

The Influence of Podcasts on Enhancing Word Stress Pronunciation

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Abstract:

Pronunciation stands as a paramount component within the realm of the English language, yet numerous students still grapple with errors that impede effective communication. The objective of this article was to explore the impact of podcasts on enhancing learners' pronunciation. To achieve this, a quasi-experimental research design was used to assess its effectiveness. Consequently, two intact groups, comprising an experimental and a control group, each consisting of twenty participants, were incorporated into this quasi-experimental study. The investigation unfolded by comparing the pre-test and post-test results obtained from second-year students at the Division of English, Mohamed Kheider University of Biskra (Algeria). Statistically, the t-test underscored the significance of the improvement noted in the experimental group. Consequently, the findings of this study indicated that the integration of podcasts is more effective in enhancing learners' word stress pronunciation compared to the method used with the control group. Hence, podcasts are an effective and endorsed tool to be incorporated into the classroom setting for teaching phonetics in the Algerian universities.

Keywords: Podcasts; Pronunciation; word stress.

1. INTRODUCTION

In the twenty-first century, technology plays a crucial role, particularly in education. Podcasting has emerged as a contemporary learning tool, particularly beneficial for enhancing English as a Foreign Language (EFL) students' speaking skills quickly and effectively. Defined by Meng (2005) as a blend of "broadcasting" and the iPod, podcasts, according to Braun (2007), are regular audio and video files accessible for subscription and automatic download, catering to both computers and portable devices.

Podcasting, as an alternative approach to language curriculum, offers several pedagogical advantages. Facer, Abdous, and Camarena (2009) argue that podcasts leverage the natural advantage of spoken language over written forms, capturing the rhythm and inflection crucial for oral communication. Furthermore, integrating podcasts enables students to enrich class notes, refine speech patterns, and clarify complex concepts. Additionally, Vyas and Patel (2015) note that podcasts empower both students and teachers to create content ranging from oral presentations to debates.

This study aims to explore the impact of podcasts on English pronunciation among students. It seeks to demonstrate the significance of using podcasts for teaching phonetics and how it enhances pronunciation, particularly word stress placement. The hypothesis posits that the utilization of podcasts leads to improved pronunciation skills among EFL students.

2. Research Methodology

This section outlines the systematic approach that will be undertaken to conduct the research. According to Rajasekar, Philominathan, and Chinnathambi (2013), research methodology involves a structured process through which researchers elucidate, interpret, and anticipate phenomena related to their study. It encompasses the specific design, target population, and sample selection for the research endeavour.

2.1 Research Method

Addressing the earlier research inquiries has provided us with a lucid understanding of this study's direction. Consequently, the selection of methodology hinges upon the research's essence and its practicality. Therefore, a quantitative approach is deemed appropriate, employing a quasi-experimental design. Unlike conventional experiments, this design does not delineate variables but focuses on manipulating the impact of an independent variable on a dependent one. Given the structure of this research, non-random sampling is employed, involving two intact groups: the experimental group exposed to podcasts via Digital Audio MP3 Player, and the control group

receiving standard instruction.

2.2 Research Instrument

To assess and compare the outcomes between the experimental and control groups, both were administered pre-tests and post-tests. The aim was to evaluate student achievement and determine if their pronunciation skills improved with the utilization of Digital MP3 podcast recordings. Learners engaged with numerous podcasts and associated activities. Thus, the tests served as suitable instruments to conduct the experiment, gather data, and subsequently analyze it to extract pertinent research insights.

2.3 Population and Sample

The main objective of this study was to assess the influence of podcasting on enhancing students' pronunciation skills. The study population comprised 433 second-year English students at Mohamed Kheider University of Biskra, ranging in age from 20 to 25 and encompassing both genders. Due to time constraints, it was impractical to include the entire population of 433 students. Therefore, a sample of 20 students each was selected for both the experimental and control groups from existing English language divisions at the University of Biskra.

Table (01): Population and Sample of the Study

	Frequency	Percentage
Control group	20	4.61%
Experimental group	20	4.61%
Total of groups	40	9.23%
Whole population	433	100%

3. Procedures of the Experiment

The test was structured with three primary considerations: familiarity, simplicity, and adequacy. Thus, its format was designed to be straightforward and practical, aiming to actively engage students and encourage their participation. Each student received handouts containing twenty words embedded within twenty sentences, each showcasing varied stress placements. They were allotted five minutes to review the sentences, as previously mentioned, recognizing that meaning influences word stress placement. Participants were instructed not to seek assistance from dictionaries or smartphones to ensure the credibility of results. Subsequently, their responses were recorded using a computer to assess their proficiency in handling word stress. The duration of the test was set at one hour and thirty minutes. Following this, the outcomes will be juxtaposed with those of the post-test administered after the intervention.

3.1 Pre-test

The test was administered to both the experimental (n=20) and control groups (n=20), comprising twenty sentences featuring words with varying stress placements. Prior to the test, students were provided with the sentences to familiarize themselves with the content and grasp word meanings, recognizing the strong correlation between word stress and meaning. However, no specific font or style was assigned to the words. Moreover, to ensure the integrity of the research, students were prohibited from using smartphones, dictionaries, or any other materials to aid pronunciation. Subsequently, the completed test papers were collected by the researcher to prevent potential bias during recording. Following this, students' pronunciation skills were assessed by reading aloud the twenty words, which were recorded using a computer and microphone. This assessment phase lasted for one session, totalling one hour and thirty minutes.

3.2 Treatment

The independent variable, pronunciation, was examined under two conditions: the experimental condition, where students underwent a treatment involving the use of podcasts, and the control condition, where traditional phonetics courses were employed.

In the experimental condition, students were exposed to samples of podcasts featuring British Received Pronunciation (RP) to acclimate to the accent. Each podcast session lasted no more than six minutes to maintain student engagement. At the start of each session, students listened to the podcast conversation twice to enhance their listening skills, comprehension, and familiarity with RP pronunciation. Subsequently, they were prompted to imitate the pronunciation and respond to comprehension questions to gauge their understanding. While some students demonstrated optimal listening skills due to regular podcast exposure at home, others were at an intermediate level due to limited exposure.

Written transcripts of the podcasts were provided to aid students in reading and following along with the audio. This approach facilitated implicit learning of word spelling and RP pronunciation. Various tasks were assigned, such as listening again and completing gap-fill exercises, marking stress on given words, and identifying inappropriate stress patterns. These tasks aimed to reinforce correct pronunciation while listening to the podcasts.

The teacher's role was primarily supportive, with the podcasts serving as the primary reference for pronunciation development. However, the teacher intervened occasionally to clarify complex vocabulary and expressions,

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emphasizing that comprehension was not the primary focus, but rather achieving accurate pronunciation.

3. 3. Post-test

Another test was conducted to assess students' phonemic abilities in word stress. The test followed the same structure as the pre-test, but new words were selected, distinct from those used in the initial test. The aim was to determine whether podcasts contributed to an enhancement in students' word stress proficiency following intensive courses and listening activities.

4. Analysis of the Results

A subsequent assessment was carried out to gauge students' proficiency in phonemic word stress. This test maintained the format of the pre-test but featured a fresh selection of words distinct from those in the initial assessment. The objective was to ascertain whether podcasts, coupled with intensive coursework and listening exercises, led to improvements in students' ability to handle word stress.

4. 1. Pre-test Achievement of the Control Group and experimental group

Table (02): The Control Group Pretest Scores and Frequencies

Scores.... /20	Frequencies
4	2
5	2
6	1
7	4
08	6
09	1
10	1
11	1
12	2

Table (03): The Experimental Group Pretest Scores and Frequencies

Scores.... /20	Frequencies
3	3
4	2
6	2
7	2
08	2
09	4
10	2
12	2
13	1

4. 2. Summary of the Pre-test

Both the experimental and control groups exhibited weak performance in the pre-test, suggesting that the traditional phonetics teaching method did not effectively enhance their proficiency in handling phonemic aspects of English. Additionally, it was noted that some students achieved above-average scores in the initial test due to their extensive exposure to listening materials such as songs and films. Furthermore, observations revealed that the pronunciation of certain words leaned towards American rather than British English, indicating a preference or inclination towards American pronunciation. For instance, words like "schedule" were pronounced with stress on the second syllable, aligning with American pronunciation, while "laboratory" was stressed on the first syllable. Moreover, many students, particularly those scoring below average, consistently misplaced stress, often influenced by their native language, notably French. This unconscious influence led them to place stress on the first syllable, contrary to English pronunciation norms. Intentionally introducing grammatically diverse words aimed to connect comprehension with pronunciation, yet students still demonstrated challenges, such as pronouncing "rebel" as a verb instead of a noun. Overall, both groups encountered difficulties in both comprehension and pronunciation.

4. 3. The experimental Group and Control Group Post-test Achievement

Table (4): The Control Group Post-test Scores and Frequencies

Scores.... /20	Frequencies
4	1
6	2
7	1
8	3
9	2
10	3
11	1
13	2
14	4

Table (5): The Experimental group Post-test Scores, and Frequencies

Scores.... /20	Frequencies
7	1
8	1
9	2
10	2
11	2
12	3

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13	3
15	1
17	3
18	1

4. 4. Summary of the Post-test

It was evident that both groups of students demonstrated improvement following the intervention. While the control group showed modest progress in the final test, the experimental group exhibited significant advancement, attributed to the effectiveness of podcasts. Interestingly, the control group's pronunciation remained largely unchanged from the pre-test, albeit showing improved accuracy in certain word stress placements. Conversely, the experimental group, exposed to podcasts, showed more substantial improvement, aligning with previous findings. Notably, students who struggled may have lacked extensive exposure to Received Pronunciation (RP) podcasts, evidenced by mispronunciations like "compuRer" for "computer," indicating a notable influence of American accent on both groups. Additionally, linguistic interference from French persisted, as discussed earlier. Furthermore, students' difficulty in accurately pronouncing listening materials suggests the need for increased English language listening practice to effectively reproduce and comprehend classroom content.

4. 5. Comparative Evaluation of Achievement

Table (6): Overall Pre-test/post-test Difference of Control Group

N	Tests	Means	Standard Deviation
20	Pre-test	7.7	2.31
	Post-test	9.89	3.10
	Difference	2.19	0.79

We deduce that mean of the control group increase with 2.19. Therefore, this group record a slight improvement of 2.19 in the total average of the group.

4. 6. Comparison of Pre-test and Post-test Achievement of the Experimental Group

Table (7): Overall Pre-test/post-test Difference of Experimental group

N	Tests	Means	Standard Deviation
20	Pre-test	7.6	3.10
	Post-test	12.7	3.59
	Difference	5.1	0.49

5. Hypothesis Testing

In this study, we aim to establish the effectiveness and positive impact of the treatment administered to the experimental group. To achieve this, the following steps are necessary:

- 1- Conduct a T sample-test to assess the hypothesis.
- 2- Determine the P value, set at 0.05, indicating that only 5% of the results are likely due to chance, with 95% being deemed true and valid. A lower P value suggests that the null hypothesis is unlikely to be accurate. Thus, a smaller P value strengthens the case for rejecting the null hypothesis.
- 3- Calculate the degree of freedom suitable for the t-test, which is determined by the formula $f = N_1 + N_2 - 2$.

As previously mentioned, the t-test serves to confirm or refute the cause-and-effect relationship between two variables: the independent variable (IV) and the dependent variable (DV). The observed or calculated value from the t-test indicates the extent of improvement in participants' post-test word stress pronunciation scores (DV), attributed to the significance of the treatment (IV).

The purpose of statistical tests is to assess the likelihood of an event occurring by chance. According to Kanji (2006), statistical tests are employed to determine the probability of observed results under the null hypothesis. If this probability is equal to or less than 0.05, the null hypothesis is rejected in favour of the alternative hypothesis, and the results are deemed significant (Chelli, 2011).

These steps involve computing the unpaired t-test using the following equations, which will be applied to the outcomes of our study:

Calculate the two samples means ($\bar{X}_1, \bar{X}_2$) using the formula:

$$\bar{X} = \frac{\sum X}{N}$$

Calculate the two samples variances S^2_1 and S^2_2 using the formula:

$$S^2 = \frac{\sum X^2}{N} - \bar{X}^2$$

Substitute the values of $\bar{X}_1, \bar{X}_2, S^2_1$ and S^2_2, N^1, N^2 in the computational formula for t:

$$t_{N_1+N_2-2} = \frac{\bar{X}_1 - \bar{X}_2 \sqrt{(N_1+N_2-2) N_1 N_2}}{(N_1 S^2_1 + N_2 S^2_2)(N_1+N_2)}$$

Degree of freedom = $N+N-2 = 40-2=38$

P value: 0.05(5%)

5. 1. The calculation of t-test

$$t_{N_1+N_2-2} = \frac{(12.7-9.89)\sqrt{(20+19-2)20 \times 19}}{\sqrt{20 \times 12.31 + 19 \times 9.24}(20+19)}$$
$$t = 2.56$$

5.2. Interpretations

Our sample consists of 40 students, with a p-value of 0.05, indicating a one-tailed test. Thus, we consider up to 40 participants. The critical value obtained is 1.6839. In this case, the calculated t-test value exceeds the critical value. Consequently, we accept our alternative hypothesis, which posits that the integration of podcasts enhances learners' pronunciation, and reject the null hypothesis, suggesting that podcast integration does not improve pronunciation skills.

5.3 Summary of the Quantitative Findings

This section presents a summary of the experiment's key findings. The alternative hypothesis initially proposed in this study has been affirmed. Initially, descriptive statistics were employed to gather data from both the experimental and control groups. Subsequently, a comparison of the results from both groups revealed that the experimental group exhibited more notable improvements compared to the control group. This enhancement can be attributed to the incorporation of podcasts to enhance pronunciation skills. Ultimately, the acceptance of the hypothesis was validated by the results of the unpaired t-test, affirming the success of our experimental approach.

6. Conclusion

This chapter provides a comprehensive overview of the experiment, detailing its content, procedures, and objectives. Both descriptive and inferential statistics were utilized to analyze the scores obtained by participants, with the aim of assessing the impact of integrating podcasts into the classroom as a distinct teaching tool compared to traditional methods. Due to time limitations, the experiment focused on four podcasts featuring everyday conversations among native speakers, offering students opportunities to familiarize themselves with words pronounced accurately. Furthermore, students actively engaged with this technology, as podcasts are readily available on their smartphones. The results of the descriptive and inferential statistics demonstrated that podcasts effectively enhanced students' pronunciation of word stress within the second year LMD system at Mohamed Kheider University of Biskra. The hypothesis was validated by the t-test value (2.56) surpassing the critical value (1.68), indicating a significant

improvement in participants' pronunciation. This underscores the potential of podcasts in facilitating the teaching of phonetics, particularly word stress, and suggests broader applicability to other aspects of pronunciation. Moreover, the use of this technology motivates students to enhance their listening and speaking skills, thereby improving comprehension and aligning with the speech patterns of native speakers across various contexts.

7. Recommendations for Future Prospects

Considering the limitations identified in the study and the corresponding results, several key issues need to be addressed to enhance learners' pronunciation:

- **The Nature of the English Language:** The English language encompasses various accents worldwide, such as Received Pronunciation (RP) and General American English. Algerian universities primarily focus on RP, but learners should be exposed to other accents through communication or further language study. Podcasts play a crucial role in reinforcing RP pronunciation and familiarizing learners with native speaker characteristics, serving as a pronunciation reference.
- **Inter-lingual Interference:** Given that French is commonly spoken as a second language in Algeria, students may encounter interference in English pronunciation due to similarities in word spelling. Teachers should be aware of this phenomenon and develop strategies to mitigate negative transfer and mispronunciation, ensuring accuracy in pronunciation.
- **Financial Considerations:** Integrating podcasts into the educational system requires adequate financial investment to procure quality materials and equipment, such as multimedia laboratories with high audio and video performance. Podcasts can be utilized to teach phonetics both inside and outside the classroom, as intensive listening aids pronunciation refinement beyond mere phonemic rules.
- **Training and Instruction:** While providing learners with podcasts is straightforward, teachers must stay updated on technological developments and receive training to create and utilize podcasting software and hardware effectively. Online resources and professional training programs, including those offered in English-speaking countries like the UK or the US, can enhance teachers' pronunciation skills and enable them to provide valuable feedback to learners.

- **Large Class Challenges:** In university settings like the University of Biskra with large class sizes, teachers may face difficulties in delivering phonetics modules effectively. Dividing classes into smaller sections and allocating additional sessions for pronunciation practice can help address these challenges and ensure meaningful learning opportunities for students.
- **Linguistic Phenomena Awareness:** Teachers should educate students on linguistic phenomena such as homographs, homonyms, and homophones within the phonetics module. Understanding these concepts allows students to connect comprehension with the pronunciation of specific words, enhancing their overall language proficiency.

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