



DISCOVERING ENGLISH PRONUNCIATION DIFFICULTIES AND STRATEGIES: A CASE AT TRA VINH UNIVERSITY

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Abstract:

Pronunciation can take a crucial role in communication because unintelligible pronunciation may cause the conversers to misunderstand. Therefore, obtaining a clear accent plays a vital role in understanding the speakers' intended meaning. With this importance, the current study attempted to investigate the learners' perception of English pronunciation and explore the pronunciation difficulties facing Vietnamese EFL students. Then, it also attempted to discover learners' ideas on how they would like pronunciation to be instructed. In order to have the data for the investigation, the study applied the quantitative method by using a 5-point Likert scale to measure the level of students' agreement in these three mentioned domains of investigation. A group of 49 second-year EFL students was employed at the School of Foreign Languages, School of Southern Khmer Language - Culture - Arts and Humanity, Tra Vinh University. They are studying English as a foreign language, and their major is English education. The results revealed that students agreed that learning pronunciation is difficult and strongly agreed with the ideas exhibited in the questionnaire on how pronunciation should be instructed. These results are used as recommendations for learning English pronunciation, and limitations of the study were also included.

Keywords: pronunciation difficulties, EFL students, intonation, communicative competence, strategies

1. Introduction

According to García (2007), mastering English pronunciation is crucial to language acquisition and effective communication. Gilakjani (2011) stated that good pronunciation is a critical factor in English learning. Good pronunciation leads to learning, while wrong pronunciation promotes significant difficulties in language learning. EFL students cannot pronounce English like native speakers, but they may change how they think about the

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sounds of English words. In order to support the learners' practice of English pronunciation, Yates and Zielinski (2009) confirmed that the teachers should teach the new sounds, words, phrases, and sentences and arrange appropriate materials for understandable pronunciation in their EFL classes. As Morley (1994) put it, when a speaker's pronunciation is heavily accented, it can affect the speaker's understanding and confuse.

Fraser (2000) confirmed that teachers should be provided with courses and materials that help them improve their pronunciation instruction. Language education research should be concerned with the methodology of pronunciation instruction. Because of the importance of learning and instructing English pronunciation, the authors would like to set objectives for the study. The first objective is to investigate the students' perception of English pronunciation. The second one is to find out the senior Vietnamese EFL students' difficulties with English pronunciation when they are studying pronunciation in their English bachelor program at Tra Vinh University. The last objective is to explore these students' preferences for the ways that their English pronunciation teachers employ in the classroom.

This study attempted to answer the following research questions:

- 1) How are second-year Vietnamese EFL students aware of English pronunciation?
- 2) What English pronunciation difficulties do the second-year EFL students face at Tra Vinh University?
- 3) How should English pronunciation be taught in EFL classrooms?

2. Literature Review

Derwing & Munro (2015) stated that pronunciation is a significant aspect of language learning that requires learners to develop their listening skills to distinguish between different phonetic sounds and their speaking skills to produce those sounds accurately. As Pennington (1996) put it, pronunciation produces sounds of spoken language, including stress, rhythm, and intonation patterns. Additionally, Otlowski (1998) confirmed that pronunciation is a way of uttering a word acceptably, ensuring intelligible speech. Based on such definitions, pronunciation targets intelligible utterances that the conversers can understand.

First, the authors would like to review many related studies on finding English pronunciation difficulties in EFL contexts.

According to Schaetzel (2009), accent, stress, intonation, and rhythm are crucial elements that one must pay attention to when learning pronunciation. Schaetzel defines accent as the combination of auditory features in pronunciation that indicate a person's regional or social background. These features, taken together, create a distinctive sound that identifies a speaker and their origin or social group.

Nguyen (2020) acknowledged that Vietnamese is a tonal language, which implies that the meaning of a word may change based on the tone used to pronounce it. Vietnamese has six tones (five tones + a mid-level non-tone), but English does not use

tones to distinguish between meanings. In Vietnamese, the word "ma" contains a variety of meanings. It can mean "ghost" (with a medium-level tone), "mother" (with a rising tone), "horse" (with a falling tone), or "rice seedling" (with a voice-down), depending on the tone employed. In English, the meaning of a word is frequently determined by stress rather than tone. For instance, the word "record" with the first stress is expressed as a noun that refers to the collection of data or information. Nevertheless, the second stress is used as a verb to mean save information.

According to Nguyen (2014), most Vietnamese students have problems with a number of vowels, such as /i:/ in *seat* and /I/ in *sit*, respectively, or /u:/ in *pool* and /ʊ/ in *good*, respectively. To address these problems, minimal pair words were introduced, such as *sheep* and *ship*, which have distinct meanings but differ only in the vowel sound. The longer duration of the /i:/ sound in these pairs was emphasized so that students could begin to recognize the difference. Avery and Ehrlich (1992) explored that learners have difficulty identifying the differences between the two sounds /e/ and /æ/ (as in "bed" and "bad", respectively), resulting in numerous mistakes. Learners fail to lower their tongue and jaw sufficiently when attempting to produce the /æ/ sound. This difficulty can cause significant issues with English pronunciation and comprehension.

Avery and Ehrlich (1992) also confirmed that Vietnamese learners can easily pronounce fricatives such as /f/, /v/, and /s/ at the beginning of English words. Still, they often omit these sounds at the end of English words due to their absence in their mother tongue. As a result, English words like *beef* may be pronounced as /bi:p/, *month* as /mon/, or *such* as /sut/. To improve their pronunciation, Vietnamese learners need to focus on practising the production of English fricative sounds at the end of words, both in isolation and in connected speech, to make their speech more understandable to English native speakers.

Since learning pronunciation can be challenging, this paper would also like to review how pronunciation is taught.

Derwing and Munro's (2015) book recommends assessing students' needs related to pronunciation priorities, where supporting materials can be found or developed, and how to undertake classroom research. The importance of pronunciation teaching and learning is highlighted as a goal and a vital social skill that helps learners and interlocutors interact effectively in an increasingly multicultural society. By presenting practical and accessible advice, Derwing and Munro's book helps to empower language teachers to address pronunciation issues in the classroom and support their learners in becoming confident communicators in English.

According to Sao Bui (2016), Vietnamese learners of English commit the most common problem related to /θ/ by replacing it with the Vietnamese sound /t/. Furthermore, this sound was also pronounced as /t/, /z/, and /ð/. In contrast, regarding /ð/, the most frequent mistake was pronouncing it as /z/. The study also identified a new type of error, with some participants pronouncing /dʒ/ instead of /ð/. Voiced consonants like /ð/ were more problematic than their voiceless counterparts. The report agrees that the lack of exposure to native English, irregular use of the language, and inadequate prior

instruction were the prominent causes of their pronunciation difficulties. The study emphasized the need for teachers to address the learners' problems with /θ/ and /ð/ through proper instruction and providing feedback on possible mistakes. Additionally, creating a motivating learning context for the learners to use English more often is also crucial.

Rokoszewska (2014) confirmed that mastering English pronunciation can be a challenging task for students, who often neglect naturalistic practice, talking to foreigners, or setting reasonable goals and analyzing feelings. The outcomes of the research demonstrated that the students who occasionally used pronunciation learning strategies should receive strategy-based instruction as there exists a significant relationship between the use of pronunciation learning strategies and the production of English monophthongs and diphthongs.

3. Research Methodology

3.1. Research Design

The study used the quantitative method to collect the data for investigation. A questionnaire with three significant domains was employed. The first domain asked the second-year EFL students' perceptions of English pronunciation. The second domain asked the participants about their difficulties in learning English pronunciation. The third domain elicited the participants' responses to their preference for strategies of learning English pronunciation from their English pronunciation teachers. The study lent support from the statistical analytical software SPSS (Social Package for the Social Sciences) to analyze the data.

3.2. Research Participants

The participants of this study were 49 second-year EFL students majoring in English at Tra Vinh University, Vietnam. Their age ranges from 19 to 20. Thirty-eight of them are females, and eleven are males. They had completed three years of English education in primary school, four years of English education in secondary school and three years of English education in high school. All these programs treat English as a foreign language. As set by the Vietnam Ministry of Education and Training, the students who graduate from high school are expected to reach English B1, complying with CEFR (Common European Framework for Reference). With such an English language background, these students were considered the appropriate participants for the study.

3.3. Research Instruments

In order to have the data for the study, a questionnaire consisting of three major domains was applied. The questionnaire comprised 27 questions. The first domain (7 items) asked students about their perception of English pronunciation. The second domain (10 items) attempted to elicit the students' responses to pronunciation difficulties they cope with when learning English pronunciation. The third domain (10 items) asked the students

how they preferred their English teachers to teach them pronunciation. To make the data reliable and easy to interpret, the authors used a five-point Likert scale to measure their responses (1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree, and 5 for strongly agree).

3.4. Research Procedures

After reviewing the literature on EFL students' challenges or difficulties in learning English pronunciation and their own English learning and teaching English pronunciation, the authors started to script the questions, which were then given to the other two colleagues for proofreading. Next, the questions were adjusted and improved. Then, the authors had the participants in their English class survey the questionnaire. They were told about the purpose of the survey and were seated comfortably in the room. They were given 25 minutes to complete the survey. The authors also explained some items in the questionnaire in Vietnamese when necessary. After the time was up, 49 copies of the questionnaire were collected, and the authors said "thank you" to the participants and offered them a free package of pronunciation exercises for further practice.

3.5. Data Processing Method

The authors devised the SPSS to analyze the responses given by the participants. First, the authors calculated the questionnaire reliability for further analysis of individual responses in the three domains: one domain for Vietnamese EFL students' awareness of English pronunciation, one domain for difficulties that Vietnamese EFL students encounter and another domain for their ideas on the teacher's ways of teaching pronunciation. Finally, the results of individual responses to the three domains were discussed.

4. Results and discussion

4.1. Results

Research question 1: How are second-year Vietnamese EFL students aware of English pronunciation?

Table 1: The reliability of the questionnaire about the second-year EFL students' perception on English pronunciation

Cronbach's Alpha	N of Items
.819	7

The Cronbach's Alpha of the questionnaire reached .819, which is reliable enough for use and further analysis.

Table 2: Descriptive analysis of the second-year EFL students' perception on English pronunciation

		N	Min	Max	Mean	SD
1	I find English pronunciation is much different from my mother tongue pronunciation.	49	1.00	5.00	4.25	.857
2	I have difficulty recognizing the sounds and meanings of words when listening to a long sentence or paragraph.	49	1.00	5.00	3.97	1.239
3	I have difficulty adjusting to the pronunciation habits of my mother tongue when pronouncing English.	49	1.00	5.00	4.07	.961
4	When words/sounds are in a sentence/paragraph, it is difficult for me to pronounce/recognize as well as when I read/listen to those words/sounds individually.	49	1.00	5.00	3.55	1.152
5	I want my teacher to explain to me the difference between the pronunciation habits of my mother tongue and English pronunciation.	49	1.00	5.00	3.53	1.295
6	I like teachers who teach me how to compare and contrast the pronunciation of English with my mother tongue so that I can easily apply it.	49	1.00	5.00	4.07	1.132
7	I want teachers to limit the use of English pronunciation terms instead of using native language sounds for me to compare and apply when pronouncing/recognizing sounds because it is close, more familiar and easier to remember than English terms.	49	1.00	5.00	3.67	1.085
	Valid N (listwise)	49				

As shown in Table 2, the highest mean score of 4.25 was found for item 1 “I find English pronunciation is much different from my mother tongue pronunciation”. This demonstrated that the participants understood the role of the difference between English and their mother tongue in learning a foreign language. The two items that obtained the second highest mean score in this set of the questionnaire are Item 3 “I have difficulty adjusting to the pronunciation habits of my mother tongue when pronouncing English” and Item 6 “I like teachers who teach me how to compare and contrast the pronunciation of English with my mother tongue so that I can easily apply it”, which equally attained the mean score of 4.07. These said that the participants may have received formal instruction of the pronunciation so that they can better study the English pronunciation. The rest reached the mean scores below 4.00. However, the mean scores were still high, ranging between 3.53 and 3.97.

Research question 2: What English pronunciation difficulties do second-year EFL students face at Tra Vinh University?

Table 3: The reliability of the questionnaire about pronunciation difficulties

Cronbach's Alpha	N of Items
.841	10

The Cronbach's Alpha of the questionnaire reached .841, which is reliable enough for use and further analysis.

Table 4: Descriptive analysis of the second-year EFL students' pronunciation difficulties

		N	Min	Max	Mean	SD
1	When learning English pronunciation, I think it is hard to pronounce vowel sounds.	49	1.00	5.00	3.5102	1.00255
2	When learning English pronunciation, I think it is hard to link sounds together.	49	1.00	5.00	3.6531	1.01141
3	When learning English pronunciation, I think it is hard to recognize the word that the speaker is saying due to an accent (e.g. British accent, American accent and other accents).	49	1.00	5.00	3.5714	1.09924
4	When learning English pronunciation, I think it is hard to remember how to read English international phonetic transcription.	49	1.00	5.00	3.5918	1.15323
5	I do not have the aptitude to learn English pronunciation.	49	1.00	5.00	3.4898	1.17478
6	I think I cannot learn the pronunciation of English.	49	2.00	5.00	3.1837	.99317
7	When learning English pronunciation, I think the word stress is difficult.	49	2.00	5.00	4.3265	.65789
8	When learning English pronunciation, I think sentence stress is difficult.	49	1.00	5.00	3.7959	1.06026
9	When learning English pronunciation, I think intonation (e.g. rising and falling intonation) is difficult.	49	1.00	5.00	2.6735	1.12524
10	10. When learning English pronunciation, I think it is hard to pronounce final consonant sounds.	49	1.00	5.00	1.7959	1.04042
	Valid N (listwise)	49				

As described in Table 4, two statements did not receive high agreement from EFL students. They belong to Item 10 "When learning English pronunciation, I think it is hard to pronounce final consonant sounds" (M= 1.7959, SD= 1.04042), and Item 9 "When learning English pronunciation, I think intonation (e.g. rising and falling intonation) is difficult" (M= 2.6735, SD= 1.12524). Only one item, Item 7 "When learning English pronunciation, I think the word stress is difficult" obtained a mean score of 4.3265, and a standard deviation of .65789, showing that EFL students performed high support with this statement. The rest reached mean scores below 4.0, but the mean scores fell within the range of 3.1837 to 3.7959, indicating that Vietnamese EFL students all agreed with such statements.

Research question 3: How should English pronunciation be instructed in EFL classrooms?

Table 5: The reliability of the questionnaire about pronunciation instruction

Cronbach's Alpha	N of Items
.893	10

The questionnaire's Cronbach's Alpha reached .893, which is reliable enough for use and further analysis.

Table 6: Descriptive analysis of the EFL students' ideas on how pronunciation is taught

		N	Min	Max	Mean	SD
1	I like my teacher to give us more time to practice English sounds in class.	49	3.00	5.00	4.3265	.68883
2	I like my teacher to give us more exercises to practice English sounds outside the classroom.	49	3.00	5.00	4.3061	.61928
3	I like my teacher to speak clearly and slowly in his English pronunciation class.	49	3.00	5.00	4.4490	.73771
4	I like my teacher to have us play with pronunciation games in class.	49	3.00	5.00	4.2653	.83605
5	I like my teacher to act as a speech coach of pronunciation and then give us feedback to help us better learn English pronunciation.	49	2.00	5.00	4.0204	.96803
6	I like my teacher to correct my pronunciation if it is not correct.	49	2.00	5.00	4.0816	.86209
7	I like my teacher to send us useful websites or computer technology (computer software) to practice English pronunciation.	49	3.00	5.00	4.1837	.83350
8	I like my teacher to teach me how to distinguish Vietnamese sounds from English sounds.	49	3.00	5.00	4.4694	.61583
9	I like my teacher to teach me more sounds that are much different from Vietnamese sounds.	49	3.00	5.00	4.5510	.57956
10	I like my teacher to teach me English international phonetic transcription.	49	2.00	5.00	4.5510	.70891
	Valid N (listwise)	49				

As seen in Table 6, eight items reached very high mean scores ranging between 4.1837 and 4.5510, meaning that the students strongly supported the ideas displayed in the questionnaire. However, the other two items, Item 6 "I like my teacher to correct my pronunciation if it is not correct" (M=4.0816, SD=.86209), and Item 5 "I like my teacher to act as a speech coach of pronunciation and then give us feedback to help us better learn English pronunciation" (M=4.0204, SD=.96803), reached the mean scores below 4.1000. Nevertheless, these mean scores are still high because learners agreed with such statements.

4.2. Discussion

From the findings, in terms of stressing words and sentences, it was concluded that word stress, with a mean score of 4.3265, and sentence stress, with a mean score of 3.7959, were not only difficult for students to stress correctly but also most common obstacles experienced by the majority of EFL sophomores. According to the research by Derwing and Munro (2015), stress plays a crucial role in English pronunciation, and learners need explicit instruction on this element. Besides, Jenkins (2002) identifies specific features of pronunciation that are particularly important for international communication, such as stress and intonation patterns. Therefore, it is recommended that English language educators and trainers focus on stress and intonation for learners who struggle with these elements of English pronunciation.

EFL teachers should speak clearly and slowly in their pronunciation classes, and this can help their students improve their pronunciation by listening to them carefully (Bradley-Bennett, 2007). In addition, teachers should use computer technologies, such as different kinds of computer software, in their classes to help students improve their pronunciation by exposing them to authentic materials (Rasekhi Kolokdaragh, 2010). According to Roach (2009), pronunciation is a crucial factor that determines how others perceive us, particularly in terms of factors like accent and tone of voice. Derwing and Munro (2015) further suggest that individuals who speak with good pronunciation are often seen as more competent and knowledgeable, meaning they have more opportunities to succeed in their job interviews. Rokoszewska (2014) agrees that mastering English pronunciation can be a challenging task for the student if no strategies are applied. A study by Kim and Foote (2011) similarly found that Korean EFL learners experienced ongoing difficulties with the pronunciation of certain English sounds and words, even after practicing extensively. These difficulties were also attributed to differences between the two languages' phonology and sound systems.

The result shows that differences in system language are always a big trouble for EFL in general, but accents also play an essential role in communication. In a study by Munro and Derwing (2011), non-native English speakers reported experiencing significant difficulty understanding speakers with unfamiliar accents, particularly those from regions with less exposure to English language instruction. This difficulty was attributed to differences in accent, stress patterns, and intonation.

5. Conclusion

The current study attempted to reach three objectives. The first objective is to investigate how second-year Vietnamese EFL students know English pronunciation. The second objective is to discover the English pronunciation difficulties the students have. Finally, the strategies for better teaching and learning English pronunciation are found in the study. The survey used a set of 5 criteria to collect the data from 49 EFL sophomores who chose English Studies as their major at the university. The results showed that the students agreed with the difficulties they encountered in the questionnaire. Those

difficulties are word stress, sentence stress, vowel and consonant sounds, recognition of words through sounds/accents, and memorizing English international phonetic transcription. Then, the students strongly agreed with the teaching and learning pronunciation ideas displayed in the questionnaire. These results have brought invaluable information to both EFL learners of English and EFL teachers.

However, the study has some limitations. It should have investigated more specific English sounds, which should have been recorded for further qualitative analysis. Then, the study should have more samples of different Vietnamese students studying English as a foreign language in different enrollment years. Different experiences and backgrounds of exposure to English pronunciation can propose different ideas on pronunciation difficulties and strategies for teaching pronunciation. Finally, the study should have surveyed the EFL teachers because this group could have given the study more ideas on how pronunciation should be taught and tackled.

Conflict of Interest Statement

The authors declare no conflicts of interest.

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References

- Avery & Ehrlich (1992). *Teaching American English pronunciation*. Oxford: University Press.
- Derwing, T. M., & Munro, M. J. (2015). *Pronunciation Fundamentals: Evidence-based perspectives for L2 teaching and research*. John Benjamins Publishing Company.
- Fraser, H. 2000. *Coordinating improvements in pronunciation teaching for adult learners of English as a second language*. Canberra: DETYA (ANTA Innovative Project).
- García, A. C. (2007). The role of phonetic training in L2 speech learning. *Proceedings of the Phonetics Teaching and Learning Conference (PTLC2007), University College, London*. Available at http://www.phon.ucl.ac.uk/ptlc/ptlc2007_web_procindex.html

- Jenkins, J. (2002). A sociolinguistically based, empirically researched pronunciation syllabus for English as an International Language. *Applied Linguistics*, 23(1), 83-103.
- Kim, H., & Foote, J. A. (2011). Korean EFL learners' pronunciation difficulties with English stops. *Foreign Language Annals*, 44(1), 74-93.
- Morley, J. (1994). *A Multidimensional Curriculum Design for Speech-pronunciation Instruction*. In J. Morley (Ed.), *Pronunciation Theory and Pedagogy: New Views, New Directions* (64-91). Alexandria, VA: TESOL.
- Munro, M. J., & Derwing, T. M. (2011). Understanding and overcoming accent discrimination in the workplace. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, 43(3), 195-202.
- Nguyen, T. D. (2014). Some common pronunciation problems facing Vietnamese learners of English. Retrieved from <https://thuvienso.bvu.edu.vn/bitstream/TVDHBRVT/15742/1/Nguyen-Tien-Dung.pdf>
- Nguyen, T. D. (2020, Feb). Vietnamese Language for Vietnamese and Foreigners – Vietnamese Tones – Section 4. Retrieved from <https://holylandvietnamstudies.com/blog/vietnamese-language-for-vietnamese-and-foreigners-section-4/>
- Otlowski, M. (1998). Pronunciation: What are the expectations? *The Internet TESL Journal*, 4(1), 115-129.
- Pennington, M. C. (1996). *Phonology in English language teaching: An international approach*. Longman.
- Pourhosein Gilakjani, A. (2011). A study on the situation of pronunciation instruction in ESL/EFL classrooms. *Journal of Studies in Education*, 1(1), 1-15
- Rasekhi Kolokdaragh, V. (2010). ESL/EFL Learners' Perception of Their Pronunciation Needs and Strategies. 41st Annual State CATESOL Conference in Santa Clara, CA, April 23, 2010.
- Roach, P. (2009). *English Phonetics and Phonology: A Practical Course*. (4th edition). Cambridge: Cambridge University Press
- Rokoszewska, K. (2014). The influence of pronunciation learning strategies on mastering English vowels. *Studies in Second Language Learning and Teaching*, 2(3), 391-413.
- Sao Bui, T. (2016). Pronunciation of Consonants /ð/ and /θ/ by Adult Vietnamese EFL Learners. *Indonesian Journal of Applied Linguistics*, 6(1), 125-134.
- Schaetzel, K. (2009). *Teaching Pronunciation to Adult English Language Learners*. Washington, DC: CAELA Network Brief.
- Yates, L., & Zielinski, B. (2009). Give It a Go: Teaching Pronunciation to Adults. Sydney, Australia: AMEPRC. Available: http://www.ameprc.mq.edu.au/resources/classroom_resources/give_it_a_go

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