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International Phonetic Alphabet (IPA) to Improve English Pronunciation of Sixth-Level EFL Learners in the Language Center at UNAE

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Dedication

To my parents, Carlos and Ana, for their boundless love and guidance to keep moving forward. To my sisters and brother, Lili, Flor, and Cristopher for encouraging and admiring me in every step I take. To my shine boy and mentor, Telmo, I could not have done this without you. And last but not least, to myself for working hard and never giving up to achieve this remarkable result. Thank you all for your support along the way and I hope this accomplishment fulfills a part of the dream you envisioned for me.

Marilyn Paola Carabajo Fernández

It is a pleasure to dedicate this academic achievement to my cherished parents, Rosario and Julio, for having supported and encouraged me throughout this challenging journey. They are the reason of who I am becoming now, so I owe the fruit of my effort to them.

Dennis Joel Chimbo Guiracocha

To my parents, Hernán and Erlinda, for being my pillars of strength and their support and unconditional love. To my brother Fabián, for being a warrior and the most loyal and irreplaceable companion in my life. To my grandparents, Clemente and Blanca, for their wise advice and endless sweetheart. To my love, Raul, for being my light and support on this long road, for believing in me when I doubted myself. And, of course, to myself, because only I know how hard it was to reach this moment and how proud I feel for being the way I am. Finally, thanks to everyone who has supported this little girl with big dreams in one way or another to embark on this incredible journey of great learning, adventures, and challenges.

With love,

Verónica Marisol Ruiz Peñafiel

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Marilyn Carabajo, Dennis Chimbo, and Verónica Ruiz.

Resumen

Si bien las habilidades comunicativas competentes son esenciales para lograr el dominio en el proceso de aprendizaje del idioma, la instrucción de la pronunciación se aborda poco en la educación de la lengua inglesa actual y los estudiantes no pueden desarrollarla; como resultado, les provoca incapacidad para comunicarse y expresarse de manera adecuada. Este proyecto de investigación tuvo como objetivo analizar cómo influye la implementación de clases de fonética basadas en IPA en la mejora de la pronunciación de 28 estudiantes de sexto nivel de EFL del Centro de Idiomas de la Universidad Nacional de Educación. Se realizó un cuasiexperimento para verificar la hipótesis de investigación. Los instrumentos utilizados para esta investigación fueron las evaluaciones, un pre-test y un post-test para evaluar la mejora en la pronunciación del idioma ingles de los estudiantes. El pre-test se aplicó antes de la intervención y sus resultados evidenciaron la mala pronunciación de los alumnos. Posteriormente, el tratamiento consistió en la aplicación de lecciones fonéticas basadas en el IPA, en las que los alumnos tuvieron la oportunidad de aprender 44 fonemas divididos en vocales, consonantes y diptongos. Se identificaron y se redujeron los errores más comunes, ya que los alumnos asociaron los símbolos y sus sonidos del IPA con las palabras. A la hora de aplicar el post-test, los resultados demostraron la eficacia de las lecciones fonéticas basadas en el IPA, ya que ellos reflejaron una notable reducción de los errores de pronunciación a casi la mitad del total.

Palabras Claves: pronunciación, lecciones fonéticas, IPA, cuasi-experimento, reducción de errores de pronunciación.

Abstract

Although proficient communication skills are essential to master in the language learning process, pronunciation instruction is slightly addressed in current English education, and students cannot develop it; as a result, it causes their inability to communicate and express themselves adequately. This research project aimed to analyze how implementing IPA-based phonics classes influences the pronunciation improvement of 28 sixth-level EFL students of the Language Center at Universidad Nacional de Educación. A quasi-experiment was conducted to verify the research hypothesis. The instruments used for this research were surveys, a pre-test, and a post-test to evaluate the improvement in students' English pronunciation. The pre-test was applied before the intervention, and its results evidenced the students' poor pronunciation. Subsequently, the treatment consisted of applying phonetic lessons based on the IPA, in which the students had the opportunity to learn 44 phonemes divided into consonant vowels and diphthongs. The most common errors were identified and minimized as the students associated the IPA symbols and their sounds with the words. When applying the post-test, the results demonstrated the effectiveness of the IPA-based phonetic lessons, as they reflected a remarkable reduction of pronunciation errors to almost half of the total.

Keywords: pronunciation, phonetic lessons, IPA, quasi-experiment, reduction of pronunciation errors.

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CHAPTER I

1. INTRODUCTION

1.1 Context

The process of teaching English is an area which requires the application of appropriate approaches, strategies, techniques and activities. These should be applied according to the needs of the learners in order to achieve their learning objectives. Therefore, teaching practice is fundamental in order to evidence and find out what needs to be added or worked on in our country's education system. The next integrating axis has a fundamental role: the research and design of English teaching and learning strategies with current approaches in communicative teaching. Based on the above, we have identified that pronunciation is an area that needs to be analyzed and addressed with new strategies and techniques that respond to the current needs of learners.

Effective pronunciation is integral to English language education, impacting listening comprehension, speaking, and oral interaction. Yet, mastering this skill proves challenging due to interference from the native tongue (Texidor et al., 2016). This way, accurate pronunciation is crucial to prevent communication problems, where mispronunciations can lead to confusion. Modifying pronunciation teaching methods is essential for improved perceptions and production (Bartolí, 2005). Therefore, teachers should prioritize phonic competence through communication-based approaches. Pourhosein (2012) claimed good pronunciation enhances learning, while poor pronunciation poses significant obstacles. Moreover, integrating pronunciation with other language skills is key to achieving successful communicative competence in the teaching-learning process.

In EFL learning, Aliaga (2007) claimed that students may make mistakes in all language skills. However, pronunciation is one of the most common skills that learners in education systems fail in. This problem has been noted in English VI students at UNAE who

mispronounced some words when doing communicative activities in the classroom. Certainly, this pronunciation problem not only affected coherence in speaking but also in reading. In this sense, students tended to pronounce words following the rules of Spanish, such as reading in the same way the text was written, causing confusion and misunderstanding for the listeners. In addition, when doing communicative or interactive activities, learners were likely to need clarification as they needed to understand each other. For example, one learner would ask a question while interacting, but the other could not give the expected answer.

This problem was visible for a long time and affected learners' confidence in producing language by making them feel uncomfortable and fearful during such situations. Therefore, this educational problem should be carefully addressed by using strategies, techniques, activities or practical tools that help pupils to develop their pronunciation skills and, consequently, improving their reading/speaking abilities. This is why following a phonics-based treatment would address this problem, improve learners' pronunciation and promote effective communicative development of the English language. In order to explore the identified problem, the following hypothesis and research question were posed.

1.2 Justification

We presume undertaking this research study is highly relevant as incorporating the IPA chart into English lessons can lead to positive outcomes in language education. For instance, gaining insights into the phonetic structure of a language through the IPA chart facilitates the development of effective pedagogical strategies. Conducting a study in this domain helps identify the most efficient and engaging methods for teaching pronunciation, thereby improving the overall learning experience for students. Furthermore, the IPA chart provides a precise and dependable representation of a language's sounds. Thus, conducting

research on the IPA chart for pronunciation instruction ensures that instructors and learners adhere to a standardized system, reducing ambiguity and confusion.

Proficiency in a second language hinges on effective communication, with clear pronunciation playing a pivotal role. Hence, research on the International Phonetic Alphabet (IPA) chart allows teachers to target crucial aspects of pronunciation, enhancing overall communicative skills through specific, learner-centered approaches. This study aims to assess the impact of IPA-based English classes on improving pronunciation skills. If successful, the findings hold significant implications for teaching pronunciation, as educators can make concrete adaptations to incorporate IPA-based phonetic lessons, fostering more effective language instruction. The study anticipates contributing substantially to the field by providing practical insights that can shape teaching practices in pronunciation.

If our proposed hypothesis proves to be valid, the educational field will assume that the IPA chart and the pronunciation activities they can create based on it really work, so they will develop English phonetics classes and help students improve their pronunciation skills. Furthermore, this study can be applied to foreign language teachers and students and to speech therapists, lexicographers, linguists, speech therapists, translators, speech scientists or even singers to achieve correct articulation and production of speech sounds.

1.3 Hypothesis

The implementation of phonetics classes based on IPA will improve the pronunciation of sixth-level EFL learners in the Language Center at UNAE.

1.4 Variables

Dependent: Pronunciation
Independent: IPA chart

1.5 Research Question

What is the effectiveness of implementing IPA-based phonetic lessons on the pronunciation of sixth-level EFL learners in the Language Center at UNAE?

Moreover, according to Morley (1991), pronunciation is fundamental to communicative competence since learners can only communicate effectively with perfect pronunciation. To support the focus of this research, we have set the following objectives.

1.6 General Research Objective

To determine the effectiveness of implementing IPA-based phonetics lessons with an IPA chart on the pronunciation of sixth-level EFL learners in the Language Center at UNAE.

1.7 Specific Objectives

- To diagnose students' pronunciation using a Pre-test.
- To provide students with phonetics lessons to instruct them on the correct pronunciation of utterances.
- To assess students' pronunciation using a Post-test.

CHAPTER II

2. LITERATURE REVIEW

2.1 Preview Researches

Few research studies have been conducted in this research area. However, the following paragraphs present the research most related to the topic proposed in this thesis: applying the International Phonetic Alphabet to improve pronunciation.

The first study is a master's thesis by Rivadeneira (2018) called "Application of Phonemic Transcription Activities to Improve English Pronunciation in Language Learners." The author concluded that the students, who belong to our Ecuadorian context, do not have extensive knowledge about phonemic transcription, which presented a great challenge for them, as was observed in the pre-test. Likewise, the researcher revealed that the most relevant contents for them when instructed about phonemic transcription were vowels, consonants,

and stress. On the other hand, the data collected showed that students tend to make more errors in the pronunciation of the phonemes /ɑː/, /iː/, /æ/, and /ʒ/ due to interference from their mother tongue, Spanish. Finally, despite these problems, the applied phonemic transcription activities highly improved the learners' pronunciation, as was noticed in the control group results.

In addition, a recent study by Suryaleksana et al. (2022) revealed that their participants significantly improved their English pronunciation skills after using the IPA chart. According to statistical data and surveys conducted, learners reported that they were able to memorize and recognize IPA symbols and came to know how to produce them correctly. Although this research was a success, it is necessary to mention that the participants encountered some difficulties associated with vowel phonemes such as /æ/, /ə/, /ɔː/, /e/, /ɑː/, and /ɜː/ as they were not native speakers. Based on these results, we were able to reaffirm and confirm the feasibility of our hypothesis.

Conversely, Fadli et al. (2021) also investigated the teaching of English pronunciation to students using the interactive IPA chart. They used an experimental design with a quantitative approach. They applied a pre-test, an intervention and a post-test. Each test had 44 English sounds, and each student was recorded while pronouncing each sound in the pre-test and post-test. The students had constant lectures and practice with the interactive phoneme chart IPA. After analyzing the results, deviations and percentages, it was established that there was a significant improvement in the students' pronunciation. According to this study, the use of IPA has been very useful for improving English pronunciation in other learning environments. We also found the recommendations made by these authors beneficial, as the study is similar to ours and we can take them into account. For example, they recommend that teachers should be sure of the differences between IPA phonemes in order to teach correctly.

2.2 Theoretical Framework

2.2.1 Main Learning Theories

Learning theories, as defined by Luis and D'Cunha (2014), are conceptual frameworks elucidating how information is absorbed, processed, and retained during the learning process. These theories, including constructivism, behaviorism, cognitivism, humanism, and social constructivism, offer diverse pedagogical approaches with distinct principles. MacCallum and Parsons (2016) emphasize that comprehending how theories influence learning activities is crucial for effective pedagogical methods. Educational learning theories posit that cognitive, emotional, environmental factors, and prior experiences shape the acquisition or alteration of understanding, influencing knowledge retention (Luis and D'Cunha, 2014). In recent decades, these theories have played a vital and innovative role in education, complementing traditional methods and addressing specific learning difficulties. While the traditional approach endures, learning theories provide a practical framework for educators, guiding decisions on instructional methods, curriculum design, assessment, and teaching practices, ultimately establishing a theoretical foundation for understanding learning processes.

2.2.1.1 Behaviorism.

Behaviorism offers insights into how individuals acquire knowledge through their interactions with the environment associated between stimuli and responses. Stimuli guide behavior, and the choice of a response is determined by prior conditioning and psychological impulses at the time of action. As such, behaviorism focuses on the observable and measurable facets of human behavior (Zhou and Brown, 2017). Furthermore, as argued by Ratna and Tron (2015) “according to the learning theories propounded by the behaviorists, learning is a mechanical process of associating the stimulus with the response, which produces a new behavior; the reinforcement strengthens such behavior” (p. 2). Some

activities we find within the behaviorist theory for practical instructions inside the classroom are drills and practice exercises, modeling and imitation, direct instruction, behavioral role-plays, etc.

2.2.1.1.1 Drills.

In education, the term "drills" refers to instructional activities or exercises designed to practice and reinforce particular skills or knowledge. These drills focus on improving mastery through repeated practice. A study by Hernandez et al. (2020) showed that when English as a foreign language (EFL) learners engage in repetition drills, there is a likelihood of experiencing improvements in vocabulary and pronunciation, which contributes to improving learners' fluency. In addition, the repetition strategy has been recognized as helping learners to achieve greater fluency and to apply a more natural flow to their speech in oral communicative contexts.

2.2.1.1.2 Isolated Words Syllables.

Isolated syllable repetition of words is a method in which learners practice vocalizing individual syllables as part of language acquisition or pronunciation exercises. In this task, learners are given words and instructed to articulate each syllable of the word consecutively. The use of this technique can serve several educational purposes, for example: In terms of phonological awareness, it helps learners to understand the different sounds and syllables present in words with their correct pronunciation. Finally, in terms of spelling and phonics, this approach reinforces the connection between written and spoken language, favoring the development of spelling and phonetic skills.

2.2.1.2 Constructivism.

According to Schunk (2012), constructivism asserts that individuals build on their knowledge base to acquire new information through personal experiences and interactions with the outside world. Consequently, the learner assimilates new information and assigns meaning to

it based on their pre-existing attitudes, beliefs and experiences, also called "schemas", as reference points to create meaningful learning (Ratna & Tron, 2015, p.5). Taking into account this information, it follows that constructivism is a theory of learning that emphasizes the active participation of learners in the construction of their understanding and knowledge. It proposes that individuals form a meaningful learning experience that incorporates new and prior knowledge.

2.2.1.3 Gamification.

According to Arnold (2014), gamification is the use of game techniques and mechanics in non-game contexts to inspire learners. From this perspective, gamification is about integrating elements, principles and mechanics reminiscent of games into non-traditional gaming environments, such as education or business. The goal is to improve engagement, motivation, and learning by applying game design elements to encourage participation, interaction, and task achievement.

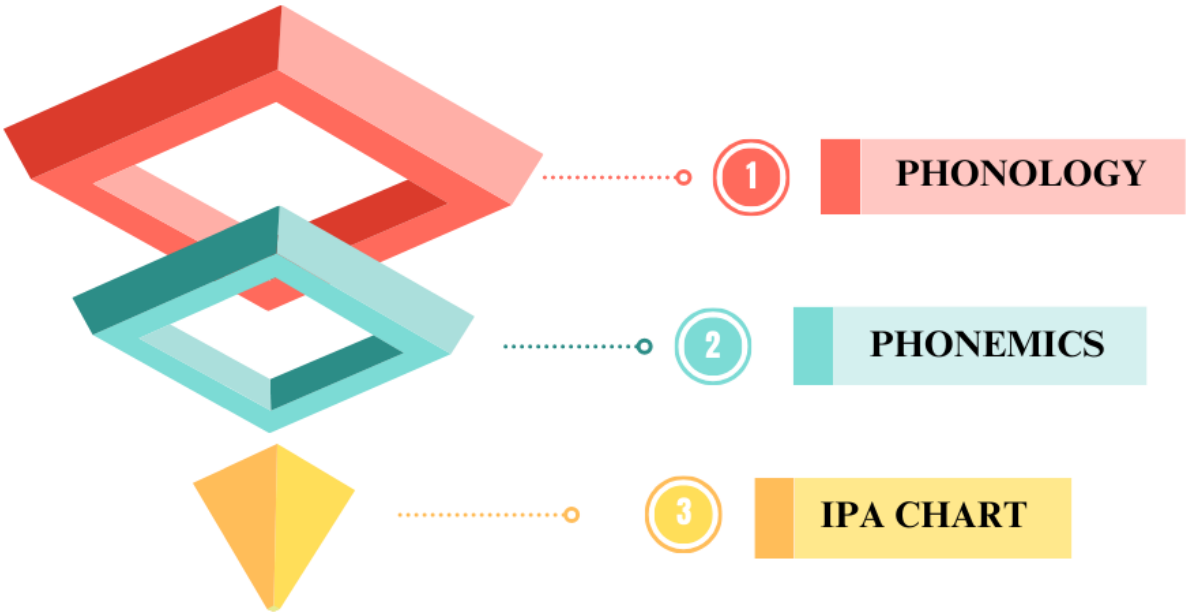
2.2.1.3.1 Competitive Activities.

Competitive activities in education involve students participating in competitive games, either individually or collaboratively. This approach engages students effectively, inspiring the class, fostering teamwork, and nurturing a positive competitive spirit. Francisco et al. (2022) found that introducing such activities provided additional motivation to students, who perceived them as enjoyable and valuable for reinforcing class topics. However, it's crucial to create a nurturing environment that prioritizes learning and growth over mere success when integrating competitive activities. Encouraging teamwork, collaboration, and diversifying competition types to accommodate various learning styles and interests within the classroom are also essential considerations.

2.2.2 Key Categories

Figure 1

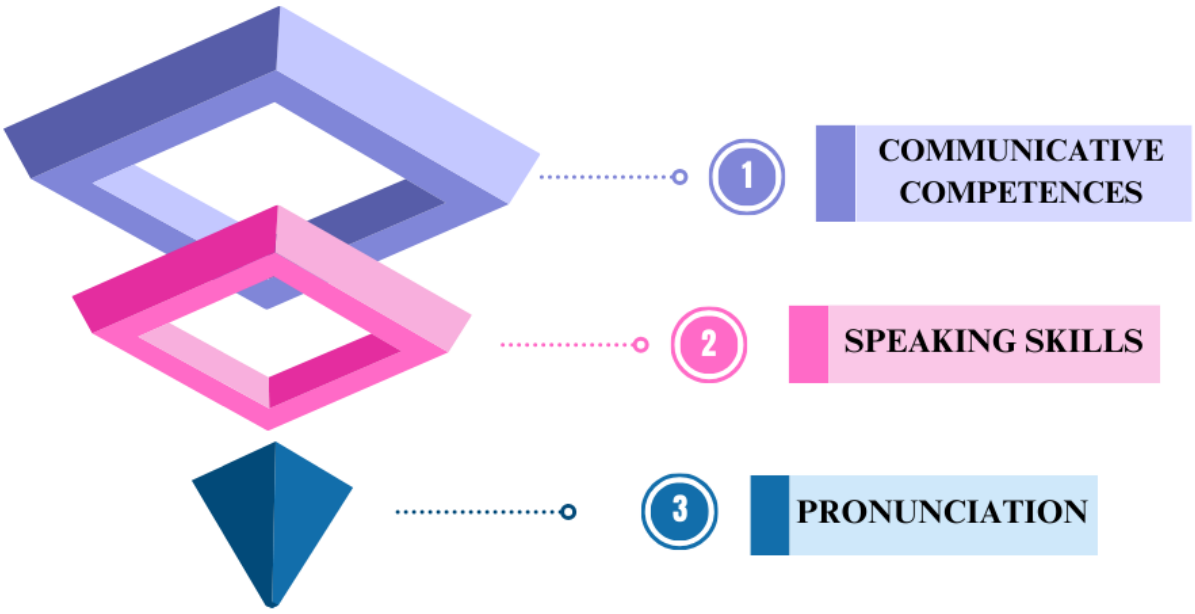
Independent Variable



Note: Independent Variable: Phonology, phonemics, IPA chart.
Elaborated by Carabajo, Chimbo, Ruiz (2024).

Figure 2

Dependent Variable



Note: Dependent Variable: Communicative Competences, Speaking Skills, Pronunciation.
Elaborated by Carabajo, Chimbo, Ruiz (2024).

2.2.2.1 Conceptual Basis – Independent Variable.

2.2.2.1.1 Phonology.

Davenport and Hannahs (2020) state that phonology explores how languages utilize sounds to distinguish words. Anderson (1981) distinguishes phonology from phonetics, emphasizing that while both deal with language sounds, phonetics adopts a language-independent perspective, whereas phonology examines sound distribution within specific languages. Essentially, phonology delves into the various sounds that convey distinct meanings when pronouncing a language's phonemes—small phonological units. This field aids in understanding pronunciation variations and the impact of speech sound interactions within syllables, words, or sentences, providing insights into how language is articulated.

2.2.2.1.2 Phonemics.

Blachman (2000) mentions that phonemics, in linguistics, is the study of how phonemes are related to each other, as well as the rules for combining sounds and the phonemic systems of languages. It also studies the relevant, distinctive, and significant elements of a language used to establish differences in meaning. The unit of phonemics is the phoneme. In spoken language, a phoneme is the smallest fundamental unit of speech that ultimately establishes and creates differences in meaning (Yallop & Fletcher, 2007). Phonemes are a single structural unit of sound that distinguishes one word from another.

2.2.2.1.3 Phonemic Transcription.

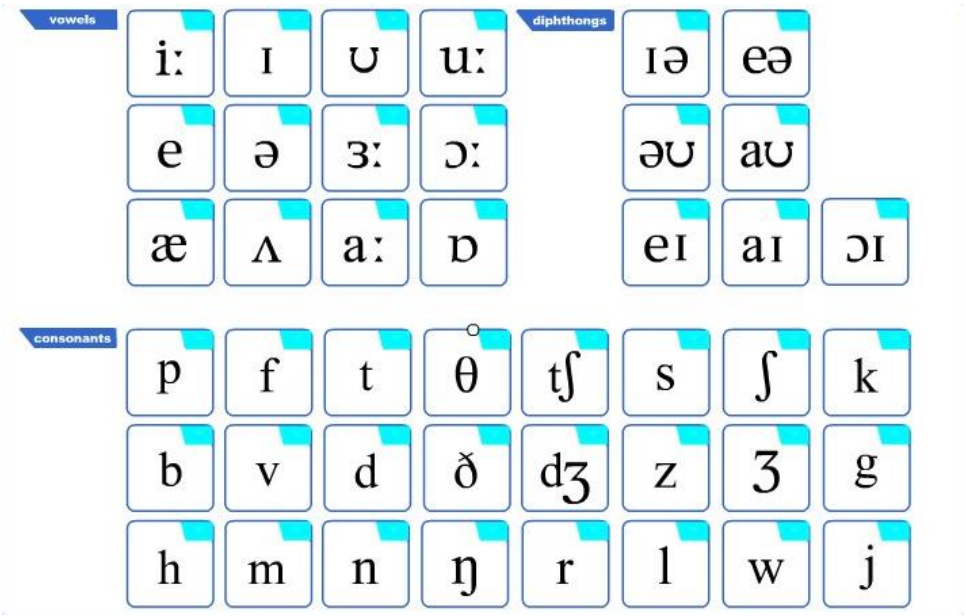
Phonetic transcription is a method of notating speech sounds in a systematic and consistent way, also known as "notation" or "script" (Crystal, 2008). It consists of noting the most notable phonemic features of a word, phrase or sentence and showing how the pronunciation differs from one to another. According to Lintunen (2005), "phonemic transcription is important in acquiring a new language by providing a point of reference for the learner" (p.5). Therefore, with such reference, learners' speech accuracy and phonemic awareness increase.

2.2.2.1.4 The Phonemic Chart of IPA.

"The International Phonetic Alphabet (IPA) chart is a set of phonetic symbols designed to represent the speech sounds of the world's languages" (Ashby & Ashby, 2021, p.152). It is written using the Latin script and is defined as the standard sound representation of spoken language (Riza, 2020). According to Suryaleksana et al. (2022), this phonemic chart consists of 44 symbols divided into consonants, diphthongs, and vowels, as shown in the following figure:

Figure 3

Phonemic Chart of IPA



Note: Phonemic chart version of the British Council divided into vowels, diphthongs, and consonants. Retrieved from British Council (2023).

Inside the IPA chart, each symbol is essential in producing word sounds and distinguishes one word from another. The main objective of the IPA is for people to avoid errors in spoken language.

a. Vowels.

Figure 4

English Vowel Sounds

single vowels			
ɪ	iː	ʊ	uː
ship	sheep	book	shoot
e	ɜː	ə	ɔː
left	her	teacher	door
æ	ʌ	ɒ	ɑː
hat	up	on	far

Note: Vowel sounds in the phonemic chart. Retrieved from English with Lucy (2022).

Finegan (2015) noted that vowel sounds lack air obstruction in vocal tracts, allowing direct airflow from the larynx to the lips, a contrast to consonants. Ambalegin (2021) emphasized that vowels involve the tongue being away from the upper mouth surface during pronunciation, without specific contact points in the vocal tracts. Unlike consonants, vowels lack characteristics related to place or manner of articulation. Vowel sound production in English, encompassing 12 distinct sounds, involves speech organs altering mouth shape and other elements like the tongue, jaw, lips, and vocal cords (Hayes, 2009). Understanding these distinctive features is crucial for mastering English vowel sounds and pronunciation.

b. Diphthongs.

Figure 5

English Diphthong Sounds

diphthongs		
eɪ	ɔɪ	aɪ
wait	coin	like
eə	ɪə	ʊə
hair	here	tourist
əʊ	aʊ	/
show	mouth	

Note: Diphthong sounds in the phonemic chart. Retrieved from English with Lucy (2022).

On the other hand, diphthongs are sounds generated due to changing from one vowel sound to another; primarily, the first sound places more emphasis and remains stronger and longer than the second one while producing it (Nwabueze et al., 2018). Similarly, according to Behr (2022), a diphthong sound occurs when the tongue moves from one place to another to produce two vowel sounds. Some examples of these types of phonemes are presented in the above figure.

c. Consonants.

Figure 6

English Consonant Sounds

unvoiced consonants							
p	f	θ	t	s	ʃ	ʧ	k
pea	free	thing	tree	see	sheep	cheese	coin
voiced consonants							
b	v	ð	d	z	ʒ	ʤ	g
boat	video	this	dog	zoo	television	joke	go
m	n	ŋ	h	w	l	r	j
mouse	now	thing	hope	we	love	run	you

Note: Consonant sounds in the phonemic chart. Retrieved from English with Lucy (2022).

There are 24 consonant sounds and they refer to the speech sounds produced along with an air obstruction in the vocal tract (Sharma, 2021). Furthermore, consonants point out the sounds produced by narrowing or closing the mouth aperture to block the airflow; consequently, the sound is produced with significant friction. Therefore, consonant sounds are pronounced only when an airflow obstruction occurs in a specific part of the vocal tract.

2.2.2.1.5 Advantages of Using IPA Chart.

Pekacar (2018) highlights the advantages of using the International Phonetic Alphabet (IPA), emphasizing its ability to accurately represent all sounds of various languages. The IPA incorporates distinctive characters like [ɔ], [ʃ], and [ŋ] to prevent confusion. Widely

embraced by specialists globally, including linguists, phoneticians, teachers, and therapists, the IPA serves as a universal tool for precise language representation. Its comprehensive table also covers suprasegmental symbols, enhancing pronunciation learning. Brown (2012) introduced the IPA concept to establish a standardized representation, mitigating errors arising from diverse conventional spellings. This standardized tool significantly benefits linguistics and education, enabling global specialists to employ the IPA table in language, dialect, and speech therapy, facilitating communication support for individuals with diverse language challenges.

2.2.2.2 Conceptual Basis – Dependent Variable.

2.2.2.2.1 Pronunciation.

According to Seyedabadi et al. (2015), pronunciation is essential for oral communication, as good production leads to good interaction and comprehension. Moreover, this skill can have great learning outcomes when linked with other areas such as vocabulary and grammar. On the other hand, Sahatsathatsana (2017) stated that pronunciation is the area that is responsible for producing the sounds through which meaning is expressed. It encompasses sub-areas such as segments, suprasegmentals and voice quality.

2.2.2.2.2 Process of Pronunciation.

Pronunciation, as explained by Yoshida (2013), involves the intricate process of shaping word sounds by controlling the flow of air through the throat, vocal cords, mouth, tongue, teeth, and lips. Effective pronunciation requires precise muscle control in these areas, influencing the transparency and clarity of speech. Differentiating mouth muscles between languages is crucial, as some languages, particularly foreign ones, may necessitate additional muscle development for accurate phoneme pronunciation. Regular practice can enhance muscle proficiency, leading to improved pronunciation and increased understanding of

spoken language. Yoshida underscores the significance of recognizing and refining mouth muscle usage for effective language pronunciation.

2.2.2.2.3 Pronunciation of Segmental Features.

A. Vowels Segmental Features.

Ambalegin and Suryani (2018) claim that the production of vowel sounds involves guiding air through diverse mouth shapes, adjusting the position of the tongue and lips, and allowing the air stream to flow with minimal obstruction, except at the glottis. Another relevant feature about vowels is that, when articulating and producing their sounds, the tongue does not touch the upper surface of the vocal tract at any particular place, and the term place of articulation is inappropriate. Additionally, Ambalegin and Arianto (2018) stated in their research study that based on the articulation features, vowel sounds are grouped into three categories: open vowels (/æ/-/ʌ/-/ɑ:/-/ɒ/), mid vowels (/e/-/ə/-/ɜ:/-/ɔ:/), and closed vowels (/i:/-/ɪ/-/ʊ/-/u:/). Based on these premises, vowels are characterized by the free air passage directly from the lungs to the mouth without any obstruction. In addition, their sounds involve vibration in the production (voiced).

A.1 Stability of Articulation.

According to Nascimento (2022), The stability of articulation refers to the actual position of the articulating organs during vowel articulation. Two possible variations exist: a) a stable tongue position, resulting in a relatively pure vowel; b) a changing tongue position, where the tongue moves between two distinct positions, creating a vowel with two perceptible elements. Additionally, there is a third variation, an intermediate case where the change in tongue position is moderately subtle. Following these principles, English vowels are categorized into monophthongs, diphthongs, and diphthongoids.

- **Monophthongs**

Kamarudin and Kamal (2021) state that "monophthong" indicates that a vowel is pronounced with a single pitch and maintains a consistent mouth position. Therefore, in phonetics, a monophthong is a vowel pronounced with a consistent and unchanging position of the vocal tract. They are /ɪ/ (dinner /ˈdɪn.ər/), /e/ (egg /eg/), /æ/ (angle /ˈæŋ.gəl/), /ɑː/ (draft /dɹɑːft/), /ɒ/ (job /dʒɒb/), /ɔː/ (door /dɔː/), /ʊ/ (good /gʊd/), /ʌ/ (enough /ɪnʌf/), and /ə/ (above /əˈbʌv/).

Examples of monophthongs include the vowel sounds in words like "feet," "caught," and "sleep." In these instances, the tongue and other articulatory organs remain in a consistent position throughout the pronunciation of the vowel.

- **Diphthongs**

A diphthong is a sound formed by blending two vowels, particularly when it transitions from one vowel sound to another (Kamarudin & Kamal, 2021), as seen in the "oy" sound in "oil." In pronouncing diphthongs, the speech organs smoothly shift from one vowel position to another within a single syllable. The initial point, or nucleus, is pronounced with strength and clarity. They are /ei/ (face-/feɪs/), /ai/ (why-/waɪ/), /ɔɪ/ (coin-/kɔɪn/), /au/ (cloud-/klaʊd/), /əu/ (joke-/dʒəʊk/), /iə/ (betrayal-/bɪˈtɹeɪəl/), /ɛə/ (mare-/mɛə/), and /uə/ (hour-/ˈaʊə(ɹ)/).

Examples of diphthongs include the combination of two vowel sounds, like /ei/ in words such as *they* /ðeɪ/, *way* /weɪ/. It is important to note that the presence of two consecutive vowels in a word does not always lead to the formation of a diphthong sound. For example, in the word "feet" /fiːt/, there is no diphthong, but rather the presence of the monophthong /iː/, representing the prolonged "ee" sound.

- **Diphthongoids**

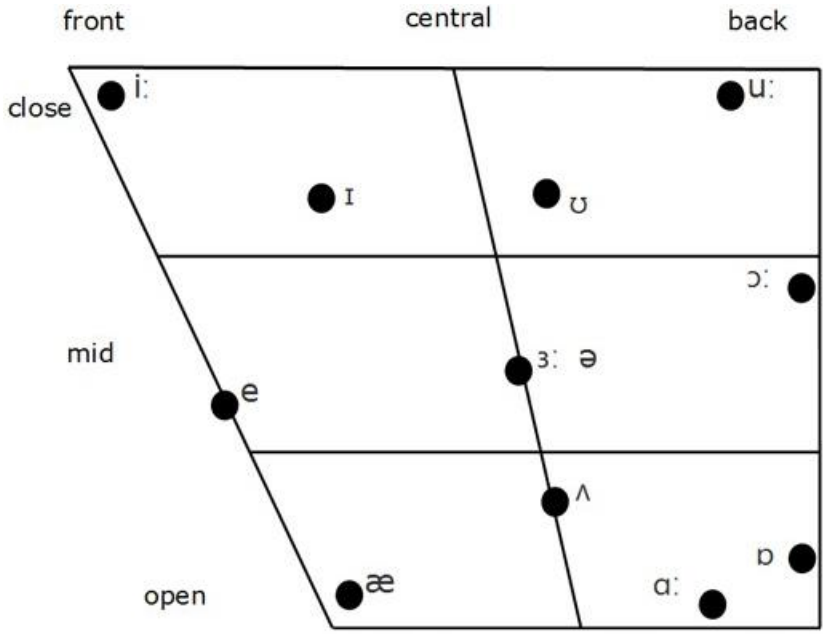
When articulating diphthongoids, there is a subtle change in pronunciation, but the distinction between the starting and ending points is less pronounced than in diphthongs (Alizade, 2020). The only two diphthongoids in the IPA chart are: /i:/ /u:/. Some words belonging to these phonemes are bee (/biː/), boot (/buːt/), and rude (/ruːd/).

A.2 Tongue Position.

Tongue position is crucial in shaping speech sounds, particularly vowels. It involves the tongue's precise arrangement within the oral cavity, influencing height, frontness or backness, and openness or closeness. These variations affect the acoustic qualities of vowels, and a tongue position chart from Li et al.'s 2011 study is provided below for clarity.

Figure 7

Tongue Position Chart



Note: Representation of the mouth and position of the tongue to produce vowel sounds. Retrieved from Brunori (2021).

Within vowel sound, there are different manners in which language learners can produce and articulate vowels: Close, open, front, back, and central vowels; they are explained in accordance to Sariani (2021) right below:

- **Close Vowel**

A close or high vowel is part of a group of vowel sounds used in different spoken languages. The distinctive characteristic of a close vowel is the placement of the tongue as close to the roof of the mouth as possible without creating constriction. According to Figure 7, the common phonemes in this position are/ʊ/, /uː/, /iː/, and /ɪ/.

- **Open Vowels**

Open vowels, known as low vowels, are a set of vowel sounds characterized by a more unrestricted airflow through the mouth. When articulating open vowels, the jaw is typically positioned more openly, resulting in more significant space between the tongue and the roof of the mouth. Examples of open vowels in English include sounds like /ɑː/ (as in "car") and /ɔː/ (as in "thought"). Based on Figure 7, the common phonemes present in this position are /ɒ/, /ɔː/, /ɑː/, /æ/, and /ɐ/.

- **Front Vowel**

Front vowels refer to a group of vowel sounds formed by positioning the tongue toward the front of the oral cavity. When articulating front vowels, the front part of the tongue is elevated or brought close to the hard palate. Illustrative instances of front vowels in English are found in sounds like /iː/ (as heard in "see") and /e/ (as heard in "bed"). Likewise, according to Figure 7, the common phonemes in this position are /i/, /ɪ/, /e/, /ə/, and /æ/.

- **Back Vowel**

Back vowels are a set of vowel sounds created by positioning the tongue toward the rear of the oral cavity. In pronouncing back vowels, the posterior part of the tongue is elevated or brought close to the soft palate. Instances of back vowels in English encompass sounds like /uː/ (heard in "food") and /ɑː/ (heard in "car"). Following Figure 7, the typical sounds encountered in this position are /ɑ/, /u/, /ɔ/, /o/, and /ʊ/.

- **Central Vowel**

In American English, the central vowels are represented by /ə/ and /ʌ/, both produced in the middle of the mouth with the tongue raised mid-height. It is important to keep the tongue mostly relaxed when articulating these vowels. The sounds /ə/ and /ʌ/ are nearly identical, with /ə/ commonly called "schwa." Schwa occurs in unstressed syllables, while /ʌ/ is in stressed syllables. So, the common phonemes found in this position are/ʌ/-/ɜ:/-/ə/-/ɜ(u)/, and /ɛ(ə)/.

A.3 Lip Position.

Riza (2021) highlights two lip positions, rounded and unrounded/neutral, for classifying English vowels. Back vowels like "box" exhibit rounded lips, with varying rounding degrees based on tongue height. Front vowels, exemplified by "said," typically involve unrounded or neutral lips in their articulation, showcasing a distinction in vowel sounds.

- **Rounded**

Collins and Mees (2013) claimed that rounded vowels refer to a group of vowel sounds produced with lips that are rounded during articulation, forming a circular opening. Some symbols representing rounded vowels include:

/ʊ/-as in "book"

/uː/-as in "food"

/ɔː/-as in "thought"

/ɒ/-as in "cot" (in some dialects)

/oʊ/-as in "go"

The distinctive feature of these vowels is the rounding of the lips, contributing to the uniqueness of their sound.

- **Unrounded**

Unrounded vowels represent a group of vowel sounds produced without the lips being rounded during articulation. In other words, unrounded vowels encompass sound production with the lips relaxed, slack, or even drawn back (Collins & Mees, 2013). Some phonetic symbols for unrounded vowels include /iː/ - as in "see."

/ɪ/-as in "kit"

/æ/-as in "cat"

/ʌ/-as in "cup"

These vowels are distinguished by the absence of lip rounding, allowing the airflow to remain relatively unobstructed during production.

- **Neutral**

Likewise, Collins and Mees (2013) explained that neutral lips vowels refer to vowels where the lips are neither rounded nor spread, meaning they maintain a relatively neutral or relaxed position. The schwa (/ə/) is often considered a neutral vowel in terms of both tongue position and lip configuration. Even the phoneme /ɑː/ is conceivable labeled as a neutral sound. Accordingly, symbols for vowels with neutral lip positions might include:

/ə/-as in "sofa" (schwa)

/ɑː/-as in "start"

A.4 Vowel Length.

Vowel length refers to the duration of a specific vocal sound when it is pronounced. As Al Abdely (2023) indicated, vowels can be divided into two categories: long when a vowel is pronounced for a long duration and short when the vowel sound is fast.

- **Short:** Considering a recent study, Sariani. (2021), a vowel sound is deemed short when it is pronounced quickly and is not followed by the symbol (:) (colon). For instance: /ʊ/ as in prove = /pɹʊv/.

- **Long:** To mark a long vowel symbol, a colon-like symbol (ː) is often used following the main vowel sound, and it represents vowels that tend to be pronounced longer than short vowels (Sariani, 2021). For instance, /uː/ as in school = /skuːl/.

A.5 Pronunciation of Vowels Utterances.

Vowels are alphabetical characters that symbolize vocal sounds produced when air flows freely from the mouth without obstruction. The tongue, lips, and jaw are the articulators responsible for creating vowel sounds (Garita et al., 2019). However, there are distinct articulatory variations in the production of these sounds, which are elucidated by Rivadeneira (2018) in the detailed explanations provided below:

- **Pronunciation of /ɑː/ sound**

Position the tongue toward the bottom and rear of the mouth and produce a prolonged voiced sound with the mouth open.

Examples:

*Party /ˈpɑː.ti/ *Large /lɑːdʒ/

- **Pronunciation of /ɒ/ sound**

The /ɒ/ sound is a short vowel characterized by a lowered tongue positioned towards the back, creating an open vowel sound. Its classification as a back vowel stem from the tongue's noticeable retraction towards the mouth's rear.

Examples:

*Party /ˈpɑː.ti/ *Large /lɑːdʒ/

- **Pronunciation of /ɜː/ sound**

Retract the corners of the lips inward, moving them away from the face. Raise the central part of the tongue towards the middle of the roof of the mouth. The front of the tongue hangs down ensuring it does not make contact with anything.

Examples:

*nervous /ˈnɜː.vəs/ *personality /ˌpɜɪsəˈnælɪti/

- **Pronunciation of /ɔː/ sound**

Place the tongue low and towards the back of the mouth to make this sound. So, create the sound by positioning the tongue low and towards the back while gently bringing the lips together, all while producing a sustained voiced sound.

Examples:

*Autonomous, /ɔːˈtɒnəməs/ *cautious, /ˈkɔːʃəs/

- **Pronunciation of /ʌ/ sound**

The vowel sound /ʌ/ is a brief pronunciation where the jaw is positioned mid to open level, the tongue is placed centrally or slightly toward the back, and the lips remain relaxed.

Examples:

*Option /ˈɒp.ʃən/ *Odd /ɒd/

- **Pronunciation of /æ/ sound**

This vowel falls into the category of low vowels. Lower the tongue and shift it towards the front of the mouth. Generate vocal cord vibration while holding this tongue position.

Examples:

*Fact /fækt/ *Sad /sæd/

- **Pronunciation of /iː/ sound**

To produce this sound, place the tongue at the front and in a high position in the mouth. So, the tongue position at the front, stretch the lips and make a sustained voiced sound.

Examples:

*Agree /əˈgɹiː/ *Tea /tiː/

- **Pronunciation of /ɪ/ sound**

The vowel /ɪ/ is identified as a high-front sound. Place the tongue high and toward the front of the mouth. Generate vocal cord vibration while sustaining this tongue position.

Examples:

*Day /deɪ/ *Sympathy /ˈsɪmpəθi/

- **Pronunciation of /ʊ/ sound**

The /ʊ/ vowel is categorized as a high, back, lax vowel. To generate this sound, elevate the tongue high in the mouth (slightly lower than /u/) and shift it towards the back. Then, initiate vocal cord vibration while expelling air from the mouth.

Examples:

*Full /fʊl/ *Root /rʊt/

- **Pronunciation of /uː/ sound**

Produce the /uː/ sound by raising the back of the tongue more than for /ʊ/ and engaging the voice. Ensure the lips are highly rounded, and the opening between them should be small. This sound is of an extended duration.

Examples:

*Unique /juːˈniːk/ *Interview /ˈɪntəvjuː/

- **Pronunciation of /e/ sound**

Position the tongue at a moderate height in the mouth, shifting it toward the front. Keep the muscles in the lips and mouth moderately tense. Produce vocal cord vibration while holding this tongue position.

Examples:

*Leg /leg/ *Hen /hen/

- **Pronunciation of /ə/ sound**

To produce the /ə/ sound correctly, keep the lips relaxed and neutral and place the tongue in the middle of the mouth. Subsequently, lower the tongue to the front of the mouth, stretch out the lips, and make a short-voiced sound with the mouth open.

Examples:

*Even /'iːvən/ *Simple /ˈsɪmpəl/

A.6 Pronunciation of Diphthongs Utterances.

Diphthongs are often labeled "gliding sounds" because the vocal cords move from one position to another during the pronunciation of the diphthong (Riza, 2021). However, to produce these sounds, the articulators perform variating changes as detailed by Dosia and Rido (2017) below:

- **Pronunciation of /ɪə/ sound**

The sound /ɪə/ is a combination of the vowels /ɪ/ and /ə/. When pronouncing the diphthong /ɪə/, the mouth moves from an unrounded shape as smiling /ɪ/ to a more relaxed shape, and, at the same time, opening the mouth a little when moving to /ə/.

Examples:

*year /jɪə/ *hear /hɪə/

- **Pronunciation of /eə/ sound**

The /eə/ sound combines/e/ and /ə/. As for the /eə/ sound, the mouth will start at the /e/ sound position and finish at the position of the /ə/ sound.

Examples:

*parent /ˈpeərənt/ *yeah /jeə/

- **Pronunciation of /əʊ/ sound**

The /əʊ/ sound is a combination of /ə/ and /ʊ/ or /u:/. When pronouncing the /əʊ/ sound, the mouth will start in the /ə/ sound position and then close a little and round up as it ends in the /ʊ/ or /u:/ sound position.

Examples:

*no /nəʊ/ *those /ðəʊz/

- **Pronunciation of /aʊ/ sound**

The /aʊ/ sound is a combination of /æ/ and /ʊ/ or /u:/. When pronouncing the /aʊ/ sound, the mouth will start in the /æ/ sound position, and then the mouth and lips close, finishing in the /ʊ/ or /u:/ sound position.

Examples:

*about /əbaʊt/ *out /aʊt/

- **Pronunciation of /ɔɪ/ sound**

The /ɔɪ/ sound is a combination of /ɔ:/ and /ɪ/ or /i:/. When pronouncing the /ɔɪ/ sound, the mouth will start in the /ɔ:/ sound position and end in the /ɪ/ or /i:/ sound position.

Examples:

*oil /ɔɪl/ *choice /tʃɔɪs/

- **Pronunciation of /eɪ/ sound**

When pronouncing the /eɪ/ sound, the mouth starts at the /e/ sound position and ends at the /ɪ/ or /i:/ sound position. In this case, both sounds are not rounded, so we keep our lips stretched as if smiling, but the mouth closes a little when moving to the /i:/ sound.

Examples:

*they /ðeɪ/ *make /meɪk/

- **Pronunciation of /ʊə/ sound**

The sound /ʊə/ is a combination of /ʊ/ and /ə/. In this case, the mouth goes from being almost closed with slightly rounded lips as if kissing someone, /ʊ/, to being slightly open with relaxed lips, /ə/.

Examples:

*during /'djʊərɪŋ/ *hour /aʊə/

- **Pronunciation of /aɪ/ sound**

The /aɪ/ sound combines/æ/ and /ɪ/ or /i:/. When pronouncing the /aɪ/ sound, the mouth will start in the /æ/ sound position, close a little, and end in the /ɪ/ or /i:/ sound position.

Examples:

*life /laɪf/ *buy /baɪ/

B. Consonants Segmental Features.

Yoshida (2014) describes consonants as sounds produced with obstacles in the mouth, creating non-smooth sounds like pops, hisses, snaps, or hums. Consonants are categorized by place of articulation, manner of articulation, and voicing/voicelessness, denoting where, how, and whether vibrations occur in sound production.

B.1 Manner of Articulation.

The manner of articulation is how the airflow is affected when it flows from the lungs and exits through the nose and mouth. Hence, there are several ways of articulation, according to Riza (2021), which are demonstrated down below:

- **Nasals:** occur when airflow through the mouth is blocked and the air is allowed to pass through the nose. They are: /m/, /n/, and /ŋ/.
- **Plosives**: occur when the vocal tract is completely closed, and the air quickly builds up pressure behind the articulators and then is released in a burst. They are: /p/, /b/, /t/, /d/, /k/, /g/, and /g/.

- **Fricatives:** involve only a partial blockage of the vocal tract so that air has to be forced through a narrow channel. They are: /s/, /z/, /ʃ/, /ʒ/, /h/, /f/, /v/, /θ/, and /ð/.
- **Affricates:** when plosive consonants are blended with fricative consonants, the result is an affricate consonant. They are: /ʧ/ and /ʤ/.
- **Approximants:** occur when two articulators come close together but not close enough to create air turbulence. They are: /r/, /j/, /w/, and /l/.

B.2 Place of Articulation.

The place of articulation refers to where constrictions and obstructions of the air occur. Similarly, Riza (2021) provided descriptions of the different places where speech organs articulate consonant sounds:

- **Bilabial:** both lips block the air to articulate coming together. They are: /p/, /b/, /m/, and /w/.
- **Labiodental:** the lower lip articulates with the upper teeth. They are: /f/ and /v/.
- **Dental:** they block/restrict air passage by sliding the tongue against the upper teeth. They are /θ/ and /ð/.
- **Alveolar:** the lamina, or top and lamina of the tongue, articulates with the alveolar ridge. They are: /t/, /d/, /s/, /z/, /n/, /l/, and /r/.
- **Postalveolar:** when the tongue blocks or constricts air passage at the point immediately posterior to the alveolar ridge. They are: /ʃ/, /ʒ/, /tʃ/, and /dʒ/.
- **Palatal:** raises the tongue toward the hard palate and constricts air passage. They are: /j/.
- **Velar:** raises the back of the tongue toward the soft palate to block or restrict air passage. They are: /k/, /g/, /w/, and /ŋ/.
- **Glottal**: are all those articulated in the glottis by the vocal cords. They are: /h/

B.3 Voicing.

- **Voiced:** voiced consonants are articulated with the vibration of the vocal cords. In English voiced consonants are: /b/, /d/, /g/, /v/, /z/, /dʒ/, /ʒ/, and /ð/ (Maulina & Wennyta, 2021).
- **Voiceless:** voiceless consonants are articulated without vibration of the vocal cords. Examples: /p/, /t/, /k/, /f/, /ʃ/, /s/, /θ/, and /tʃ/ (Maulina & Wennyta, 2021).

B.4 Pronunciation of Consonants Utterances.

"Consonants are sounds made with a lot of constriction in the mouth so that the air coming up from the lungs gets squashed" (Ambalegin & Arianto, 2018, p. 113). Nevertheless, to produce each consonant sound properly, there are movement changes in place and manner of articulation regarding the speech organs; such movements are detailed below per Rivadeneira (2018).

- **Pronunciation of /p/ sound**

To produce the sound, bring both lips together and build up some pressure in the mouth, then release it.

Examples:

*problem /'prɒbləm/ *power /ˈpaʊə/

- **Pronunciation of /b/ sound**

To produce the sound, bring both lips together and build up some pressure in the mouth, then release it while voicing out simultaneously.

Examples:

* book /bʊk/ * bad /bæd/

- **Pronunciation of /t/ sound**

To produce the sound, block the airflow by placing the tip of the tongue behind the top teeth, then release the pressure by pulling the tongue back into the mouth.

Examples:

* last /lɑːst/ *let /let/

- **Pronunciation of /d/ sound**

To produce the sound, block the airflow by placing the tongue behind the top teeth, then release the pressure by pulling the tongue back into the mouth while voicing out.

Examples:

*president /ˈprezədənt/ *already /ɔːlˈredi/

- **Pronunciation of /k/ sound**

Push the tongue forward so that the center curls up and touches the top of the mouth creating some air pressure as you try to exhale gently.

Examples:

*think /θɪŋk/ *take /teɪk/

- **Pronunciation of /g/ sound**

Use the back of the tongue to block airflow from the throat.

Examples:

*leg /leg/ *egg /eg/

- **Pronunciation of /m/ sound**

Close the lips and voice out through the nose.

Examples:

*million /mɪljən/ *mother /mʌðɚ/

- **Pronunciation of /n/ sound**

Put the tongue against the ridge just behind the top teeth so the mouth is completely blocked and voice out through the nose.

Examples:

*now /naʊ/ *need /niːd/

- **Pronunciation of /ŋ/ sound**

Curl the back of the tongue against the back of the mouth so that it completely blocks the throat and voice out through the nose.

Examples:

*sung /sʌŋ/ *rung /rʌŋ/

- **Pronunciation of /ʧ/ sound**

Lightly touch the tongue to that ridge and allow air pressure to force the tongue down, opening the airway.

Examples:

*challenge /ʧælənʤ/ *chat /ʧæt/

- **Pronunciation of /ʤ/ sound**

Lightly touch the tongue to that ridge and allow air pressure to force the tongue down while voicing out.

Examples:

*college /ˈkɒlɪʤ/ *suggest /səˈʤest/

- **Pronunciation of /f/ sound**

Rest the top teeth on the bottom lip and force air out between the teeth.

Examples:

*father /ˈfɑːðə/ *often /ˈɒfən/

- **Pronunciation of /v/ sound**

Rest the top teeth on the bottom lip and force air out between the teeth while voicing out.

Examples:

*even /’iːvən/ *never /nevə/

- **Pronunciation of /θ/ sound**

Place the tip of the tongue between the upper and lower teeth. Push air out of the mouth between the tongue and the teeth. The vocal cords do not vibrate.

Examples:

*think /θɪŋk/ * something /səmθɪŋ/

- **Pronunciation of /ð/ sound**

Place the tip of the tongue between the upper and lower teeth. Push air out of the mouth between the tongue and the teeth. The vocal cords should vibrate.

Examples:

*they /ðeɪ/ * these /ðiz/

- **Pronunciation of /s/ sound**

Lightly clench the teeth and put the tongue behind them, restricting airflow to a narrow channel over the tongue and through the teeth. Then, push air through the channel and the teeth.

Examples:

*just /dʒəst/ *first /fɜːst/

- **Pronunciation of /z/ sound**

Lightly clench the teeth and put the tongue behind them, restricting airflow to a narrow channel over the tongue and through the teeth. Then, push air through the channel and the teeth while voicing out.

Examples:

*zone /zəʊn/ *zoo /zu:/

- **Pronunciation of /ʃ/ sound**

Lightly clench the teeth and pull the tongue away from them. Then, push air through them.

Examples:

*show /ʃəʊ/ *push /pʊʃ/

- **Pronunciation of /ʒ/ sound**

Lightly clench the teeth and pull the tongue away from them. Then, push air through them while voicing out.

Examples:

*pleasure /pleʒə/ *conclusion /kənklu:ʒən/

- **Pronunciation of /h/ sound**

Constrict the throat and breathe through the mouth. The shape of the mouth does not matter as much.

Examples:

*whole /həʊl/ *who /hu:/

- **Pronunciation of /j/ sound**

Lift the sides of the tongue to the roof of the mouth and deliver the voice through the mouth while lowering the back of the tongue. To begin with, the center and front of the tongue should touch the roof of the mouth. Then, emit the voice outward and move the tongue away from the roof of the mouth.

Examples:

*you /ju:/ *year /jɪə/

- **Pronunciation of /l/ sound**

Press the tip of the tongue against the back of the upper teeth and voice out through the mouth.

Examples:

*later /ˈleɪtə/ *laugh /lɑ:f/

- **Pronunciation of /r/ sound**

Curve the tongue close to the roof of the mouth and stick the voice out of the mouth. The tongue should be behind the small ridge behind the teeth but not touching any part of the mouth.

Examples:

*very /’veri:/ *three /’θri:/

- **Pronunciation of /w/ sound**

Purse the lips, raise the back of the tongue near the roof of your mouth, and voice out.

Examples:

*what /wɒt/ *work /wɜ:k/

2.2.2.2.4 Importance of Pronunciation in ELT.

Pronunciation has regained its importance in foreign language learning. However, even though the communicative approach enhances oral communication, the expected learning results are not obtained because teachers still do not integrate pronunciation into their classes (Bartolí, 2005). As Viciedo (2008) explains, "the didactics of pronunciation suffer from two things: an overdependence on written language and being the Cinderella of communicative foreign language teaching" (p. 105). Furthermore, Rolo (2018) indicates that teachers still consider working on pronunciation in the classroom unnecessary. This, in one way or another, creates obstacles to students' learning, as we know that to achieve meaningful learning, all skills must be taught equally and have equal importance in the educational area.

2.2.2.2.5 Reasons for Mispronunciation in Students.

In English, some topics have greater pronunciation difficulty and need more practice and emphasis in their teaching to achieve the communicative objective. Furthermore, pronunciation in the classroom needs to be addressed because teachers need a solid command of specific concepts and techniques to put them into practice (Underhill, 2011). Another

reason is that students need more pronunciation teaching during class, which may be due to the deficient methodology applied by teachers (Ali Khan, 2019). Besides, English has different phonological rules; some phonemes, such as silent letters, are not pronounced in some environments.

Another factor regarding pronunciation difficulties is the interference of the student's mother tongue (Sekarsarimurti, 2019). These and many other factors make the teaching and practice of pronunciation challenging for both teachers and students. However, despite all the barriers, the teaching role must try to improve and overcome this problem through strategies and activities adapted to the student's needs.

2.2.3 ESA (Engage, Study, Activate) Methodology for Teaching Pronunciation

The research study employed Harmer's (2007) Engage, Study, and Activate (ESA) teaching methodology, chosen for its efficacy in sparking student interest, curiosity, and emotional engagement in learning (Arifani et al., 2020). Particularly suited for teaching challenging pronunciation skills, the ESA method comprises three crucial stages: Engage, Study, and Activate. In the Engage stage, teachers employ strategies like gamification and warm-up activities to capture students' attention and ignite curiosity (Fithria & Ratmanida, 2019). The Study stage focuses on providing learning spaces for language building, including grammar, vocabulary, and pronunciation. Finally, the Activate stage encourages students to use language freely through communicative activities such as debates, games, role-plays, and creative tasks.

Feedback is integral to this model, allowing instructors to assess the effectiveness of the teaching and learning process. It's emphasized that customization of each stage is essential, considering factors like age, student needs, knowledge level, and subject matter. The ESA methodology, with its dynamic approach and adaptability, proves to be a valuable pedagogical tool for enhancing language learning experiences.

CHAPTER III

3. METHODOLOGY

3.1 Paradigm

This research study is grounded in two pivotal philosophical paradigms: the positivist and constructivist paradigms, with a focus on enhancing pronunciation through IPA chart-based teaching. The positivist paradigm, emphasizing observation and reason, considers experience as vital in education (Kaboub, 2008). The study aligns with this paradigm's quantitative approach, employing the hypothetico-deductive scientific method to validate hypotheses through experimentation. Park et al. (2020) highlights the importance of this paradigm in advancing scientific knowledge by defining variables and measures operationally.

The research, rooted in the positivist paradigm, employs statistical methods to test hypotheses and generate formal theory from experimental outcomes. Numerical and quantifiable data were obtained through pre- and post-tests conducted before and after the treatment, providing a structured approach to measuring the impact of IPA-based teaching on pronunciation improvement.

Simultaneously, the constructivist paradigm plays a crucial role, empowering students to take responsibility for their language learning. The study integrates the ESA teaching method in phonics lessons to teach various phonemes of the IPA chart. Activities and strategies based on IPA are employed to enhance pronunciation, providing students with multiple opportunities for practice during class hours. The constructivist paradigm is evident in encouraging student responsibility through non-compulsory assignments and homework.

These two paradigms collaboratively guide the research, with the pre-test revealing students' knowledge and pronunciation levels in IPA phonemes. Phonics lessons are then tailored to address identified gaps, emphasizing the constructivist approach of active student

engagement in the learning process. Overall, the study presents a comprehensive methodology that combines the structured experimentation of the positivist paradigm with the student-centric principles of the constructivist paradigm to investigate and improve pronunciation through IPA-based teaching.

3.2 Research Design

This research adopts a quantitative approach, collecting and analyzing quantitative data based on study variables in both pre- and post-tests. The research design follows a quasi-experimental approach, as explained by Bono (2012), which aims to establish a causal relationship between dependent and independent variables, estimating the impact of treatment or intervention. Unlike true experimental designs, quasi-experimental designs don't involve random participant selection and may not require a mandatory control group, as argued by Privitera and Delzell (2019) and Rogers and Revesz (2019).

The study population consists of 34 individuals, from which a specific sample of 28 students is selected through a sampling methodology. These students have expressed their commitment and acceptance to participate in the research. Notably, in this quasi-experimental design, the treatment group essentially serves as its own control, comparing the "before" and "after" aspects of the study. This approach allows for the examination of the intervention's impact without the necessity of a separate control group. The research methodology thus combines quantitative analysis with a quasi-experimental design, using a selected sample from the total population to investigate the causal relationship between variables and measure the effects of the implemented treatment.

3.3 Instruments and Process of Data Collection

This quantitative study used surveys and implementation as the primary data collection methods. As data collection techniques, first, we conducted a pre-test, which was applied to each participant. Inside this, the pronunciation of 44 isolated words corresponding

to each phoneme of the IPA chart was evaluated individually. Afterward, and considering the results, we conducted a treatment with IPA-based phonetics lessons. At the end of the implementation, a post-test was conducted with the same content as the pre-test.

According to the chosen techniques, audio recordings of each student and a rubric were used for the pre-test and post-test. In addition, it is essential to mention that all the information collected was confidential and private and that, in this way, we could find out whether our hypothesis was valid or null.

3.4 Setting of the Study and Research Participants

This research took place at a university in Azogues, UNAE, specifically in an English class at level IV of the Language Center. The population consisted of 28 students (3 boys and 25 girls) who were approximately 20-26 years old. It is worth mentioning that these students already possess a B1 English proficiency level according to the Common European Framework of Reference for Languages (CEFR). In addition, this population belongs to the Mestiza culture and is in a middle-class socioeconomic situation.

3.5 Stages or Steps of the Research

This treatment lasted six weeks with two weekly interventions, which resulted in 12 interventions. The following table provides the different lessons, topics, and activities applied in the different classes.

Table 1

Treatment Chart

Pre-test	Pronunciation Test	Pronunciation Rubric
1	**Pronunciation** in general, process, and importance	• Warm-up: *Odd one out* • Explicit teaching • Competition Game: *"Slap the phoneme"*
6 classes	**CONSONANTS:** Manner of articulation/ place of articulation/voicing	

2	**Plosives**: /p/-/b/-/t/-/d/-/k/-/g/	• Warm-up activity-Tongue twister: *Peter Piper* • Explicit teaching • Closing activity: *Sentence creation*
3	**Nasals:** /m/-/n/-/ŋ/	• Warm-up: *Raise your mini magic boards* • Explicit teaching • Competition game: *board game*
4	**Affricates:** /ʧ/-/ʤ/	• Warm-up: *Pronunciation bingo* • Explicit teaching • Game: *My Right/Left phoneme*
5	**Fricatives:** /f/-/v/-/θ/-/ð/	• Warm-up: *How many words do you remember?* • Explicit teaching • Closing activity: *Story building.*
6	**Fricatives:** /s/-/z/-/ʃ/-/ʒ/-/h/	• Warm-up activity: *my ship is full of* • Explicit teaching • Competition game: *Which One Doesn't Belong?*
7	**Approximants:** /r/-/j/-/w/-/l/	• Warm-up: *The broken phone* • Explicit Teaching • Competitive Game: *Who knows, knows.*
2 classes	VOWELS: stability of articulation/tongue position/lip position/vowel length.	
8	/iː/-/ɪ/-/ʊ/-/uː/-/e/-/ə/	• Warm-up activity: *Write as many words as possible.* • Explicit teaching • Closing activity: *Dialogues performance*
9	/ɜː/-/ɔː/-/æ/-/ʌ/-/aː/-/ɒ/	• Warm-up activity: sing sing and sing. • Explicit Teaching • Competition Game: *Sound Snowball Fight*
2 classes	DIPHTHONGS: stability of articulation/tongue position/lip position/vowel length.	
10	/ɪə/-/eə/-/əʊ/-/aʊ/	• Warm-up: *Guess the word* • Explicit Teaching • Competitive Game: *Diphthongs race*
11	/ɪə/-/eə/-/əʊ/-/aʊ/	• Warmer: *Magic board* • Explicit teaching

		• Closing activity-Board game: *Tic-Tac-Toe*
12	All the phonemes	• Warm-up activity: phoneme riddles • Summary of explicit teaching • Competition Game: *Red or Yellow Team*
Post-test	Pronunciation Test	Pronunciation rubric

Elaborated by Carabajo, Chimbo, Ruiz (2024)

3.6 Operation of Variables

3.6.1 Operationalization of the Independent Variable

Table 2

Operationalization of the Independent Variable

Independent Variable	IPA CHART
Conceptual Definition	The International Phonetic Alphabet (IPA) is a set of phonetic symbols designed to represent speech sounds of languages of the world (Suryaleksana et al., 2022). It is written using Latin script and is defined as the standard sound representation of oral language. Moreover, IPA intends to make people avoid the mistakes produced in spoken language by confusing the spelling of words (Riza, 2020).
Operational Definition	The IPA table is a system of transcribing speech sounds, meaning a symbol represents a single sound (phoneme). It provides a defined visual symbol for each sound when heard. Likewise, it is intended to help learners understand ESL pronunciation and phonetics clearly and straightforwardly.
Dimensions	• Individual Sounds and Phonemic Transcription of the Phonemic Chart • Lessons
Indicators	• Vowel symbols and their sounds. • Consonant symbols and their sounds.

	• Diphthong symbols and their sounds.
Techniques	• **Implementation:** Phonetic method-based teaching
Item/Instrument	• **12 Lesson Plans** **1) Pronunciation** in general **2) Plosives**: /p/-/b/-/t/-/d/-/k/-/g/ **3) Nasals:** /m/-/n/-/ŋ/ **4) Affricates:** /ʧ/-/ʤ/ **5) Fricatives:** /f/-/v/-/θ/-/ð/ **6) Fricatives:** /s/-/z/-/ʃ/-/ ʒ/-/h/ **7) Approximants:** /r/-/j/-/w/-/l/ **8) Vowels:** /iː/-/ɪ/-/ʊ/-/uː/-/e/-/ə/ **9) Vowels:** /ɜː/-/ɔː/-/æ/-/ʌ/-/aː/-/ɒ/ **10) Diphthongs:** /ɪə/-/eə/-/əʊ/-/aʊ/ **11) Diphthongs:**/eɪ/-/aɪ/-/ɔɪ/ **12) All the phonemes**

Elaborated by Carabajo, Chimbo, Ruiz (2024)

3.6.2 Operationalization of the Dependent Variable

Table 3

Operationalization of the Dependent Variable

Dependent Variable	PRONUNCIATION
Conceptual Definition	Sahatsathatsana (2017) stated that pronunciation is the area that is responsible for producing the sounds through which meaning is expressed. It encompasses sub-areas such as segments, suprasegmental, and voice quality.
Operational Definition	Pronunciation is a crucial language skill, involving the clear articulation of sounds through speech organs to enable effective communication. It ensures the speaker's message is fully understood, promoting intelligibility in oral interactions between speaker and listener.
Dimensions	**Phonemes** • Vowels • Diphthongs • Consonants
Indicators	• Phoneme sounds • Vowel pronunciation • Consonant pronunciation

	• Diphthongs pronunciation • Place of articulation • Manner of articulation • Voiced/voiceless sounds • Stability of articulation/ • Tongue position • Lip position • Vowel length.
Techniques	Survey
Item/Instrument	**Pre-test** • Question 1 • Question 2 • Question 3 **Post-test** • Question 1 • Question 2 • Question 3

Elaborated by Carabajo, Chimbo, Ruiz (2024)

3.7 Treatment

3.7.1 Teaching Pronunciation with the Power of IPA

3.7.1.1 Objective.

This treatment application aimed to teach the correct pronunciation of vowels, diphthongs, and consonants using the IPA chart. By introducing the students to lessons on the different phonemes, they were able to have enriching experiences to practice, learn, and improve their English pronunciation.

3.7.1.2 Introduction.

English, being a globally spoken language, is a crucial subject, yet learners often encounter challenges, with pronunciation being the most complex skill (Djurayeva, 2021). The teacher plays a vital role in addressing these issues, employing various strategies to facilitate meaningful learning environments. The IPA chart emerges as a valuable tool for enhancing pronunciation, recommended by Fadli et al. (2021) for transcribing sounds and bolstering confidence by minimizing individual differences in phoneme production.

In response to these challenges, the text outlines a six-week intervention incorporating two weekly sessions, totaling 12 interventions. The teaching approach revolves around the IPA chart, utilizing the ESA method (Engage, study, and activate) to structure lessons, making them more meaningful for students. Additionally, gamification strategies, warm-ups, and competitive activities are integrated to teach and practice phonetics effectively.

The study's focus is reflected in the tables below detailing the different lessons, topics, and activities implemented during the intervention. By employing these methodologies and focusing on pronunciation improvement, the teacher aims to guide learners toward realizing their full linguistic potential. This holistic approach acknowledges the multifaceted nature of English language education and emphasizes the importance of tailored instruction to address individual needs and foster progress.

3.7.1.3 Implementation Proposal.

(Class 1st)

Subject/Course: English Pronunciation Class	**Name:** Marilyn Carabajo, Dennis Chimbo, and Veronica Ruiz
Grade Level: English Vl	**Date(s) & Time(s):** November 24 (From 10:00 am to 10:30 am)
Topic: *Pronunciation, Pronunciation Importance and IPA Chart.*	**Length of Lesson:** 30 minutes

Lesson aim:

- To explain the process and the importance of studying and practicing the pronunciation with the IPA Chart.

Content:

- Warm-up activity: *Odd one out*
- Explicit teaching (Canva)
- Competition Game: *"Slap the phoneme"*

Learning Skills

Skill(s): Listening, speaking, and pronunciation

Learning outcome:

- Students will be able to understand what pronunciation is and its importance.
- Students will be able to learn what is the IPA chart and its different sections.

Resources:

- Whiteboard
- Internet
- Projector
- Canva Presentation

Materials:

- Notebooks
- Markers
- Candies

TEACHING/LEARNING SEQUENCE

A. Engage: Warm-up activity (*Odd one out*)

1. The students will see a group of 4 words, in which 3 of them are going to have the same phoneme sound and just one is going to be different.
2. The students are going to pronounce the words and will try to identify the intruder.
3. The teacher will let students participate.
4. Then, the student who says the correct answer will win a candy.

B. Study: IPA Explanation

1. Explain
2. What is Pronunciation?

3. The Pronunciation Process
4. The Importance of a good pronunciation
5. The IPA Chart

C. Activate: Competition Game *(Slap the phoneme)*

1. Teacher gives a brief introduction to two different phonemes: /t/ /k/
2. Then, students will be divided into 4 different teams.
3. The teacher is going to tell different words using the phonemes.
4. The students are going to slap the phoneme sound they listen in that word.
5. The team which has more points wins.

(Class 2nd)

Subject/Course: English Pronunciation Class	**Name:** Marilyn Carabajo, Dennis Chimbo, and Veronica Ruiz
Grade Level: English Vl	**Date(s) & Time(s):** November 27 (From 10:00 am to 10:30 am)
Topic: *Plosive Sounds*	**Length of Lesson:** 30 minutes

Lesson aim:

- To improve the students' ability to identify and produce plosive sounds properly.

Content:

- Warm-up activity (Tongue Twister)
- Pronunciation of consonant sounds – Plosive sounds (/p/-/b/-/t/-/d/-/k/-/g/)
- Closing activity (Sentences creation)

Learning Skills

Skill(s): Listening, speaking, and pronunciation

Learning outcome:

- Students will be able to pronounce correctly the words that contain plosive sounds.
- Students will understand the manner and place of articulation of plosive phonemes.

Resources:

- Internet Access
- Projector
- Computer
- Canva presentation
- Whiteboard

Materials:

- Notebooks
- Markers
- Pens/Pencils

TEACHING/LEARNING SEQUENCE

A. Engage: Warm-up activity (Tongue Twister)

1. Tt will show a tongue twister.
2. Tt will give instructions about the activity.
3. Tt will model the activity by reading the tongue twister.
4. Tt will ask for volunteers (or select randomly) to read the tongue twister.
5. Students have to read the tongue twister aloud.

B. Study: **Explanations and Drilling**

1. Explanations
2. What are Plosives?
3. How are they pronounced?
4. The pronunciation of the following plosives: (/p/-/b/-/t/-/d/-/k/-/g/)
5. Modeling & Drilling

C. Activate: Sentence creation/peer feedback

1. Sentences creation / peer evaluation
2. Ss joined in groups of 3 students.
3. Tt explains the instructions.
4. Usage of ICQs, students have to work together during 5 minutes.
5. Ss have to create as many sentences as possible using words containing the taught phonemes.
6. After 5 minutes are out, Ss switch their notebooks with another group to provide peer-evaluation and feedback.

(Class 3rd)

Subject/Course: English Pronunciation Class	**Name:** Marilyn Carabajo, Dennis Chimbo, and Veronica Ruiz
Grade Level: English Vl	**Date(s) & Time(s):** December 4 (From 10:00 am to 10:30 am)
Topic: *Nasals Sounds*	**Length of Lesson:** 30 minutes

Lesson aim:

- To introduce the students into the IPA nasal sounds to improve English pronunciation.

Content:

- Warm-up activity: *Magic Mini board*
- Explicit teaching (Canva)
- Competition Game: *"Board game"*

Learning Skills

Skill(s): **Listening, speaking, and pronunciation**

Learning outcome:

- Students will be able to pronounce the nasal sounds correctly.

- Students will understand the manner and place of articulation.
- Students will be able to write some words in their phonetic form.

Resources:

- Whiteboard
- Internet
- Projector
- Canva Presentation

Materials:

- Notebooks
- Markers
- Candies
- Nicknames
- Magic boards
- Board game

TEACHING/LEARNING SEQUENCE

A. Engage: Warm-up activity (*Magic Mini board*)

1. The teacher will divide the class in groups of 3 students.
2. Each group will have a name.
3. The teacher will give a mini magic board to each group.
4. The teacher will show as a presentation mode a word pointing out phonemes learnt from the last lesson.
5. Then, the students have to write on the mini-board the letter pointed out but in its phonetic form.
6. Students must communicate among themselves to provide the correct written form of the letter.
7. The group with the most points will win candies.

B. Study: **IPA Explanation**

1. What are Nasal Sounds?
2. How are they pronounced?
3. Explain the manner of articulation, place of articulation, and voicing of nasal sounds.
4. The pronunciation of the three nasal sounds affricatives: /m/-/n/-/ŋ/
5. Modeling & Drilling

C. Activate: Competition Game *(Board Game)*

1. Ss joined in groups of 3
2. Tt gives a worksheet to each group.
3. Tts instructs each group to take turns rolling the dice and moving their game piece along the board.
4. When a player lands on a designated space, they must read or write the phoneme correctly and identify if it is voiced or voiceless.
5. If answered correctly, the player can progress on the board. If answered incorrectly, the player remains in the same position or moves back.
6. Encourage group discussions and collaboration to determine the correct answer.
7. The winner of each group wins extra points.

(Class 4th)

Subject/Course: English Pronunciation Class	**Name:** Marilyn Carabajo, Dennis Chimbo, and Veronica Ruiz
Grade Level: English Vl	**Date(s) & Time(s):** December 8 (From 10:00 am to 10:30 am)
Topic: *Affricatives*	**Length of Lesson:** 30 minutes

Lesson aim:

- To introduce the students into the IPA affricatives sounds to improve their English pronunciation.

Content:

- Warm-up activity: *Pronunciation Bingo*
- Explicit teaching (Canva)
- Competition Game: *My Right/Left phoneme*

Learning Skills

Skill(s): **Listening, speaking, and pronunciation**

Learning outcome:

- Students will be able to learn the affricative phonemes and its characteristics.
- Students will be able to identify the affricative sounds in words.
- Students will be able to pronounce the affricative phonemes while reading some words correctly.

Resources:

- Whiteboard
- Internet
- Projector
- Canva Presentation

Materials:

- Notebooks
- Markers
- Roulette
- Bingo Cards

TEACHING/LEARNING SEQUENCE

A. Engage: Warm-up activity (*Pronunciation Bingo*)

1. The teacher gives the students the bingo cards.
2. The students play bingo in groups of three.
3. The teacher spins the roulette.
4. Then, the students listen to the words and mark the words they heard.
5. The group that completes the table screams *"Bingo!"*
6. Finally, the teacher prizes the group who wins.

B. Study: **IPA Explanation**

1. Explain

2. What are Affricatives?
3. How are they pronounced?
4. The pronunciation of the two affricatives: /ʧ/-/ʤ/
5. Modeling & Drilling

C. Activate: Competition Game *(My left/right phoneme)*

1. Teacher gives the instructions.
2. Then, students will do a column.
3. The teacher is going to say different words which have the affricative phonemes.
4. The students are going to jump to their right/left side according to the word they listened to.

(Class 5th)

Subject/Course: English Pronunciation Class	**Name:** Marilyn Carabajo, Dennis Chimbo, and Veronica Ruiz
Grade Level: English Vl	**Date(s) & Time(s):** December 11 (From 10:00 am to 10:30 am)
Topic: *Fricative Sounds*	**Length of Lesson:** 30 minutes

Lesson aim:

- To improve the students' ability to identify and produce fricative sounds properly.

Content:

- Warm-up activity (How many words do you remember?)
- Pronunciation of consonant sounds – Fricative sounds (/f/-/v/-/θ/-/ð/)
- Closing activity (Story building)

Learning Skills

Skill(s): **Listening, speaking, and pronunciation**

Learning outcome:

- Students will be able to pronounce correctly the words that contain Fricative sounds.
- Students will understand the manner and place of articulation of fricative phonemes.

Resources:

- Internet Access
- Projector
- Computer
- Canva presentation
- Whiteboard

Materials:

- Notebooks
- Markers
- Pens/Pencils
- Worksheet
- Piece of paper

TEACHING/LEARNING SEQUENCE

A. Engage: Warm-up activity (How many words do you remember?)

1. Tt will divide the class into groups of 3 students, and assign a number to each team.
2. Tt will ask groups to take a piece of paper and a pen/pencil
3. Tt will explain and give instructions about the activity.
4. Tt will take a list of words (10 words already written).
5. Tt will read aloud those words, so all groups hear. Students only have to listen and remember as many words as possible. Tt will read aloud twice.
6. After Tt finishes reading the words for the class, students have to recall those words and written them on the paper.

B. Study: **Explanation and drilling**

1. Explanations
2. What are Fricatives?
3. How are they pronounced?
4. The pronunciation of the following fricatives: (/f/-/v/-/θ/-/ð/)
5. Modeling & Drilling

C. Activate:

1. Students work in groups with a worksheet containing a list of words students have to use in their story building.
2. Tt shows and explains instructions.
3. Ss have to create any type of story using words from the list. Ex. **F**ace, wi**th**, etc. They have 5 minutes.
4. After students finish, Tt asks the groups to read their stories aloud.
5. Students have to identify pronunciation mistakes from their peers and share it with the groups.
6. Teacher provides feedback (if necessary).

(Class 6th)

Subject/Course: English Pronunciation Class	**Name:** Marilyn Carabajo, Dennis Chimbo, and Veronica Ruiz
Grade Level: English Vl	**Date(s) & Time(s):** January 5 (From 10:00 am to 10:30 am)
Topic: *Fricatives*	**Length of Lesson:** 30 minutes

Lesson aim:

- To introduce the students into the IPA fricatives sounds to improve their English pronunciation.

Content:

- Warm-up activity: *My ship is full of …*
- Explicit teaching (Canva)
- Competition Game: *Which One Doesn't Belong?*

Learning Skills
Skill(s): **Listening, speaking, and pronunciation**

Learning outcome:
- Students will be able to learn the fricative phonemes and its characteristics.
- Students will be able to identify the fricative sounds in words.
- Students will be able to pronounce correctly the fricative phonemes while reading some words.

Resources:
- Whiteboard
- Internet
- Projector
- Canva Presentation

Materials:
- Notebooks
- Markers
- Chocolates
- Nicknames
- Set of words

TEACHING/LEARNING SEQUENCE

A. Engage: Warm-up activity (*My ship is full of …*)
1. The teacher divides the class into two groups.
2. The teacher projects a ship that says: my ship is full of ... and each time a different phoneme appears from the ones reviewed in the previous class: /f/-/v/-/θ/-/ð/
3. Each time a phoneme appears, the students in each group have to write on the board as many words as they can that have that phoneme for 1 minute.
4. The teacher makes 4 rounds
5. The group that has won the most rounds wins the prize: chocolates.

B. Study: **IPA Explanation**
1. Explain
2. What are fricatives?
3. How are they pronounced?
4. Explain the manner of articulation, place of articulation, and voicing of fricatives sounds.
5. The pronunciation of the 4 fricatives: /f/-/v/-/θ/-/ð/
6. Modeling & Drilling

C. Activate: Competition Game *(Which One Doesn't Belong?)*
1. The teacher asks the students to divide into 4 equal groups.
2. The teacher gives a sheet with a set of words to the last student.
3. The last student has to start by choosing from the first set the word that does not correspond to the set of phonemes learnt in that class and pass the sheet to the next student.
4. Each student in each column has to choose a set and choose the word.
5. The column that finishes first is played and the correct answers are checked.
6. The column with the most correct answers wins the game: Extra points.

(Class 7th)

Subject/Course: English Pronunciation Class	**Name:** Marilyn Carabajo, Dennis Chimbo, and Veronica Ruiz
Grade Level: English Vl	**Date(s) & Time(s):** December _ (From 10:00 am to 10:30 am)
Topic: *Approximants*	**Length of Lesson:** 30 minutes

Lesson aim:

- To introduce the students into the IPA approximants sounds to improve their English pronunciation.

Content:

- Warm-up activity: *The broken phone*
- Explicit teaching (Canva)
- Competition Game: *Who knows, knows…*

Learning Skills

Skill(s): **Listening, speaking, and pronunciation.**

Learning outcome:

- Students will be able to learn the approximants phonemes and their characteristics.
- Students will be able to identify the approximants sounds in words.
- Students will be able to pronounce the approximants phonemes while reading some words correctly.

Resources:

- Whiteboard
- Internet
- Projector
- Canva Presentation

Materials:

- Notebooks
- Markers
- Red button
- Sticks (red and green)

TEACHING/LEARNING SEQUENCE

A. Engage: Warm-up activity (*The broken telephone*)

1. The teacher creates 2 groups.
2. Each group organizes itself in row forms.
3. The teacher will say a phrase to the student at the back, and he/she has to pass the message to the person in the front.
4. The teacher and students can only say the message twice; students have to whisper and not yell.
5. The group that gets most of the phrases right will be the winner.

B. Study: **IPA Explanation**

1. Explain

2. What are Approximants?
3. How are they pronounced?
4. The pronunciation of the following approximants: /r/-/j/-/w/-/l/
5. Modeling & Drilling

C. Activate: Competition Game *(Who knows, knows…)*

1. Teacher assigns each student a color, red or green.
2. The class is divided into 2 main groups.
3. The students who are the head of each group will press the big red button.
4. The first student who presses the button first should pronounce the word and the phoneme correctly in order to win the point.

(Class 8th)

Subject/Course: English Pronunciation Class	**Name:** Marilyn Carabajo, Dennis Chimbo, and Veronica Ruiz
Grade Level: English Vl	**Date(s) & Time(s):** January 8 (From 10:00 am to 10:30 am)
Topic: *Vowel Sounds – Short and long pronunciation*	**Length of Lesson:** 30 minutes

Lesson aim:

- To improve the students' ability to identify and produce short and long vowel sounds properly.

Content:

- Warm-up activity (Write as many words as possible)
- Pronunciation of vowel sounds – Short and long vowels (/iː/-/ɪ/-/ʊ/-/uː/-/e/-/ə/)
- Closing activity (Performing dialogues)

Learning Skills

Skill(s): **Listening, speaking, and pronunciation**

Learning outcome:

- Students will be able to pronounce correctly the words that contain short and long vowel sounds at the time of speaking.
- Students will understand the stability of articulation, tongue position, lip position, and vowel length of vowel sounds.

Resources:

- Internet Access
- Projector
- Computer
- Canva presentation
- Whiteboard

Materials:

- Markers

- Pens/Pencils
- Puppets
- Images and pictures

TEACHING/LEARNING SEQUENCE

A. Engage: Warm-up activity (Write as many words as possible)

1. Tt divides the class into 3 groups creating a line/row.
2. Tt gives instructions. ICQs usage.
3. Tt gives a marker to the first person in the line.
4. Tt will assign each group a specific phoneme reviewed last class. Ex: Group 1-/R/. Group 2-/J/. Group 3-/W/.
5. Students write as many words containing their phoneme as possible during 4 minutes.
6. After 4 minutes, Ts and Ss check the words to give feedback.

B. Study: **Explanation and drilling**

1. Explanations
2. Explain the stability of articulation, tongue position, lip position and vowel length of each vowel sound.
3. The pronunciation of the following vowels: (/iː/-/ɪ/-/ʊ/-/uː/-/e/-/ə/)
4. Modeling & Drilling

C. Activate:

1. Tt takes 2 puppets to perform a short dialogue, modeling the activity.
2. The teacher carries out the dialogue with word containing phonemes already taught.
3. Tt performs twice alone, and lets students participate and get involved in the activity.
4. Tt plays one role, and ask all students to play the other role, so the class interacts with the teacher.
5. Tt selects 2 students to perform the dialogue. Tt provides feedback if necessary.
6. Tt divides the class into groups and gives roles to each student to dialogue.

(Class 9th)

Subject/Course: English Pronunciation Class	**Name:** Marilyn Carabajo, Dennis Chimbo, and Veronica Ruiz
Grade Level: English Vl	**Date(s) & Time(s):** January 15 (From 10:00 am to 10:30 am)
Topic: *Vowels /ɜː/-/ɔː/-/æ/-/ʌ/-/aː/-/ɒ/*	**Length of Lesson:** 30 minutes

Lesson aim:

- To introduce the students into the IPA vowel sounds to improve their English pronunciation.

Content:

- Warm-up activity: *Sing, sing, and sing*
- Explicit teaching (Canva)
- Competition Game: *Sound Snowball Fight…*

Learning Skills
Skill(s): **Listening, speaking, and pronunciation.**

Learning outcome:
- Students will be able to learn the vowel phonemes and its characteristics.
- Students will be able to identify the vowel sounds in words.
- Students will be able to pronounce the vowel phonemes while reading some words.

Resources:
- Whiteboard
- Internet
- Projector
- Canva Presentation

Materials:
- Notebooks
- Markers
- Cookies
- Nicknames
- Sound Snowballs

TEACHING/LEARNING SEQUENCE

A. Engage: Warm-up activity (*Sing, sing, and sing*)
1. The teacher projects parts of songs containing the phonemes learnt in the last lesson: /iː/ /ɪ/ /ʊ/ /uː/ /e/ /ə/.
2. Students sing 2 times each part while practicing as a whole class.

B. Study: **IPA Explanation**
1. Explain
2. What are Vowels?
3. How are they pronounced?
4. Explain the stability of articulation, tongue position, lip position and vowel length of each vowel sound.
5. The pronunciation of the following vowels: /ɜː/-/ɔː/-/æ/-/ʌ/-/ɑː/-/ɒ/
6. Modeling & Drilling

C. Activate: Competition Game *(Sound Snowball Fight)*
1. The teacher stands with his or her back turned and throws an audible snowball at the students.
2. The snowball contains a specific instruction for the student to do, answer or write.
3. The teacher repeats the same activity until all the sound snowballs are finished.
4. The student who answers correctly earns a cookie.

(Class 10th)

Subject/Course: English Pronunciation Class	**Name:** Marilyn Carabajo, Dennis Chimbo, and Veronica Ruiz

Grade Level: English Vl	**Date(s) & Time(s):** December _ (From 10:00 am to 10:30 am)
Topic: Diphthongs (/ɪə/-/eə/-/əʊ/-/aʊ/)	**Length of Lesson:** 30 minutes

Lesson aim:

- To introduce the students into the IPA diphthongs sounds to improve their English pronunciation.

Content:

- Warm-up activity: *Guess the word*
- Explicit teaching (Canva)
- Competition Game: *Diphthongs Race*

Learning Skills

Skill(s): **Listening, speaking, and pronunciation.**

Learning outcome:

- Students will be able to learn the diphthongs and its characteristics.
- Students will be able to identify the diphthongs sounds in words.
- Students will be able to pronounce correctly diphthongs while reading some words.

Resources:

- Whiteboard
- Internet
- Projector
- Canva Presentation

Materials:

- Notebooks
- Markers
- Flashcards

TEACHING/LEARNING SEQUENCE

A. Engage: Warm-up activity (*Guess the word*)

1. The teacher gives the instructions
2. The students look and read the word written in phonetic transcription.
3. The teacher asks: what is the word?
4. The students try to guess
5. The student that guesses the word wins 1 point.

B. Study: **IPA Explanation**

1. Explain
2. What are Diphthongs?
3. How are they pronounced?
4. The pronunciation of the following diphthongs: **(**/ɪə/-/eə/-/əʊ/-/aʊ/)
5. Modeling & Drilling

C. Activate: Competition Game *(Diphthongs Race)*

1. The teacher divides the class into two groups.

2. The 2 teams are going to have a packet of flashcards.
3. The students are going to organize and collocate the flashcards according to the diphthong each word has.
4. The group who has all the words correct in every column wins.

(Class 11th)

Subject/Course: English Pronunciation Class	**Name:** Marilyn Carabajo, Dennis Chimbo, and Veronica Ruiz
Grade Level: English Vl	**Date(s) & Time(s):** January 19 (From 10:00 am to 10:30 am)
Topic: *Diphthong Sounds*	**Length of Lesson:** 30 minutes

Lesson aim:
- To improve the students' ability to identify and produce diphthong sounds properly.

Content:
- Warm-up activity (Magic board)
- Pronunciation of consonant sounds – Diphthong sounds (/eɪ/-/aɪ/-/ɔɪ/)
- Closing activity (Tic-Tac-Toe)

Learning Skills
Skill(s): **Listening, speaking, and pronunciation**

Learning outcome:
- Students will be able to pronounce correctly the words that contain diphthong sounds.
- Students will understand the composition and articulation of diphthong phonemes.

Resources:
- Internet Access
- Projector
- Computer
- Canva presentation
- Whiteboard

Materials:
- Markers
- Pens/Pencils
- Worksheet
- Magic boards

TEACHING/LEARNING SEQUENCE

A. Engage: Warm-up activity (Magic board)

1. Ss in groups of 3 students, and each one has a number.

2. Tt hands each group a magic board and a marker.
3. Instruction's presentation. ICQs usage.
4. Tt has a list of diphthong words.
5. Tt pronounces 7 words aloud, and Ss have to draw the phoneme symbol on their magic boards. Ex: D**a**y - /**eɪ**/.
6. The group that first raises their hands, and if it is correct, earns a point.

B. Study: **Explanation and drilling**

1. Explanations
2. Explain the stability of articulation, tongue position, lip position and vowel length of each vowel sound.
3. The pronunciation of the following vowels: (/eɪ/-/aɪ/-/ɔɪ/)
4. Modeling & Drilling

C. Activate: Tic-Tac-Toe

1. Creation of pairs in the class.
2. Tt hands all the groups a worksheet, Tic-Tac-Toe chart, along with a totem for each student.
3. Instructions' provision. ICQs usage.
4. After confirming students understood the game, Tt starts it.

(Class 12th)

Subject/Course: English Pronunciation Class	**Name:** Marilyn Carabajo, Dennis Chimbo, and Veronica Ruiz
Grade Level: English Vl	**Date(s) & Time(s):** January 26 (From 10:00 am to 10:30 am)
Topic: ***All the phonemes***	**Length of Lesson:** 30 minutes

Lesson aim:

- To allow students to practice all the IPA chart phonemes learnt to improve their English pronunciation.

Content:

- Warm-up activity: *Phoneme riddles*
- Summary of explicit teaching (Canva)
- Competition Game: *Red or Yellow Team*

Learning Skills

Skill(s): **Listening, speaking, and pronunciation.**

Learning outcome:

- Students will be able to remember the vowels, diphthongs and consonants and their characteristics.
- Students will be able to identify the vowels, diphthongs, and consonant sounds in words.
- Students will be able to pronounce correctly the vowels, diphthongs, and consonants while reading some words.

Resources:

- Whiteboard

- Internet
- Projector
- Canva Presentation

Materials:

- Notebooks
- Markers
- Flashcards
- Chocolates
- Sound Scavenger Hunt

TEACHING/LEARNING SEQUENCE

A. Engage: Warm-up activity (*Phoneme riddles*)

1. The teacher projects different phoneme riddles.
2. Students have to read and solve the riddle in pairs.
3. The pair that finds the correct answer wins extra points.

B. Study: IPA Explanation

1. Explain
2. What are vowels, diphthongs and consonants?
3. How are they pronounced?
4. Modeling & Drilling

C. Activate: Competition Game *(Red or Yellow Team)*

1. The teacher projects a game with several circles with hidden questions.
2. For the game, the teacher divides the class into two teams by color.
3. Each team has to take turns to choose a number and answer correctly.
4. The team with the most correct answers wins the game.

3.8 Method of Data Collection

The data collection considers methodological strategies required by objectives and hypothesis under the approach chosen for this study. The methodology is pure quantitative considering the following:

3.8.1 Selection of the Techniques for the Data Collection Process

Surveys; a pre-test (See Annex 3.A) was applied to each student. They were tested individually on pronouncing 44 words, one word for each phoneme, and a post-test (See Annex 3.B) was applied at the end of the intervention; the post-test was applied in the same way as the pre-test.

3.8.2 Instruments of the Data Collection

They were designed according to the technique chosen. Questionnaires included 44 phonemes to be studied and tested: 12 vowels, 8 diphthongs, and 24 consonants. Also, audio recordings for each student and a pronunciation rubric (See Annex 4) with the evaluation criteria: check (√) for correct pronunciation and with an ex (×) for incorrect pronunciation were used in the pre-test and post-test. The data was tabulated in an excel data sheet as shown in Annex 8.

3.9 Data Collection and Analysis

Once the instruments were reviewed and applied, the individual absolute frequencies were determined for each phoneme and each alternative of response (correct or incorrect). In addition, relative frequencies were calculated by categories (vowels, diphthongs, and consonants), considering the absolute frequencies of each phoneme. Afterward, the T-test, which allows us to compare the means of the pronunciation mistakes between the data of the two groups (pre-test & post-test) and if they are significantly different from each other so that you know if those differences could happen by chance, was calculated and proved using the data analysis tool of Microsoft Excel. After that, the results were described and interpreted based on frequency charts and graphs from the statistical analysis and contrasted with the previous studies in Chapter 2. Moreover, the objectives mentioned in Chapter 1 were considered to state the conclusions and recommendations.

CHAPTER IV

4. ANALYSIS AND INTERPRETATION RESULTS

The data collected after the pre-test and post-test in this quasi-experiment were presented and analyzed using descriptive and inferential statistics. Descriptive statistics were used to identify and determine the main characteristics of the categories and phonemes, focusing on the data on the mistakes made by the students in pronunciation.

These were determined by constructing tables of absolute and relative frequencies, calculating measures of central tendency (mean and mode), and measures of data dispersion (variance and standard deviation). Inferential statistics were used to test our hypothesis using the t-test method with the group corresponding to pronunciation mistakes.

4.1 Analysis of Results

4.1.1 Analysis of Pre-test Results

Table 4

Pronunciation of Students in the Pre-Test of the Experimental Group

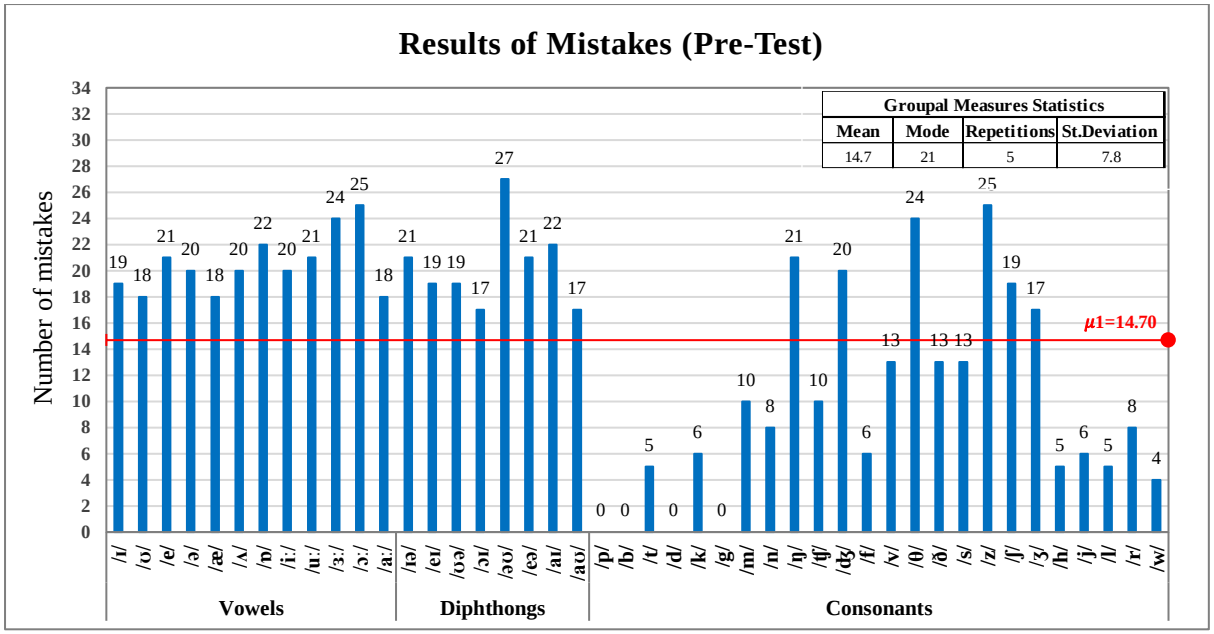
	Summary of Results (Pre-Test)							
	Vowels		Diphthongs		Consonants		TOTAL P.	
	Correct	Incorrect	Correct	Incorrect	Correct	Incorrect	Correct	Incorrect
Absolute Frequency	90	246	61	163	434	238	**585**	**647**
I. Relative Frequency %	7.3%	20.0%	5.0%	13.2%	35.2%	19.3%	47.5%	52.5%
Subtotal by Category	**336**		**224**		**672**		**1232**	
C. Relative Frequency %	27.3%		18.2%		54.5%		**100%**	

Source: Pre-test applied to the experimental group.
Elaborated by Carabajo, Chimbo, Ruiz (2024)

After applying the pre-test, the experimental group students produced the following successes and mistakes in pronunciation. They were organized into three categories: vowels, diphthongs, and consonants. Following this chart, vowels had 90 (7.3%) correct and 246 (20%) incorrect responses out of the total pronunciation (1232). Diphthongs had 61 (5%) correct and 163 (13.2%) incorrect responses. Likewise, consonants had 434 (35.2%) correct and 238 (19.3%) incorrect. In this way, 585 (47.5%) were correct responses, and 647 (52.5%) were incorrect responses out of the total. Thus, it was found that there were more mistakes in the pre-test, especially in the category of vowels with 20%, even though the number of consonants is equivalent to double the number of vowels and diphthongs.

Figure 8

Results of Mistakes in Pronunciation of Phonemes in the Pre-Test



Elaborated by Carabajo, Chimbo, Ruiz (2024)

The frequency histogram shows the frequency of mistakes together with the statistical measures. The average error in pronunciation for each phoneme in the pre-test is 14.7, interpreted as 15 of the 28 students pronounced incorrectly. This mean is defined by the high value of the mode of 21 with 5 repetitions, with a standard deviation of 7.8, evidencing a greater dispersion of the data concerning the mean value. Furthermore, it is observed that a more significant number of mistakes correspond to vowels and diphthongs in comparison with consonants, as described below:

Table 5

Vowels Phonemes with more Mistakes in the Pre-Test

Vowels	**/ɪ/**	**/ʊ/**	**/e/**	**/ə/**	**/æ/**	**/ʌ/**	**/ɒ/**	**/iː/**	**/uː/**	**/ɜː/**	**/ɔː/**	**/aː/**
Frequency	19	18	21	20	18	20	22	20	21	24	25	18
Percentage	68%	64%	75%	71%	64%	71%	79%	71%	75%	86%	89%	64%

The vowel sound /ɪ/ had 19 mistakes. The vowel sound /ʊ/ had 18 mistakes. The vowel sound /e/ had 21 mistakes. The vowel sound had /ə/ 20 mistakes. The vowel sound /æ/ had 18 mistakes. The vowel sound /ʌ/ had 20 mistakes. Likewise, the vowel sound /ɒ/ had 22 mistakes. The vowel sound /iː/ had 20 mistakes. The vowel sound /uː/ had 21 mistakes. The

vowel sound /ɜː/ had 24 mistakes. The vowel sound /ɔː/ had 25 mistakes. Lastly, the vowel sound /aː/ had 18 mistakes.

Table 6

Diphthongs Phonemes with more Mistakes in the Pre-test

Diphthongs	**/ɪə/**	**/eɪ/**	**/ʊə/**	**/ɔɪ/**	**/əʊ/**	**/eə/**	**/aɪ/**	**/aʊ/**
Frequency	21	19	19	17	27	21	22	17
Percentage	75%	68%	68%	61%	96%	75%	79%	61%

The diphthong sound /ɪə/ had 21 mistakes. The diphthong sound /eɪ/ had 19 mistakes. Similarly, the diphthong sound /ʊə/ had 19 mistakes. The diphthong sound /ɔɪ/ had 17 mistakes. The diphthong sound /əʊ/ had 27 mistakes. The diphthong sound /eə/ had 21 mistakes. The diphthong sound /aɪ/ had 22 mistakes. Lastly, the diphthong sound /aʊ/ had 17 mistakes.

Table 7

Consonants Phonemes with more Mistakes in the Pre-test

Consonants	**/ŋ/**	**/ʤ/**	**/v/**	**/θ/**	**/ð/**	**/s/**	**/z/**	**/ʃ/**	**/ʒ/**
Frequency	21	20	13	24	13	13	25	19	17
Percentage	75%	71%	46%	86%	46%	46%	89%	68%	61%

The consonant sound /ŋ/ had 21 mistakes. The consonant sound /ʤ/ had 20 mistakes. The consonant sound /v/ had 13 mistakes. The consonant sound /θ/ had 24 mistakes. The consonant sound /ð/ had 13 mistakes. The consonant sound /s/ had 13 mistakes. The consonant sound /z/ had 25 mistakes. The consonant sound /ʃ/ had 19 mistakes. Finally, the consonant sound had /ʒ/ 17 mistakes.

4.1.2 Analysis of Post-test Results

Table 8

Pronunciation of Students in the Post-Test of the Experimental Group

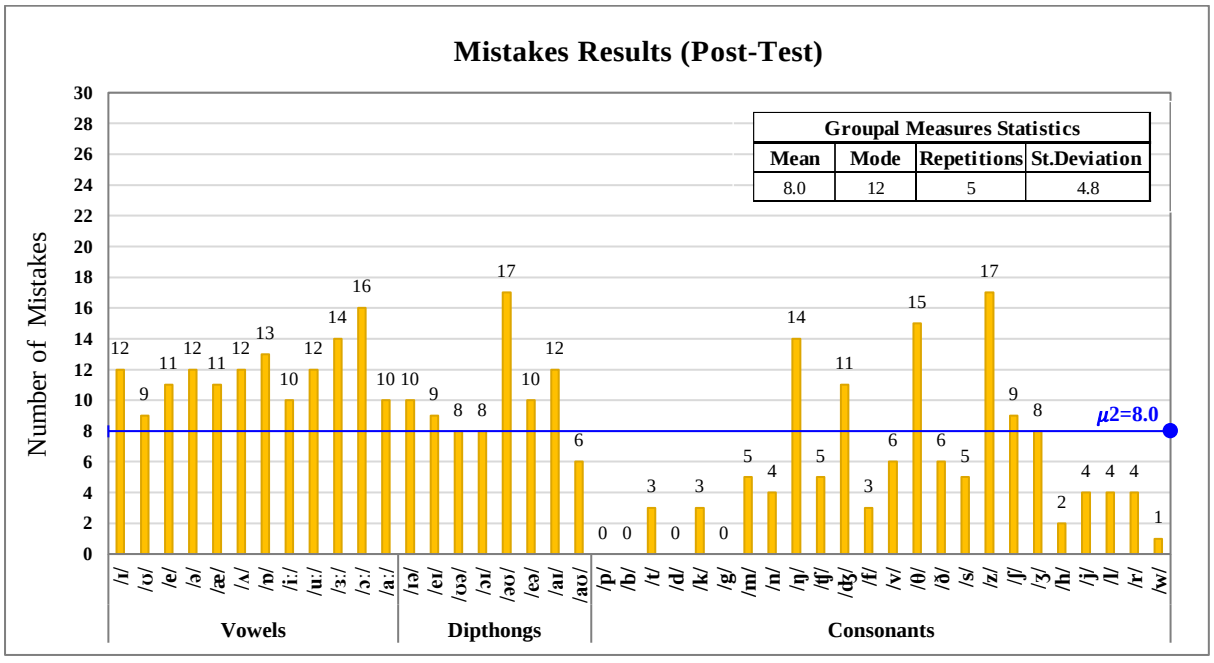
	Summary of Results (Post-Test)							
	Vowels		Diphthongs		Consonants		TOTAL P.	
	Correct	Incorrect	Correct	Incorrect	Correct	Incorrect	Correct	Incorrect
Absolute Frequency	194	142	144	80	543	129	**881**	**351**
I. Relative Frequency %	15.7%	11.5%	11.7%	6.5%	44.1%	10.5%	**71.5%**	**28.5%**
Subtotal by Category	**336**		**224**		**672**		**1232**	
C. Relative Frequency %	27.3%		18.2%		54.5%		**100%**	

Source: Post-test applied to the experimental group.
Elaborated by Carabajo, Chimbo, Ruiz (2024)

After applying the post-test, the experimental group produced the following successes and mistakes in pronunciation. They were organized into three categories: vowels, diphthongs, and consonants. According to this chart, vowels had 194 (15.7%) correct and 142 (11.5%) incorrect responses out of the total pronunciation (1232). Diphthongs had 144 (11.7%) correct and 80 (6.5%) incorrect responses. Consonants had 543 (44.1%) correct and 129 (10.5%) incorrect. In this way, 881 (71.5%) were correct responses and 351 (28.5%) were incorrect responses. Thus, it was found that there were more correct pronunciations in the post-test.

Figure 9

Results of Mistakes in Pronunciation of Phonemes in the Post-Test



Elaborated by Carabajo, Chimbo, Ruiz (2024)

The frequency histogram shows the frequency of mistakes together with the statistical measures. In this case, the average pronunciation error for each phoneme in the post-test is 8, which indicates that out of the total (28), only 8 students pronounced incorrectly. This is defined by the high value of the mode of 12 with 5 repetitions, and its data dispersion around the mean is primarily uniform at 4.6. Moreover, there is a decrease in the number of mistakes corresponding to vowels, diphthongs, and consonants in general. However, the tendency of a higher number of mistakes is maintained to the same phonemes described in the pre-test, as shown below:

Table 9

Vowels Phonemes with more Mistakes in the Post-Test

Vowels	**/ɪ/**	**/ʊ/**	**/e/**	**/ə/**	**/æ/**	**/ʌ/**	**/ɒ/**	**/iː/**	**/uː/**	**/ɜː/**	**/ɔː/**	**/aː/**
Frequency	12	9	11	12	11	12	13	10	12	14	16	10
Percentage	43%	32%	39%	43%	39%	43%	46%	36%	43%	50%	57%	36%

The vowel sound /ɪ/ had 12 mistakes in the post-test. The vowel sound /ʊ/ had 9 mistakes. The vowel sound /e/ had 11 mistakes. The vowel sound had /ə/ 12 mistakes. The vowel sound /æ/ had 11 mistakes. The vowel sound /ʌ/ had 12 mistakes. Likewise, the vowel sound /ɒ/ had 13 mistakes. The vowel sound /iː/ had 10 mistakes. The vowel sound /uː/ had 12 mistakes. The vowel sound /ɜː/ had 14 mistakes. The vowel sound /ɔː/ had 16 mistakes. Lastly, the vowel sound /aː/ had 10 mistakes.

Table 10

Diphthongs Phonemes with more Mistakes in the Post-Test

Diphthongs	**/ɪə/**	**/eɪ/**	**/ʊə/**	**/ɔɪ/**	**/əʊ/**	**/eə/**	**/aɪ/**	**/aʊ/**
Frequency	10	9	8	8	17	10	12	6
Percentage	36%	32%	29%	29%	61%	36%	43%	21%

The diphthong sound /ɪə/ had 10 mistakes. The diphthong sound /eɪ/ had 9 mistakes. Similarly, the diphthong sound /ʊə/ had 8 mistakes. The diphthong sound /ɔɪ/ had 8 mistakes.

The diphthong sound /əʊ/ had 17 mistakes. The diphthong sound /eə/ had 10 mistakes. The diphthong sound /aɪ/ had 12 mistakes. Lastly, the diphthong sound /aʊ/ had 6 mistakes.

Table 11

Consonants Phonemes with more Mistakes in the Post-Test

Consonants	/ŋ/	/ʤ/	/v/	/θ/	/ð/	/s/	/z/	/ʃ/	/ʒ/
Frequency	14	11	6	15	6	5	17	9	8
Percentage	50%	39%	21%	54%	21%	18%	61%	32%	29%

The consonant sound /ŋ/ had 14 mistakes. The consonant sound /ʤ/ had 11 mistakes. The consonant sound /v/ had 6 mistakes. The consonant sound /θ/ had 15 mistakes. The consonant sound /ð/ had 6 mistakes. The consonant sound /s/ had 5 mistakes. The consonant sound /z/ had 17 mistakes. The consonant sound /ʃ/ had 9 mistakes. Finally, the consonant sound had /ʒ/ 8 mistakes.

4.2 Data Interpretation

Table 12

Comparison of Mistakes made Before and After the Treatment

	Summary of Results (Pre-Test)							
	Vowels		Diphthongs		Consonants		TOTAL P.	
	Correct	Incorrect	Correct	Incorrect	Correct	Incorrect	Correct	Incorrect
Absolute Frequency	90	246	61	163	434	238	**585**	**647**
I. Relative Frequency %	7.3%	20.0%	5.0%	13.2%	35.2%	19.3%	47.5%	52.5%
Subtotal by Category	**336**		**224**		**672**		**1232**	
C. Relative Frequency %	27.3%		18.2%		54.5%		**100%**	
	Summary of Results (Post-Test)							
Absolute Frequency	194	142	144	80	543	129	**881**	**351**
I. Relative Frequency %	15.7%	11.5%	11.7%	6.5%	44.1%	10.5%	**71.5%**	**28.5%**
Subtotal by Category	**336**		**224**		**672**		**1232**	
C. Relative Frequency %	27.3%		18.2%		54.5%		**100%**	
	Difference (Improvement & Reduction)							
Absolute Frequency	↑ 104	↓ -104	↑ 83	↓ -83	↑ 109	↓ -109	↑ 296	↓ -296
Individual Percentage %	↑ 8.4%	↓ -8.4%	↑ 6.7%	↓ -6.7%	↑ 8.9%	↓ -8.9%	↑ 24.0%	↓ -24.0%

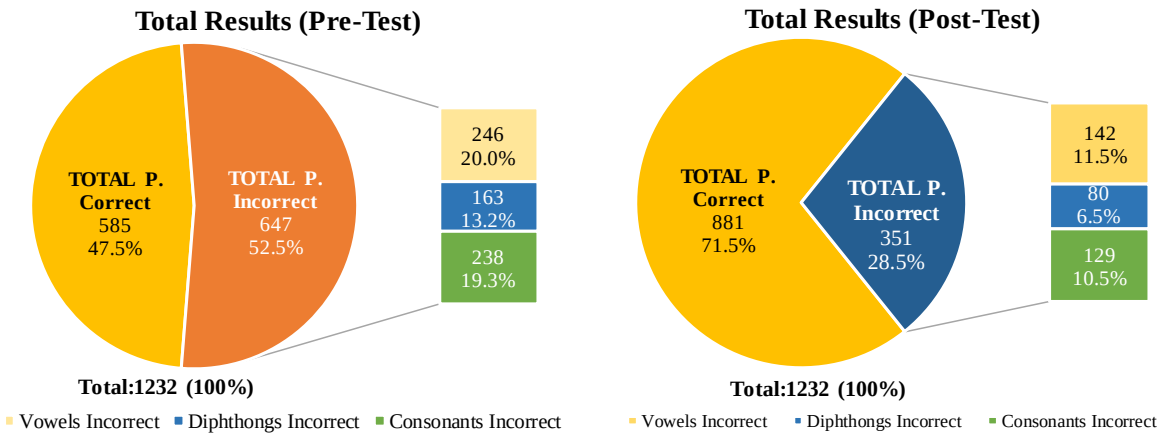
Source: Pre-test and post-test applied to the experimental group.
Elaborated by Carabajo, Chimbo, Ruiz (2024)

The following are the total successes and mistakes, by category, made by students before and after implementing phonetic lessons based on IPA.

Comparing the data in the table of absolute and relative frequencies by categories (vowels, diphthongs, and consonants), we observed a considerable reduction of mistakes in consonants with 109 (8,9%), vowels with 104 (8,4%), and diphthongs with 83 (6,7%). Thus, together represent a total decrease of 296 (24%) mistakes compared to the total value obtained in the pre-test of 647 (52.5%).

Figure 10

Comparison of Total Results made Before and After the Treatment

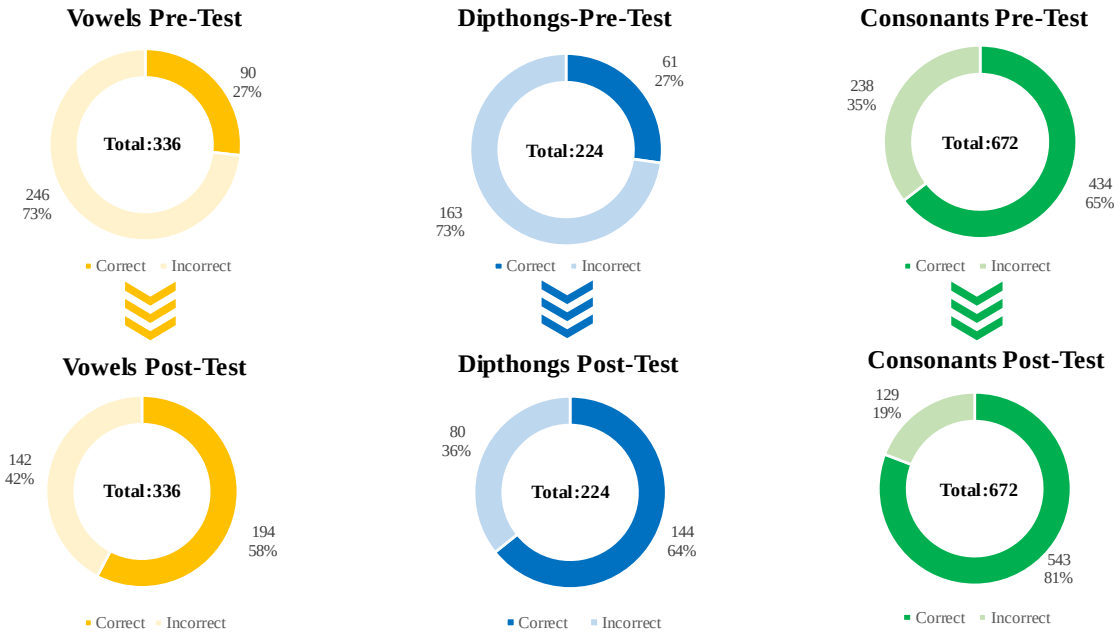


Elaborated by Carabajo, Chimbo, Ruiz (2024)

After implementing the IPA-based phonetics classes, incorrect pronunciations have been reduced from 647 (52.5%) to 351 (28.5%) in the post-test and, in turn, correct pronunciations increased in the same proportion from 585 (47.5%) to 881 (71.5%), which represents an improvement of 296 (24%) with relation to the total of pronunciations (1232), as shown in the graph above.

Figure 11

Comparison of Results made Before and After the Treatment by Categories

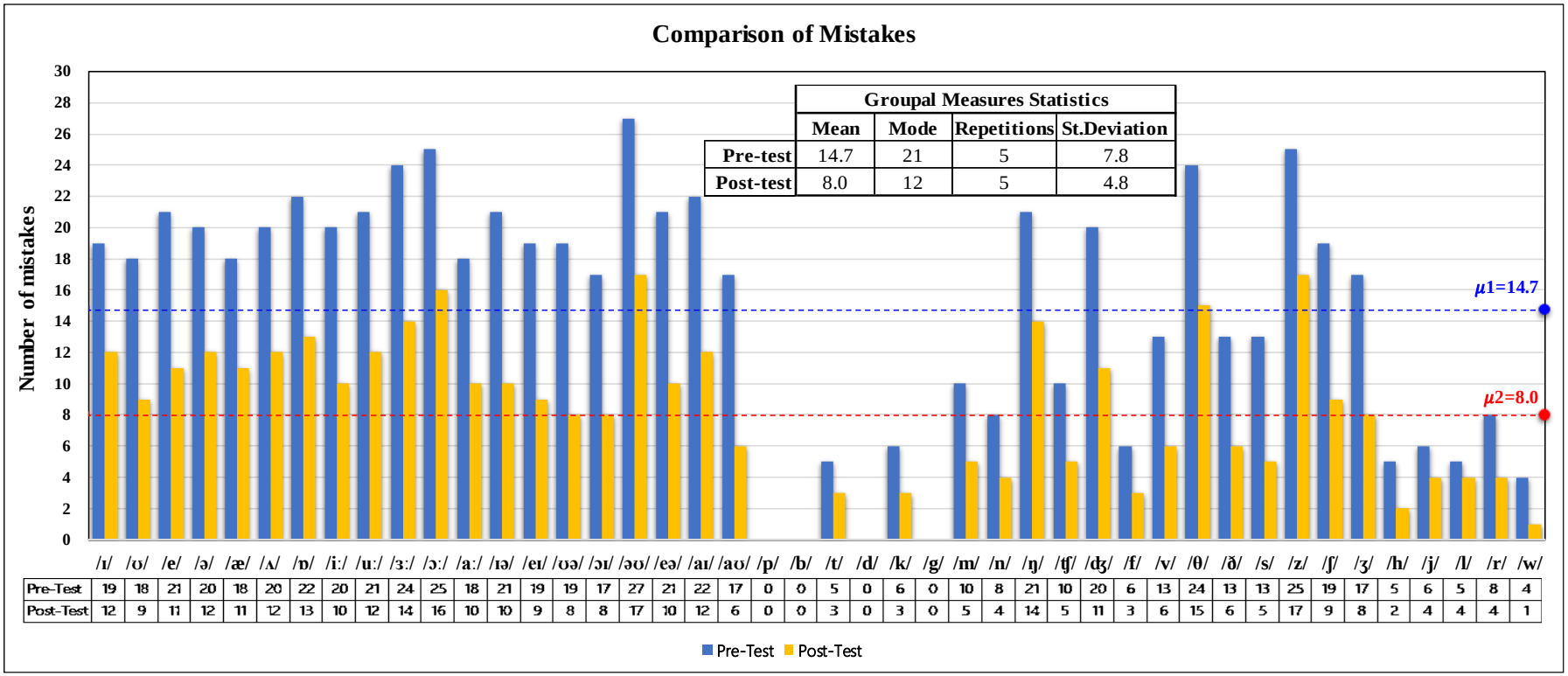


Elaborated by Carabajo, Chimbo, Ruiz (2024)

According to this figure, there is a noticeable reduction in mistakes in the post-test. In the category of consonants, it was reduced to 129 (19%) out of the total consonants' pronunciation (672). Similarly, followed by vowels with 142 (42%) out of the total of vowels' pronunciations (336). Finally, the diphthongs reduced to 80 (36%) mistakes from the total of diphthongs' pronunciations (224).

Figure 12

Comparison of Mistakes made Before and After the Treatment



Elaborated by Carabajo, Chimbo, Ruiz (2024)

The above bar graph showed that the tendency of mistakes considerably reduced in each category. This means the pre-test and post-test results applied to the experimental group present a significant variation. Therefore, it can be interpreted that the quasi-experiment applied showed the expected results.

Table 13

Mistakes in the Pre-Test and Post-Test of the Experimental Group

TOTAL MISTAKES				
		Pre-Test	Post-Test	Reduction
Vowels	/ɪ/	19	12	7
	/ʊ/	18	9	9
	/e/	21	11	10
	/ə/	20	12	8
	/æ/	18	11	7
	/ʌ/	20	12	8
	/ɒ/	22	13	9
	/iː/	20	10	10
	/uː/	21	12	9
	/ɜː/	24	14	10
	/ɔː/	25	16	9
	/aː/	18	10	8
Dipthongs	/ɪə/	21	10	11
	/eɪ/	19	9	10
	/ʊə/	19	8	11
	/ɔɪ/	17	8	9
	/əʊ/	27	17	10
	/eə/	21	10	11
	/aɪ/	22	12	10
	/aʊ/	17	6	11

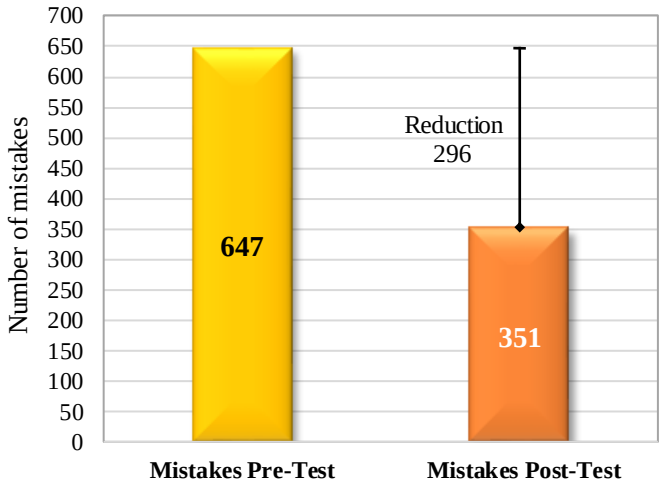
	Pre-Test	Post-Test	Reduction
Total	**647**	**351**	**296**
Percentage	100%	54.3%	45.7%

TOTAL MISTAKES				
		Pre-Test	Post-Test	Reduction
Consonants	/p/	0	0	0
	/b/	0	0	0
	/t/	5	3	2
	/d/	0	0	0
	/k/	6	3	3
	/g/	0	0	0
	/m/	10	5	5
	/n/	8	4	4
	/ŋ/	21	14	7
	/ʧ/	10	5	5
	/ʤ/	20	11	9
	/f/	6	3	3
	/v/	13	6	7
	/θ/	24	15	9
	/ð/	13	6	7
	/s/	13	5	8
	/z/	25	17	8
	/ʃ/	19	9	10
	/ʒ/	17	8	9
	/h/	5	2	3
	/j/	6	4	2
	/l/	5	4	1
	/r/	8	4	4
	/w/	4	1	3

Source: Pre-test and post-test were applied to the experimental group.
Elaborated by Carabajo, Chimbo, Ruiz (2024)

Figure 13

Results of Mistakes After the Treatment



Elaborated by Carabajo, Chimbo, Ruiz (2024)

The Table 13 and the Figure 13 Figure 13 showed the analysis of the results of the mistakes made by the experimental group before and after treatment. It is observed that the mistakes decreased from 647 in the pre-test to 351 in the post-test. It resulted in a reduction of almost half of the total mistakes in the pre-test. That is 296 incorrect pronunciations in the pre-test; now, in the post-test, they are correct.

4.3 Hypothesis Verification

The hypothesis was verified through the T-test method, starting from the statistical data of pronunciation mistakes of each group before and after the implementation.

Table 14

Sample Statistical Measures of Mistakes

	Sample Size	***Sample Mean***	***Sample Variance***
Pre-Test	$n_1 =$ 44	$\overline{X}_1 =$ 14.7	${\sigma_1}^2 =$ 62.96
Post-Test	$n_2 =$ 44	$\overline{X}_2 =$ 8.0	${\sigma_2}^2 =$ 23.65

Source: Sample statistical measures of mistakes in the Pre-test and Post-test.
Elaborated by Carabajo, Chimbo, Ruiz (2024)

Hypothesis:

$\boldsymbol{H_0}$: $\bar{X}_1 = \bar{X}_2$**;** Implementing phonetics classes based on IPA will not improve the pronunciation of sixth-level EFL learners in the Language Center at UNAE.

$\boldsymbol{H_1}$: $\bar{X}_1 \gg \bar{X}_2$**;** Implementing phonetics classes based on IPA will improve the pronunciation of sixth-level EFL learners in the Language Center at UNAE.

Where:

$\bar{X}_1$: *Sample Mean of Mistakes in the Pre-Test*

$\bar{X}_2$: *Sample Mean of Mistakes in the Post-Test*

The t-statistic value was calculated by the expression of the T-test for two samples with different variances.

$$\boldsymbol{t} = \frac{\bar{\boldsymbol{X}}_{\boldsymbol{1}} - \bar{\boldsymbol{X}}_{\boldsymbol{2}}}{\sqrt{\frac{\boldsymbol{\sigma_1}^{\boldsymbol{2}}}{\boldsymbol{n_1}} + \frac{\boldsymbol{\sigma_2}^{\boldsymbol{2}}}{\boldsymbol{n_2}}}} = \frac{14.7 - 8}{\sqrt{\frac{62.96}{44} + \frac{23.65}{44}}}$$

$$\boldsymbol{t = 4.79}$$

Then, the critical value $\boldsymbol{t_c}$ and p-value were calculated considering the significance level $\boldsymbol{\alpha} = 5\%\ or\ (0.05)$ and the degrees of freedom defined by the following expression:

degrees of freedom: $$\boldsymbol{df} = \frac{\left(\frac{{\sigma_1}^2}{n_1} + \frac{{\sigma_2}^2}{n_2}\right)^2}{\frac{1}{n_1 - 1}\left(\frac{{\sigma_1}^2}{n_1}\right)^2 + \frac{1}{n_2 - 1}\left(\frac{{\sigma_2}^2}{n_2}\right)^2} =$$

$$\boldsymbol{df} = \frac{\left(\frac{62.96}{44} + \frac{23.65}{44}\right)^2}{\frac{1}{44 - 1}\left(\frac{62.96}{44}\right)^2 + \frac{1}{44 - 1}\left(\frac{23.65}{44}\right)^2} = \boldsymbol{71}$$

$\boldsymbol{t_{c(\alpha,df)}} = \boldsymbol{1.67}$ & $\boldsymbol{p_{value}} = \boldsymbol{0.000004}$ by distribution table t-student.

Once the statistic t, the critical value of t, and its probabilities were calculated, we compared the condition to valid or reject the null and alternative hypothesis:

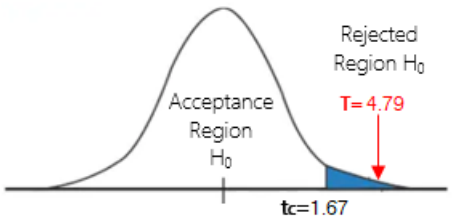
If $\boldsymbol{t} > \boldsymbol{t_c}$ & $\boldsymbol{p_{value}} < \boldsymbol{\alpha}$ Then the H0 is rejected and H1 is valid

$$4.79 > 1.67 \ \& \ 0.000004 < 0.05$$

As demonstrated, the t-statistics is higher than the critical value t_c, which means that the t-statistics value is inside the acceptance region for H_1 hypothesis. Therefore, H_0 was rejected, and H_1 was true, as observed in the probability distribution t. Moreover, it is found that the p-value is significantly lower than the significance level α which indicates a representative difference between the error averages before and after implementation.

Figure 14

Probability Distribution t



Elaborated by Carabajo, Chimbo, Ruiz (2024)

These calculated results were validated by comparing them with the data obtained in a software executed in Microsoft Excel Data Analysis tool, as shown below.

Figure 15

Results of T-Test for Two Samples with Different Variances

Two-samples t-test with unequal variances

	Pre-Test	Post-Test
Mean:	14.70	7.98
Variance:	62.96	23.65
Sample Size:	44	44
Significance level:	5%	
Degrees Freedom:	71	
Statistic T:	**4.79**	
P(T<=t) one pointed:	**0.000004**	
Critical value of t (one-pointed):	**1.67**	

Elaborated by Carabajo, Chimbo, Ruiz (2024)

4.4 Discussion of Results

The study addressed the issue of mispronunciation among sixth-grade English learners, who, influenced by Spanish rules, caused confusion and misunderstandings. The mispronunciations led to feelings of anxiety, nervousness, and discomfort, hindering effective communication in speaking and reading activities. The study's context highlighted the impact, where misinformation caused peers to struggle in English lessons, often requesting repetitions or translations into Spanish. Both speakers and listeners engaged in extensive questioning to ensure comprehension and maintain interaction, illustrating the pervasive confusion. The study emphasized the significant challenge posed by mispronunciation, affecting not only individual learners but also the overall dynamics and effectiveness of English language communication in the given context.

For this reason, IPA-based phonetic lessons were applied to address and solve these problems. Consequently, after this application and with the analysis of the results, the following can be stated:

In Rivadeneira's (2018) master's thesis and the study by Suryaleksana et al. (2022), learning pronunciation in general and phonemes were presented as a challenge for students, as observed in their pre-tests. In the same way, this problem was more visible in applying the pre-test, which can be seen in the results of Chapter IV, specifically in Table 4 and Figure 8, which evidenced a more significant number and percentage of errors in pronunciation. In addition, it was noticed that students were incapable of articulating speech organs to pronounce the words since they were unfamiliar with the IPA chart and were used to pronouncing them similarly to their mother tongue. For instance, with the word "coat," students should have pronounced it like /kəʊt/, but most of them pronounced it like /coat/.

In this study, concerning the study by Suryaleksana et al. (2022), it was found that most of the participants had difficulties in pronouncing some vowel sounds such as /ʌ/, /æ/, /ə/, /i:/, /ɔ:/, /e/, /ɑ/, /u:/ and /ɜ:/. However, it was also detected that the diphthongs /ɪə/ /əʊ/ /eə/ and /aɪ/ were also tricky to pronounce, as demonstrated in Figure 8. Even learners used to comment that they struggled when learning about vowels since most of the phonetic symbols looked similar, which confused them when pronouncing and repeating a series of words.More specifically, learners would wrestle even harder when producing just the phoneme sound without applying it to words. This way, they provided the same sound for two and sometimes three different phonemes. A clear explanation of this happening used to be visible with the phonemes /ʌ/, /æ/, /ɒ/, /ɑ:/.

On the other hand, Fadli et al. (2021) mentioned that after analyzing the results, deviations, and percentages, it was established that there was a significant improvement in the students' pronunciation. According to this study, using IPA has been very useful to improve English pronunciation in the learning environment. Similarly, this study obtained significant results in the post-test in improving students' pronunciation after applying the IPA-based lessons compared to the pre-test, as shown in the proportions graphics of Figure 10 and the bar chart of Figure 12. It is worth mentioning that, during the first pronunciation lessons, students demonstrated difficulty developing the mouth muscles to articulate the different phonemes correctly. Implementing IPA chat-based lessons was highly challenging for learners during the first stages. Nonetheless, as they were being instructed, their pronunciation improved due to their ability to develop new English language muscles that allowed them to articulate, coordinate, and, thus, produce proper pronunciation.

To cover all previous studies relating their results with ours, it was stated in the three previous studies, Rivadeneira's, Suryaleksana et al., and Fadli et al. that their implementation of phonetic lessons using IPA chart, actually worked and was functional and practical to address mispronunciation problems. Equivalently, in this study, mistakes were significantly reduced in the post-test after the implementation compared to the mistakes made by students in the pre-test, as demonstrated in Figure 13. Furthermore, the effectiveness of phonetic lessons using the IPA chart was proved through the T-test method, where our H1 was true, as shown in Figure 14.

The authors collectively contended that lessons on the International Phonetic Alphabet (IPA) chart significantly enhanced students' pronunciation. Despite diverse challenges faced by learners, they exhibited substantial progress in comprehending each phoneme, leading to improved pronunciation of words with varying vowel, consonant, and diphthong sounds. In essence, the students demonstrated meaningful advancements in pronunciation. These findings align with our study, as similar results were achieved. The post-test results indicated a notable, albeit not highly significant, improvement. Around 50% of errors made in the pre-test were rectified, showcasing enhanced pronunciation of words featuring the 44 distinct phonemes.

CHAPTER V

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

In this comprehensive study, the effectiveness of integrating the International Phonetic Alphabet (IPA) chart into English lessons for pronunciation enhancement was thoroughly investigated, revealing significant success in achieving its objectives. The incorporation of the IPA chart was found to markedly improve learners' pronunciation abilities, providing valuable insights for second language learners in communicative and spoken contexts. The study's initial objective involved diagnosing students' current pronunciation abilities through a pre-test, establishing a reference point to identify weaknesses and strengths influenced by their mother tongue, Spanish. The results indicated a low initial performance, as learners tended to apply Spanish rules to English sounds. Subsequently, the introduction of English phonetic lessons using the IPA chart formed the core of the study. This intervention immersed students in a phonetic environment, enabling them to practice each phoneme through words containing the 44 phonemes. The drill technique was crucial in guiding students towards natural and confident pronunciation.

The last specific objective focused on assessing students' pronunciation through a post-test, revealing a notable improvement in pronunciation skills after the intervention. The reduction in mistakes from 647 to 351, representing a 46% decrease, underscored the effectiveness of IPA-based phonetics in enhancing pronunciation among sixth-level EFL learners at the Language Center at UNAE. By fulfilling specific objectives, the study successfully achieved its general goal—evaluating the effectiveness of implementing IPA-based phonetics lessons with an IPA chart on pronunciation. The study demonstrated that utilizing an IPA chart in English phonetics

lessons is practical and leads to significant improvements in articulation, pronunciation, and spoken language proficiency. The research question was effectively addressed, and the initial hypothesis was confirmed through the analysis of results.

Moreover, the study emphasized that active engagement with the IPA chart heightened phonetic awareness among individuals, resulting in more accurate articulation of sounds in the chosen language. The visual representation of speech sounds, combined with clear explanations and practical exercises, contributed to a profound understanding of phonetic intricacies.

In conclusion, this study makes a substantial contribution to the educational and research field by providing accurate insights, foundations, and knowledge about using the IPA chart to address pronunciation challenges. The findings suggest that future generations can benefit from incorporating adjustments in curriculum and lesson creation based on phonetics to enhance students' pronunciation skills in spoken communication.

5.2 Recommendations

Remarkably, the research revealed that the adaptability of the IPA chart goes beyond individual language learning and extends to being advantageous for language instructors. It provides a standardized and universally applicable approach to addressing pronunciation challenges, enabling educators to customize their teaching strategies and offer focused assistance based on the particular phonetic difficulties identified using the IPA chart. Hence, this tool acts as a valuable resource for educators and students, offering a methodical and accurate portrayal of speech sounds, contributing significantly to the overall effectiveness of English language learning programs and of all worldwide languages.

The following recommendations come out of the previous conclusions of this quasi-experimental research.

- EFL teachers should spend more time helping students pronounce vowels, diphthongs, and consonants to avoid problems related to speaking and reading.
- EFL teachers should impart phonetics classes based on IPA with all their English courses and adapt them depending on each individual's needs.
- Teachers wanting to duplicate this project for future research must extend the time to obtain even better results, increase the number of students, increase the number of words for each phoneme, and incorporate new teaching materials and methodologies to see more effective results.

CHAPTER VI

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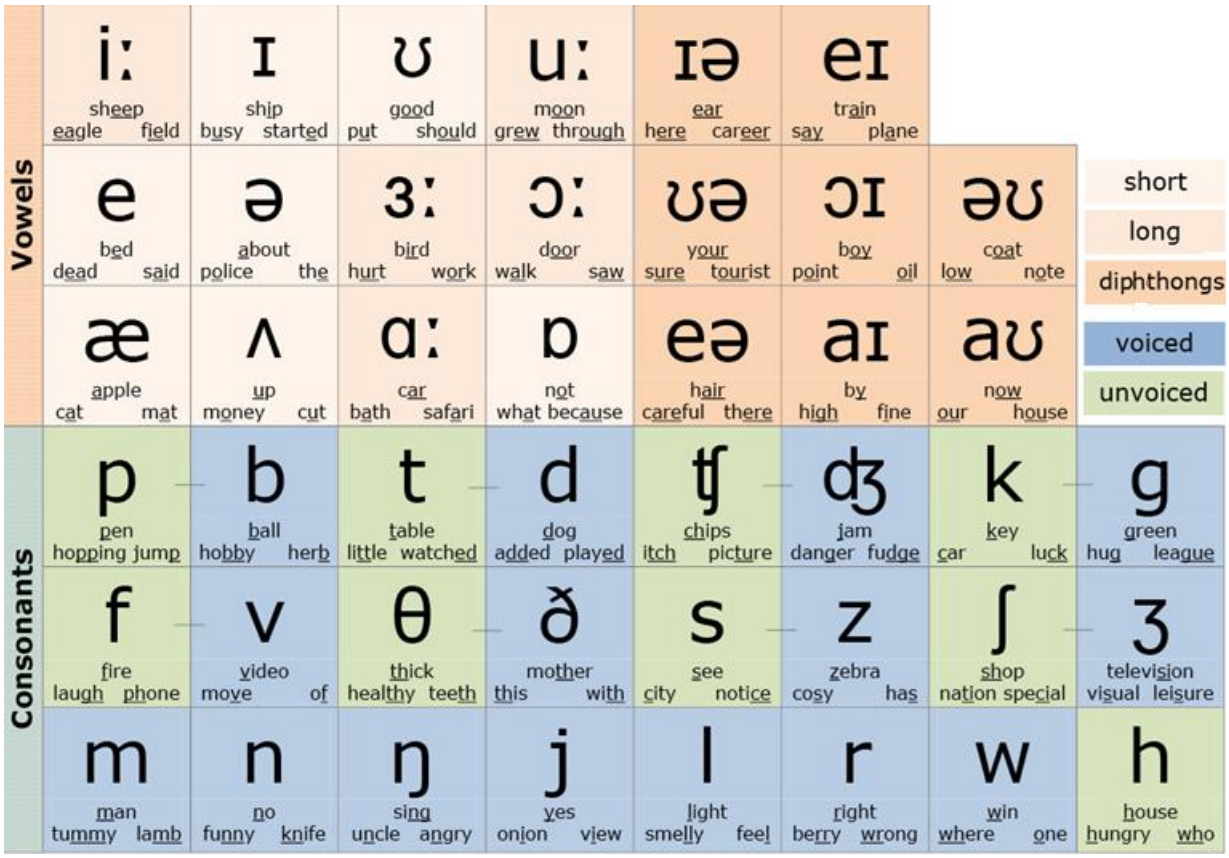
CHAPTER VII

7. ANNEXES

(Annex 1)

IPA Chart



(Annex 2)

Lessons Plans

(Control+Click on this link to see the file of evidence)

(Annex 3)

A. Pronunciation Test of the Pre-Test

Name: _____

Class: _____ **Date:** _____

1. **Pronounce the following words that contain short & long vowels.**

Vowels												
Short							**Long**					
/ɪ/	**/ʊ/**	**/e/**	**/ə/**	**/æ/**	**/ʌ/**	**/ɒ/**	**/iː/**	**/uː/**	**/ɜː/**	**/ɔː/**	**/aː/**	
Ship	Good	Bed	About	Apple	Up	Not	Sheep	Moon	Bird	Door	Car	**Score**
												/12

2. **Pronounce the following words that contain diphthongs.**

Diphthongs								
/ɪə/	**/eɪ/**	**/ʊə/**	**/ɔɪ/**	**/əʊ/**	**/eə/**	**/aɪ/**	**/aʊ/**	
Ear	Train	Your	Boy	Coat	Hair	By	Now	**Score**
								/8

3. **Pronounce the following words that contain consonant sounds.**

Consonants																							
Plosives						**Nasals**			**Affricatives**		**Fricatives**									**Approximants**			
/p/	/b/	/t/	/d/	/k/	/g/	/m/	/n/	/ŋ/	/ʧ/	/ʤ/	/f/	/v/	/θ/	/ð/	/s/	/z/	/ʃ/	/ʒ/	/h/	/j/	/l/	/r/	/w/	
Pen	Ball	Table	Dog	Key	Green	Man	No	Sing	Chips	Jam	Fire	Video	Thick	Mother	See	Zebra	Shop	Television	House	Yes	Light	Right	Win	**Score**
																								/24

Final Grade	**/44**

B. Pronunciation Test of the Post-Test

Name: _____
Class: _____
Date: _____

1. **Pronounce the following words that contain short & long vowels.**

Vowels												
Short							**Long**					
/ɪ/	**/ʊ/**	**/e/**	**/ə/**	**/æ/**	**/ʌ/**	**/ɒ/**	**/iː/**	**/uː/**	**/ɜː/**	**/ɔː/**	**/aː/**	
Busy	Put	Dead	Police	Cat	Money	What	Eagle	Through	Work	Saw	Bath	**Score**
												/12

2. **Pronounce the following words that contain diphthongs.**

Diphthongs								
/ɪə/	**/eɪ/**	**/ʊə/**	**/ɔɪ/**	**/əʊ/**	**/eə/**	**/aɪ/**	**/aʊ/**	
Here	Say	Sure	Point	Low	There	High	House	**Score**
								/8

3. **Pronounce the following words that contain consonant sounds.**

Consonants																							
Plosives						**Nasals**			**Affricatives**		**Fricatives**									**Approximants**			
/p/	/b/	/t/	/d/	/k/	/g/	/m/	/n/	/ŋ/	/ʧ/	/ʤ/	/f/	/v/	/θ/	/ð/	/s/	/z/	/ʃ/	/ʒ/	/h/	/j/	/l/	/r/	/w/	
Jump	Hobby	Little	Add	Luck	Hug	Lamb	Funny	Angry	Picture	Danger	Phone	Move	Thick	With	City	Has	Special	Visual	Who	Onion	Feel	Wrong	One	**Score**
																								/24

Final Grade	**/44**

(Annex 4)

Pronunciation Rubric

Pronunciation Rubric													
Criteria	**Vowels**												
	/ɪ/	**/ʊ/**	**/e/**	**/ə/**	**/æ/**	**/ʌ/**	**/ɒ/**	**/iː/**	**/uː/**	**/ɜː/**	**/ɔː/**	**/aː/**	
Produces a perfect pronunciation of individual vowel sounds. (1)													
Pronounces Spanish vowels throughout. (0)													**Total Score**
Total													**/12**

Diphthongs									
Criteria	**/ɪə/**	**/eɪ/**	**/ʊə/**	**/ɔɪ/**	**/əʊ/**	**/eə/**	**/aɪ/**	**/aʊ/**	
Articulates diphthongs clearly and distinctly, making them easy to distinguish. (1)									
Consistently mispronounces diphthongs, making it challenging to understand. (0)									**Total Score**
Total									**/8**

Consonants																								
Criteria	/p/	/b/	/t/	/d/	/k/	/g/	/m/	/n/	/ŋ/	/ʧ/	/ʤ/	/f/	/v/	/θ/	/ð/	/s/	/z/	/ʃ/	/ʒ/	/h/	/j/	/l/	/r/	/w/	
Perfect production and articulation of all consonants. (1)																									
Cannot produce and articulate any of the consonants and use Spanish pronunciation (0)																									**Total Score**
Total																									**/24**
																									Final Grade
																									/44

(Annex 5)

Validation of Instruments by Experts

Validation of the Instrument by Experts

Evaluator´s name: Mahly J. Martinez (PhD)

Specialty: Bachelor's degree in Education with a focus on English as a Foreign Language, Master's degree in Teaching Reading and Writing, and a Doctorate in Education.

Academic degree: PhD in Education

- **Authors of the Final Integrated Project:** Marilyn Paola Carabajo Hernandez, Dennis Joel Chimbo Guiracocha, and Veronica Marisol Ruiz Peñafiel.
- **Title of the research:** International Phonetic Alphabet (IPA) to Improve English Pronunciation Of Fourth-Level EFL Learners in the Language Center at UNAE
- **General objective:** To determine the effectiveness of implementing IPA-based phonetics lessons with an IPA chart on the pronunciation of fourth-level EFL learners in the Language Center at UNAE.
- **Specific objectives**
  - To diagnose students' pronunciation using a Pre-test.
  - To provide students with phonetics lessons to instruct them on the correct pronunciation of utterances.
  - To assess students' pronunciation using a Post-test.

1. INSTRUMENT TO VALIDATE THE RATING SCALE

Instruction: Please indicate your degree of agreement or disagreement on the statements provided below by encircling the number which corresponds to your best to your judgment.

1 – Strongly Disagree **2** – Disagree **3** – Undecided **4** – Agree **5** – Strongly Agree

Criteria

The items in the instrument are relevant to answer the objectives of the study.	1	2	3	4	5
The items in the instrument can obtain depth to constructs being Measured/studied.	1	2	3	4	5
The instrument has an appropriate sample of items for the construct being measured/studied.	1	2	3	4	5
The items and their alternatives are neither too narrow nor limited in its content.	1	2	3	4	5
The items in the instrument are stated clearly.	1	2	3	4	5
The items on the instrument can elicit responses, which are stable, definite, consistent, and not conflicting.	1	2	3	4	5
The terms adapted to the scale are culturally appropriate.	1	2	3	4	5
The instrument is not too short or long enough that the participants will be able to answer it within a given time.	1	2	3	4	5
The instrument is interesting such that participants will be induced to respond to it and accomplish it fully.	1	2	3	4	5
The instrument as a whole could answer the basic purpose for which it is designed.	1	2	3	4	5

COMMENTS AND SUGGESTIONS SECTION

1. **Do you consider that the proposed items correspond to categories, unit of analysis or variables of the study?**

   Yes X NO_____

2. **What items would you add or erase?**

   _____

   _____

   _____

   _____

3. **What other suggestions would you make to improve this instrument?**

   I suggest that the researchers organize in way that they can take notes of each student's participation during the application of the instrument. Also, I will recommend to record the pre and posttest.

Evaluator's Name: Mahly J. Martinez (PhD)

ID: 1759432733

Academic Degree: PhD in Education

Firmado electrónicamente por:
MAHLY JAHZEEL MARTINEZ JIMENEZ

Signature: _____

Validation of the Instrument by Experts

Evaluator´s name: Byron Xavier Falcones Reinoso

Specialty: Bachelor's degree in English Language Teaching. Master's degree in English Pedagogy.

Academic degree: Master's in education

- **Authors of the Final Integrated Project:** Marilyn Paola Carabajo Hernandez, Dennis Joel Chimbo Guiracocha, and Veronica Marisol Ruiz Peñafiel.
- **Title of the research:** International Phonetic Alphabet (IPA) to Improve English Pronunciation Of Fourth-Level EFL Learners in the Language Center at UNAE
- **General objective:** To determine the effectiveness of implementing IPA-based phonetics lessons with an IPA chart on the pronunciation of fourth-level EFL learners in the Language Center at UNAE.
- **Specific objectives**
    - To diagnose students' pronunciation using a Pre-test.
    - To provide students with phonetics lessons to instruct them on the correct pronunciation of utterances.
    - To assess students' pronunciation using a Post-test.

INSTRUMENT TO VALIDATE THE RATING SCALE

Instruction: Please indicate your degree of agreement or disagreement on the statements provided below by encircling the number which corresponds to your best to your judgment.

1 – Strongly Disagree **2** – Disagree **3** – Undecided **4** – Agree
5 – Strongly Agree

Criteria

The items in the instrument are relevant to answer the objectives of the study.	1	2	3	4	**5**
The items in the instrument can obtain depth to constructs being Measured/studied.	1	2	3	4	**5**
The instrument has an appropriate sample of items for the construct being measured/studied.	1	2	3	4	**5**
The items and their alternatives are neither too narrow nor limited in its content.	1	2	3	4	**5**
The items in the instrument are stated clearly.	1	2	3	4	**5**
The items on the instrument can elicit responses, which are stable, definite, consistent, and not conflicting.	1	2	3	4	**5**
The terms adapted to the scale are culturally appropriate.	1	2	3	4	**5**
The layout or format of the instrument is technically sound.	1	2	3	4	**5**
The instrument is not too short or long enough that the participants will be able to answer it within a given time.	1	2	**3**	4	5
The instrument is interesting such that participants will be induced to respond to it and accomplish it fully.	1	2	3	4	**5**
The instrument as a whole could answer the basic purpose for which it is designed.	1	2	3	4	**5**

COMMENTS AND SUGGESTIONS SECTION

1. **Do you consider that the proposed items correspond to categories, unit of analysis or variables of the study?**

   Yes. X NO_____

2. **What items would you add or erase?**

Your assessing instruments are well detailed to measure pronunciation improvement. However, I strongly recommend that you include some exercises such as: Pronunciation Production:

Sentence Production:

- Repeat the following questions after listening carefully:
  a. She sells seashells by the seashore.
  b. Peter Piper picked a peck of pickled peppers.

Word Stress:

- Indicate the stressed syllable in the following words:
  a. Re-search
  b. Pho-to-graph

3. **What other suggestions would you make to improve this instrument?**

   When applying the recommendations above make sure to pre-teach these kinds of exercises in a meaningful way. It can be game based (Clapping each word of the tongue twister or daily expression as well as word stress and syllable counting.

Evaluator's Name: Byron Xavier Falcones Reinoso

ID: 0919769158

Academic Degree: Master in Education

Signature: 

(Annex 6)

Informed Consent of Students

(Control+Click in this link to see the file of evidence)

(Annex 7)

Evidence of the Application of Instruments of the Pre-Test and Post-Test

(Control+Click on the titles below to see the file of evidence)

(Annex 7.A) Evaluations Pre-Test

(Annex 7.B) Evaluations Post-Test

(Annex 7.C) Visual Evidence

(Annex 8)

Excel Data Collection Sheet of the Pre-test and Post-test

(Control+Click in this link to see the file of evidence)

(Annex 9)

Declaratoria de Propiedad Intelectual y Cesión de Derechos de Publicación

UNIVERSIDAD NACIONAL DE EDUCACIÓN

DECLARATORIA DE PROPIEDAD INTELECTUAL Y CESIÓN DE DERECHOS DE PUBLICACIÓN PARA EL TRABAJO DE INTEGRACIÓN CURRICULAR
DIRECCIONES DE CARRERAS DE GRADO PRESENCIALES - DIRECCIÓN DE BIBLIOTECA

Yo, ***Marilyn Paola Carabajo Fernández***, portador de la cedula de ciudadanía Nro. ***0302882352***, estudiante de la carrera de Pedagogía de los Idiomas Nacionales y Extranjeros en el marco establecido en el artículo 13, literal b) del Reglamento de Titulación de las Carreras de Grado de la Universidad Nacional de Educación, declaro:

Que, todas las ideas, opiniones y contenidos expuestos en el trabajo de Integración curricular denominada ***"International Phonetic Alphabet (IPA) to Improve English Pronunciation of Sixth-Level EFL Learners in the Language Center at UNAE"*** son de exclusiva responsabilidad del suscribiente de la presente declaración, de conformidad con el artículo 114 del Código Orgánico de la Economía Social de los Conocimientos, Creatividad e Innovación, por lo que otorgo y reconozco a favor de la Universidad Nacional de Educación - UNAE una licencia gratuita, intransferible y no exclusiva para el uso no comercial de la obra con fines académicos, además declaro que en el desarrollo de mi Trabajo de Integración Curricular se han realizado citas, referencias, y extractos de otros autores, mismos que no me tribuyo su autoría.

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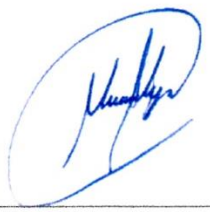
De igual manera, concedo a la Universidad Nacional de Educación - UNAE, la autorización para la publicación de Trabajo de Integración Curricular denominado ***"International Phonetic Alphabet (IPA) to Improve English Pronunciation of Sixth-Level EFL Learners in the Language Center at UNAE"*** en el repositorio institucional y la entrega de este al Sistema Nacional de Información de la Educación Superior del Ecuador para su difusión pública respetando los derechos de autor, como lo establece el artículo 144 de la Ley Orgánica de Educación Superior.

Ratifico con mi suscripción la presente declaración, en todo su contenido.

Azogues, 7 de marzo de 2024



Marilyn Paola Carabajo Fernández
C.I.: *0302882352*

UNIVERSIDAD NACIONAL DE EDUCACIÓN

DECLARATORIA DE PROPIEDAD INTELECTUAL Y CESIÓN DE DERECHOS DE PUBLICACIÓN PARA EL TRABAJO DE INTEGRACIÓN CURRICULAR
DIRECCIONES DE CARRERAS DE GRADO PRESENCIALES - DIRECCIÓN DE BIBLIOTECA

Yo, ***Dennis Joel Chimbo Guiracocha***, portador de la cedula de ciudadanía Nro. ***0107060998***, estudiante de la carrera de Pedagogía de los Idiomas Nacionales y Extranjeros en el marco establecido en el artículo 13, literal b) del Reglamento de Titulación de las Carreras de Grado de la Universidad Nacional de Educación, declaro:

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Ratifico con mi suscripción la presente declaración, en todo su contenido.

Azogues, 7 de marzo de 2024

Dennis Joel Chimbo Guiracocha
C.I.: *0107060998*

UNIVERSIDAD NACIONAL DE EDUCACIÓN

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Yo, ***Verónica Marisol Ruiz Peñafiel***, portador de la cedula de ciudadanía Nro. ***0302769674***, estudiante de la carrera de Pedagogía de los Idiomas Nacionales y Extranjeros en el marco establecido en el artículo 13, literal b) del Reglamento de Titulación de las Carreras de Grado de la Universidad Nacional de Educación, declaro:

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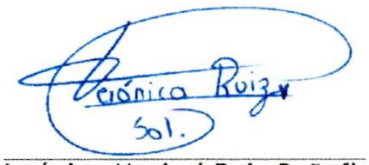
Ratifico con mi suscripción la presente declaración, en todo su contenido.

Azogues, 7 de marzo de 2024



Verónica Marisol Ruiz Peñafiel
C.I.: *0302769674*

(Annex 10)

CERTIFICACIÓN DEL TUTOR PARA TRABAJO DE INTEGRACIÓN CURRICULAR
DIRECCIONES DE CARRERA DE GRADO PRESENCIALES

Carrera de: Pedagogía de los Idiomas Nacionales y Extranjeros

Yo, Sigüenza Garzón Paúl Ismael, tutor del Trabajo de Integración Curricular de Carreras de Grado de Modalidad Presencial denominado "International Phonetic Alphabet (IPA) to Improve English Pronunciation of Sixth-Level EFL Learners in the Language Center at UNAE" perteneciente a los estudiantes: Marilyn Paola Carabajo Fernández CI: 0302882352, Dennis Joel Chimbo Guiracocha CI: 0107060998 y Verónica Marisol Ruiz Peñafiel CI: 0302769674. Doy fe de haber guiado y aprobado el Trabajo de Integración Curricular. También informo que el trabajo fue revisado con la herramienta de prevención de plagio donde reportó el 9 % de coincidencia en fuentes de internet, apegándose a la normativa académica vigente de la Universidad.

Azogues, 7 de marzo del 2024

Firmado electrónicamente por:
PAUL ISMAEL
SIGUENZA GARZON

Paúl Ismael Sigüenza Garzón
C.I: 0103815007