening comprehension in realizing and understanding the language. The finding also adds credence to the study by Juni (2014) which showed that audio-visual podcasts were more effective than movies in teaching listening comprehension. In the same vein, the findings corroborate those of Mustafa et al. (2015) whose investigation revealed that both video and audio podcasts significantly improved students' listening abilities. Furthermore, the finding is in line with the finding by Nwokedi (2017), which showed that instructional videos boosted students' achievement in reading comprehension more than print media in Nsukka Education Zone, Enugu State.

### **Conclusion:**

Based on the findings of this study, it was concluded that the adoption of audio CD (ACD) and audio-visual podcast (AVP) instructional resources, both effectively enhance students' achievement in English listening comprehension. Hence, audio CD (ACD) and audio-visual podcast (AVP) instructional resources are effective instructional resources when seeking to enhance students' achievement in English listening comprehension irrespective of the student's gender. In essence, students would benefit at a similar level in terms of achievement in English listening comprehension when taught under the same teaching and learning conditions.

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