

EXPLORING CHALLENGES AND STUDENT-DRIVEN SOLUTIONS IN PHONOLOGY LEARNING AT TERTIARY EDUCATION LEVEL

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ARTICLE INFO		ABSTRACT
Received:	21/4/2025	This study investigates the challenges faced by English major students in learning phonology at the tertiary education level. Employing a mixed-methods approach, the researchers collected quantitative data via a 5-point Likert scale questionnaire from 157 students and qualitative data through semi-structured interviews with 11 high-achieving students in phonology. The findings identified two primary factors perceived by students as influencing the acquisition of phonological knowledge: the inherent characteristics of the subject matter and students' existing prior knowledge. Furthermore, students suggested several potential solutions to mitigate these challenges, including increased phonological practice, collaborative group study, the diversification of learning resources, and a shift in the perception of the subject. These results highlight the necessity of focused pedagogical strategies and improved instructional approaches to foster students' comprehension and mastery of phonology within language curricula, while also encouraging students to be more proactive in their learning process, providing a basis for teachers to adjust teaching methods, and suggesting avenues for further research for the research community.
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TÌM HIỂU NHỮNG KHÓ KHĂN VÀ GIẢI PHÁP CỦA SINH VIÊN TRONG HỌC ÂM VỊ HỌC TẠI BẬC ĐẠI HỌC

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THÔNG TIN BÀI BÁO		TÓM TẮT
Ngày nhận bài:	21/4/2025	Nghiên cứu này tìm hiểu về những khó khăn mà sinh viên chuyên ngành tiếng Anh gặp phải trong việc học âm vị học ở bậc đại học. Bằng cách kết hợp phương pháp nghiên cứu định tính và định lượng, nhóm nghiên cứu đã thu thập dữ liệu khảo sát từ 157 sinh viên thông qua bảng hỏi Likert 5 mức độ và phỏng vấn bán cấu trúc với 11 sinh viên đạt kết quả cao trong học phần âm vị. Kết quả nghiên cứu cho thấy có hai yếu tố chính mà sinh viên cho rằng ảnh hưởng đến việc tiếp thu kiến thức âm vị học: bản chất của môn học và kiến thức nền tảng. Thêm vào đó, sinh viên đã đề xuất một số giải pháp khả thi để giải quyết những khó khăn này, bao gồm tăng cường thực hành âm vị học, học nhóm, đa dạng hóa nguồn tài liệu học tập và thay đổi quan điểm về môn học. Những kết quả này nhấn mạnh sự cần thiết phải cải tiến phương pháp sư phạm với định hướng mục tiêu rõ ràng để nâng cao hiệu quả của việc học môn âm vị học trong chương trình cho sinh viên chuyên ngữ. Đồng thời nghiên cứu cũng khuyến khích tính chủ động của sinh viên, và gợi mở các hướng nghiên cứu sâu hơn cho các nghiên cứu sau này trong cùng lĩnh vực.
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1. Introduction

Given English's importance in a globalized working environment, its effective mastery is crucial, making English instruction a higher education prerequisite [1]. For English majors, phonology is foundational; however, learners of English as a foreign language (EFL) often struggle with it [2]. Research shows pronunciation errors are influenced by biological factors [2] and the mother tongue [3], hindering phonological knowledge acquisition (consonant clusters, vocal cord visualization, and sound substitution) [4]. Insufficient phonology and phonetics knowledge affects pronunciation, with cultural and first language influences [5]. Since pronunciation enables clear communication [6] and pronunciation errors impede comprehension [2], understanding vowels, consonants, and intonation is vital.

In Vietnam, research explores vocabulary, learning goals, and materials [7], as well as exercise difficulty and varied prior knowledge [8], [9]. Generally, student difficulties in these subjects are under-researched. This article addresses challenges hindering subject internalization at university by answering the following research questions:

1. *What are the specific areas within Phonology that students find most challenging?*
2. *What are some possible ways for students to overcome these problems?*

1.1. Phonology and its areas

Phonology and phonetics are complementary, with phonology studying the systematic use of speech sounds in creating utterances, while phonetics focuses on the physical characteristics of sounds [9]. Phonetics provides the foundation for phonology, which is a broader and more abstract field [10]. Hence, phonetics and phonology are linked, forming the basis for understanding speech production and perception.

Phonology is divided into segmental (phonemes) and suprasegmental (syllables, intonation) phonology [9], [10]. The phoneme system involves the sounds of vowels, consonants, tones, and intonation, and are illustrated by the English Phonetic Transcription (IPA) [11]. Syllable structure includes onset, rhyme, nucleus, and coda. Suprasegmental features involve pitch, stress, rhythm, intonation, and quantity [9], [10].

1.2. Difficulties of students in learning phonology

1.2.1. The complexity of the subject

International research shows that students struggle to distinguish stress, rhythm, and intonation [4], grasp phonetic theories, analyze patterns, and apply phonological principles in language learning [12]. In the Vietnamese context, linguistics students find it difficult to access specialized phonological knowledge due to its theoretical and abstract nature [7], [8], [13]. Similar to the context of other countries, the lack of emphasis on phonetic and phonological knowledge in Vietnam creates a significant limitation [13].

1.2.2. Fundamental knowledge of the subject

Phonological knowledge is often not taught at lower levels due to teacher-centered approaches focusing on translation and grammar [14], leading to challenges in acquiring this knowledge at the university level. Similarly, English phonology is often neglected in primary and secondary school English curricula in Vietnam [7], [8]. University exams focus on grammar and reading comprehension rather than communication and phonology [13]. Sequential teaching methods prioritizing vocabulary and grammar also pose a major challenge.

1.2.3. Phonological awareness

EFL learners in Ukrainian, Korean, Chinese, and Japanese often have limited phonological awareness, especially with vowels and consonants. Mispronounced consonants vary based on the

learners' first language, with common difficulties include consonants not existing in their native language [3], [14]-[17], which is also a problem for Vietnamese learners [6], [7]. Confusion arises with short and long vowel pairs due to spelling changes [4]. Stress and rhythm mistakes are also common, often influenced by the non-rhythmic nature of their first language [14]. Research in the Vietnamese context adds to the lack of appropriate intonation.

1.2.4. The International Phonetic Alphabet

Ineffective EFL teaching can diminish the significance of The International Phonetic Alphabet (IPA) [11]. As a result, students face challenges in using IPA effectively, often misapplying symbols and struggling to distinguish and retain letters and symbols within the IPA table [18], [19]. However, there is a gap in research on this issue in the Vietnamese context.

1.2.5. Phonological material

The scarcity of English Phonology teaching materials poses challenges for educators and students in accessing adequate resources [20]. In Vietnam, research mentions that the shortage of self-study materials and an outdated curriculum, together with insufficient supporting equipment, hinder language learning in general, though not focusing exclusively on the learning of phonology [21].

1.2.6. The role of teachers and teaching methods

A lack of fully trained English teachers in phonetics and phonology limits the use of available resources [22], and better instruction is linked to better students' pronunciation [20]. Furthermore, a common practice of teachers in various institutions is limiting class time devoted to phonological instructions [22], which is also observed in schools in Vietnam [13]. Additionally, passive learning methods, which are popular in Vietnam, are unsuitable for the learning foundation. Therefore, addressing disparities in instructional focus and methodology is crucial for improving English pronunciation understanding.

1.3. Conceptual framework

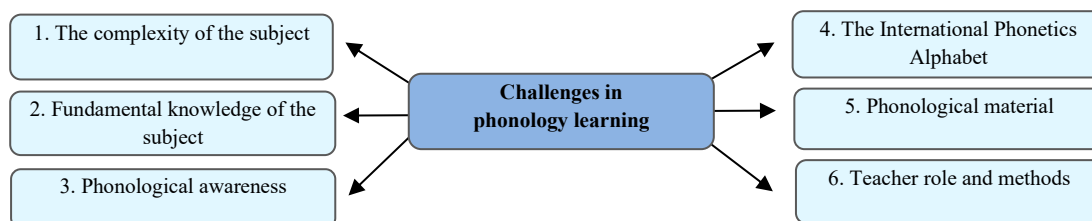


Figure 1. Conceptual framework: Challenges in phonology learning

Figure 1 illustrates this study's conceptual framework, building on prior phonology learning challenges, and posits that English major students' difficulties result from interacting factors. The six core constructs are: (1) subject complexity correlates with perceived challenges, (2) fundamental knowledge inversely relates to learning difficulties, linked to curricular neglect, (3) phonological awareness inversely influences difficulty, given sound struggles, (4) IPA mastery impacts learning, (5) phonology material affects difficulty, and (6) teacher role/methods influence challenges. The study uses quantitative data to understand these literature-identified challenges and semi-structured interviews to explore student-proposed solutions related to these constructs.

2. Research methodology

2.1. Research design

A mixed-methods approach was used to comprehensively investigate the research topic. The quantitative strand, utilizing a survey questionnaire (n = 157), addressed the first research

question, while the qualitative strand, employing semi-structured interviews ($n = 11$), answered the second. This combination allowed for the generalization of findings from the questionnaire and in-depth insights from the interviews, reinforcing the study's validity.

2.2. Population and sample

The questionnaire targeted English major students at the Faculty of Foreign Languages, Van Lang University, who studied Phonology in their second year after a first-year Phonetics module. Convenient sampling was used for the quantitative phase, and voluntary participants for qualitative interviews. 157 English majors (87 females, 70 males) from four cohorts (2020 – 2024) participated in the survey. Eleven volunteers of the 2020 cohort with varied specializations, good phonology results, and different lecturers participated in interviews.

2.3. Research instruments

The questionnaire explored phonetics and phonology learning challenges, including 27 items on a 5-point Likert scale (1 = Strongly disagree to 5 = Strongly agree) to assess difficulties in six themes: (1) subject complexity; (2) fundamental knowledge; (3) phonological awareness; (4) IPA; (5) phonological material; (6) teacher role/methods. The semi-structured interviews, guided by initial questions, allowed for in-depth topic exploration. Eight interview questions with follow-ups were devised. Instrument validity was ensured through expert review by three instructors with expertise in research in the Faculty of Foreign Languages and face validity assessment by respondents. Questionnaire reliability was tested via a pilot study with 40 respondents and Cronbach's alpha, with 0.7-0.95 (Table 1). These values deemed acceptable for high item correlation [23].

Table 1. The theme, number of items, and Cronbach's Alpha

Themes	Number of items	Cronbach's Alpha (α)
The complexity of the subject	4	0.90
Fundamental knowledge of the subject	4	0.94
Phonological awareness	5	0.93
The International Phonetic Alphabet (IPA)	5	0.91
Phonological material	5	0.93
The role of teachers and teaching style	4	0.94

2.4. Data collection and analysis

Survey data from 157 participants was collected via Microsoft Forms and stored in Excel. Semi-structured interviews were conducted with 11 students, who chose interview mode (face-to-face/Teams), consented to recording, and were informed of their right to decline, pause, or stop to ensure research ethics. Transcriptions were provided for confirmation. Quantitative survey data were analyzed using SPSS (Mean/ SD), interpreting M based on [24]. Interview responses were transcribed, underlined, categorized, and content-analyzed to explore solutions.

3. Findings and Discussion

3.1. Findings

3.1.1. Areas within phonology facing English-majored students

Table 2. The complexity of the subject

Items	Content surveyed	N	M	SD
1	I find the phoneme system in this subject difficult to understand and remember.	157	3.51	1.185
2	I find the rules for a sequence of phonemes in this subject complicated.	157	3.53	1.035
3	I have found the concept of syllables easily confused with other concepts.	157	3.34	1.175
4	I find it difficult to distinguish between the concepts of stress, intonation, and rhythm.	157	3.19	1.225

Table 2 shows that the students were neutral about syllable concept confusion ($M = 3.34$) and distinguishing syllable concepts ($M = 3.19$). However, most found the phoneme system difficult to remember ($M = 3.51$) and phonetic combination rules complex ($M = 3.53$), with varied agreement ($SD > 1$). These results support the claim that phonology's abstract nature poses difficulties [4], [7], [8], [13].

Table 3. *Fundamental knowledge of the subject*

Items	Content surveyed	N	M	SD
1	Lack of exposure to the concepts of this subject from high school (such as phonetics and phonetic combination rules) makes this subject difficult.	157	3.63	1.272
2	The absence of learning phonetic transcription systems in high school makes this subject difficult.	157	3.65	1.264
3	The lack of learning about the articulation of sounds from high school makes this subject challenging.	157	3.55	1.273
4	The lack of learning and practicing intonation, stress, emphasis, and rhythm at an early stage makes this subject difficult.	157	3.57	1.346

As seen in Table 3, with all mean scores above 3.5, most respondents attributed learning challenges to a lack of prior phonology knowledge (phonemes, phoneme combination, transcription, articulation, stress/intonation/rhythm). While these findings do not explain why this knowledge is lacking in earlier education [7], [8], they align with [13], [14] who argue that high school English emphasizes grammar and vocabulary, excluding phonology. This lack of prior phonology exposure makes university-level study considerably challenging.

Table 4. *Phonological awareness*

Items	Content surveyed	N	M	SD
1	I can't distinguish between short and long vowels.	157	2.71	1.365
2	I can't distinguish some consonants like /θ/, /ð/, /f/, /z/, /tʃ/, and /dʒ/.	157	2.89	1.380
3	I cannot determine the stress in multi-syllable words, or unable to determine the stress of a noun or verb.	157	2.82	1.347
4	I have no intonation when I speak (flat intonation).	157	2.88	1.351
5	I have no rhythm when I speak.	157	2.88	1.361

Table 4 shows neutral student views on challenges with vowels, consonants, stress, intonation, and rhythm (M s: 2.71–2.89), contrasting with literature indicating EFL learners' limited phonological awareness [3], [14]–[17]. While research notes mispronounced consonants (varying by first language) [3], [14]–[17] (also for Vietnamese [6], [7]) and vowel/spelling confusion [4], and stress/rhythm errors [14] (with Vietnamese intonation issues), this study's participants reported no such clear challenges. High SD s (> 1.3) show varied responses.

Table 5. *The IPA*

Items	Content surveyed	N	M	SD
1	I confuse letters with symbols in the International Phonetic Alphabet (IPA).	157	2.94	1.357
2	I don't see the importance of learning the IPA table and its transcription.	157	2.67	1.398
3	Memorizing the IPA chart is too difficult for me.	157	3.19	1.302
4	Looking at the vowels chart, I can not visualize the position of the tongue when pronouncing vowels.	157	3.17	1.270
5	Focusing on the consonant chart, I can't distinguish how different consonants are pronounced.	157	3.11	1.250

Table 5 shows average scores mainly in the 2.5–3.49 range. Participants were generally neutral on IPA mastery importance ($M = 2.67$), IPA symbol confusion ($M = 2.94$), IPA chart memorization difficulty ($M = 3.19$), and tongue position visualization ($M = 3.17$), indicating uncertainty about IPA challenges. This contrasts with studies emphasizing IPA's importance [11], [18], [19], as these findings lack clear student opinions on IPA difficulty.

Table 6. *Phonological material*

Items	Content surveyed	N	M	SD
1	This subject provides diverse material.	157	3.58	1.231
2	This subject provides quality and accurate materials.	157	3.63	1.145
3	This subject provides updated and innovative materials.	157	3.51	1.175
4	Materials for this subject are easy to find and easy to buy.	157	3.40	1.165
5	This subject's materials are available in both hard and soft copies, suitable for all devices.	157	3.71	1.139

Table 6 shows that the students generally perceive the course as offering diverse ($M = 3.58$), quality ($M = 3.63$), updated ($M = 3.51$), and device-suitable ($M = 3.71$) materials, despite some extreme responses ($SD > 1.2$). However, ease of access/purchase was unclear ($M = 3.40$). Overall, materials are not a major challenge, differing from limited prior research on access issues [20], [21] (though not phonology-specific).

Table 7. *The role of teachers and teaching methods*

Items	Content surveyed	N	M	SD
1	Lecturers have an easy-to-understand teaching method.	157	3.74	1.199
2	Lecturers have diverse methods, suitable for different types of students.	157	3.63	1.200
3	Instructors answer students' questions about the subject promptly and effectively.	157	3.72	1.154
4	Instructors have a friendly and approachable personality.	157	3.85	1.220

Table 7 shows the students generally agreed that lecturers' teaching methods were comprehensible ($M = 3.74$) and diverse ($M = 3.63$), instructors promptly addressed queries ($M = 3.72$), lecturers were approachable ($M = 3.85$), and facilitated learning. This reinforces the importance of teachers' role, as prior studies [13], [20], [22]. Overall, the students did not find lecturers and their teaching styles to be a difficulty.

3.1.2. Students' proposed solutions to the challenges in learning phonology

Firstly, regarding the importance of enhancing phonological practice, the students emphasize that consistent phoneme practice and transcription memorization significantly improve phonology learning (students #6, #2, #9, and #8). They believed this approach aids understanding, facilitates knowledge expansion, and enhances the application of phonological principles to English learning. Furthermore, they also highlighted the value of practicing intonation and stress, noting how altering stress within a sentence can convey different meanings.

Diversifying learning materials was another solution proposed by the students. Student #3 recommended a thorough review of instructor-provided materials and careful note-taking on key concepts. Additionally, student #4 suggested utilizing the school's electronic library to access a broader range of phonology-related resources, while students #10 and #1 advocated for incorporating authentic sources such as music to enhance intonation comprehension and pronunciation accuracy through mimicry.

The benefits of combining group study were also highlighted by students. Student #7 emphasized the significance of group learning in phonology, where collaborative discussions allow for the sharing of diverse perspectives on phonemes and facilitate deeper conceptual understanding. Furthermore, student #5 underscored the collaborative spirit fostered by group work, noting its positive impact on learner engagement and the development of a sense of shared responsibility for completing assignments.

Finally, the students proposed changing the perception of the subject as a means of enhancing learning outcomes (students #3 and #11), believing that redefining learners' understanding of phonology would enable them to more clearly grasp the inherent value and relevance of the subject, ultimately leading to improved learning and academic performance.

3.2. Discussion

English majors at Van Lang University face several phonology learning difficulties. The primary obstacle is the subject's abstract and theoretical nature. Questionnaire results show students struggle with phoneme systems, phoneme combination rules, and differentiating stress, intonation, pitch, and rhythm, aligning with previous studies [6], [7], [14]. However, opinions were unclear on whether phonology concepts are easily confused. A second obstacle is foundational knowledge. Students largely agreed that a lack of prior exposure to phonetic concepts and transcription systems in secondary/high school hinders phonology learning, which aligns with [6] - [8], who noted the emphasis on grammar and vocabulary over pronunciation, making phoneme formation and other aspects challenging. However, the survey yielded no clear student opinion on the IPA chart's role or whether mastering it aids phonology learning. Phonological awareness was also neutral. Learning materials were not a major obstacle; students found them diverse, updated, innovative, readily available, and accessible in various formats, contradicting prior research [20] - [22]. Students generally perceived lecturers' teaching methods as comprehensible, varied, and adaptable, with instructors being responsive and approachable. Thus, teachers and teaching methods were not seen as a difficulty.

Interviewed students proposed solutions including regular practice, phonological exercises, group study, recognizing subject value, and accessing diverse materials. Phonological practice was most strongly favored. Group learning was seen to enhance understanding. Reassessing subject importance was also suggested. However, students offered no suggestions on introducing fundamental phonological knowledge in high school, deeming curriculum design too complex. Similarly, no recommendations were made regarding teacher roles and teaching methods, as interviewees were satisfied with the Faculty of Foreign Languages' teacher allocation.

4. Conclusion and Recommendations

This study confirms that English majors at Van Lang University face phonology learning obstacles, primarily due to the subject's abstract nature and students' background knowledge. However, the role of IPA and phonological awareness remains unclear due to the neutral survey data. Learning materials and teachers were not perceived as problematic. Student feedback identified several potential solutions: increased phonological practice, group study, better organization of materials, access to diverse authentic resources, and a positive perception of phonology. Phonological practice was highlighted as a key method.

The findings offer insights for students and lecturers at Van Lang University's Faculty of Foreign Languages. Students can use the research to identify and address their learning obstacles, while lecturers can adapt their teaching methods and materials based on the study's findings.

The study acknowledges limitations including the limited sample, the potential for bias in Microsoft Forms data collection, and time constraints that may have affected analysis thoroughness. These limitations should be considered when interpreting the findings.

Future research should address limitations by using a larger and more diverse sample, improving data collection methods, and allowing more time for in-depth analysis. Further research should also explore additional obstacles and delve deeper into phonemic awareness and students' cognitive strategies in phonology learning.

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