

The Impact of Spotify Music Platform on Students' English Pronunciation: A Pre-Experimental Study

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ABSTRACT

This study examines the impact of the Spotify music platform on improving the English pronunciation of eighth-grade students at MTs Muhammadiyah Al-Haq Palu, with a specific focus on the articulation of liquid consonants (/l/ and /r/), which commonly present difficulties for Indonesian learners of English. A quantitative pre-experimental design, utilising a one-group pre-test and post-test model, was employed with a sample of 28 students. Pronunciation tests were administered before and after the treatment to evaluate progress. The results revealed a significant improvement, as indicated by the increase in the mean score from 9.36 to 15.25, supported by a t-value of 27.36, which exceeds the t-table value of 2.052. These findings demonstrate that English songs on Spotify offer repetitive and authentic listening input, which strengthens articulation accuracy. The novelty of this study lies in analysing differential improvement between /l/ and /r/ sounds through a Spotify-based intervention. The implication suggests that digital music platforms can be used as effective supplementary tools in pronunciation teaching.

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1. INTRODUCTION

English pronunciation is a crucial aspect of language learning because it significantly influences how clearly a speaker conveys meaning and how easily their communication can be understood. When learners can pronounce words accurately, they gain confidence and can participate more effectively in spoken interactions. Pratama et al. [1] emphasise that pronunciation is closely linked to broader language abilities, particularly listening comprehension and speaking fluency. Despite this, many Indonesian students still encounter persistent difficulties when producing certain English sounds. These challenges often arise from first-language interference and limited exposure to natural English input, which can lead to misunderstandings and a reduced willingness to speak [2]. This situation

illustrates the need for instructional approaches that directly address problematic consonant sounds.

In response to these challenges, educators have increasingly explored music as a medium for pronunciation development. Songs are considered beneficial because they expose learners to natural speech rhythm, stress, and intonation, helping them absorb correct sound patterns in a more relaxed and enjoyable environment. Previous studies support this approach. Wahyuni [3] noted improvements in students' articulation after using English songs, and Manurung and Yana [4] observed that music can increase classroom motivation and learner engagement. Fadillah [2] also noted that repetitive listening and melodic structure facilitate longer retention of accurate pronunciation. These findings suggest that music-based learning offers an alternative to traditional drill techniques, which students often find monotonous.

Alongside the use of songs in general, digital platforms such as Spotify have created opportunities for more flexible and independent learning. Spotify offers access to extensive collections of English songs, complete with synchronised lyrics that enable learners to read and listen simultaneously. Rizqi [5] argued that this feature helps reinforce sound–text connections, while Siregar et al. [6] highlighted Spotify's potential to support phonological learning. Putra et al. [7] also reported an improvement in students' pronunciation accuracy after repeated listening through Spotify, as noted by Silvia et al. [8]. They explain that digital audio applications offer enjoyable learning environments that encourage autonomous practice. Taken together, these studies indicate that Spotify can serve as an effective resource for pronunciation instruction.

Instead of focusing on specific phonetic challenges, most previous research has examined general improvements in pronunciation or overall instructional outcomes. For instance, Sellinda et al. [8] investigated the use of Spotify to enhance students' pronunciation of several English consonant sounds; however, their study did not specifically address liquid consonants. Putra et al. [7] focused on overall pronunciation development, but few studies have targeted the articulation of liquid consonants. In the Indonesian context, the sounds /l/ and /r/ are widely recognised as some of the most difficult to master due to differences in articulatory patterns between English and Bahasa Indonesia. Anjani et al. [9] noted that these consonants often remain inaccurately produced even after years of study. As a result, there is still limited empirical evidence on whether Spotify can help students improve the articulation of liquid consonants specifically, revealing a clear research gap that requires further investigation.

To address this gap, the present study examines the impact of Spotify on improving the articulation of English liquid consonants (/l/ and /r/) among eighth-grade students at MTs Muhammadiyah Al-Haq Palu. The study focuses on enhancing students' pronunciation accuracy and determining which of the two sounds is easier for learners to produce. It also seeks to determine whether guided exposure to English songs through Spotify facilitates more precise and accurate articulation. The results are expected to provide practical implications for English teachers in designing creative and effective pronunciation instruction through digital music platforms, making the learning process more engaging and meaningful for students.

2. METHOD

This study employed a pre-experimental research design, specifically the one-group pretest-posttest design. Arikunto [10] explains that pre-experimental research designs are used to explore the cause-and-effect relationship between variables in a simple setting, often without a control group. The one-group pretest-posttest design involves administering a pre-test to a single group of participants, providing a treatment, and then administering a post-test to the same group.

$O_1 - X - O_2$

Where:

O_1 = Pre-test

X = Treatment

O_2 = Post-test

This design was chosen due to the limited sample size and differences between previous studies; however, the study can still be conducted effectively, even with only one eighth-grade class comprising 28 students. The results will be analysed based on the comparison of pre-test and post-test scores. Several previous studies reported significant improvements in pronunciation after using Spotify-based materials. Sellinda et al.[8] found notable gains in students' pronunciation accuracy following Spotify treatment, while Siregar et al. [6] demonstrated increased phonological awareness of problematic phonemes through digital audio exposure. Likewise, Melvina [11] found that Spotify fosters student engagement and motivation in pronunciation learning. Purba et al. [12] confirmed the positive effect of Spotify on listening improvement and abilities closely related to pronunciation, while Nida [14] highlighted its potential as a flexible learning tool through various audio media, such as podcasts.

The population of this study consisted of all eighth-grade students at MTs Muhammadiyah Al-Haq Palu, and a total of 28 students were selected as the sample [13]. The independent variable was the use of Spotify in learning pronunciation, while the dependent variable was students' accuracy in producing the /l/ and /r/ sounds. A pronunciation test consisting of 20 items served as the instrument, and scoring followed a binary rubric adapted from Ramadhani et al. [14].

Table 1. Distribution of Test Items

Aspect	Number of Test Items	Score per Item	Maximum Score
Pronunciation test of words	/l/ = 10 /r/ = 10	1	20
Total			20

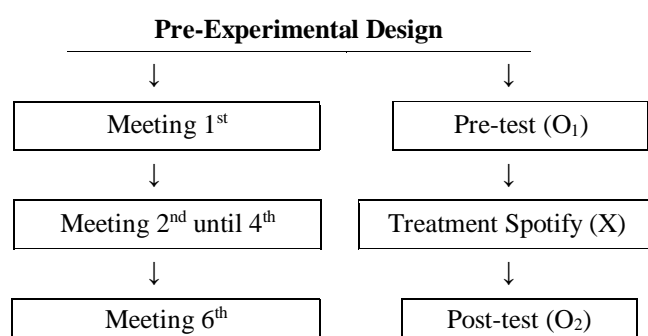
Table 2. Scoring Rubric of Pre-test & Post-test

Aspect	Items	Criteria	Score
Pronunciation	20	The correct pronunciation of the consonant sound	1
		Incorrect pronunciation of a consonant sound	0

To ensure that the pronunciation test used in this study was clear, appropriate, and effective, the researcher checked the content and structure of the test together with two lecturers from the English Education Department. Suggestions regarding wording, scoring clarity, and the organisation of test items were used to revise and improve the instrument before it was officially administered. Following this, a pilot test was conducted with a different class that shared similar characteristics with the research participants. The purpose of this pilot test was to determine whether the instructions were easy to understand, whether the difficulty level of the items was suitable, whether the provided time was sufficient, and whether the voice recording process functioned properly. Feedback from the pilot testing helped the researcher refine the test procedure and ensure that the instrument was reliable before it was used for the main pre-test and post-test.

Both pre-test and post-test assessments were conducted individually in a quiet classroom setting to minimise noise interference. Students' pronunciation responses were recorded using a smartphone voice recorder with a sensitive microphone mode. Two independent raters evaluated the recordings to ensure scoring reliability and reduce potential subjective bias. Research permission was formally obtained from the school administration, while written consent was secured from students and their parents. Participants were informed that their involvement was voluntary and that the collected data would be kept confidential and used solely for academic purposes. Names and personal identities were not disclosed in the reporting process.

Following the pre-test, students participated in four treatment sessions, utilising Spotify as the primary learning tool. Activities included guided listening, lyric reading, singing practice, phonetic repetition drills, identifying /l/ and /r/ words in song lyrics, recording pronunciation for self-evaluation, and receiving peer feedback. Sessions lasted 80 minutes each. The structured treatment sequence is presented below:



At the end of the treatment period, the same pronunciation test was administered as the post-test to measure improvement. The difference between pre-test and post-test results served as empirical evidence of Spotify's effectiveness in enhancing students' pronunciation accuracy, particularly in the articulation of liquid consonants.

3. RESULTS AND DISCUSSION

This section presents the results of the study conducted with the eighth-grade students of MTS Muhammadiyah Al-Haq Palu. The research data were collected through

pronunciation tests administered to the students who participated in the study as a sample. The tests were divided into two stages: the pre-test and the post-test.

3.1. Result

The study began with a Pre-Test to measure students' initial pronunciation ability for the English liquid consonants /l/ and /r/. Table 1 presents the descriptive statistics of the Pre-Test.

Table 1. Pre-Test Results

Sound	Total Score	Mean Score
/l/	117	4.18
/r/	145	5.18
Total	262	9.36

The data from the Pre-Test (Table 1) reveals that the mean score for all students was 9.36 out of a possible 20. This indicates a relatively low level of proficiency in pronouncing the target sounds /l/ and /r/ prior to the intervention. The low scores underscore the necessity for an instructional intervention to improve students' pronunciation skills, which led to the adoption of the Spotify music platform as the treatment method.

Following the completion of four treatment sessions utilising the Spotify music platform, a Post-Test was administered to evaluate the progress made by the students in their pronunciation abilities. The Post-Test results are presented in Table 2.

Table 2. Post-Test Results

Sound	Total Score	Mean Score
/l/	197	7.04
/r/	230	8.21
Total	427	15.25

As shown in Table 2, the mean score for the Post-Test was 15.25 out of a possible 20. This represents a notable improvement from the Pre-Test results, indicating that the treatment successfully enhanced the students' pronunciation skills. The post-test scores suggest that students' pronunciation abilities have reached a satisfactory or high level, demonstrating the positive impact of the intervention using the Spotify music platform.

To determine whether the improvement was statistically significant, the researcher calculated the Mean Deviation and Sum of Squared Deviation based on the difference between Pre-Test and Post-Test scores, as shown in Table 3.

Table 3. Deviation and Square Deviation

Group	Pre-Test Total (X1)	Post-Test Total (X2)	Total Deviation (X1 - X2)	Mean Deviation	Sum of Squared Deviation
Eight Class	262	427	165	5.89	35.11

The calculated Mean Deviation was 5.89, representing the average score gain per student. The Sum of Squared Deviation was 35.11, indicating highly consistent improvement among the students. A paired-sample t-test was then conducted to test the statistical significance of the improvement. The formula used follows Arikunto [15];

$$t_{counted} = \frac{Md}{\sqrt{\frac{\Sigma X^2 d}{N(N-1)}}$$

T : the value of t-counted

Md : the mean of deviation of the pre-test and post-test difference

$\Sigma X^2 d$: the sum of the squared deviations of squares

N : total number of students

1 : constant number

$$t_{counted} = \frac{5.89}{\sqrt{\frac{35.11}{28(28-1)}}$$

$$t_{counted} = \frac{5.89}{\sqrt{\frac{35.11}{756}}}$$

$$t_{counted} = \frac{5.89}{\sqrt{0.0464}}$$

$$t_{counted} = \frac{5.89}{\sqrt{0.2153}}$$

$$t_{counted} = 27.36$$

Calculation of the t-counted value, the researcher conducted a formal hypothesis test to determine whether the difference between the Pre-Test and Post-Test mean scores was statistically significant. The test was performed at a 0.05 significance level $\alpha = 0.05$, using a two-tailed approach. The hypotheses were structured as follows: the null hypothesis (H_0) stated that there is no significant difference in students' pronunciation before and after using Spotify, while the alternative hypothesis (H_1) proposed that a significant difference exists. According to the decision rule, H_0 would be rejected if the t-counted value exceeded the critical t-table value ($t_{counted} > t_{table}$).

The t-counted value was 27.36, which is substantially higher than the critical t-table value of 2.052 ($df = 27$). Based on this comparison, the Null Hypothesis (H_0) was rejected, and the Alternative Hypothesis (H_1) was accepted. This result demonstrates a statistically significant improvement in students' pronunciation scores after using Spotify, indicating that the Spotify platform effectively enhances students' pronunciation skills.

3.2. Discussion

The results of this research indicate that utilising the Spotify music platform has a significant impact on enhancing students' English pronunciation. The average score

increased noticeably from 9.36 in the pre-test to 15.25 in the post-test, giving an improvement of 5.89 points. The statistical result is also convincing, as the t-value reached 27.36, which is significantly higher than the t-table value of 2.052, indicating that the improvement occurred due to the treatment and not by chance, similar to what was reported by Ilyas et al. [16]. This finding can be understood through Krashen's [17] Input Hypothesis, which explains that learners develop language more effectively when they receive meaningful input in a relaxed environment, and also relates to Baddeley's [18] Phonological Loop Theory, which states that repeated listening strengthens the memory system responsible for storing and reproducing sound patterns. In practice, real English songs on Spotify helped students listen to natural pronunciation, follow the lyrics, and imitate speech patterns from native speakers, supporting the idea of music as an engaging learning tool, as also noted by Lestari & Maufur [19], who highlight the strong connection between memory and musical repetition.

A key contribution of this research is its focus on comparing the improvement of the /l/ and /r/ sounds, a topic that has rarely been discussed in earlier studies. This study extends previous research by analysing the difference in improvement between /l/ and /r/ through a Spotify-based intervention, offering a new perspective in pronunciation research. Although both target sounds improved, the /l/ sound remained more difficult ($M = 7.04$) than /r/ ($M = 8.21$), supporting the findings of Sayogie & Adbaka [20], who argue that articulatory habits from the first language strongly influence accuracy in English consonants. This tendency is also in line with Flege [21] and Major [22], who found that learners often struggle to produce sounds that do not exist in their native phonological system. Therefore, even with music-based practice, certain sounds still require explicit guidance and focused drilling.

The positive impact of music-supported learning is consistent with earlier studies. Asmaradhani et al. [23] reported improvement in stress and intonation through song exposure, and Kadir [24] found that repeated listening activities help students pronounce vowel sounds more clearly. Other research also notes that learning through songs reduces anxiety and increases speaking confidence, Olii [25]; Dörnyei [26], while Ramadhanti and Farida [27] highlight the role of English songs in increasing motivation and phonological awareness. Eryon et al. [28] also documented a significant improvement when songs were integrated into pronunciation instruction, strengthening the argument that authentic audio, including Spotify, is a useful learning resource.

Although the results are promising, several limitations need to be acknowledged. This study did not involve a control group, the treatment took place over a short period, and the sample was limited to one school context. However, the findings still offer practical implications. Spotify can be paired with explicit pronunciation activities, such as minimal-pair practice and articulation exercises, to address persistent difficulties, especially with the /l/ sound. Encouraging students to listen independently outside class may also help sustain improvement. With a balanced combination of music and focused instruction, digital audio platforms can help learners build stronger pronunciation skills and confidence in speaking English.

4. CONCLUSION

This study concludes that integrating the Spotify music platform into pronunciation learning supports meaningful improvement in students' ability to articulate English liquid consonants, particularly /l/ and /r/, by providing authentic and enjoyable listening input. These findings reinforce pronunciation theory, suggesting that exposure to comprehensible and repeated auditory input enhances phonological development, consistent with Krashen's Input Hypothesis and the Phonological Loop concept, where repeated rehearsal strengthens speech memory and production accuracy. In practical terms, the results suggest that teachers can benefit from incorporating digital music platforms into pronunciation lessons by combining song-based listening with focused articulation drills and minimal-pair practice, particularly for challenging sounds like /l/. However, the study is limited by the absence of a control group, the short duration of the treatment, and its focus on only two consonant types, which restricts generalizability. Future research could explore longer interventions, include additional phonemes, apply mixed-method approaches for deeper analysis, or compare various musical genres to determine which type of audio input is most effective for EFL learners. Overall, this study contributes to the growing body of evidence supporting technology-assisted language learning and provides a practical reference for educators seeking engaging and accessible media to enhance pronunciation instruction in classroom contexts and beyond.

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