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Exploring Allophones and Minimal Pairs of Vowels and Consonants In English Phonology

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Abstract

In pronouncing words correctly, people should consider the sound system inherent in a particular language. Studying pronunciation is essential for enhancing students' language abilities in English. It holds a significant position in English instruction. According to Candlin and Chrichton, pronunciation is not only necessary for speaking but also for effective communication and conveying meaning in a clear and comprehensible manner. In other words, when a speaker communicates a message, it should be received by the listener with clarity and understanding. However, there are instances where the listener may not comprehend or appear perplexed by what the speaker has said. The research encompasses the researcher's strategy for data collection and analysis. According to research design refers to the researcher's plan for proceeding within the specific context of the study. In this research, a descriptive study with a qualitative approach was employed. Qualitative research aims to describe phenomena using words as the primary means of analysis. as for the conclusion of the discussion These minimal pairs are important for illustrating the distinct vowel phonemes in the English language and their role in conveying meaning. and help explain sound variations, sound changes, and sound distribution patterns in the language. By studying phonological rules, we can understand the principles underlying the sound system of language and how it sounds-these sounds interact in different linguistic contexts.

Keywords: *Minimal Pairs, Consonants and Phonology.*

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INTRODUCTION

In today's world, the role of language holds great significance in human life. According to Silva languages are intricate structures consisting of sounds, words, and methods used to convey emotions, making language acquisition a time-consuming process. Consequently, language serves as a vital tool for communication and expressing ideas with others. Regardless of the situation, language fulfills people's communication needs. As children grow, they begin to learn language at a young age, understanding how sounds are formed and imitating them. Each language possesses its unique sound system, including English and Indonesian. Individuals who undertake language learning should pay attention to the pronunciation of English words and the distinctions within the language system, particularly in English. Speaking plays a crucial role in language, requiring individuals to be mindful of the accurate pronunciation of words and sentences. (Asmaul Husna, 2013)

The study of language sounds is found in linguistics, especially in phonetics. This study is a branch of linguistic studies that specifically examines the components of a language's sound, more specifically examining the physical aspects such as pronunciation, pronunciation, and phonetics. (phone) of a language, more specifically studying from physical aspects such as testing, the delivery of utterances, and the reception of sounds.

One of the phonetic studies to describe the sound of a phoneme whether it has meaning or not is the study of minimal pairs. minimal pairs are a technical concept used in phonology, which is a branch of linguistics. They are pairs of words that differ by only one phoneme (sound), and this difference can change the meaning of the words. Minimal pairs are useful in analyzing the sound system of a language, as they help identify which phonemes are contrastive and which are not. For example, in English, "pat" and "bat" form a minimal pair because they differ only in the initial consonant sound (/p/ versus /b/), and changing this sound changes the meaning of the word.

The study revealed that the most challenging diphthong for students to pronounce was /oʊ/. Similarly, Wahdati (2016) investigated errors made by students when pronouncing consonant minimal pairs. The study identified common errors occurring with consonant minimal pairs such as /θ/ and /t/, /f/ and /v/, and /θ/ and /s/. Additionally, Risdianto (2017) concentrated on describing the English consonant system of Sundanese EFL speakers. The findings indicated that the most significant errors made by EFL speakers involved mispronouncing minimal pairs of /f/ and /v/, /s/ and /θ/, and /ð/ and /z/.

Based on the fact that the existence of minimal pairs is only limited to being used as a tool (phoneme proving), and the presentation of the quotation of the definition of minimal pairs, it is very reasonable if the existence of minimal pairs in learning Indonesian phonology must be placed on a basic / initial footing before any further material is discussed. Thus, it can finally be put forward the objectives to be achieved for the study of minimal pairs as the basis for learning Indonesian phonology (language) are: find and/or determine the reasons/arguments that 'minimal pairs' as the basic material for learning phonology (before the material is discussed further).

RESEARCH METHOD

The research encompasses the researcher's strategy for data collection and analysis. According research design refers to the researcher's plan for proceeding within the specific context of the study. This research utilized a descriptive study with a qualitative approach. Qualitative research focuses on describing phenomena through the use of words as the main method of analysis. It is defined as achieving a comprehensive understanding of a particular event or natural social setting.

Accordingly, the researcher requires a well-structured design analysis to guide the research process. This study uses a descriptive analysis method to analyze the minimal pairs of consonant sounds in English. Data was collected from various sources, such as dictionaries, learning , and audio sources that contain examples of word pronunciation. Each minimal pair found is analyzed based on the differences in the consonant sounds involved and their impact on the meaning of the word

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RESULT OF RESEARCH

Defenition Allophone

An allophone is a type of phoneme that changes its sound based on the spelling of a word. Just think of the letter 't' and what kind of sound it makes in the word 'tar' compared to 'stuff'. It is pronounced with a stronger, clipped sound in the first instance than in the second. Linguists use special punctuation marks to designate phonemes. The sound l, for example, is written as '/l/.'

Replacing one allophone with another whose phonemes are the same does not produce a different word, only a different pronunciation of the same word. Therefore, allophones are said to be non-contrastive. For example, tomato. Some people pronounce this word 'toe-MAY-toe', while others pronounce it 'toe-MAH-toe'. The definition of 'tomato' does not change, whether it is pronounced in a loud or soft tone.

In linguistics, an allophone refers to a variant of a phoneme, which is a basic unit of sound that distinguishes meaning in a language. Allophones are different ways a phoneme can be realized in actual speech, depending on factors such as phonetic context, stress, or position within a word. These variants don't change the meaning of a word. For instance, the "p" sound in English can be aspirated or unaspirated, as in "pat" versus "spat," respectively. Both sounds represent the same phoneme but are allophones due to their different pronunciations in specific contexts.

Examples of allophones

For example, in American English, the "t" sound in the word "stop" is aspirated, meaning a puff of air is released after the "t" sound. However, in the word "top," the "t" sound is not aspirated; it's pronounced with a sharper, more abrupt release. Despite this difference, both sounds are perceived as the same "t" sound by English speakers, and substituting one for the other doesn't change the meaning of the words.

Allophones often arise due to phonetic environments, such as neighboring sounds, stress patterns, or syllable structure. Linguists study allophones to understand the phonetic variation within a language and how speakers perceive and produce speech sounds.

A tonic allophone is a variant of a phoneme that occurs specifically in stressed syllables or in tonic positions within a word. These allophones can differ from their counterparts in unstressed or non-tonic positions. One example is the vowel sound "i" in English. In stressed syllables, it might be pronounced as a clear "ee" sound, while in unstressed syllables, it might be reduced to a shorter or less distinct sound, like a schwa or a lax "i" sound. This variation is due to the phonetic context and the prominence of the syllable within the word.

Minimal pairs of vowel

Many learners of English have difficulty in speaking English when pronouncing vowels pronounce the vowels. The Reason for this vowel pronunciation is because there is no physical contact between the tongue and mouth when making the vowels. These vowels are typically found in the middle of a syllable. The topic at hand is the definition and characteristics of English minimal pairs of vowels. In linguistics, a minimal pair of vowels in English refers to a pair of words that differ in meaning solely due to the vowel sound they contain. These minimal pairs are important because they highlight the distinct vowel phonemes in the English language and their role in conveying meaning (Tuan, 2010). Here are the key characteristics of English minimal pairs of vowels:

a. Phonemic Contrast: Minimal pairs of vowels differ by only one sound, highlighting the phonemic contrast between them. For example, "ship" and "sheep" contrast the short /ɪ/ and long /iː/ vowels.
b. Word-Level Significance: Minimal pairs exist as distinct words with different meanings, demonstrating the importance of vowel sounds in distinguishing between words. For instance, "pat" and "pet" have different meanings due to the contrast between the short /æ/ and short /ɛ/ vowels.
c. Context Sensitivity: The perception and production of minimal pairs can be influenced by surrounding sounds and linguistic context. This sensitivity underscores the dynamic nature of vowel pronunciation in English. For example, the pronunciation of the vowel in "cot" might differ slightly depending on the surrounding consonants or regional accent.

Their presence underscores the context-sensitive nature of pronunciation in English, where slight variations in articulation can alter word meanings. Studying minimal pairs not only enhances phonological awareness but also aids in mastering spoken English proficiency.

Description of consonant

Consonants are speech sounds that are produced by obstructing or restricting airflow in the vocal tract. Unlike vowels, which are produced with an open vocal tract, consonants involve some form of constriction, closure, or narrowing in the mouth or throat. They are essential building blocks of spoken language and play a crucial role in forming words and conveying meaning. In the utilization of plosive consonants, there are four stages viz:

1) Closure: This is where the airflow is completely blocked, typically by bringing together the articulators (such as the lips, tongue, or velum) to create a temporary obstruction in the vocal tract.
2) Retention: After the closure, there's a brief moment where the airflow is stopped or retained behind the closure. This buildup of air pressure creates tension in the vocal tract.
3) Release: The closure is suddenly released, allowing the airflow to burst out. This sudden release results in the characteristic burst of sound associated with plosive consonants.
4) Aspiration (optional): In some languages, particularly at the beginning of stressed syllables, there may be a short burst of air following the release of the closure, known as aspiration. This is heard as a slight breathy sound accompanying the plosive.

There are four distinct stages that speakers go through. Firstly, during the closure stage, the airflow in the vocal tract is completely blocked or restricted by specific articulators, such as the lips, tongue, or velum, depending on the particular plosive being produced. Following the closure, there's a

brief moment of retention where air pressure builds up behind the closure, creating tension in the vocal tract. Then, the closure is suddenly released, leading to a burst of sound. This release results in the characteristic burst of sound associated with plosive consonants. Finally, in some languages, particularly at the beginning of stressed syllables, there may be a short burst of aspiration after the release, characterized by a slight breathy sound. These stages collectively contribute to the precise articulation and understanding of plosive consonants across various languages, forming an integral part of spoken communication.

Another concept in our discussion of consonants is fricatives. Fricative consonants are produced when the articulatory organs are close to each other, leaving a small gap. The air passing through this narrow space creates a hissing sound. Fricatives are considered continuous consonants because they can be sustained as long as the speaker has enough breath to maintain the sound (Dwi Astuti Wahyu Nurhayati, 2019).

Defenition of phonology

Phonology is a branch of linguistics that studies the intricacies of language sounds produced by the speech apparatus. In fact, the sound of language can be studied from three aspects, namely the physiological aspect, the acoustic aspect, and the auditory aspect. In linguistics, phonology is one of the studies of linguistics (linguistics) that studies the sounds of language, both in the language of developed societies and in the language of societies that are still unpretentious (primitive) in all its aspects.

Common phonology is the study of the sounds of languages of various languages. Common phonology is the science that talks about the problem of language sounds in general, without regard to whether the sounds of the language being discussed language sounds are discussed in one particular language or not. For example, general phonology talks about the sounds of languages in the Southeast Asia (the Austronesian language family), languages in the East Asia (the United States), languages in the East Asia (the United States), and languages in the West Asia (the United States) languages in mainland Europe (Indo-Germanic language family) or the sounds of other languages that are not uniformly the sounds of other languages that are not allied for comparison.

In language investigations about the phonological progression of young children or regional variations in accents, you need to use phonetic transcriptions to be believable. However, this is not needed in all types of research - in an exam, you might be studying the effects of sound styles in ads or literature, such as assonance, rhyme or onomatopoeia - and you don't need to use any specialised phonetic symbols to do this (Sukma Nur Ardini Senowarsito, 2016).

DISCUCCION

Exploring Allophones And Minimal Pairs Of Vowels And Consonants In English Phonology

In this research, we discuss the consonants of words in English. For further information, the researcher will discuss examples from the discussion, namely Types and Examples of Consonant Minimal Pairs

Minimal Pairs by Place of Articulation

1. Bilabial minimal pairs

Bilabial minimal pairs refer to pairs of words that differ in meaning by only one sound segment, specifically in the bilabial place of articulation. The bilabial place of articulation involves the upper and lower lips coming together or making contact to produce specific sounds (Roach, 2009). Here are a few examples of bilabial minimal pairs in English (Roach, 2009):

1) "pat" /pæt/ vs. "bat" /bæt/: The words "pat" and "bat" are minimal pairs that differ only in the initial consonant sound. "Pat" starts with the voiceless bilabial plosive /p/, while "bat" starts with the voiced bilabial plosive /b/. The change in the initial sound results in a change in meaning, distinguishing between the action of lightly touching something and a type of flying mammal.
2) "pin" /pɪn/ vs. "bin" /bɪn/: The words "pin" and "bin" form another minimal pair. The only difference is the initial consonant sound: /p/ in "pin" and /b/ in "bin." This difference leads to a distinction in meaning, where "pin" refers to a small, thin object used to fasten things together, while "bin" refers to a container for storing things.
3) "pan" /pæn/ vs. "ban" /bæn/: In this minimal pair, "pan" and "ban" differ only in the initial consonant sound. "Pan" begins with the voiceless bilabial plosive /p/, while "ban" starts with the voiced bilabial plosive /b/. Consequently, "pan" refers to a shallow, wide, open cooking utensil,

whereas "ban" refers to the act of prohibiting or forbidding something.These examples illustrate how the change in a single sound segment at the bilabial place of articulation can result in a change in meaning between words.

2. Alveolar minimal pairs

Alveolar minimal pairs refer to pairs of words that differ in meaning by only one sound segment, specifically in the alveolar place of articulation. The alveolar place of articulation involves the tip or blade of the tongue making contact with or coming close to the alveolar ridge, which is the ridge just behind the upper front teeth (Roach, 2009). Here are a few examples of alveolar minimal pairs in English (Roach, 2009):

1) "sit" /sɪt/ vs. "zit" /zɪt/: The words "sit" and "zit" are minimal pairs that differ only in the initial consonant sound. "Sit" starts with the voiceless alveolar fricative /s/, while "zit" starts with the voiced alveolar fricative /z/. The change in the initial sound results in a change in meaning, distinguishing between the action of being seated and a pimple or blemish on the skin.
2) "pat" /pæt/ vs. "bat" /bæt/: While this example was also mentioned in the previous section on bilabial minimal pairs, it can be considered an alveolar minimal pair as well. In this case, the focus is on the final consonant sound. "Pat" ends with the voiceless alveolar plosive /t/, whereas "bat" ends with the voiced alveolar plosive /t/. The change in the final sound differentiates between the action of lightly touching something and a type of flying mammal.
3) "leaf" /liːf/ vs. "leave" /liːv/: This pair of words represents an alveolar minimal pair with a difference in the final consonant sound. "Leaf" ends with the voiceless labiodental fricative /f/, while "leave" ends with the voiced labiodental fricative /v/. This distinction leads to a change in meaning, where "leaf" refers to the flattened structure attached to a stem in plants, and "leave" refers to the act of departing or going away. These examples demonstrate how a single sound segment change at the alveolar place of articulation can result in a change in meaning between words.

3. Velar minimal pairs

Velar minimal pairs refer to pairs of words that differ in meaning by only one sound segment, specifically in the velar place of articulation. The velar place of articulation involves the back of the tongue making contact or approaching the soft part of the roof of the mouth near the rear (Roach, 2009).Here are a few examples of velar minimal pairs in English (Roach, 2009):

1) "cat" /kæt/ vs. "gat" /gæt/: The words "cat" and "gat" are minimal pairs that differ only in the initial consonant sound. "Cat" starts with the voiceless velar plosive /k/, while "gat" starts with the voiced velar plosive /g/. The change in the initial sound results in a change in meaning, distinguishing between a small domesticated feline animal and a slang term for a gun.
2) "can" /kæn/ vs. "gan" /gæn/: In this minimal pair, "can" and "gan" differ only in the initial consonant sound. "Can" begins with the voiceless velar plosive /k/, while "gan" begins with the voiced velar plosive /g/. The change in the initial sound leads to a distinction in meaning, where "can" refers to the ability or permission to do something, while "gan" is a dialectal form of "go" used in some English varieties.
3) "lick" /lɪk/ vs. "glick" /glɪk/: This pair of words represents a velar minimal pair with a difference in the initial consonant sound. "Lick" starts with the voiceless alveolar lateral fricative /l/, while "glick" starts with the voiced velar lateral fricative /gl/. The change in the initial sound results in a change in meaning, distinguishing between the action of passing the tongue over a surface and a term used to describe a sound or taste.These examples illustrate how a single sound segment change at the velar place of articulation can lead to a change in meaning between words. (Nadhira Afifah, Yani Lubis. 2023)

Phonological Rules

Phonological rules are systematic rules that govern how the sounds of a language interact and change in various linguistic contexts. These rules form the basis of phonology, the branch of linguistics that studies the sound systems in languages. Phonological rules have an important role in forming the sound system of language. They regulate sound patterns that occur in the language and explain sound changes that occur in certain situations. Phonological rules can apply at all levels of language, from phonemes to specific phonetic features (Najah Athirah.2023) various types of phonological rules can be found in languages, including:

a. Assimilation: This rule regulates sound changes due to the influence of other adjacent sounds. For

example, in Indonesian, the word "nine" (/ nine/) can be
assimilated into "sembilan" (/sembilan/) due to the influence of the sound /b/ on the sound /m/.

b. Deletions: This rule regulates sound deletions in certain situations. An example is the omission of the /t/ sound at the end of words in certain accents in English, as in the word "cat" (/kæt/) which is pronounced as /kæ/.
c. Epenthesis: This rule regulates the addition of sounds between certain sounds in a word.
d. For example, in some Javanese dialects, the word "ngebut" (/ŋəbut/) can be epenthesised to "ngebuth" (/ŋəbuth/) to facilitate smoother pronunciation.
e. Metathesis: This rule regulates changes in the order of sounds in a word. An example is the metathesis in English of the word "ask" which in some dialects is pronounced as "aks".
f. Substitution: This rule regulates the replacement of a sound with another sound in certain contexts. For example, in Mandarin, the word "xiǎo" (/ʂjaʊ/) meaning "small" can undergo sound changes to "xió" (/ʂjoʊ/) when followed by a /u/ sound. Lenition: This rule regulates the change of consonants to softer consonants or to disappear in certain situations. An example is lenisi in Spanish, where the sound /t/ in the word "catorce" (/katorθe/) can undergo lenition to become /ð/ so it is pronounced as /kaðorθe/. Phonological rules play an important role in shaping the sound system of language.

They help explain sound variations, sound changes, and sound distribution patterns in the language. By studying phonological rules, we can understand the principles underlying the sound system of language and how it sounds-these sounds interact in different linguistic contexts. (Najah Athirah.2023)

CONCLUSION

In this research Allophones are variations of a single phoneme that occur in different phonetic contexts but do not change the meaning of a word. For example, the different ways of pronouncing the /p/ sound in "pat" (aspirated) and "spat" (unaspirated) in English. Minimal pairs are pairs of words that differ by only a single phoneme, demonstrating the phonemic distinction between sounds. For example, "bat" and "pat" show that /b/ and /p/ are distinct phonemes in English.

Consonants are speech sounds produced with some degree of constriction in the vocal tract. They are classified by their place and manner of articulation and whether they are voiced or voiceless. For example, /t/ is a voiceless alveolar stop, while /d/ is a voiced alveolar stop. Phonology is the study of how sounds function within a particular language or languages. It examines patterns of sounds, including which phonemes are used, how they are organized, and how they interact with each other. Phonology helps linguists understand the rules that govern sound combinations and the abstract aspects of sounds in language.

Understanding these concepts is crucial for linguistic analysis, language teaching, speech therapy, and developing better speech recognition technologies. They reveal the intricate ways in which humans produce and perceive spoken language, contributing to our overall knowledge of human communication.

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