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# Investigating the effectiveness of shadowing in enhancing engineering students' pronunciation

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ABSTRACT

This study investigates the use of shadowing as a teaching strategy to enhance engineering students' pronunciation at a science and technology university in Hanoi. It employed a mixed-methods approach, integrating insights from participant interviews with numerical data from pronunciation tests administered before and after the intervention. The findings revealed an improvement in students' pronunciation, highlighting the effectiveness of shadowing as a technique for enhancing phonemic awareness and self-confidence. By illustrating how shadowing boosts motivation and engagement in language learning and skill acquisition, this paper contributes to the advancement of language education.

## 1. INTRODUCTION

Pronunciation remains a significant problem for Vietnamese EFL learners, particularly students at technical universities (Tran, 2024). Despite learning English for years, many students struggle with correct pronunciation, which affects the effectiveness of communication (Plailek & Essien, 2021). An analysis of their pronunciation patterns reveals persistent difficulties with final sounds such as "s" and "ed," which are often omitted or mispronounced (Disney & Le, 2024). Students, nevertheless, perform comparatively better in sentence stress, intonation, and linking. These are also consistent with earlier research that showed Vietnamese learners struggling with consonant clusters and inflectional endings because of the discrepancy between their first language phonology and English (Tran & Nguyen, 2022). Such difference in proficiency suggests that generalized pronunciation instruction is ineffective and more specialized instruction is needed to remedy specific pronunciation issues (Huang, 2018).

Pronunciation challenges faced by Vietnamese English learners arise from a combination of internal and external factors. Internally, they have limited access to English exposure at the time of early schooling, low intrinsic motivation, and varying learning capabilities, which significantly hinder their advancement (Pham & Pham, 2025; Le et al., 2024). Many Vietnamese students approach English learning mainly for exam success, which results in a lack of attention to pronunciation (Nguyen, 2011). Externally, the influence of their native language plays a crucial role, as differences in the sounds of Vietnamese and English, particularly in areas like final consonants and vowel length, lead to frequent mistakes, such as omission or distortion (Ton & Hoang, 2024). Moreover, the emphasis on grammar in traditional teaching methods in Vietnamese schools results in students being inadequately prepared for pronunciation, with many teachers lacking specialized training in pronunciation instruction (Nguyen, 2011). As a result, improving pronunciation skills among Vietnamese students requires tackling both personal and situational factors.

In order to address these challenges, this study investigates the shadowing technique as a potential remedy

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for improving students' pronunciation. Shadowing involves repeating speech immediately after hearing it, which helps learners acquire phonetic and prosodic features of a target language. Its efficiency in enhancing listening comprehension, fluency, and pronunciation has been shown in various studies (Nguyen, 2024; Huang, 2018). Research findings indicate that segmental and suprasegmental characteristics, such as rhythm, stress patterns, vowel clarity, and consonant articulation, significantly improve for students who participate in shadowing (Hamada, 2018). Additionally, shadowing encourages phonetic alignment, which helps students modify their pronunciation to resemble native speakers' more closely (Althubyani, 2021).

However, despite these positive findings, little research has systematically investigated the impact of shadowing on Vietnamese university students, particularly students in technical university settings. Many studies have been conducted with Japanese and Chinese learners (Hamada, 2019; Zhang, 2024), with minimal consideration to Vietnamese students. Moreover, the majority of studies have investigated shadowing's effects on overall speaking ability rather than its specific effect on the pronunciation features such as final consonants, rhythm, and stress. Additionally, there have been a small number of studies into Vietnamese students' perceptions of shadowing, challenges they face in acquiring the technique, or its longevity of effect. Therefore, addressing these gaps is important in order to determine whether shadowing can be employed as a successful intervention for Vietnamese non-English-majored students to improve their pronunciation skills. To achieve this aim, the following research questions are formulated:

1. To what extent does shadowing technique improve non-English majors' speaking performance?
2. What are non-English majors' attitudes towards shadowing technique?

## 2. LITERATURE REVIEW

### *2.1. Shadowing and Language Acquisition*

Shadowing, an oral repetition technique in which learners immediately repeat what they hear, plays a significant role in language acquisition. It assists students in imitating native-like pronunciation, intonation, and rhythm, facilitating phonetic convergence, which allows pronunciation adjustments to align with native speech patterns (Althubyani, 2021). During this process, students enhance their phonological awareness as well as speech perception, critical elements in second language acquisition. The effectiveness of shadowing is due to the fact that it requires active listening and simultaneous verbal reproduction, which enhances language processing ability at segmental and suprasegmental levels.

Research has consistently highlighted the efficiency of shadowing for language acquisition. Nguyen (2024) conducted a comparative study where students who received shadowing performed higher in pronunciation, fluency, vocabulary, and grammar than their control. Moreover, voice onset time (VOT) values' enhancement indicated more precise articulation of word-initial consonants (Huang, 2018). Hamada (2018) compared two shadowing approaches—holistic shadowing (H-SH) and IPA-based shadowing (IPA-SH), both of which significantly enhanced pronunciation accuracy and intelligibility. The findings reveal that shadowing is particularly beneficial for students with weak phonetic background. Furthermore, shadowing has been found to enhance learners' ability to internalize phonemic contrasts and accumulate muscle memory in terms of speech articulation, facilitating the production of natural-sounding speech.

Cognitive benefits of shadowing have been widely examined. Hikaru et al. (2021) identified that long-term engagement with shadowing enhances the ability of working memory, which is in accordance with Baddeley's working memory model. Brain imaging studies revealed structural changes in speech production and speech maintenance areas, underscoring the impact of shadowing on cognitive processing. Besides, shadowing facilitates the recognition of phonemes and adaptation to various English accents, which accelerates language processing and phonological coding (Hamada, 2019; Shavtikova et al., 2023). Huang (2018) emphasized that shadowing helps learners deal with speech articulation and improve sound accuracy. Furthermore, consistent practice of shadowing automates phonological coding, decreasing cognitive load and enabling learners to concentrate more on meaning than linguistic form while communicating.

Another major advantage of shadowing is its contribution to listening comprehension. Hamada (2011) challenged the assumption that shadowing is only effective for simple materials by demonstrating its success with complex listening texts. Students had significant gains in phoneme identification, rate of speech processing, and recalling information. Similarly, Shavtikova et al. (2023) determined that shadowing both enhances top-down and bottom-up listening approaches, which leads to increased understanding overall. Zhang (2024) suggested that intelligent personal assistants could further enhance shadowing by providing real-time feedback on listening and pronunciation accuracy. Additionally, incorporating shadowing with extensive listening tasks, such as exposure to various English accents and speech patterns, enables learners to better

understand and deal with spontaneous speech in actual settings.

*2.2. Shadowing and Pronunciation*

For Vietnamese students who are not specializing in English, mastering pronunciation poses a considerable challenge, particularly with phonemes, allophones, and consonant clusters. Many learners have difficulty articulating fricatives like /θ/, /ð/, and /ʒ/, as well as affricates such as /dʒ/, which do not exist in their native language. This often leads to sounds being replaced or dropped altogether (Disney & Le, 2024; Plailek & Essien, 2021). Furthermore, consonant clusters—especially those at the end of words (for instance, /ts/ in "cats")—are frequently simplified, affecting both clarity and grammatical meaning (Disney & Le, 2024). When it comes to suprasegmental features, students often face difficulties with stress, rhythm, pitch, and intonation. These elements are crucial for producing natural and comprehensible speech, but they are frequently neglected in standard teaching practices (Gui, 2020). For example, the syllable-timed nature of Vietnamese can lead to challenges in correctly placing stress and rhythm, which contrasts with the stress-timed rhythm of English (Gilakjani & Sabouri, 2016; Gui, 2020). Additionally, students may not be aware of the importance of pitch variations and sound linking, both of which contribute to fluent speech in English. Techniques like shadowing have been effective in developing both segmental and suprasegmental skills by allowing learners to replicate the speech patterns of native speakers. Therefore, it is vital to incorporate targeted pronunciation exercises into lessons to improve students' communication abilities in professional environments (Huang, 2018; Nguyen, 2024).

*2.2.1. Benefits*

Shadowing has been widely recognized for its benefits in pronunciation development. Studies confirm that it improves both segmental pronunciations, particularly difficult phonemes such as /p/, /v/, and vowels (Althubyani, 2021). In addition, it enhances suprasegmental features such as intonation, stress, and rhythm, which contribute to intelligibility (Hamada, 2018). By reinforcing auditory discrimination, phonemic awareness, and articulatory muscle memory, shadowing supports pronunciation acquisition (Hikaru et al., 2021). Furthermore, native imitation in real-time provides learners with the opportunity to practice pronunciation in an interactive and immersive environment.

Moreover, Althubyani (2021) emphasized the significance of phonetic convergence and demonstrated that consistent shadowing practice guarantees more native-like speech patterns. Shadowing facilitates recognition and adaptation to various English accents, enabling learners to adjust their pronunciation accordingly (Hamada, 2019; Huang, 2018). Besides pronunciation, shadowing is significant in refining oral fluency by increasing the automaticity of speech, reducing pauses, and speeding up the articulation. Regular shadowing students build up more speaking confidence, as they become more comfortable making English sounds correctly and naturally.

*2.2.2. Challenges*

Despite its benefits, shadowing presents several challenges. One of the greatest challenges is that students find the native rate of speech too fast, leading to frustration and decreased motivation (Huang, 2018). Additionally, outside-classroom exposure to English can be minimal, which limits long-term pronunciation growth. Zhang (2024) also found technical limitations in digital shadowing tools, including voice recognition errors. Moreover, the efficacy of shadowing also lies in consistency on the part of learners since occasional use can severely decrease its effectiveness (Hikaru et al., 2021).

Psychological aspects also influence the proficiency of shadowing. Liu (2018) discovered that students with severe speaking anxiety are less likely to profit from shadowing activities, emphasizing the need to incorporate anxiety-reduction methods into pronunciation training. Moreover, Hamada (2011) observed that while shadowing enhances short-term pronunciation gains, some students experience cognitive overload when dealing with complex speech texts. This suggests the need for a gradual progression from simpler to more complex materials to optimize learning outcomes.

*2.2.3. Pedagogical Applications*

In English pronunciation teaching for Vietnamese technical learners, the success of instruction greatly relies on choosing the right teaching methods. According to Gilakjani & Sabouri (2016), the instruction of pronunciation must be integrated with other language abilities and include a strong focus on suprasegmental features such as stress, intonation, and rhythm—areas in which many Vietnamese learners face challenges due to the interference of their L1. Instructors are encouraged to expose learners to authentic listening materials and provide a classroom atmosphere in which learners can imitate and internalize natural speech rhythms (Plailek & Essien, 2021). Shadowing allows learners to repeat what they hear and speak along with native-like models in real time. Nguyen (2024) adds that shadowing works even better when teachers guide students

and use materials that match their skill level.

Technology also contributes significantly. According to Pham & Pham (2025), learners responded positively to apps like ELSA Speak, which give immediate feedback and help with both individual sounds and broader speech features. Zhang (2024) also mentions the usefulness of virtual assistants, which offer easy-to-access feedback and promote frequent practice, something especially beneficial for technical students with tight schedules. Apart from digital tools, teachers themselves play a critical role. Almusharraf (2024) points out that educators who receive training specifically in pronunciation teaching feel more confident and perform better, particularly when they can incorporate technology into their lessons.

To overcome typical difficulties such as lack of motivation, unintelligibility of fast speech, and a lack of corrective feedback, teachers should introduce shadowing gradually by starting with less challenging tasks and offering ongoing scaffolding (Asante-Nimako, 2018; Ha, 2005). The integration of functional communication tasks, including role-plays or technical discussions, can also help learners apply pronunciation skills to real-life situations (Gui, 2020).

## 3. METHODOLOGY

### *3.1. Data collection*

This study employed a mixed-method approach to ascertain the effectiveness of the shadowing technique in enhancing pronunciation and speaking among beginner-level learners. Quantitative and qualitative methods of data collection were employed to provide a general evaluation of participants' improvement and attitudes. The study found that by having students repeat spoken language aloud during shadowing, they can improve their phonetic accuracy, intonation, and general speaking abilities.

The quantitative aspect component of the study involved an experimental method utilizing pre-tests and post-tests to assess improvements objectively in some areas of pronunciation like allophones, consonant clusters, sound linkage, phonemes, stress, pitch, intonation, and rhythm. Fifty-one engineering students at the A1-A2 level of English proficiency volunteered to participate in a structured shadowing program over six weeks. During the shadowing practice stage, the students carried out shadowing practice on two selected movie trailers each week, all of which were under three minutes long to ensure engagement and feasibility. The choice of movie trailers was used to sustain participant interests and provide real language input suitable for pronunciation training. Weekly practice was recorded using Microsoft Forms. Continuous feedback was provided in the form of personalized messages on Microsoft Teams, in which accuracy of pronunciation, speech rhythm, and fluency testing results were detailed with the support of the Elsa Speak app in combination with lecturers' comments following the methodological model Henny Septia Utami and Ruly Morganna (2022) suggested.

To complement the quantitative findings, qualitative data were collected through semi-structured interviews with a framework facilitated by Kehoe (2017). The interviews were carried out to gather in-depth insights into student participants' subjective experiences, learning strategies, and attitudes toward shadowing practice. The interviews were conducted with two groups of respondents: the top five students who achieved the most improvement and the top five who showed the least improvement, based on their pre- and post-test scores. This sampling aimed at gaining an understanding of differing experiences and perceptions regarding the shadowing practice. The interview questions were derived from Kehoe's (2017) design, which included the following: (1) On average, how many minutes per week did you practice shadowing? (2) Do you think shadowing helped your pronunciation? If yes, how did it help you? (3) Are there challenges when practicing shadowing? (4) Would you recommend shadowing to a friend? These questions were designed to test the participants' self-reported progress, the specific difficulties that they encountered while practicing shadowing, and their overall attitudes towards the technique. Besides, the participants were also encouraged to provide suggestions for improving the shadowing technique and to report their learning preferences.

### *3.2. Data Analysis*

Quantitative data collected from pre- and post-tests were subsequently calculated using SPSS Paired-Sample T-Test to determine statistical significance in the improvement in the pronunciation of the participants. Analysis was focused on determining measurable improvements in specific areas such as phonemes, allophones, consonant clusters, sound linkage, stress, rhythm, pitch, and intonation.

Qualitative interview data were analyzed thematically, and key themes included phonetic awareness, improved speech rhythm, greater confidence in speech, and challenges such as rapid speech and unfamiliar words. Participants' feedback also provided some insights into learning style and some possible solutions to enhance shadowing practice.

## 4. FINDINGS

### *4.1. Findings from pre-test and post-test results*

This research employed a paired samples t-test to assess the efficacy of an intervention on various aspects of sound-related skills in a cohort of 51 participants (n=51). Assessment focused on seven keys: phonemes (I1), allophones (I2), sound combinations (I3), sound linkage (I4), stress (I5), rhythm and pitch (I6), and intonation (I7). Statistically significant results on all domains tested after intervention are presented in Table 1.

The mean differences in all items were negative, indicating a reduction in the values achieved following the intervention. Since the measured variables reflecting errors, difficulties, or negative aspects of sound production/perception would be expected to be positive in nature, negative scores are an indication of positive change or improvement. The magnitudes of these improvements varied for different domains.

The paired samples t-test revealed significant change in all measured sound-related skills. The most improvement was witnessed in phonemic skills (I1) with a mean difference of -10.549 ($p < .001$). Significant gains were also witnessed in areas such as allophones, combinations and connection of sounds, stress and intonation, though to a lesser degree. While all aspects showed improvement, rhythm and pitch (I6) showed the least improvement, though still significant statistically, with a mean difference of -6.192 ($p <.001$). Overall, the data indicates a consistent trend of improvement in general after the intervention.

Also, the p-values for all comparisons were below .001, indicating a high statistical significance. This robust statistical significance suggests that the observed improvements are unlikely to be due to chance and can be attributed to the intervention. The 95% confidence intervals of the differences in the means did not contain zero, contributing to the evidence that the improvements were statistically significant.

In general, the results indicate that the intervention worked to improve sound-related skills across several areas. The improvements, especially in phonemic skills, point to the possibility of notable gains in areas critical for speech and language processing.

**Table 1.** Paired Samples Test.

| Item | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Lower | Upper | | | |
| I1 | Phonemes | -10,549 | 7,606 | 1,065 | -12,688 | -8,41 | -9,905 | 51 | ,000 |
| I2 | Allophones | -9,235 | 8,182 | 1,146 | -11,536 | -6,934 | -8,061 | 51 | ,000 |
| I3 | Combinations of Sounds | -8,058 | 7,22 | 1,001 | -10,068 | -6,048 | -8,047 | 51 | ,000 |
| I4 | Linkage of Sounds | -7,904 | 7,544 | 1,046 | -10,004 | -5,804 | -7,555 | 51 | ,000 |
| I5 | Stress | -6,75 | 6,243 | 0,866 | -8,488 | -5,012 | -7,797 | 51 | ,000 |
| I6 | Rhythm and Pitch | -6,192 | 7,068 | 0,98 | -8,16 | -4,224 | -6,317 | 51 | ,000 |
| I7 | Intonation | -8,596 | 8,562 | 1,187 | -10,98 | -6,213 | -7,24 | 51 | ,000 |

### *4.2. Findings from interviews*

#### *4.2.1 Benefits of Shadowing*

Shadowing studies reveal a number of advantages along with some difficulties faced by the learners during practice. A primary benefit identified by many participants was the improvement in pronunciation. For instance, P34 stated, "It is really helpful. I can imitate the speakers and sound more native-like," expressing how shadowing enhanced their confidence when speaking in front of the class. Similarly, P15 noted that the approach allows them to "enhance my pronunciation" since they learned how to stress words and intonation by imitating the video.

Apart from that, students also emphasized the effect of shadowing on their vocabulary. P51 said, "I learnt more words and the correct way to spell them," indicating that this method not only enhanced their pronunciation but also enriched their knowledge of language. The enjoyable nature of shadowing was also a recurring theme; P15 described the practice as "fun and easy," which contributed to a more engaging learning experience. P19 also shared the same perspective, showing, "I think after trying shadowing, I become more confident, and my English improved."

*4.2.2. Challenges of Shadowing*

Nevertheless, participants encountered challenges while practicing shadowing. One of them was keeping up with the pace of the audio. P34 shared, "Sometimes I cannot follow the speed of the audio," which hindered their ability to accurately imitate the speakers. P7 had the same opinion, noting, "Sometimes I cannot catch up with the audio," suggesting that speech rate was a hindrance to productive practice.

Irregular practice patterns also impacted some participants. P26 admitted, "I only spent 20 minutes practicing," attributing busy schedules and part-time jobs as the reasons for the limited participation. This lack of consistency often led to feelings of frustration, as P25 expressed, "I had no time to practice and sometimes I could listen to the text but could not imitate correctly." Lack of motivation was also a preventing factor for some of the learners. P30 confessed, "I think I lack motivation to keep practicing," highlighting the requirement for a more structured approach to remain engaged.

*4.2.3. Pedagogical Applications*

Given these insights, pedagogic techniques can be employed to reinforce the benefits of shadowing. Integrating structured shadowing in language courses can encourage habitual practice. P34 reports that performing the task with friends could render the exercise enjoyable and productive: "I invited my other friends to join the project," which resulted in collective positive feedback.

Moreover, introducing materials of varied difficulty levels gradually can help students adapt to the pace of authentic spoken language, solving the pacing problems highlighted by P34. Encouraging group shadowing practice can also increase motivation; P30 acknowledged that "having someone practicing together will be more effective." Finally, educators could develop feedback mechanisms that allow students to receive constructive criticism of their pronunciation, thereby improving their self-monitoring skills, as participants like P41 mentioned the challenges of identifying when they were not pronouncing words correctly.

In summary, although shadowing is a great way to enhance pronunciation and speech clarity, it has its challenges in terms of pace, consistency, and motivation. Utilizing these teaching methods, educators can establish a more favorable learning environment, enabling learners to overcome obstacles and make further progress in language learning.

## 5. DISCUSSION

The findings of the current study demonstrate a significant improvement ($p < .001$) in sound-related pronunciation features, including phonemes, allophones, linking, stress, rhythm, and intonation, among Vietnamese non-English major students using the shadowing technique. Notably, phonemic accuracy showed the greatest improvement. These findings support broader research (Hamada, 2011) and are in line with previous Vietnamese studies, including Nguyen (2024), demonstrating the effectiveness of structured interventions like shadowing in improving both segmental and suprasegmental pronunciation components. In the Vietnamese context, where speaking and listening are often neglected in favor of grammar and reading in traditional English instruction (Nguyen, 2011), this method offers a vital addition to these areas.

Research consistently indicates that shadowing is an effective technique for language acquisition, providing benefits in multiple areas. Primarily, it greatly improves pronunciation by allowing learners to directly imitate native speakers. This approach enhances their speech accuracy, especially in terms of stress and intonation (Hamada, 2018; Huang, 2018; Nguyen, 2024). Additionally, this approach helps students improve their spelling and vocabulary, which raises their level of language proficiency overall (Nguyen, 2024). Additionally, many students find shadowing to be engaging and enjoyable, which can help them feel more confident when speaking, especially in group settings. This approach is frequently referred to as "fun and easy," offering students a variety of benefits. These include an expanded vocabulary, better pronunciation, and heightened focus and awareness of the language's sounds. Additionally, research indicates that shadowing can improve working memory and the brain's ability to process language (Hikaru et al., 2021). It also helps learners adjust to a range of accents, which is particularly beneficial for those who struggle with listening skills (Hamada, 2019). In conclusion, shadowing provides a well-rounded approach to language learning, focusing on both language skills and cognitive development while promoting an enjoyable and positive learning atmosphere.

Even though the study confirmed improvements in overall pronunciation, rhythm and pitch showed little improvement, indicating that these suprasegmental features are more challenging to master and require specialized training. Vietnamese learners often struggle with these aspects because of the fundamental differences between the stress-timed nature of English and the syllable-timed rhythm of Vietnamese (Disney & Le, 2024). Several Vietnamese studies have reported similar challenges, including one conducted by Can Tho University in 2022, where students faced difficulties with intonation patterns and stress placement that are

absent in Vietnamese (Tran & Nguyen, 2022).

It was found that various issues limited the effectiveness of shadowing. Many students, especially those with lower proficiency, found it difficult to follow the audio. This finding is corroborated by research from Huang (2018) and Shavtikova et al. (2023). Ha (2005) emphasizes that many students do not receive systematic training in distinguishing English phonemes, resulting in cognitive overload when listening at a rapid pace. Moreover, it is more challenging for them to understand and accurately reproduce complete sentences due to their limited vocabulary. The speed and complexity of shadowing materials should be gradually adjusted to accommodate varying skill levels, according to both Vietnamese and foreign researchers (Zhang, 2024).

Another major issue was the inconsistency in practice. Many students lamented the lack of structured learning environments outside of the classroom, their tiredness, or their inability to keep up with their rigorous coursework. This problem is particularly relevant in Vietnamese ESP contexts, where students usually enroll in English classes after undergoing intensive specialized training in areas such as military or medical studies (Le et al., 2024). According to the survey findings by Hikaru et al. (2021), students encounter significant challenges in sustaining their motivation during shadowing. These results indicate that motivation, which is vital for engagement and overall experiences, is affected by a range of internal and external factors. Therefore, educators can refine their teaching strategies to help students overcome these motivational challenges and improve their educational outcomes.

To mitigate these problems and improve the effectiveness of shadowing for Vietnamese ESP students, several teaching strategies are proposed. First, teachers should gradually introduce shadowing, starting with clear, slow audio and working their way up to more natural speech rates, in order to accommodate different proficiency levels (Shavtikova et al., 2023). Second, using vocabulary pre-teaching and guided practice can help students gain confidence and improve their comprehension of the shadowing material. Third, encouraging group shadowing activities can foster a collaborative and motivating learning environment, according to Quadir (2014) and Zhang (2024). Finally, it is critical to incorporate feedback mechanisms that enable students to identify and correct their pronunciation errors. Teacher feedback, when combined with digital pronunciation tools, has been shown to increase both awareness and accuracy (Pham & Pham, 2025; Ton & Hoang, 2024). Educators can effectively address the identified challenges by incorporating structured shadowing, adjusting material difficulty, fostering collaborative practice, and providing constructive feedback.

## 6. CONCLUSION

This research suggests that shadowing approaches may be effective in enhancing English pronunciation among Vietnamese ESP students at the A1–A2 proficiency level, although further investigation is needed to fully establish their efficacy. Quantitative data indicates considerable mean differences in pronunciation accuracy following intervention, demonstrating a potential improvement in participants' abilities. The development of sound combinations and sound linking, stress placement, allophonic variation, intonation, rhythm and pitch control, and phoneme accuracy were all found to have improved. These results tentatively establish shadowing as a promising method for improving both segmental and suprasegmental aspects of pronunciation in this specific learner context by reiterating and building upon earlier research. The study offers important insights into the benefits of shadowing in real-world contexts. Notably, there were substantial improvements in phoneme accuracy, indicating that shadowing can effectively enhance key pronunciation skills. The ongoing advancements in all evaluated areas highlight the overall effectiveness of this method.

Additionally, qualitative interviews offered important perspectives on students' experiences, reinforcing the conclusions drawn from the quantitative findings. Participants noted improvements in the naturalness, fluency, and clarity of their speech. Interestingly, those who invested considerable time in shadowing exhibited greater confidence and a pronunciation that sounded more native, which aligns with the phonetic advancements observed. This relationship between the amount of practice and progress highlights the critical role of dedication in language learning. The interviews also revealed the subtle effects of shadowing, indicating the necessity to consider individual learner challenges and anxieties.

By highlighting the potential benefits of shadowing for language teachers, this study significantly advances the field of pedagogy. This study highlights the necessity of addressing students' fears and underscores the importance of regular practice and a considerable time commitment. It shows how crucial it is to confront these anxieties, along with the benefits of consistent effort. The findings indicate that shadowing serves as a flexible and effective method for improving pronunciation among Vietnamese ESP students, as it can be easily integrated into different learning environments. Furthermore, it emphasizes the need to tackle students' anxieties, the benefits of ongoing practice, and the importance of a substantial time investment. In conclusion, the research suggests that shadowing is a versatile approach for helping Vietnamese ESP students enhance

their pronunciation skills.

Nonetheless, it is important to recognize some limitations. The brief duration of the study and the small sample size may limit the applicability of the results. Future research should focus on larger and more diverse participant groups, as well as extended study durations, to effectively address these challenges. Furthermore, employing standardized tools for pronunciation assessment would enhance the reliability and fairness of subsequent research. A deeper understanding of this method could be achieved by examining the long-term impacts of shadowing, individual learner differences, and the incorporation of technology-enhanced shadowing tools.

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# Nghiên cứu hiệu quả của kỹ thuật shadowing trong việc cải thiện phát âm của sinh viên kỹ thuật

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THÔNG TIN BÀI BÁO

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*Shadowing*
*Kỹ năng phát âm*
*Tiếp thu ngôn ngữ*
*Độ chính xác ngữ âm*
*Ngữ điệu, đào tạo ngôn ngữ,*
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TÓM TẮT

Nghiên cứu xem xét tính hiệu quả của phương pháp shadowing trong việc cải thiện phát âm của sinh viên kỹ thuật tại một trường kỹ thuật tại Hà Nội. Kết quả cho thấy rằng khi sinh viên lặp lại ngôn ngữ nói trong quá trình thực hành shadowing, họ có thể nâng cao đáng kể độ chính xác về ngữ âm, ngữ điệu và kỹ năng nói tổng thể. Nghiên cứu áp dụng phương pháp kết hợp, tổng hợp dữ liệu từ các cuộc phỏng vấn với người tham gia cùng với kết quả kiểm tra phát âm trước và sau thử nghiệm. Kết quả chỉ ra sự cải thiện trong phát âm của sinh viên, nhấn mạnh hiệu quả của phương pháp shadowing trong việc nâng cao nhận thức ngữ âm và sự tự tin. Bằng cách chứng minh rằng shadowing có thể thúc đẩy động lực, sự hứng thú trong quá trình học ngôn ngữ và phát triển kỹ năng, nghiên cứu này đóng góp vào việc nâng cao chất lượng của đào tạo ngôn ngữ.