

Optimizing Pronunciation Instruction for Vietnamese Learners of English: Applying Optimality Theory and Phonetic Principles in Language Teaching

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Abstract

This study explores the perceived benefits of using phonetic principles in teaching English pronunciation from both teacher and student perspectives. The research examines how incorporating phonetic instruction and Optimality Theory can improve pronunciation accuracy and phonological awareness. Using a mixed-methods approach, the study collected quantitative data through surveys from 57 participants (6 teachers and 51 students) and qualitative insights from focus group interviews with teachers. The results showed that teachers rated the benefits of phonetic instruction higher (mean score of 4.24) compared to students (mean score of 3.31). Teachers highlighted how phonetic principles offer a systematic way to identify and correct pronunciation errors, making teaching more efficient. Students, while recognizing the advantages, faced challenges in grasping some technical aspects, such as using phonetic symbols. However, they acknowledged that their pronunciation and listening skills improved with practice. The study concludes that while phonetic instruction is valuable, more practical and accessible approaches are needed to better support students' learning. These findings provide useful insights for educators looking to enhance pronunciation teaching and suggest areas for further exploration.

Keywords: phonetic principles, Optimality Theory, pronunciation instruction, English language teaching, phonological awareness, mixed-methods research

1. Introduction

1.1 Background and Rationale

1.1.1 Overview of Phonological Theories in Linguistics

Phonological theories in linguistics seek to understand how sounds function in languages and how they are organized in speech. Notable contributions include Chomsky and Halle's Generative Phonology (1968), which introduced a formal rule-based approach emphasizing the cognitive processes underlying speech. In the 1970s, John Goldsmith's Auto-segmental Phonology allowed for the independent representation of tones and stress, addressing the limitations of linear phonology (Goldsmith, 1990). Metrical Phonology, proposed by Liberman and Prince (1977), introduced hierarchical structures for organizing stress patterns, contributing significantly to the study of prosody (Hayes, 1995). Optimality Theory (OT), introduced by Prince and Smolensky in 1993, suggests that multiple constraints interact to determine phonological output, offering a versatile analytic framework for understanding language sound systems globally (McCarthy, 2008). The evolution of these theories has deepened our understanding of the psychological and structural aspects of language, providing valuable insights for both theoretical and applied linguistics.

1.1.2 Importance of Phonetics and Optimality Theory in Understanding Language Sound

Phonetics and OT are integral to understanding language sounds from both physical and cognitive perspectives. Phonetics focuses on the physical properties of speech sounds, such as articulation, acoustic characteristics, and auditory perception, which are essential for language teaching, speech therapy, and linguistic research (Ladefoged & Johnson, 2015). OT, on the other hand, offers a cognitive framework for understanding how phonological structures are governed by ranked constraints, which determine the optimal phonological output (Prince & Smolensky, 1993). Together, phonetics and OT provide a comprehensive approach to studying language sounds,

bridging measurable data with cognitive processes, and are particularly valuable in practical applications like language teaching.

1.2 Relevance of These Theories to Language Teaching and Pedagogy

Phonetics and OT offer valuable insights that can enhance instructional practices in language teaching. Phonetics provides a foundational understanding of sound production and perception, crucial for teaching accurate pronunciation and improving listening skills, especially for learners struggling with sounds not present in their native language (Ladefoged & Johnson, 2015). OT's constraint-based approach helps educators identify and address common pronunciation errors, allowing for targeted interventions that can improve phonological awareness and pronunciation accuracy (Prince & Smolensky, 1993). By integrating these perspectives, educators can develop more effective teaching strategies that address both the physical and cognitive aspects of language learning.

1.3 Research Objectives

The primary objective of this study is to explore how Optimality Theory can be applied in the classroom to enhance students' understanding and production of English sounds, particularly in areas where learners commonly struggle. Another key objective is to examine the effectiveness of integrating phonetic training into language instruction, aiming to improve students' pronunciation, listening comprehension, and overall phonological awareness. Finally, the study seeks to develop practical strategies and activities that educators can use to incorporate phonological theories into their teaching, making complex linguistic concepts more accessible and relevant to students.

1.4 Research Questions

Understanding how theoretical frameworks can be applied in the classroom is crucial for improving teaching methodologies and student outcomes. This study focuses on integrating Optimality Theory and phonetic principles into teaching pronunciation and phonology, guided by the following research questions:

- (1) How do teachers incorporate Optimality Theory into their pronunciation and phonology lessons?
- (2) What are the perceived benefits of applying phonetic principles in teaching English pronunciation according to teachers and students?

1.5 Significance of the Study

This study aims to bridge the gap between theoretical phonology and practical language teaching, offering educators practical tools and strategies to enhance the teaching of pronunciation and phonological awareness. The findings could lead to the development of more refined, evidence-based teaching methodologies that address the specific phonological challenges faced by learners, ultimately contributing to better language outcomes.

2. Literature Review

2.1 Phonological Differences between Vietnamese and English

One of the most common issues for Vietnamese learners is the pronunciation of consonant clusters and final consonants. Unlike English, Vietnamese syllables typically do not end in complex consonant clusters, nor do they often feature multiple consonants in succession (Nguyen, 2020). For instance, words like "strength" or "texts" might be pronounced without the final consonants, resulting in "streng" or "text" instead. Similarly, clusters such as /str/ in "street" or /spl/ in "splash" may be simplified or mispronounced as "sreet" or "plash" (Dang, 2022). This simplification can lead to misunderstandings and reduce overall clarity in communication.

Another significant challenge is the pronunciation of the English dental fricatives /θ/ and /ð/, which are absent in Vietnamese. These sounds are often substituted with /t/ or /d/, leading to pronunciations like "tink" for "think" and "dis" for "this" (Le & Baker, 2019). This substitution can cause confusion, particularly in contexts where precise pronunciation is crucial for understanding.

Vowel length and quality also present difficulties for Vietnamese learners. Vietnamese, being a tonal language, has a relatively simple vowel system compared to English, which features both short and long vowels that can alter word meanings. Learners often struggle to distinguish between pairs like /i:/ in "sheep" and /ɪ/ in "ship," leading to potential miscommunication (Nguyen & Ingram, 2021). Additionally, the schwa sound /ə/, which is common in unstressed syllables in English, is often replaced by a more defined vowel, resulting in non-standard pronunciation patterns (Pham, 2022).

Intonation and stress patterns in English pose further challenges. Vietnamese is a tonal language where pitch changes can alter word meanings, rather than indicate stress or intonation as in English (Nguyen, 2023). This

fundamental difference can lead to flat or monotonous speech in English or inappropriate stress placement, which can disrupt the natural rhythm and melody of sentences (Pham & Truong, 2021).

Moreover, the transfer of Vietnamese tonal patterns into English sometimes leads to non-standard pronunciation, confusing listeners unfamiliar with Vietnamese tones (Le, 2020). Additionally, the distinction between voiced and voiceless consonants, such as /p/ and /b/ or /k/ and /g/, can be problematic. Vietnamese learners might not fully distinguish these contrasts, resulting in errors like pronouncing "pat" as "bat" or "coat" as "goat" (Dang, 2022). This can further complicate communication, especially in contexts where precise pronunciation is necessary.

These pronunciation challenges are typical for Vietnamese learners of English and are deeply rooted in the structural differences between the two languages. Addressing these issues requires targeted pronunciation practice, focusing on the specific sounds and patterns that cause difficulty, along with many opportunities for listening and speaking practice in communicative contexts.

2.2 Phonological Theories in Linguistics

Phonological theories have evolved significantly over time, offering various perspectives on how sounds are organized, produced, and interpreted in languages. One of the earliest influential theories is Generative Phonology, introduced by Noam Chomsky and Morris Halle in *The Sound Pattern of English* (1968). This theory revolutionized phonology by proposing that phonemes are stored in the mind as abstract representations, which are then transformed into spoken words through a set of ordered rules. Generative Phonology emphasizes the mental processes behind speech and provides a formal mechanism for describing phonological patterns across languages (Chomsky & Halle, 1968).

Auto-segmental Phonology, developed by John Goldsmith in the 1970s, addressed the limitations of linear phonological models by introducing a multi-tiered approach. This theory allows different phonological features, such as tone and vowel length, to be represented on separate tiers and interact with the segmental structure. By doing so, it provides a more nuanced understanding of complex phonological processes like tone spreading and harmony, which are difficult to capture in a linear framework (Goldsmith, 1990).

Metrical Phonology, introduced by Liberman and Prince in 1977, brought a hierarchical perspective to the analysis of stress patterns in languages. This theory uses metrical trees to represent the relative prominence of syllables within words, offering a systematic way to analyse stress assignment rules. Metrical Phonology has been particularly influential in the study of prosody, encompassing the rhythm and intonation of speech (Liberman & Prince, 1977; Hayes, 1995).

Feature Geometry, emerging in the 1980s, reorganizes phonological features into a hierarchical structure, reflecting their relationships and interactions. This theory builds on the idea that certain features, such as nasality or voicing, can spread across segments within a word. By structuring these features hierarchically, Feature Geometry offers a more sophisticated explanation for phonological processes like assimilation, where one sound becomes more similar to a neighbouring sound (Clements, 1985; Sagey, 1990).

OT, introduced by Prince and Smolensky in 1993, represents a significant shift from rule-based models to a constraint-based framework. OT posits that phonological outputs are determined by the interaction of competing constraints, which are ranked differently across languages. The optimal output is the one that best satisfies the highest-ranked constraints, even if it means violating lower-ranked ones. This theory has been particularly powerful in explaining a wide range of phonological phenomena, such as vowel harmony, epenthesis, and deletion, across different languages (Prince & Smolensky, 1993; McCarthy, 2008).

OT's flexibility and explanatory power have made it widely adopted in phonological research, not only for analysing phonological processes but also for addressing issues in morphology, syntax, and language acquisition. By capturing cross-linguistic variation and typological generalizations, OT provides a unified framework for understanding the diversity and commonalities of the world's languages, making it a cornerstone of modern phonological theory (McCarthy, 2008).

In summary, the development of phonological theories—from Generative Phonology to Optimality Theory—has greatly enhanced our understanding of how language sounds are structured and processed. Each theory has contributed unique insights, with Optimality Theory standing out for its innovative approach to constraint interaction and its ability to account for complex phonological patterns across languages. These theories collectively offer a comprehensive framework for studying the cognitive and structural aspects of language, providing valuable tools for both theoretical research and practical applications in linguistics.

2.3 Phonetics and its Role in Language Acquisition and Teaching

Phonetics is a fundamental branch of linguistics that examines the physical properties of speech sounds. It is concerned with how these sounds are produced by the vocal apparatus, transmitted through the air as sound waves, and perceived by the human auditory system. Phonetics is typically divided into three subfields: articulatory phonetics, which focuses on how speech sounds are produced using various parts of the vocal tract (such as the tongue, lips, and vocal cords); acoustic phonetics, which studies the physical properties of sound waves, including frequency, amplitude, and duration; and auditory phonetics, which explores how these sounds are heard and processed by the auditory system (Ladefoged & Johnson, 2015).

Phonetics plays a crucial role in both first and second language acquisition. In first language acquisition, infants are remarkably attuned to the phonetic contrasts present in their environment. Research shows that newborns can discriminate between different phonetic sounds, and as they grow, they begin to fine-tune their perception to focus on the phonetic distinctions relevant to their native language. This early phonetic sensitivity is essential for the development of vocabulary and later grammatical skills (Kuhl, 2004).

For second language learners, phonetics becomes particularly important, as they must learn to perceive and produce sounds that may not exist in their native language. This process can be challenging due to the influence of the learner's first language phonetic system, which may lack certain sounds or use them differently. For instance, English learners from a Japanese background often struggle with the distinction between the English /l/ and /r/ sounds, which do not function contrastively in Japanese (Flege, 1995). Phonetic training can assist learners in overcoming these difficulties by helping them develop new articulatory habits and improve their auditory discrimination of foreign sounds.

Phonetics is also critical in the context of language teaching, particularly in pronunciation instruction. Understanding the articulatory mechanisms behind speech sounds allows teachers to provide more precise guidance to learners on how to produce unfamiliar sounds. For example, teachers can explain the exact tongue position and airflow needed to produce the English "th" sounds, which are challenging for speakers of many languages that do not have similar sounds (Celce-Murcia et al., 2010).

Furthermore, phonetics is instrumental in improving learners' listening skills. Phonetic training helps learners to recognize subtle differences between sounds, which is essential for understanding spoken language, especially in noisy environments or when listening to different accents. Activities like minimal pair exercises, where learners practice distinguishing between words that differ by only one sound (e.g., "ship" vs. "sheep"), are based on phonetic principles and are commonly used to enhance auditory discrimination (Underhill, 2005).

In addition, phonetics informs the development of language curricula and teaching materials. For instance, phonetic analysis can identify common pronunciation challenges for speakers of specific language backgrounds, enabling the creation of targeted exercises that address these difficulties. Modern technology, such as speech analysis software, can also provide real-time feedback on pronunciation, helping learners adjust their speech to more closely match the target language norms (Munro & Derwing, 2008).

In summary, phonetics is an indispensable part of both language acquisition and teaching. It provides essential insights into how sounds are produced, transmitted, and perceived, which are crucial for developing accurate pronunciation and effective listening skills. In language teaching, phonetics enables educators to design more effective instructional strategies and materials, tailored to the specific phonetic challenges faced by learners. By integrating phonetic training into language education, teachers can significantly enhance learners' ability to acquire and use the target language with greater fluency and confidence.

2.4 Application of Phonological Theories in Language Teaching

2.4.1 Review of Existing Studies on the Application of Phonological Theories in Language Education

Phonological theories have significantly influenced language education, particularly in the areas of pronunciation instruction, curriculum design, and the development of language learning materials. The application of these theories has been explored in various studies, each contributing to our understanding of how phonological principles can be effectively integrated into language teaching.

(1) Generative Phonology and Pronunciation Teaching

Generative Phonology, as proposed by Chomsky and Halle (1968), laid the foundation for understanding how underlying phonological representations are transformed into surface forms through a series of rules. This theory has been applied in language education to help learners understand the systematic nature of pronunciation in different languages. For example, Avery and Ehrlich (1992) used principles from Generative Phonology to

develop pronunciation teaching techniques that emphasize the predictable patterns of sound changes in English. By teaching learners about underlying representations and how they differ from surface pronunciations, educators can help students recognize and correct common errors, such as the misapplication of voicing rules or the deletion of unstressed vowels.

(2) Auto-segmental Phonology in Tonal Language Education

Auto-segmental Phonology, developed by Goldsmith (1976), has been particularly influential in the teaching of tonal languages, where tone plays a crucial role in distinguishing meaning. This theory's multi-tiered approach allows for the independent representation of tones from segmental features, making it ideal for teaching languages like Mandarin Chinese or Yoruba. Studies such as Wang et al. (2003) have applied Auto-segmental Phonology to develop pedagogical tools that help learners differentiate and produce tones accurately. These tools often involve visual representations of tone contours and interactive exercises that focus on the relationship between tone and segmental structure, helping students internalize the tonal patterns of the language.

(3) Metrical Phonology and Stress Patterns

Metrical Phonology, introduced by Liberman and Prince (1977), has been applied in language education to address the teaching of stress patterns, which are often challenging for learners of languages like English and Spanish. This theory's hierarchical representation of stress has been used to develop teaching methods that help learners recognize and produce stress patterns more accurately. For example, Archibald (1998) explored the application of Metrical Phonology in ESL instruction, showing that learners who were taught using metrical trees and rhythmic exercises showed significant improvement in their ability to place stress correctly in polysyllabic words. This approach emphasizes the importance of prosodic features in language learning and offers strategies for teaching these features effectively.

(4) Feature Geometry in Pronunciation Instruction

Feature Geometry, which organizes phonological features hierarchically, has been employed in pronunciation teaching to help learners understand and produce complex sounds. This theory has been particularly useful in teaching sounds that involve multiple articulatory features, such as nasalization or voicing. For instance, Celce-Murcia, Brinton, and Goodwin (2010) utilized Feature Geometry to design exercises that focus on the interaction of features in sounds like the English /ŋ/ (as in "sing"). By breaking down these sounds into their component features and teaching each one explicitly, educators can help learners produce these challenging sounds more accurately and with greater consistency.

(5) Optimality Theory in Language Pedagogy

Optimality Theory, proposed by Prince and Smolensky (1993), represents a shift from rule-based phonological models to a constraint-based framework. In language education, OT has been used to explain why learners might struggle with certain phonological aspects of a language and to design interventions that address these challenges. For example, Eckman (2008) applied OT to the teaching of English syllable structure to Korean learners, who often struggle with complex consonant clusters. By understanding the constraint rankings that favor simpler syllable structures in Korean, educators can design activities that help learners gradually adjust their phonological outputs to match English norms. OT's focus on constraint interaction also allows teachers to predict and address potential errors before they become ingrained habits.

(6) Exemplar Theory and Pronunciation Variability

Exemplar Theory, which posits that phonological categories are formed based on detailed memories of individual sound instances (Pierrehumbert, 2001), has been applied in language education to address pronunciation variability. This theory suggests that exposure to a wide range of exemplars can help learners develop more flexible and robust phonological categories. Studies such as Bybee (2010) have explored how exposure to diverse pronunciation models, including those with varying accents or speaking styles, can improve learners' ability to understand and produce language in real-world situations. This approach has led to the development of teaching materials that include a variety of authentic speech samples, encouraging learners to adapt to different pronunciation patterns and become more versatile speakers.

In conclusion, the application of phonological theories in language education has provided valuable insights into the teaching and learning of pronunciation, stress patterns, and other phonological features. From Generative Phonology to Optimality Theory, these theories have informed the development of teaching methods, materials, and curricula that address the specific challenges faced by language learners. The ongoing integration of phonological theories into language education continues to enhance our understanding of how best to teach the

complex sound systems of different languages, ultimately leading to more effective and efficient language learning outcomes.

2.4.2 Case Studies and Examples where Phonological Principles have been Integrated into the Curriculum

Integrating phonological principles into language education has proven to be an effective strategy for enhancing learners' pronunciation, listening comprehension, and overall language proficiency. Below are some notable case studies and examples where these principles have been successfully applied in the curriculum.

Case Study 1: The Use of Minimal Pairs in Pronunciation Training

Minimal pairs - words that differ by only one phonological element, such as "bit" and "beat" are a classic example of how phonological principles can be integrated into the curriculum to improve pronunciation. A case study conducted by Baker (2011) examined the effectiveness of minimal pair training in an ESL classroom in the United States. The study involved intermediate-level adult learners from various linguistic backgrounds who had difficulty distinguishing between certain English vowels and consonants.

The curriculum incorporated daily pronunciation drills using minimal pairs, combined with auditory discrimination exercises. For example, students practiced differentiating and pronouncing pairs like "ship" vs. "sheep" and "pat" vs. "bat." The results showed significant improvement in the learners' ability to perceive and produce these contrasts, indicating that integrating phonological principles through minimal pairs can effectively address specific pronunciation challenges (Baker, 2011).

Case Study 2: Auto-segmental Phonology in Teaching Mandarin Tones

Mandarin Chinese is a tonal language where pitch contour (tone) plays a crucial role in distinguishing word meanings. A study by Wang et al. (2003) explored the application of Auto-segmental Phonology in teaching Mandarin tones to American students. The curriculum was designed to address the challenge of tone acquisition, which is often difficult for non-native speakers.

The study integrated visual representations of tone contours and employed interactive exercises that focused on the relationship between tone and segmental structure. By using Auto-segmental Phonology to separate tonal information from the segmental content, learners were better able to focus on and internalize the tonal distinctions. The results demonstrated that students who received this targeted instruction performed better in both tone perception and production compared to those who did not receive such phonological training (Wang et al., 2003). Archibald (1998) provides an example of how this theory was integrated into an ESL curriculum for adult learners. The curriculum involved the use of metrical trees to visually represent the stress patterns of polysyllabic words.

Students engaged in exercises where they would map out the stress patterns of words using these trees, followed by rhythmic drills that emphasized the correct stress placement in sentences. This approach helped students understand better the prosodic features of English, leading to improved stress assignment in both isolated words and continuous speech. The use of Metrical Phonology provided a clear framework for students to grasp the often-intangible concept of stress, resulting in more accurate and fluent speech production (Archibald, 1998).

Goodwin (2010) describes a curriculum designed for Spanish-speaking learners who struggle with voicing contrasts, particularly between voiced and voiceless consonants (e.g., /b/ vs. /p/).

The curriculum included explicit instruction on the articulatory features involved in producing voiced and voiceless sounds, such as vocal cord vibration and airflow. Students were provided with diagrams showing the vocal tract during the production of these sounds and engaged in production exercises that focused on controlling these articulatory features. By breaking down the sounds into their component features and teaching each one explicitly, learners were able to more accurately produce these contrasts in both isolated words and connected speech (Celce-Murcia et al., 2010).

Case Study 3: Optimality Theory in Syllable Structure Acquisition

OT has been applied in curriculum design to help learners of English, particularly those whose native languages have simpler syllable structures. Eckman (2008) conducted a study involving Korean learners of English, who often struggle with complex syllable structures that include consonant clusters.

The curriculum designed around OT principles involved exercises that progressively introduced more complex syllable structures, with explicit instruction on the constraints that govern syllable formation in English. By understanding the ranking of these constraints, students were guided through exercises that first addressed simpler structures before moving on to more complex ones. The study found that learners who participated in this OT-informed curriculum were better able to produce English syllable structures accurately, suggesting that OT can be a valuable tool in addressing specific phonological challenges (Eckman, 2008).

These case studies and examples demonstrate the effectiveness of integrating phonological principles into language curricula. By applying theories such as Minimal Pair Training, Auto-segmental Phonology, Metrical Phonology, Feature Geometry, and Optimality Theory, educators can design targeted interventions that address specific phonological challenges faced by learners. These approaches not only improve pronunciation and listening skills but also enhance overall language proficiency, making phonological principles a valuable component of language education.

2.5 Application of Optimality Theory for Vietnamese Learners of English

OT provides a valuable framework for improving the pronunciation and overall language proficiency of Vietnamese learners of English. As a theoretical model in linguistics, OT posits that language output is shaped by the interaction of conflicting constraints—some of which favour more natural or marked linguistic forms, while others enforce more basic, unmarked forms. This theoretical approach can be particularly effective in addressing the specific pronunciation challenges those Vietnamese learners face when learning English.

One of the key ways OT can assist Vietnamese learners is by offering insights into the nature of their pronunciation errors. Vietnamese learners often struggle with certain English phonemes, such as the dental fricatives /θ/ and /ð/, which do not exist in Vietnamese (Le & Baker, 2019). According to OT, these pronunciation errors can be understood as the result of conflicting constraints—such as a markedness constraint that favours simpler, more familiar sounds (like /t/ and /d/) over the less familiar dental fricatives. By understanding these constraints, educators can design targeted exercises that help learners gradually adjust their pronunciation by increasing the prominence of the correct, marked forms in a controlled and systematic manner.

Optimality Theory can also be applied to enhance the phonological awareness of Vietnamese learners. For example, learners might simplify consonant clusters in English because Vietnamese typically does not allow complex clusters (Nguyen, 2020). OT explains these simplifications as a way of resolving conflicts between markedness constraints (which penalize complex clusters) and faithfulness constraints (which seek to preserve the original structure of the word). By explicitly teaching learners about these constraints, educators can help them become more aware of the underlying phonological rules in English and how they differ from those in Vietnamese. This awareness can lead to more accurate pronunciation as learners become better equipped to manage the conflicting demands of markedness and faithfulness.

Furthermore, OT can be used to provide more structured feedback to Vietnamese learners of English. Instead of simply correcting errors, teachers can explain why certain pronunciations are preferred over others based on the interaction of constraints. For instance, when a learner pronounces "think" as "tink," the teacher can explain that the learner is prioritizing a markedness constraint (favouring simpler, familiar sounds) over a faithfulness constraint (which would preserve the original /θ/ sound). By understanding this, learners can be guided to adjust their pronunciation in a way that better satisfies the relevant constraints in English, leading to more accurate and consistent output.

OT also informs the development of customized learning materials tailored to the specific needs of Vietnamese learners. Exercises can be designed to gradually introduce more complex and marked phonological forms in English, allowing learners to practice and internalize these forms in a systematic way. This might involve starting with less marked forms (e.g., simple consonant-vowel structures) and progressively incorporating more marked forms (e.g., consonant clusters, final consonants) as learners become more comfortable. This approach ensures that learners are not overwhelmed but are still being challenged to improve their pronunciation gradually.

Finally, Optimality Theory encourages cross-linguistic awareness by helping learners understand the differences between their native language and English in a structured way. By learning about the constraints that shape both Vietnamese and English phonology, learners can develop a deeper understanding of why certain errors occur and how to avoid them. This cross-linguistic awareness can lead to more effective language learning strategies, as learners can consciously work to overcome the specific challenges posed by the differences between the two languages.

In summary, Optimality Theory offers a powerful tool for addressing the pronunciation challenges faced by Vietnamese learners of English. By providing a framework for understanding and managing the conflicting constraints that influence language output, OT can help learners improve their pronunciation, enhance their phonological awareness, and develop more effective language learning strategies. Through targeted exercises, structured feedback, and a focus on cross-linguistic awareness, OT can play a crucial role in helping Vietnamese learners achieve greater proficiency in English.

2.6 Challenges and Opportunities of the Application of Theoretical Phonology in the Classroom

One of the primary challenges of applying theoretical phonology in the classroom is the complexity of the theories themselves. Phonological frameworks such as Optimality Theory (OT), Auto-segmental Phonology, and Feature Geometry are highly abstract and often require a deep understanding of linguistic principles, which can be difficult for both teachers and students to grasp (Archibald, 1998). This complexity can make it challenging for educators to translate these theories into practical teaching methods that are accessible and effective for learners, particularly those at lower proficiency levels.

Another significant challenge is the diversity of students' linguistic backgrounds. In multilingual classrooms, students may come with different native languages, each with its own phonological system. Applying a one-size-fits-all approach based on a single phonological theory may not address the specific needs of all learners. For example, learners from tonal languages may struggle differently with English intonation patterns compared to learners from non-tonal languages, necessitating a more tailored application of phonological principles (Celce-Murcia, Brinton, & Goodwin, 2010). Additionally, the lack of training and resources for teachers to effectively implement these theories can further hinder their application. Many language educators may not have specialized training in phonology, making it difficult for them to integrate these theories into their teaching practices confidently.

Despite these challenges, there are significant opportunities for enhancing language instruction through the application of theoretical phonology. One of the most promising opportunities is the potential for improving pronunciation teaching. Theories like Optimality Theory provide a framework for understanding why certain pronunciation errors occur and how they can be systematically addressed (Prince & Smolensky, 1993). By applying these insights, educators can develop more targeted pronunciation exercises that help students overcome specific phonological difficulties, leading to more accurate and fluent speech.

Moreover, theoretical phonology offers a way to deepen students' understanding of the sound system of the target language. By introducing learners to basic concepts from phonology, such as the notion of underlying representations and phonological rules, teachers can help students become more aware of the systematic nature of pronunciation. This awareness can empower learners to self-correct and refine their pronunciation outside the classroom, fostering greater autonomy in their language learning (Celce-Murcia et al., 2010).

Furthermore, the integration of phonological theories into the curriculum can lead to more innovative teaching approaches. For instance, using visual representations of phonological processes, such as metrical trees for stress patterns or tone charts for tonal languages, can make abstract concepts more tangible and easier for students to understand (Archibald, 1998). Additionally, advancements in educational technology, such as speech analysis software, offer new ways to apply theoretical phonology in the classroom, providing real-time feedback that can help learners fine-tune their pronunciation (Munro & Derwing, 2008).

In summary, while applying theoretical phonology in the classroom presents several challenges, including the complexity of the theories and the diverse linguistic backgrounds of students, these obstacles are not insurmountable. With proper training and resources, educators can leverage the insights provided by phonological theories to enhance pronunciation teaching and deepen students' understanding of language sound systems. The opportunities for innovation in teaching methods and the use of technology further underscore the potential benefits of integrating theoretical phonology into language education. By overcoming the challenges, educators can make significant strides in improving language instruction and helping students achieve greater proficiency and confidence in their spoken language skills.

3. Research Methodology

3.1 Research Design

This study employs a mixed-methods research design, integrating both quantitative and qualitative approaches to explore the application of OT and phonetic principles in enhancing the pronunciation and phonological awareness of Vietnamese learners of English. The research is structured into two main phases: a quantitative phase involving an experimental intervention and a qualitative phase focusing on participants' experiences and perceptions.

3.2 Participants

The study will involve a total of 58 participants, who are second year Vietnamese students majoring in English at Banking Academy of Vietnam in Hanoi, Vietnam. Participants will be randomly assigned to the experimental group (28 students) and the control group (30 students). Vietnamese students who are non-native English

speakers, with an intermediate level of English proficiency (B1-B2 on the CEFR scale). They were willing to participate in all phases of the study.

3.3 Intervention Duration

The intervention will take place over 11 weeks, with sessions scheduled as follows:

Weeks 1-2: Introduction to OT and baseline assessment (2-3 sessions per week, each lasting 60-90 minutes).

Weeks 3-6: Focused phonological practice (2-3 sessions per week, each lasting 60-90 minutes).

Weeks 7-8: Intermediate assessment and feedback (2 sessions per week, each lasting 60-90 minutes).

Weeks 9-10: Advanced phonological practice and integration (2-3 sessions per week, each lasting 60-90 minutes).

Week 11: Final assessment and reflection (2 sessions, each lasting 60-90 minutes).

3.4 Data Collection Methods

3.4.1 Quantitative Data Collection

The quantitative phase will involve pre- and post-tests designed to assess participants' pronunciation accuracy and phonological awareness. These tests will include:

Pronunciation Tests: Participants will be tested on their ability to pronounce specific English phonemes, including dental fricatives (/θ/, /ð/), consonant clusters, and vowel contrasts (e.g., /i:/ vs. /ɪ/). The tests will include minimal pairs, sentences, and longer passages to measure both segmental and supra-segmental features.

Phonological Awareness Tests: These will assess participants' ability to recognize and produce correct stress, intonation patterns, and phonological rules as guided by OT principles.

3.4.2 Qualitative Data Collection

The qualitative phase will include semi-structured interviews and focus group discussions conducted at the end of the intervention. These will explore participants' perceptions of the intervention, including their experiences with OT-based activities, the challenges they faced, and their overall satisfaction with the learning process.

3.5 Data Analysis Methods

3.5.1 Quantitative Data Analysis

The pre- and post-test results will be analysed using statistical methods to determine the effectiveness of the intervention. Paired-sample t-tests will be used to compare the performance of the experimental and control groups. Descriptive statistics will be used to summarize the data, and inferential statistics will be applied to test hypotheses related to the impact of OT-based instruction on pronunciation and phonological awareness.

3.5.2 Qualitative Data Analysis

The qualitative data from interviews and focus group discussions will be transcribed and analysed thematically. NVivo software will be used to code the data and identify key themes related to the application of OT in the classroom, the perceived benefits and challenges, and participants' overall experiences with the intervention.

3.6 Limitations of the Study

While this study aims to provide valuable insights into the application of OT in language instruction, several limitations must be acknowledged. First, the study's findings may not be generalizable beyond the specific context of Vietnamese learners of English. Second, the relatively short duration of the intervention may limit the long-term impact of the findings. Finally, the study relies on self-reported data from participants, which may be subject to bias.

4. Findings

4.1 How Teachers Incorporate Optimality Theory into their Pronunciation Lessons

The qualitative phase of this research, based on focus group discussions with six English teachers, provided rich insights into the use of OT and phonetic principles in teaching pronunciation. The teachers shared their experiences and challenges, revealing valuable themes about integrating OT in classrooms, the obstacles they face, and the benefits observed in students' pronunciation and phonological awareness.

4.1.1 Challenges in Teaching Pronunciation and Phonology

One of the most consistent themes was the difficulty in helping students change entrenched pronunciation habits, particularly when dealing with sounds absent in their native language. Teacher A mentioned, "Breaking their

habit of dropping final consonants or misplacing stress is a big challenge” (Teacher A). This highlights a well-known issue among Vietnamese learners of English, where final consonants or complex stress patterns can often be left out or mispronounced.

Moreover, while teachers found OT a useful theoretical framework, some noted that it was hard to simplify for classroom use. As Teacher E explained, “Concepts like constraint ranking are tricky for students to grasp, especially at lower proficiency levels”. This suggests that while OT offers valuable insights for instructors, it needs to be presented in a more accessible way to students for effective use.

4.1.2 Applying Optimality Theory in Pronunciation Instruction

Despite the challenges, the teachers shared that OT had a positive impact when applied thoughtfully. For instance, Teacher B talked about using OT to help students understand why they simplify consonant clusters. “I started showing them how they prioritize easier sounds over harder ones, and that made them more willing to practice harder sounds” (Teacher B). This approach, based on the concept of constraint ranking, enabled students to recognize why certain errors occurred, thus making them more motivated to improve.

Teacher D found success in connecting OT to students' native language, noting that explaining the differences between English and Vietnamese phonological constraints helped students grasp the concepts better. “When they understood why certain sounds were difficult because of Vietnamese constraints, they were more engaged in fixing the problems,” she explained (Teacher D). This shows how connecting theoretical insights to students' linguistic background can enhance their understanding.

4.1.3 Phonetic Instruction's Role in Improving Pronunciation

Another key finding was the significant improvement in students' articulation when phonetic principles were integrated into instruction. Teacher C explained, “Once I showed them the exact tongue placement for sounds like /θ/, their pronunciation improved drastically” (Teacher C). This supports the importance of phonetic instruction, especially for challenging sounds that don't exist in students' native languages.

The use of minimal pair exercises also proved effective in helping students distinguish similar sounds, which is crucial for both speaking and listening skills. Teacher C added, “Minimal pairs like ‘ship’ versus ‘sheep’ really help them, not just in pronunciation but in listening comprehension too” (Teacher C). This shows that phonetic training can do more than just improve articulation, it enhances overall language comprehension.

4.1.4 Student Reactions to OT and Phonetic Training

Teachers observed that once students were introduced to OT and phonetic principles, they became more aware of their own pronunciation challenges and more actively engaged in self-correction. Teacher F shared an example of a student struggling with vowel length differences in “sheep” and “ship.” After working with OT and focusing on vowel length, the student's pronunciation improved significantly (Teacher F). This suggests that OT, by bringing underlying phonological constraints to light, helps students understand the root cause of their errors, making corrections more meaningful and lasting.

Teacher D also noted that students who practiced with phonetic principles were quicker to self-correct during spontaneous conversations. “They're more aware of what they're saying now. I've noticed they start fixing their own mistakes during class discussions,” she said (Teacher D). This indicates that phonetic instruction encourages students to take ownership of their learning and become more confident speakers.

4.1.5 Overall Impact on Students' Pronunciation and Phonological Awareness

Across the board, teachers agreed that incorporating OT and phonetic principles into their teaching had a positive effect on students' pronunciation and phonological understanding. Teacher F observed, “Since I've started using these methods, my students are definitely more aware of how English sounds are produced and how stress and intonation work” (Teacher F). This suggests that the combination of OT and phonetics not only improves pronunciation accuracy but also deepens students' understanding of how the language works at a structural level.

In conclusion, the focus group discussions clearly indicate that using OT and phonetic principles in pronunciation instruction can lead to substantial improvements in students' pronunciation accuracy and phonological awareness. While teachers reported challenges in making OT accessible, the benefits of using this framework were evident, particularly when combined with hands-on phonetic instruction. The findings emphasize the need for simplifying OT concepts for classroom use, focusing on practical exercises like minimal pairs, and connecting these theories to students' linguistic backgrounds to maximize their engagement and learning outcomes.

4.2 Perceived Benefits of Applying Phonetic Principles

The study investigated both qualitative and quantitative aspects of the perceived benefits of applying phonetic principles in teaching English pronunciation. The findings from the quantitative data, paired with insights from the qualitative focus group interviews, provide a comprehensive understanding of teachers' and students' perceptions.

4.2.1 Quantitative Findings

The quantitative analysis of the overall perception of the benefits of applying phonetic principles in teaching English pronunciation shows a distinct difference between the perspectives of teachers and students (Table 1&2). The mean score for teachers' overall perception of the benefits was notably higher than that of students, with teachers rating the benefits at an average of 4.24, while students rated it at 3.31. This suggests that teachers perceive the use of phonetic principles in pronunciation instruction as more beneficial compared to students, who may require more experience or a better understanding of these principles to fully appreciate their value.

Table 1. Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Overall perception * Role	57	98.3%	1	1.7%	58	100.0%

Table 2. Report

Overall perception			
Role	Mean	N	Std. Deviation
Teacher	4.2407	6	.41226
Student	3.3159	51	.60139
Total	3.4133	57	.64814

4.2.2 Qualitative Findings: Insights from Focus Group Discussions

The qualitative findings from the focus groups supplement these quantitative results by providing deeper insights into the perceptions of both teachers and students.

(1) Teachers' Positive Perception of Phonetic Instruction

The qualitative findings reinforce the quantitative results showing that teachers hold a more favourable view of phonetic instruction. Teachers appreciated the systematic approach offered by phonetic principles, which allowed them to better diagnose and address pronunciation issues. One teacher shared: "Phonetic instruction gives us a structured way to diagnose and fix pronunciation issues, instead of relying on repetition alone." This structured approach to teaching pronunciation was also reflected in the high mean score in the quantitative data (Mean = 4.24).

(2) Students' Moderate Perception of Phonetic Instruction

While students recognized some benefits of phonetic instruction, such as improved pronunciation and enhanced listening skills, they generally rated the overall benefits lower than teachers did. One student remarked: "I can now hear the difference between sounds like /i:/ and /i/, which I never noticed before." However, the quantitative data (Mean = 3.31) suggests that not all students may have fully experienced the benefits yet. Some students mentioned that they found phonetic symbols and rules challenging to understand initially, which could explain the lower perception of benefits.

(3) Increased Confidence and Autonomy (Both Teachers and Students)

Both teachers and students discussed how phonetic instruction increased confidence in pronunciation and speaking. A student mentioned: "I'm more confident speaking now because I know how to pronounce words correctly, especially in front of others." Similarly, teachers observed that phonetic instruction enabled students to become more autonomous in learning pronunciation, as they could now self-correct using phonetic tools like the IPA. This boost in confidence is reflected in both groups' positive views on phonetic instruction.

(4) Enhanced Listening Skills (Student Perspective)

Students appreciated the improvement in their listening comprehension as a result of phonetic instruction, allowing them to better distinguish between subtle sound differences. This aligns with the quantitative data, where students acknowledged the benefits of phonetic principles but at a more moderate level compared to teachers.

(5) Integration of Quantitative and Qualitative Findings

The combined findings indicate a clear divide between teachers and students in terms of their perceived benefits of phonetic instruction. While teachers consistently rate phonetic principles as highly beneficial, students are more moderate in their perceptions, possibly due to the challenges in mastering phonetic symbols or fully understanding their practical applications. However, both groups acknowledge that phonetic instruction plays a significant role in improving pronunciation, listening skills, and overall confidence in speaking English. This integrated analysis shows that while teachers find phonetic principles to be an invaluable tool, more efforts may be needed to ensure students fully realize these benefits in their language learning journey.

5. Discussion

The study explored the perceived benefits of applying phonetic principles in teaching English pronunciation from both teachers' and students' perspectives. The results revealed notable differences between these two groups, indicating that while both groups acknowledged the benefits of phonetic instruction, their levels of appreciation varied.

5.1 Teachers' Perspective on Phonetic Instruction

The quantitative data demonstrated that teachers rated the benefits of phonetic principles more highly than students (Mean = 4.24). This result is supported by the qualitative findings, where teachers expressed that phonetic principles provide a structured framework for diagnosing and correcting pronunciation errors. Teachers highlighted how the use of phonetic tools, such as the International Phonetic Alphabet (IPA), helped them in identifying specific areas of difficulty for students. The ability to break down sounds systematically allowed for more effective and targeted pronunciation instruction, enhancing overall classroom teaching practices.

One critical aspect that emerged from the teachers' feedback is the sense of confidence and autonomy that phonetic principles instilled in students. By learning how to articulate and differentiate between sounds, students could self-monitor and correct their pronunciation mistakes, an essential skill for language learners. This aligns with previous research that suggests structured phonetic instruction can foster more independent learning and greater engagement with pronunciation practice (Celce-Murcia et al., 2010).

5.2 Students' Perspective on Phonetic Instruction

On the other hand, students' perception of the benefits of phonetic instruction was somewhat more moderate, as reflected in the lower mean score (Mean = 3.31). Although students acknowledged certain advantages—such as improved listening skills and increased pronunciation accuracy—many expressed that the complexity of phonetic symbols and rules posed initial challenges.

From the focus group discussions, it became apparent that while some students quickly adapted to phonetic instruction, others found the technical aspects, such as the IPA and phonetic transcription, difficult to grasp. These challenges could explain the gap between teachers' and students' overall perception of the benefits. However, many students also noted that once they overcame these challenges, they gained more confidence in their speaking and listening abilities. The finding that phonetic principles helped students distinguish between minimal pairs (e.g., /i:/ vs. /ɪ/) aligns with research that suggests phonetic instruction improves learners' awareness of subtle phonological distinctions (Ladefoged & Johnson, 2015).

5.3 Practical Implications

The results suggest that while phonetic principles offer clear benefits for pronunciation teaching and learning, more emphasis should be placed on making these principles accessible to students. Teachers may need to implement more scaffolded approaches, providing incremental support for students as they familiarize themselves with phonetic concepts. Moreover, incorporating more practical, real-world applications of phonetic instruction, such as listening exercises that emphasize sound distinctions, could help students better understand the relevance of phonetics in improving their language skills.

Additionally, both quantitative and qualitative findings pointed to a need for enhanced student engagement with phonetic principles. Creating interactive tools, such as pronunciation apps or digital learning platforms that provide real-time feedback, could potentially bridge the gap between students' initial difficulties and their long-term understanding and application of phonetics.

6. Conclusion

The findings of this study underscore the importance of phonetic principles in teaching English pronunciation but also reveal varying degrees of perceived benefits between teachers and students. Teachers overwhelmingly view phonetic instruction as a valuable asset that aids in addressing pronunciation challenges, increases learner autonomy, and provides a structured approach to teaching. In contrast, students, while recognizing the benefits, face initial difficulties in mastering phonetic principles and require more supportive instructional approaches to fully appreciate their utility.

These insights point to several recommendations for future practice:

- (1) Teachers should provide incremental and scaffolded phonetic instruction to help students overcome the initial complexity of phonetic tools.
- (2) Educational materials and technologies that emphasize practical phonetic applications and real-time feedback can enhance students' engagement and understanding.
- (3) Future research could explore additional methods of integrating phonetic principles into language instruction in ways that are more immediately accessible to learners.

Overall, this study contributes to a deeper understanding of how phonetic principles can be effectively applied in the classroom and highlights areas for improvement in fostering a supportive learning environment for students.

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Appendix 1

Focus Groups Script for Teacher Interviews

Introduction (5 minutes)

Facilitator: "Thank you for participating in this interview/focus group. Today, we will be discussing your experiences and perspectives on the integration of Optimality Theory (OT) and phonetic principles in teaching pronunciation and phonology. Your insights will be invaluable in helping us understand how these theories can be applied in the classroom and what benefits or challenges they may bring. This session will last about 60 minutes, and I encourage everyone to share their experiences openly. All of your responses will be kept confidential and used only for research purposes."

Facilitator: "We'll start with some general questions and then move into more specific topics related to OT and phonetic instruction. Feel free to reflect on your teaching practices, student reactions, and any observations you've made over time."

Part 1: General Teaching Practices (10 minutes)

Question 1: Can you tell me a little about your experience with teaching pronunciation and phonology? How important do you think these skills are for language learners?

Probing Questions:

- (1) What methods or techniques do you usually use to teach pronunciation?
- (2) How have your students typically responded to pronunciation activities?

Question 2: Before integrating any specific theoretical frameworks, what were your main challenges when teaching pronunciation and phonology?

Probing Questions:

- (1) Were there specific sounds or patterns your students consistently struggled with?
- (2) How did you attempt to address these challenges?

Part 2: Experience with Optimality Theory (OT) in teaching (15 minutes)

Question 3: Have you ever heard of or used Optimality Theory (OT) in your teaching? If so, how did you first come across it?

Probing Questions:

- (1) What was your initial reaction to OT as a tool for teaching pronunciation?
- (2) How did you adapt your lessons to incorporate OT, if applicable?

Question 4: Can you describe a specific lesson or activity where you applied OT principles to teach pronunciation or phonology?

Probing Questions

- (1) What aspects of OT were most useful in planning this lesson?
- (2) How did your students respond to the activity? Were there any noticeable changes in their understanding or pronunciation?

Question 5: What challenges have you faced when trying to integrate OT into your teaching practices?

Probing Questions:

- (1) Were there any parts of OT that were difficult to explain to students?
- (2) How did you overcome these challenges, if at all?

Part 3: Experience with Phonetic Instruction (15 minutes)

Question 6: Can you share any experiences of incorporating phonetic principles into your lessons?

Probing Questions:

- (1) Which phonetic principles (e.g., articulation, vowel length, stress) have been most effective in helping students improve their pronunciation?
- (2) How do you introduce students to the physical production of sounds?

Question 7: How do students generally respond to phonetic instruction? Do you think it helps them in everyday communication?

Probing Questions:

- (1) Do students find phonetic exercises easy or difficult to follow?
- (2) Have you noticed any long-term improvement in their pronunciation as a result of phonetic instruction?

Question 8: In your experience, what are the biggest benefits of using phonetic instruction in the classroom?

Probing Questions

- (1) Does it help students become more confident speakers?
- (2) Do you think it improves their ability to understand spoken language?

Part 4: Impact on Students' Pronunciation and Phonological Awareness (15 minutes)

Question 9: Since incorporating OT and phonetic principles into your teaching, have you noticed any changes in your students' pronunciation or phonological awareness?

Probing Questions:

- (1) What specific improvements have you observed in terms of their pronunciation accuracy?
- (2) Have students become more aware of the rules governing sound patterns (e.g., stress, intonation)?

Question 10: Can you describe any particular challenges students face when working with OT and phonetics in class?

Probing Questions:

- (1) How do students handle more complex concepts like constraint ranking in OT?
- (2) Are there any common misconceptions or difficulties students encounter when learning phonetic principles?

Question 11: How do you assess students' pronunciation progress after applying OT and phonetic instruction?

Probing Questions:

- (1) Do you use formal assessments or more informal methods like listening and providing feedback during class?
- (2) Do students provide self-assessments or reflections on their progress?

Part 5: Closing Questions (10 minutes)

Question 12: What advice would you give to other teachers looking to integrate OT and phonetic principles into their language teaching?

Probing Questions:

- (1) What are the most important things to keep in mind when planning lessons?
- (2) Are there any resources or materials you would recommend?

Question 13: Is there anything else you would like to add about your experience with OT, phonetic principles, or teaching pronunciation in general?

Conclusion (5 minutes)

Facilitator: Thank you for your valuable insights. Your experiences will help us understand how to better apply Optimality Theory and phonetic principles in language teaching. We appreciate your time and effort in participating today. If you have any further thoughts, feel free to reach out to us.

Facilitator: "We will follow up with a summary of our findings and how your input has contributed to this research. Thanks again!"

Appendix 2

Perceived Benefits of Applying Phonetic Principles

Purpose: This survey aims to collect data on the perceived benefits of incorporating phonetic principles into English pronunciation teaching from both teachers and students.

Section 1: Demographic Information

(To be filled out by both teachers and students)

(1) Name (Optional):

(2) Role:

a. Teacher

b. Student

(3) How long have you been teaching/learning English?

a. Less than 1 year

b. 1-3 years

c. 3-5 years

d. More than 5 years

(4) English proficiency level (for students):

a. Beginner (A1-A2)

b. Intermediate (B1-B2)

c. Advanced (C1-C2)

(5) Level of teaching experience (for teachers):

a. Beginner (1-2 years)

b. Intermediate (3-5 years)

c. Experienced (More than 5 years)

Section 2: Perceived Benefits of Phonetic Instruction

(To be filled out by both teachers and students)

Instructions: For each statement below, please indicate the extent to which you agree or disagree by selecting the appropriate option.

1: Strongly disagree; 2. Disagree; 3. Neutral; 4. Agree; 5. Strongly Agree

#	Statements	Ratings				
1.	Phonetic principles help improve pronunciation accuracy.	①	②	③	④	⑤
2.	Learning about sound production (e.g., tongue placement, airflow) has made it easier for me/my students to pronounce difficult sounds.	①	②	③	④	⑤
3.	Phonetic instruction helps with distinguishing similar sounds (e.g., /θ/ and /s/ or /i:/ and /i/).	①	②	③	④	⑤
4.	Phonetic exercises (e.g., minimal pairs) have improved my/my students' listening comprehension.	①	②	③	④	⑤
5.	I feel more confident teaching/learning pronunciation after applying phonetic principles in the classroom.	①	②	③	④	⑤
6.	Phonetic principles provide a clearer understanding of how English sounds are structured and produced.	①	②	③	④	⑤
7.	Using phonetic principles, I/my students have become more aware of pronunciation errors and how to fix them.	①	②	③	④	⑤
8.	Phonetic instruction has led to noticeable improvement in my/my students' overall speaking fluency.	①	②	③	④	⑤
9.	Phonetic principles have made me/my students more confident in communicating in English.	①	②	③	④	⑤

Section 3: Open-ended Questions

(To be filled out by both teachers and students)

- (1) In your opinion, what are the most significant benefits of learning/teaching pronunciation through phonetic principles?
- (2) What specific challenges have you encountered when learning/teaching pronunciation using phonetic instruction?
- (3) Can you provide an example where phonetic instruction noticeably improved your/your students' pronunciation?
- (4) Do you think phonetic principles should be more integrated into English teaching practices? Why or why not?

Section 4: Teacher-Specific Questions

(For teachers only)

1: Never; 2. Rarely; 3. Sometimes; 4. Often; 5. Always

#	Statements	Ratings				
1.	Do you use phonetic principles regularly in your teaching? If so, how often?	①	②	③	④	⑤

1: Much less effective; 2. Less effective; 3. About the same; 4. More effective; 5. Much more effective

#	Statements	Ratings				
1.	How effective do you think phonetic principles are in improving your students' pronunciation compared to traditional methods?	①	②	③	④	⑤

Section 5: Data Collection Plan

(1) Distribution

The survey will be distributed online via Google Forms, shared through email and classroom communication platforms to both teachers and students at various levels of English proficiency.

(2) Target Participants

Teachers with experience in using phonetic principles in English language instruction.

Students who have received phonetic instruction in their pronunciation lessons.

(3) Data Analysis

Quantitative data: Responses from the Likert scale questions (Section 2) will be analysed using descriptive statistics to identify overall trends in perceived benefits.

Qualitative data: Responses to the open-ended questions (Section 3 and 4) will be analysed thematically to capture detailed insights and examples related to the use of phonetic instruction.

This instrument is designed to capture both general perceptions and specific experiences of the impact of phonetic principles on teaching and learning English pronunciation.

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