Types of Erroneous Sounds in Pronouncing Speech Segments of the English Consonant Phonemes (Evidence from Indonesian Native Speakers as EFL Learners)

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ABSTRACT

Pronunciation stands as a pivotal language component and achieving proficient English oral communication hinges on mastering accurate English pronunciation. This study aims to identify erroneous sounds produced by English as a Foreign Language (EFL) students in English Phonology classes. Sixteen participants were selected using total population sampling, and oral examinations served as the primary data collection instrument. Employing a descriptive-qualitative method, the analysis focused on empirical facts and phenomena observed among participants. Results indicate that all participants (100%) exhibited improper pronunciation of English consonant phonemes /w/ /b/ /y/ /dz/ and /f/ and associated words. Additionally, a majority (87.50%) struggled with /f/ and /v/ while over half (62.50%) faced challenges with /j/ and /v/, and a subset (25%) encountered difficulties with /z/. These findings underscore persistent inaccuracies in English consonant pronunciation among EFL students, emphasizing the need for targeted interventions.

INTRODUCTION

Human beings are naturally born as social creatures with various types of cultural backgrounds. These various types of cultural backgrounds or differences will certainly bring numerous effects on all aspects of human lives including in language learning process. Therefore, during their language learning processes, humans are mostly influenced by their environments and their mother tongues (Ganuza & Hedman, 2015; Mnasri & Habbash, 2021; Prochnow, Erlandsson, Hesse, & Wermke, 2019; Putra, 2022).

In recent years, there have been a great number of researchers doing research on phonological interference related to second or foreign language learning process (Alfansyah, Rahmat, & Ribahan, 2023; Mahendra & Marantika, 2020; Mnasri & Habbash, 2021; Nirwana & Suhono, 2022; Riswanto, 2022). However, the main focus of this research study is to identify any possible types of erroneous sounds produced by English as a Foreign Language (EFL) students in pronouncing speech segments of the English consonant phonemes at a university level of education to be more specifically.

Pronunciation had been one of the most essential language components, without which no effective and efficient oral communication is possible. Therefore, EFL learners who have difficulties in pronunciation would face problems of intelligibility which would impede them in achieving their primary goal of learning English as a second or foreign language when using it for communication purposes in real contexts despite the immense linguistic diversity in the region, the country, and across the globe (Tejeda & Santos, 2014).

Pronunciation ability becomes an indispensable factor or thing in learning a new language before diving into the depths of the language. Some factors affecting native-like pronunciation in Second Language Acquisition (SLA) have been identified, and some of those factors include native language, age, exposure, innate phonetic ability, identity, language ego, motivation, and concern for good pronunciation (Tanner, 2012).

Having accurate or proper English pronunciation skill is one of the most difficult skills to be acquired by EFL learners and that is the reason why EFL learners should spend more time to improve their English pronunciation skill (Aliaga-Garcia, 2007; Juan & Flor, 2006). In addition, having good pronunciation skill would lead to good language learning process, while bad pronunciation skill would promote to great difficulties in language learning process.

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(Gilakjani, 2012). Furthermore, Brown, also stated that EFL learners were clearly aware that poor pronunciation skill represented a considerable barrier to their success in learning English as a foreign language (Brown, 2021).

As EFL learners often find it difficult to produce accurate and proper pronunciation of English phonemes or sounds, more specifically the English vowel and consonant phonemes or sounds, in real life practices such as in English Phonology class, therefore, the present study contributes to identifying the types of erroneous sounds in pronouncing speech segments of the English consonant phonemes at a university level of education. In this case, the researcher chooses to identify any possible types of erroneous sounds in pronouncing speech segments of the English consonant phonemes, which is influenced by the mother tongue or national language (Indonesian language), produced by EFL students of an English Phonology class.

**Pronunciation**

Pronunciation is one of the most important aspects in EFL learning processes and it cannot be denied that without adequate or intelligible pronunciation skill, EFL learners would not be able to get their messages across well when interacting with others in English, as the target language. Dalton & Seidlhofer, stated that pronunciation was the action of producing sounds of speech to communicate a message (Dalton & Seidlhofer, 1994). Therefore, possessing an accurate or proper pronunciation ability for EFL learners is vital in oral communication purposes. Celce-Murcia, Brinton, & Goodwin, claimed that EFL learners needed to be understood when they communicated in the target language, in this case English, so the focus on pronunciation properness or accuracy needed to be considered as a crucial aspect in EFL teaching and learning processes (Celce-Murcia, Brinton, & Goodwin, 1996).

In the beginning levels of learning English phonemes or sounds, EFL learners should be taught or introduced to English phonetics and phonology, which are the two fields of English pronunciation study (Celce-Murcia et al., 1996; Kelly, 2000). Phonetics refers to “the study of sounds, while phonology is concerned with how sounds function in relation to one another in a language” (Forel & Puskás, 2005). Therefore, having good knowledge on both (English phonetics and phonology) would provide EFL learners with the ability to hear and to produce English sounds and words as well as to correct mistakes on their own while learning English pronunciation.

**Phonetics and Phonology of English**

Varga, states that phonetics is the science of human speech sounds. He also adds that phonetics has three subfields or branches, i.e., Articulatory phonetics, which examines the articulatory (vocal) organs and their role in the production of speech sounds, Acoustic phonetics, which deals with the physical properties of speech sounds as they travel through the air in the form of sound waves, and Auditory phonetics, which examines the way in which human beings perceive speech sounds through the medium of the ear (Varga, 2010).

While phonetics deals with the articulatory, acoustic, and auditory aspects of actual speech sounds, phonology ignores all of these non-distinctive details and limits its attention strictly to the really distinctive speech sounds, i.e., the basic sounds or phonemes, which form systems in a particular language. Therefore, the key notion of phonology deals with how basic sounds or phonemes relate to one another in a language. A phoneme is an abstract minimal sound unit of a particular language, which, when realized, is capable of distinguishing different words in that language (Varga, 2010). Phonetics and Phonology of English is the English linguistic course concerning with English speech sounds, i.e., sounds that are used by English-speaking people to communicate.

1) Phonetics of English

Phonetics is the study of human sounds in general without reference to their systemic role in a specific language. Phonetics of English (or any other language) is divided into three types according to the production (articulatory phonetics), transmission (acoustic phonetics) and perception (auditory phonetics) of the English sounds or any other language. Phonetics of English is the articulatory phonetics of English language which focuses on the study of the speech mechanism (i.e., the vocal tract and speech organs/articulators, air stream mechanism, speech chain, and states of the glottis), and the English sounds can be divided into consonants and vowels. The consonants can be described by voicing (causing the vocal folds/cords to vibrate: voiced or voiceless), place of articulation (where the articulation happens), and manner of articulation (how the articulation happens).
2) Phonology of English

English phonology is related intrinsically to English phonetics. The relationship between English phonetics and phonology is so close that it is not advisable to establish a strong dividing line between them. In brief, the relationship between phonetics and phonology is that between theory and practice. In other words, while phonetics deals with the speech sounds of a language in a generalized, idealized way, phonology studies the way those speech sounds actually function in a language. Thus, just like phonetics, phonology deals with:

- The range of phonetic elements within a specific language and the way they function in that language;
- The various types of phonetic relationships which link and contrast phonemes;
- The way in which phonemes are organized in the system of the language, their combinatorial possibilities;
- Other phenomena related to the sound structure of a language, e.g., stress, intonation, etc.

For clearer understanding, English phonology is further subdivided into two main classifications, they are:

- Segmental phonology, which studies the “segments” of speech, e.g., the vowel phonemes and consonant phonemes; and
- Suprasegmental phonology, which analyses the “traits” that extend over more than one segment, e.g., in connected speech.

Suprasegmental phonology also deals with phonological features which pertain to the speaker and the way s/he organizes her/his utterances. These features are classified into two main types, they are:

- Prosodic, i.e., pertaining to sound patterning the musicality of the language, e.g., stress, intonation; and
- Paralinguistic, i.e., the traits carried by the voice itself, e.g., an innocent child’s voice, an angry male voice, or a sensuous female voice.

Phonetics and phonology of English are worth studying for several reasons. The first reason is that the study of phonology gives us insight into how the human mind works. Other reasons are that the study of the phonetics of a foreign language gives us a much better ability to hear and to produce as well as to correct mistakes that we make, and also to teach pronunciation of the foreign language (in this case English) to others.

As phonetics and phonology of English both deal with English sounds, and as English spelling and English pronunciation are two very different things, it is important to keep in mind that we are not interested in letters in this case, but in sounds or phonemes. For instance, English does not only have twenty different vowels, even if these vowels are all written by different combinations of six different letters, they are: ‘a, e, i, o, u, y.’ Take for example, the word “please”, the orthographic spelling of the word will be given in italics, i.e., please, and the phonetic transcription is given between square brackets: [pliːz]. Thus, the word “please” consists of three consonant sounds, they are: [p], [l], and [z], and one vowel sound, that is: [iː]. Therefore, the sounds (of the word) considered from the phonological point of view are put between slashes: /pliːz/.

Speech Sounds

According to Meyer, “The study of speech sounds can involve either speech segments or suprasegmentals, and the analyses of speech segments are focused on the individual sounds in a given word (Meyer, 2009). For instance, the word “hat” has three speech segments, they are: two consonants (at the beginning and at the ending) of the word and one vowel (between the two consonants).” Meyer also added that in describing the three sounds in the word “hat”, linguists use a set of symbols from the phonetic alphabet, where an alphabet in which each symbol corresponds to one (and only one) sound. Thus, the word “hat” would be transcribed as: /haet/ A phonetic alphabet is necessary because in the English alphabet, for instance, a single symbol can represent more than one sound, for instance, the pronunciation of orthographic ‘a’ in the word “hat” is different from its pronunciation in the word “talk”.

In addition, Meyer, stated that the study of suprasegmentals moved the analysis beyond individual speech sounds to syllables within a given word or to intonational patterns across words, phrases, and clauses (Meyer, 2009). Therefore, the study of suprasegmentals extended the focus of inquiry to units that were larger than individual
segments, i.e., syllables, words, phrases, and clauses, and to the features of sound describing these units, i.e., stress and intonation to be more specifically.

**Speech Segments**

“Speech segments can be either phonemes or allophones. Phonemes are distinctive speech sounds; that is, they create meaningful differences in words. One way to determine whether a speech sound is distinctive is to examine minimal pairs, i.e., words that differ by only a single phoneme in the same position in a word” (Meyer, 2009). To strengthen his statement, Meyer provided an example by saying that the words “bat” and “cat” differ by only one sound, i.e., the second and third speech segments are the same vowel and consonant, i.e., /æ/ and /t/ respectively, but the two initial sounds are different, i.e., the word “bat” begins with /b/ and the word “cat” begins with /k/. As a conclusion, the word “bat” and the word “cat” are two different words providing evidence that the sounds: /b/ and /k/ in English are phonemes. Therefore, considering other minimal pairs with these sounds points to their status as phonemes, as it can be seen in the following examples:

- cake – bake
- kind – bind
- tack – tab

In addition, Meyer, also claimed that phonemes were abstract representations of speech segments. Consequently, the words “pot” and “spot” both contain the phoneme /p/. However, if the actual pronunciation of these two words is considered, it turns out that the phoneme /p/ is pronounced differently in the two words (Meyer, 2009). When the phoneme /p/ occurs at the beginning of a syllable, as in “pot”, the phoneme /p/ is aspirated, that is a puff of air accompanies the pronunciation of this sound. In contrast, when the phoneme /p/ occurs in the middle of a syllable, as in “spot”, or at the end of a syllable, as in “top”, the phoneme /p/ is unaspirated. It is possible to actually feel the presence or absence of air by placing your hand in front of your mouth while pronouncing each of these three words (pot, spot, and top). But while aspirated and unaspirated /p/ are different sounds, they are not phonemes (at least in English) because they are not distinctive. It is not possible to create minimal pairs with these two sounds since there is no way to create two separate words in English that differ only by aspirated and unaspirated /p/. Therefore, these two sounds are considered to be allophones, that is predictable variations in pronunciation of a phoneme. The phoneme /p/ is aspirated initially in a syllable and unaspirated elsewhere.

Furthermore, Meyer also argued that to study phonemes, it was important to use a system of symbols that represent one and only one sound (Meyer, 2009). Therefore, to see why such a system is necessary, it is useful to compare the English alphabet with a phonetic alphabet. In alphabetic writing systems, there is a (loose) association among letters of the alphabet, or graphemes, and sounds. In English, the graphemes: ‘c’ - ‘a’ - ‘t’ in the word “cat” correspond to the three phonemes in this word: /k/, /æ/, and /t/. But as is the case of most alphabetic writing systems, there is no a one-to-one correspondence between sound and grapheme, thus graphemes can have more than one pronunciation. That is why the grapheme ‘a’ in the word “cat” can be associated with many different sounds, such as: /æ/ in ‘broadway’, /a:/ in bar, and /a/ in addiction. To develop and advance the study of speech sounds, the International Phonetic Association was founded in 1886 with the goal of developing a phonetic alphabet known as the International Phonetic Alphabet (IPA).

**English Consonants**

Meyer notes that “English consonants are classified along three parameters: voicing, place of articulation, and manner of articulation” (Meyer, 2009). Below is presented the table (Table 1) of the entire range of consonant phonemes in English. Across the top of the table are the places of articulation, i.e., the parts of the mouth involved in the articulation of each phoneme. The left-hand column classifies the English consonants according to their manner of articulation, i.e., where the air flows in the mouth while each consonant is articulated, and the degree to which the air flows freely or is subject to varying degrees of constriction.

English has six international standard plosives and one regional plosive, which can be seen or found at the beginning of each word below:

| /p/ pat | /t/ tack | /k/ kite |
| /b/ bat | /d/ dark | /g/ get | /ʔ/ what |
Four of the plosives are voiceless (or unvoiced), i.e., /p/, /t/, /k/, and /ʔ/, and three of them are voiced, i.e., /b/, /d/, and /ɡ/. Voicing is a property of the vocal folds, which are located at the bottom of the vocal tract (as shown in Table 1). When the vocal folds vibrate during the articulation of a consonant, the consonant is voiced; if the vocal folds do not vibrate, the consonant is voiceless. Thus, /p/ and /b/ contrast because the latter is voiced but the former is not. It is easy to recognize the absence or presence of voicing in these sounds by feeling the larynx when pronouncing syllables such as ‘pa’ and ‘ba’, where ‘pa’ will produce much less vibration than ‘ba’.

Table 1. The English Consonant Phonemes

<table>
<thead>
<tr>
<th>Plosives</th>
<th>Bilabial</th>
<th>Labio-dental</th>
<th>Dental</th>
<th>Alveolar</th>
<th>Post-alveolar</th>
<th>Retroflex</th>
<th>Palatal</th>
<th>Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nasals</td>
<td>p</td>
<td>b</td>
<td>t</td>
<td>d</td>
<td>k</td>
<td>g</td>
<td>?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricatives</td>
<td>f</td>
<td>v</td>
<td>θ</td>
<td>s</td>
<td>z</td>
<td>j</td>
<td>ʒ</td>
<td>h</td>
<td></td>
</tr>
<tr>
<td>Affricates</td>
<td>(w)</td>
<td>j</td>
<td>r</td>
<td>j</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central Approximants</td>
<td>(w)</td>
<td>j</td>
<td>r</td>
<td>j</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lateral Approximants</td>
<td>l</td>
<td>ɹ</td>
<td>ɹ</td>
<td>l</td>
<td>ɹ</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

English has six international standard plosives and one regional plosive, which can be seen or found at the beginning of each word below:

/p/ pat   /t/ tack   /k/ kite
/b/ bat   /d/ dark   /ɡ/ get   /ʔ/ what

Four of the plosives are voiceless (or unvoiced), i.e., /p/, /t/, /k/, and /ʔ/, and three of them are voiced, i.e., /b/, /d/, and /ɡ/. Voicing is a property of the vocal folds, which are located at the bottom of the vocal tract (as shown in Table 1). When the vocal folds vibrate during the articulation of a consonant, the consonant is voiced; if the vocal folds do not vibrate, the consonant is voiceless. Thus, /p/ and /b/ contrast because the latter is voiced but the former is not. It is easy to recognize the absence or presence of voicing in these sounds by feeling the larynx when pronouncing syllables such as ‘pa’ and ‘ba’, where ‘pa’ will produce much less vibration than ‘ba’.

English has three nasal consonants, each of which is voiced, which can be seen in each word below:

/m/ make;   /n/ nice;   /ŋ/ long

These three sounds have the same place of articulation as the seven plosives in English. The manner of articulation is likewise identical, except that the air flows through the nasal cavity rather than the oral cavity. With the exception of the nasals, all consonants in English are oral, i.e., the soft palate moves back in the mouth and touches the pharynx, preventing air from flowing through the nasal cavity and forcing it instead through the oral cavity. With nasal consonants, however, there is no such movement of the soft palate. Consequently, the air is allowed to flow through the nasal cavity.

English has nine fricatives, each of which, except for voiceless /h/, has a voiceless and voiced counterpart. The fricatives in the top row (as shown Table 1) are voiceless and those in the bottom row are voiced, which can be seen in each word below:

/f/ five   /θ/ thin   /s/ sip   /ʃ/ ship /h/ hip
/v/ vice   /ð/ this /z/ zip   /ʒ/ measure

The phonemes /f/ and /v/ are labio-dental. When they are articulated, the upper teeth touch the lower lip. The phonemes /θ/ and /ð/ are dental. To produce these sounds, the tip or blade of the tongue touches the upper teeth. The phonemes /s/ and /z/ are alveolar. The phonemes /ʃ/ and /ʒ/ are postalveolar, i.e., the articulation of these sounds involves the tip or blade of the tongue touching the back of the alveolar ridge. The phoneme /h/ is glottal because this sound originates at the glottis and its articulation is independent of the other articulators (e.g., the tongue or lips). Instead, it is produced by bringing the vocal folds close enough to produce a hissy sound. With fricatives, there is some constriction of the airflow in the oral cavity. For instance, when /θ/ and /ð/ are articulated, the tongue does not completely block the flow of air as it touches the upper teeth. Instead, it creates a narrow opening through which the air flows, resulting in turbulence in the oral cavity. In fact, with some fricatives, such as /s/ and /z/, one can even hear
a hissing sound as the sound is produced. English has two affricates, one voiceless and the other one is voiced, which can be seen in each word below:

\[ /tʃ/ \text{ church} \quad /dʒ/ \text{ judge} \]

Both of these sounds are palatal. Their articulation involves the front of the tongue touching the hard palate. As the IPA symbols for these sounds suggest, an affricate is the combination of a stop and a fricative, i.e., when these sounds are produced, the tongue causes complete blockage of air. However, after the air is released, the tongue creates enough obstruction of the flow of air to create the kind of turbulence associated with a fricative. English has two types of approximants, they are: central and lateral approximants. The three English central approximants can be seen in each word below:

\[ /ɹ/ \text{ ripe} \quad /j/ \text{ yet} \quad /w/ \text{ wet} \]

and one lateral approximant, which can be seen in the word below:

\[ /l/ \text{ like} \]

All of the four approximants are voiced. The phonemes /ʃ/ and /l/ are alveolar, while /j/ is palatal. The phoneme /w/ is different from the other three approximants in that its articulation can be bilabial or velar, i.e., when this sound is articulated, the lips narrow and the back of the tongue touches the soft palate. Thus, the production of this sound involves two places of articulation. In some dialects of English, it is possible to find a voiceless equivalent of /w/, which is transcribed as /ʍ/ and is typically found in English words beginning with the orthographic characters: ‘wh’. For speakers who make the distinction, the word “witch” would begin with /w/ and the word “which” would begin with /ʍ/. While it was common in earlier periods of English, the distinction between /w/ and /ʍ/ is currently maintained by relatively few speakers of English. With all of the four approximants, there is relatively little obstruction of the air in the oral cavity – certainly much less than is found with fricatives. For this reason, the approximants are sometimes regarded as semi-vowels since the articulation of vowels involves very little obstruction of the flow of air.

The number and general characteristics of English consonant phonemes or sounds are described and presented as follows:

- There are twenty-four international standard of English consonant phonemes or sounds (No. 1-24) and one regional English consonant phoneme or sound (No. 25).
- A consonant sound is made by blocking the air as it leaves the mouth.
- The tongue, lips, teeth, and voice are used in different ways for each sound.

The chart of the English consonant phonemes or sounds and their groups can be seen in the table (Table 2) below:

<table>
<thead>
<tr>
<th>English Consonants: 1 - 25</th>
<th>Plosives</th>
<th>Fricatives</th>
<th>Affricates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 6: Plosives</td>
<td>p</td>
<td>t</td>
<td>k</td>
</tr>
<tr>
<td>7 - 14: Fricatives</td>
<td>f</td>
<td>θ</td>
<td>s</td>
</tr>
<tr>
<td>15 - 16: Affricates</td>
<td>b</td>
<td>d</td>
<td>g</td>
</tr>
<tr>
<td>17 - 19: Nasals</td>
<td></td>
<td>v</td>
<td>ŵ</td>
</tr>
<tr>
<td>20 - 23: Approximants</td>
<td></td>
<td>z</td>
<td>3</td>
</tr>
<tr>
<td>24 - 25: Glottals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voiced</td>
<td>m</td>
<td>n</td>
<td>ŋ</td>
</tr>
<tr>
<td>Voiceless</td>
<td>r</td>
<td>j</td>
<td>l</td>
</tr>
</tbody>
</table>

Table 2. The English consonant phonemes and their groups
Below is the list and symbols of each of the English consonant phonemes as well as example words for each phoneme:

1. [p] as in: pin, tipper, leap
2. [b] as in: boy, standby, grab
3. [t] as in: tin, sitting, dart
4. [d] as in: do, divider, did
5. [k] as in: king, market, pick
6. [g] as in: good, plugging, mug
7. [f] as in: fire, drifting, life
8. [v] as in: voice, service, survive
9. [θ] as in: think, rethink, path
10. [ð] as in: this, breathing, bathe /bɛrθ/  
11. [s] as in: sing, past, brass
12. [z] as in: zoo, browsing, booze
13. [ʃ] as in: shoe, washing, push
14. [ʒ] as in: leisure, measure, beige
15. [tʃ] as in: chair, watcher, teach
16. [dʒ] as in: jump, enjoy, garage
17. [m] as in: man, naming, comb
18. [n] as in: know, burning, none
19. [ŋ] as in: bring, sing, wing
20. [l] / [ɬ] as in: love, lullaby, tall
21. [r] / [ɹ] as in: round, price, rare
22. [w] as in: war, water, between
23. [j] as in: yet, young, beyond
24. [h] as in: hide, hot, rehearse
25. [ʔ] as in: what, huh, uh

The main purpose of the current study is to identify any possible types of erroneous sounds produced by EFL students in pronouncing speech segments of the English consonant phonemes by doing a phonetic analysis on the results of the research participants’ oral examination performances to find out the feasibility results of their pronunciation properness or accuracy in pronouncing the English consonant phonemes and the related English words. The present study is set out to answer the following question: What types of erroneous sounds are produced by EFL students in pronouncing speech segments of the English consonant phonemes and the related English words at a university level of education?

**METHOD**

**Research Design**

A research method is directly related to the nature of the research study and its objectives. As the main objective of the present study is to identify any possible types of erroneous sounds produced by EFL students in pronouncing speech segments of the English consonant phonemes by doing a phonetic analysis on the results of the research participants’ oral examination performances to find out the feasibility results of the research participants’ pronunciation properness or accuracy in pronouncing the English consonant phonemes and the related English words, so case study design is employed for this research study. Creswell & Creswell stated that case studies were a design of inquiry found in many fields, especially evaluation, in which the researcher develops an in-depth analysis of a case, often a program, event, activity, process, or one or more individuals (Creswell & Creswell, 2018). Cases are bounded by time and activity, and researchers collect detailed information using a variety of data collection procedures over a sustained period of time (Yin, 2014).

In addition, McCombes stated that a case study was a detailed study of a specific subject, such as a person, group, place, event, organization, or phenomenon. McCombes also claimed that case studies were commonly used in social, educational, clinical, and business research. Furthermore, McCombes added that a case study research design usually involved qualitative method and case studies are good for describing, comparing, evaluating, and
understanding different aspects of a research problem (McCombes, 2019). Therefore, descriptive research is aimed to describe a population, situation, or phenomenon accurately and systematically because it can answer what, where, when, and how questions, but not why questions. As a conclusion, a descriptive research design could use a wide variety of research methods to investigate one or more variables.

Since the present study is case study in nature, so mixed-methods approach is employed using descriptive-qualitative research method. This descriptive-qualitative research method is used in describing the facts or phenomena that occurred empirically among the research participants by describing the data (the research participants’ oral examination results) in the form of spoken English consonant phonemes or sounds and some related English words from the object of research that could be evaluated or examined to obtain the picture of phenomena in the students’ pronunciation properness or accuracy when pronouncing segmental sounds of the English consonant phonemes or sounds and some related English words.

Research Setting and Participants

The present study was conducted at a private university located in Pontianak, in the region of West Kalimantan, Indonesia. In this research study, ‘Borneo University’ (pseudonym) was used to identify this particular institution. The participants of the present study were sixteen (16) students of the English study program, Faculty of Economics and Business of Borneo University who were studying and taking the English Phonology class, at the university in the even semester of academic year 2022/2023. Those sixteen students were selected using total population sampling technique, i.e., a type of purposive sampling technique that involved examining the entire population having a particular set of characteristics (e.g., specific attributes/traits, experience, knowledge, skills, exposure to an event, etc.). Therefore, this technique is usually used to examine the entire population with specific traits like some particular experience, such as similar knowledge skills, exposure to an event, etc.

Instrument and Procedures for Data Collection

The present study used the results of the research participants’ oral examination performances (and the research participants’ audio-taped recordings of oral examination performances) as the main instrument for data collection. This technique was selected because it allowed the researcher considerable flexibility to probe the oral performances of the research participants (the results of the students’ oral examination performances in pronouncing the English consonant phonemes and some related English words) and to find out the feasibility results of their pronunciation properness or accuracy as well as to give the researcher the opportunity to gain deep information about the phenomena being investigated (Corbetta, 2003).

The data of the present study were collected by conducting and following the steps listed below:

First, (after learning English Phonology subject for half semester, i.e., fourteen meetings in seven weeks, two meetings in a week, where each meeting was 75 minutes in length), the researcher, who was also the lecturer of the English Phonology class of the students (research participants), assigned the students to do an assigned task (as listed below) on Thursday, 30 March 2023.

Instructions for the assigned task were as follows: Please prepare yourself well for the upcoming mid-semester exam of the English Phonology subject by practicing pronouncing each speech segment of the English consonant phonemes and some related English words listed in each number in the table (Table 3) below. Practice pronouncing each speech segment of the English consonant phonemes and some related English words in each number loudly and accurately several times before you come to meet your examiner on the day of the mid-semester exam on Wednesday, 5 April 2023.

<table>
<thead>
<tr>
<th>No.</th>
<th>English consonant phonemes</th>
<th>Examples in English words</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>[p]</td>
<td>as in</td>
</tr>
<tr>
<td>2</td>
<td>[t]</td>
<td>as in</td>
</tr>
<tr>
<td>3</td>
<td>[k]</td>
<td>as in</td>
</tr>
<tr>
<td>4</td>
<td>[b]</td>
<td>as in</td>
</tr>
<tr>
<td>5</td>
<td>[d]</td>
<td>as in</td>
</tr>
<tr>
<td>6</td>
<td>[g]</td>
<td>as in</td>
</tr>
<tr>
<td>7</td>
<td>[f]</td>
<td>as in</td>
</tr>
</tbody>
</table>
Second, the students (the research participants) joined the mid-semester exam of the English Phonology subject individually in turn (alternately) on Wednesday, 5 April 2023 started from 17.00 p.m. until 19.55 p.m. Each student was given 10 minutes of time length to pronounce each speech segment of the English consonant phonemes and the related English words (listed in Table 3) above.

The process of carrying out the mid-semester of English Phonology subject was conducted by asking each student in turn to meet the examiner (lecturer), in a face-to-face way, into a closed examination room to do the mid-semester task. When a student came to meet the examiner, the examiner directly asked the student to pronounce each speech segment of the English consonant phonemes and the related English words provided in the table and the examiner (lecturer) directly scored each student’s oral performance right on the spot by filling in the following scoring list.

<table>
<thead>
<tr>
<th>No.</th>
<th>Student Initial</th>
<th>Time</th>
<th>Score (1 - 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A. G. J.</td>
<td>17.00 - 17.10</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>C. G.</td>
<td>17.11 - 17.21</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>F. A.</td>
<td>17.22 - 17.32</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>F. C.</td>
<td>17.33 - 17.43</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>J. H.</td>
<td>17.44 - 17.54</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>J. K. W.</td>
<td>17.55 - 18.05</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>M. V.</td>
<td>18.06 - 18.16</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>P. L.</td>
<td>18.17 - 18.27</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>R. A.</td>
<td>18.28 - 18.38</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>R. N.</td>
<td>18.39 - 18.49</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>S. D.</td>
<td>18.50 - 19.00</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>T. K.</td>
<td>19.01 - 19.11</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>V. R.</td>
<td>19.12 - 19.22</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>W. G.</td>
<td>19.23 - 19.33</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>W. D.</td>
<td>19.34 - 19.44</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Y. A.</td>
<td>19.45 - 19.55</td>
<td></td>
</tr>
</tbody>
</table>

In order to maintain the objectivity, avoid any kind of bias, and meet the needs and purposes of the present study as well, the examiner (lecturer) used printed phonetic transcriptions and audio phonetic transcriptions (of all of the English consonant phonemes and the related English words listed in Table 3 above) from English Pronouncing Dictionary (15th Edition) by Daniel Jones as a guideline (scoring rubric) in scoring each research participant’ oral performance during the mid-semester exam process.

The examiner (lecturer) also recorded each research participant’ oral performance (during the mid-semester exam process) using an audio-recorder tool in order that the audio-taped recordings of the research participants’ oral performances could be used (later by the examiner) to cross check the pronunciation properness or accuracy of each research participant’ oral performance in order to obtain more accurate and valid score.
After all of the students had joined the mid-semester exam of English Phonology subject, then the examiner (lecturer) kept the students’ scores for further analysis – phonetic analysis. The whole data collection process of the present study was conducted on Wednesday, 5 April 2023, which was started from 17.00 p.m. until 19.55 p.m., when the students (the research participants) joined their mid-semester exam of the English Phonology subject.

One day after the mid-semester exam of the English Phonology subject was conducted, the researcher (the lecturer) then did a phonetic analysis on the audio-taped recordings of the research participants’ oral performances to cross check the research participants’ scores in order to obtain more accurate and valid score of each research participant.

**Techniques for Data Analysis**

The data of the present study were analyzed qualitatively applying descriptive-qualitative method in a narrative way following data analysis processes below:

First, the data (in the form of numerical information), i.e., the research participants’ oral examination results/scores in pronouncing each speech segment of the English consonant phonemes and some related English words, of the present study were used to describe the quality of the English consonant phonemes or sounds, by seeing the properness or accuracy of each of the English consonant phonemes in a single way or being used in some related English words, pronounced by each of the research participants during the data collection process.

Then, in reporting the category levels of the research participants’ scores, the obtained scores (numerical information data) were firstly converted into a scoring rubric called *Scoring Criteria for Pronunciation Accuracy Rating Scale*, which was adapted and modified (by the researcher) from *Scoring criteria: Pronunciation and Oral fluency* (By: PTE STUDY GUIDE - Free Online PTE Academic Practice), which was accessed from https://ptestudy.net/scoring-criteria-pronunciation-and-oral-fluency/. The *Scoring Criteria for Pronunciation Accuracy Rating Scale*, which was modified (by the researcher) and was consisting of six levels of category, is shown in Table 4 below.

<table>
<thead>
<tr>
<th>Score Scale</th>
<th>Category Level</th>
<th>Characteristics</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 - 100</td>
<td>Excellent</td>
<td>All of the English consonant phonemes and some related English words are pronounced in a manner that is easily understood by regular speakers of the English language.</td>
<td></td>
</tr>
<tr>
<td>80 - 89</td>
<td>Advanced</td>
<td>Almost all of the English consonant phonemes or and some related English words are pronounced clearly and unambiguously.</td>
<td></td>
</tr>
<tr>
<td>70 - 79</td>
<td>Good</td>
<td>Most of the English consonant phonemes and some related English words are pronounced correctly. Some consistent errors might make a few words unclear.</td>
<td></td>
</tr>
<tr>
<td>60 - 69</td>
<td>Satisfactory</td>
<td>Some of the English consonant phonemes and some related English words are consistently mispronounced in a nonnative-like manner.</td>
<td></td>
</tr>
<tr>
<td>50 - 59</td>
<td>Fair</td>
<td>Many of the English consonant phonemes and some related English words are mispronounced, resulting in a strong intrusive foreign accent.</td>
<td></td>
</tr>
<tr>
<td>0 - 49</td>
<td>Poor</td>
<td>Pronunciation for all of the English consonant phonemes and some related English words seems completely characteristic of any other language.</td>
<td></td>
</tr>
</tbody>
</table>

Finally, in determining the category levels of the research participants’ pronunciation accuracy or properness in pronouncing each speech segment of the English consonant phonemes, in a single way or being used in some related English words, the examiner (lecturer) converted the research participants’ obtained scores (numerical information data) into the *Scoring Criteria for Pronunciation Accuracy Rating Scale* (Table 4) to find out the category level of each student’ pronunciation accuracy or properness. The Pronunciation Accuracy Rating Scale and students’ converted scores are shown in Table 5 below.

Having obtained the category levels of the research participants’ pronunciation properness or accuracy in pronouncing each speech segment of the English consonant phonemes, in a single way or being used in some related English words (as shown in Table 5 above), the results of the present study were finally discussed and reported in a narrative way in the *Findings and Discussion* section below.
FINDINGS AND DISCUSSION

Research Findings

After analyzing and interpreting the data obtained from the research participants, i.e., the results/scores of research participants’ oral examination performances (numerical information data) in pronouncing each speech segment of the English consonant phonemes and the related English words, which were then converted into the Pronunciation Accuracy Rating Scale and students’ converted scores (as shown in Table 5), the findings of the present study are summarized and reported in a narrative way as follows:

In reference to the category levels of the research participants’ pronunciation properness or accuracy in pronouncing each speech segment of the English consonant phonemes, in a single way or being used in some related English words (using “Pronunciation Accuracy Rating Scale”), it can be seen that the category levels of the research participants’ pronunciation properness or accuracy are ranging from ‘Fair’ to ‘Advanced’ categories, which means that none of the research participants’ pronunciation properness or accuracy belonging to ‘Poor’ and ‘Excellent’ categories (as shown in Table 5).

In terms of the category levels, the descriptive percentages of the research participants’ data, i.e., Pronunciation Accuracy Rating Scale and Students’ converted scores (as shown in Table 5), the data are summarized as follows:

- 12.50% of the research participants got scores belonging to ‘Advanced’ category.
- 25% of the research participants got scores belonging to ‘Good’ category.
- 37.50% of the research participants got scores belonging to ‘Satisfactory’ category.
- 25% of the research participants got scores belonging to ‘Fair’ category.

In terms of improper or inaccurate pronunciation cases, the descriptive percentages of research participants’ data are narratively described and explained as follows:

- All of the research participants (100%) produced improper or inaccurate pronunciation when pronouncing the English consonant phonemes: /θ/, /ð/, /ʃ/, /ʒ/, and /ʃ/ and the related English words, that is: the phoneme [θ] as in words: thank, think, path, and tooth; the phoneme [ð] as in words: this, those, bather, and bathe /beθ/; the phoneme [ʃ] as in words: leisure, measure, pleasure, and beige; the phoneme [ʒ] as in words: giant, jump, enj oy, and page; and the phoneme [θ] as in words: what, huh, uh, and uh-huh.
- Most of the research participants (87.50%) produced improper or inaccurate pronunciation when pronouncing the English consonant phonemes: /ʃ/ and /tʃ/ and the related English words, that is: the phoneme [ʃ] as in words: ship, shoe, marsh, and push; and the phoneme [tʃ] as in words: chart, choir, itch, and teach.
- More than half of the research participants (62.50 %) produced improper or inaccurate pronunciation when pronouncing the English consonant phonemes: /f/ and /v/ and the related English words, that is: the phoneme [f] as in words: fat, fine, drift, and knife; and the phoneme [v] as in words: van, voice, leave, and survive.
Discussion of Findings

In discussing the research findings of the present study (as presented in the previous section - Section A / Research Findings), the explanations and descriptive percentages of the research participants’ pronunciation properness or accuracy in pronouncing each speech segment of the English consonant phonemes, in a single way or being used in some related English words, are narratively described, and explained as follows:

- In reference to the total percentages of the descriptive data presented (in number 2 of the Research Findings section), it can be concluded that most of the research participants, i.e., 37.50%, belong to ‘Satisfactory’ level of category; while the rest belong to ‘Fair’ category (25%), ‘Good’ level of category (25%), and ‘Advanced’ level of category (12.50%) respectively; and none of the research participants that belong to ‘Excellent’ and ‘Poor’ levels of category.

- Based on the descriptive percentages of the data (as presented in number 3 of the Research Findings section), it can be concluded that all of the research participants (100%) still produced improper or inaccurate pronunciation when pronouncing speech segments of the English consonant phonemes: /θ/, /ð/, /ʃ/, /ʒ/, and /ɹ/ and the related English words; most of the research participants (87.50%) still produced improper or inaccurate pronunciation when pronouncing speech segments of the English consonant phonemes: /ʃ/ and /tʃ/ and the related English words; more than half of the research participants (62.50%) still produced improper or inaccurate pronunciation when pronouncing speech segments of the English consonant phonemes: /f/ and /v/and the related English words; and some of the research participants (25%) still produced improper or inaccurate pronunciation when pronouncing speech segment of the English consonant phoneme: /z/ and the related English words.

In summary, none of the research participants could pronounce all of speech segments of the English consonant phonemes properly or accurately, in a single way or being used in some related English words. The data also shows the highest percentage, i.e., 37.50% of the research participants belong to ‘Satisfactory’ level of category, which means that this group of students (37.50%) still consistently mispronounced (in a nonnative-like manner) some of the speech segments of the English consonant phonemes and the related English words. As a conclusion, all of the research participants still had difficulties (with various levels of category) in pronouncing the speech segments of the English consonant phonemes in a proper or accurate way, in a single way or being used in some related English words.

CONCLUSION

The present study reveals that a significant number of EFL students struggle with accurate pronunciation of specific English consonant phonemes, leading to persistent errors in speech segments and related words. Notably, participants exhibited challenges with phonemes such as /l/, /tʃ/, /ʃ/, /v/, /z/, /θ/, /ð/, /ʃ/, /ʒ/, /dʒ/, and /ɹ/. The difficulties stem from the inherent differences in phonetics and phonology between the learners’ native languages and English. Mother tongue interference, coupled with a lack of motivation, emerged as key factors contributing to pronunciation inaccuracies. To enhance oral communication competence, it is recommended that English teachers incorporate varied interactive activities, authentic speech drills, and exposure to real English content in the form of movies or video clips. Additionally, teachers should focus on mastering IPA vowels and consonants through regular practice, attend seminars to stay updated on teaching methodologies, and set achievable goals aligned with the communicative needs of EFL learners.

Looking ahead, future research could explore different dimensions, such as examining erroneous sounds in English phrases and sentences, delving into suprasegmental phonology concerning connected speech traits, and investigating prosodic and paralinguistic aspects like stress, intonation, and voice characteristics. These endeavors would provide a more comprehensive understanding of EFL students’ pronunciation challenges and contribute to the development of targeted pedagogical strategies.
REFERENCES


