The Correlation Between Phonological Knowledge and Pronunciation Ability

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Abstract

Pronunciation is one of the sub skills that should be known by students. Surely, the phonological knowledge may have the relation to the pronunciation ability. Hence, the purpose of this research is to know whether there is a significant correlation between phonological knowledge and pronunciation ability. The method used in this research is correlation design. Variable X is the students' phonological knowledge and variable Y is students' pronunciation ability. Population of this research is all of the fourth semester students. There are 80 students as population and the writer took 20 students as the sample. The data are analyzed using Pearson Product Moment formula to know whether there is a correlation between phonological knowledge and pronunciation ability of the students. The result showed there is a correlation between phonological knowledge and pronunciation ability of the students. Based on the calculation that is obtained, r_{xy} value from variable X and Y is 0,223. It is categorized as a low correlation. Whereas the result of the calculation use t_{count} formula. The t_{count} value is 1,002. It means that there is no a significant correlation between X and Y variable.

Keywords: phonological knowledge, pronunciation ability

Introduction

If we talk about speaking, we cannot leave pronunciation. We must give attention to how the way we speak the words (Syafryadin, 2019; Syafryadin, 2020; Syafryadin, 2020; Syafryadin, Martina, Salniwati, 2020). The way in which a language is spoken is pronunciation. Many learners ignore pronunciation. They can communicate in class, so they think that they are good enough. After a few years they go to England or the USA and nobody understands what they are saying.

In discussing the pronunciation of English we can focus on one or both of two aspects. On one hand, we may want to describe what people do when they are speaking English. This is the aspect of speech, an activity carried on by people who use English for communicating. On the other hand, we may address the question 'What are

the characteristics of English words and sentences that are realized in speech?' According to Kreidler (2004), speech is not the same as language. More important, speech is an activity which is carried on in numerous events; language is knowledge, a code which is known and shared by people who use their knowledge for transmitting and interpreting messages in these events.

If we learn about pronunciation, we cannot be separated from phonological knowledge. Phonological knowledge is refers to those aspects of production and properties of the sound system that are specific to a particular language. In other words, phonological knowledge consist two aspects; phonetics study and phonology study. Phonetics deals with speech in its purely physical aspects the way sounds are articulated by the speaker, the acoustic properties of sound waves, and the effects that these have on the ear of the hearer (and on the ear of the speaker, for that matter). Phonology is concerned with the way speech sounds are organized into a system, the sound system of a specific language. Phonology is concerned with describing pronunciations but, more than that, with accounting for what is relevant in pronunciations, what makes it possible to communicate, what makes one utterance different from another (Kreidler, 2004). On the other hand, the writer will give ~~the~~ specific meaning from them. Phonology is essentially the description of the systems and patterns of speech sounds in a language. Phonetics is the study speech sounds and their production.

Pronunciation, phonology, and phonetics (linguistic study) have a relation to each other. Although all of them have a relation to each other, the writer does not refute that there are differences between quality of the person to the pronunciation and phonological knowledge. People with good pronunciation not always have a good mastery in phonological knowledge. Vice versa, people with a good mastery in phonological knowledge not always good in pronunciation.

Pronunciation refers to the phonology of the language or the meaningful perception and production of the sounds of that language and how they impact ~~on~~ the listener (Burns and Claire, 2003). According to Yates and Zielinski (2009:11) Pronunciation refers to how we produce the sounds that we use to make meaning when we speak. It includes the particular consonants and vowels of a language (segments), aspects of speech beyond the level of the individual segments, such as

stress, timing, rhythm, intonation, phrasing, (suprasegmental aspects), and how the voice is projected (voice quality).

Pronunciation is important because it does not matter how good a learner's vocabulary or grammar is if no one can understand them when they speak! And to be understood, a learner needs a practical mastery of the sounds, rhythms and cadences of English and how they fit together in connected   speech.   Learners   with   good pronunciation will be understood even if they make errors in other areas, while those with unintelligible pronunciation will remain unintelligible, even if they have expressed themselves using an extensive vocabulary and perfect grammar.

Many studies about the correlation about pronunciation ability and other aspects, but the they do not focus on pronunciation knowledge and ability. They just emphasized on pronunciation and speaking skill. They just found there was correlation between pronunciation and speaking skill. (Sihombing, 2014; Mujirah, 2016; Tussa'dah, 2018; Rosidah, 2020).

As English increasingly becomes the language used for international communication, it is vital that speakers of English, whether they are native or non-native speakers, are able to exchange meaning effectively. In fact, in recent discussions of English-language teaching, the unrealistic idea that learners should sound and speak like native speakers is fast disappearing. It is more important that speakers of English can achieve:

1) Intelligibility (the speaker produces sound patterns that are recognizable as English).

2) Comprehensibility (the listener is able to understand the meaning of what is said).

3) Interpretability (the listener is able to understand the purpose of what is said). (Burns and Claire, 2003:5)

The Features of English Pronunciation

According to Burns & Claire (2003), pronunciation involves features at the segmental (micro level) and the supra-segmental (macro) level. The various features that make up the production of sounds in English are illustrated in figure below:

As the diagram above illustrates, pronunciation involves features; the segmental (micro) level and the suprasegmental (macro) level.

1) **Segmental features**

Segmental features relate to sounds at the micro level. They include specific sounds within words (for example, /l/ as in lamp, /r/ as in ramp, /a/ as in hat).

a. The sound systems of consonants, vowels or their combinations are called **phonemes**. For example /f/ and /v/ are two different phonemes, because *fine* and *vine* has a different meaning. The basic phonemes of English are listed in the consonant and vowel charts.

b. **Consonant sounds** are made by restricting or blocking the air flow in some physical way, and this restriction, or the release of restriction, is what gives the consonants its characteristic sound. (Underhill, 2005:29). According to this definition, English has twenty four consonants.

c. If the glottis is narrow, i.e. if the vocal folds are together, the airstream forces its way through and causes the vocal folds to vibrate. Sounds produced in this way are called **voiced**. If glottis is open, i.e. if the vocal folds are apart, the air passes without causing the vocal folds to vibrate. Sounds produced in this way are called **voiceless.**

d. In the production of the **vowel sounds,** the vocal tract is open so that there is no obstruction to the air flow escaping over the tongue. According to Underhill (2005:5), the characteristic sound of a vowel depends on the shape and size of the resonant space in the mouth. This is determined by:

- The horizontal tongue position (front-center-back)
- The vertical tongue position (high-mid-low)
- The lip position (rounded-neutral-spread)

And there is a fourth characteristic of vowels which are not dependent on tongue or lip position:

- The typical length or duration of the vowel (long-short)

Vowel sounds in English is classifying in 2 types: simple vowels & diphthongs. According to Underhill (2005:5), Diphthongs are the result of a glide from one vowel to another within a single syllable. A diphthong as one phoneme not two, and therefore as one syllable not two, so each diphthong occupies a single box

on the chart. For example the word *say* /sei/ is one diphthong and one syllable. There are 12 simple vowels and 8 diphthongs in English.

2) Suprasegmental Features

Suprasegmental features relate to sounds at the macro level. Advances in research have developed descriptions of the suprasegmental features of speech extending across whole stretches of language (prosody).

a. **Linking** refers to the way the last sound of one word is joined to the first sound of the next word. To produce connected speech, we run words together to link consonant to vowel, consonant to consonant, and vowel to vowel. We also shorten some sounds and leave others out altogether (Gilakjani, 2012).

b. **Intonation** means when, why and how a speaker chooses to raise or lower or sustain the pitch of her or his voice at particular points while speaking. These choices are as much a part of the grammatical system of the language as, say, using the correct auxiliary verb, or remembering when and where to place the person markers (I, you, he/she ...) which tell us who is carrying out an action; who or what is acted upon (Birjandi, 2005).

c. The word **stress** means "loudness." Stress is a term that we apply to words in isolation which have more than one syllable. It refers to the property that certain syllables carry which makes them stand out from the rest of the word. It seems certain that stressed syllables are made with more effort than unstressed ones; the muscles in the lungs seem to expel air more aggressively than for unstressed syllables (Birjandi, 2005).

d. The sounds that result from one chest pulse form a **syllable**. In its minimal form, a syllable consists of a vowel. In addition to the vowel a syllable may consist of one or more consonants that appear on either or both sides of the vowel. Many of the most famous languages of the world, including English, are, however, alphabetic in the sense that they represent both their vowels and consonants in the form of letters in their orthography. In such languages, words are composed of one or more syllables (Birjandi, 2005).

Phonological Knowledge

Phonological Knowledge refers to those aspects of production and properties of the sound system that are specific to a particular language (Gierut, 1986). On the other word, phonological knowledge is related to phonetics and phonology study. Because phonetics deals with how speech sounds are produced while phonology deals with the systems and patterns of speech sounds in a language. So phonetics and phonology cannot be separated. In this chapter the writer will describe ~~about~~ the differences between phonetic and phonology study.

According to Yule (2010), Phonology is essentially the description of the systems and patterns of speech sounds in a language. Phonology is concerned with the abstract or mental aspect of the sounds in language rather than with the actual physical articulation of speech sounds.

Phonetics is the systematic study of the sounds of speech, which is physical and directly observable. Phonetics is sometimes seen as not properly linguistic, because it is outward, physical manifestation of the main object of linguistic research, which is language (not speech) and language is abstract. (Ogden, 2009). In addition, speech is produced by the controlled movement of air through the throat, mouth and nose (more technically known as the vocal tract). It can be studied in a number of different ways: (a). articulatory Phonetics, how speech sounds are made in the body.(b). Acoustic Phonetics the physical properties of the sounds that are made. (c). perception what happens to the speech signal once the sound wave reaches the listener's ear.

1. Minimal Pairs and Sets

Two words had a contrast in one phoneme occurring in the same position are described as **Minimal Pairs**. For example in the words *there* /θeə(r)/ and *where* /weə(r)/.

A group of words can be differentiated by changing one phoneme in the same position is described as **Minimal Sets**. For example in the words *feat, fit, fat, fate*.

2. Place of Articulation

The vocal tract contains some discrete physical landmarks which are used primarily in producing and describing consonants. In describing the place of articulation, we are describing where in the vocal tract a sound is made.

Articulators are the parts of the oral tract are used in producing speech sounds. Most places of articulation are described by reference to the passive articulator:

a. Bilabials

Bilabial sounds are sounds made at the lips. They are represented by the symbols [p], which is voiceless, and [b], [m] and [w], which are voiced.

b. Labiodentals

These are sounds formed with the upper teeth and the lower lip. They are represented by the symbols [f], which is voiceless, and [v], which is voiced.

c. Dentals

These sounds are formed with the tongue tip behind the upper front teeth. The symbol used for this sound is [θ], which is voiceless. The voiced dental is represented by the symbol [ð].

d. Alveolars

There are sounds formed with the front part of the tongue on the alveolar ridge, which is the rough, bony ridge immediately behind and above the upper teeth. The symbol for these sounds are easy to remember, [t], [d], [s], [z], [n], [l], and [r]. Of these, [t] and [s] are voiceless whereas [d], [z], [n], [l] , and [r] are voiced.

e. Palatals

Palatal sounds are made with the tongue body, the massive part of the middle of the tongue, raised up to the hard palate, or the roof of the mouth. Palatals sounds are produced with the tongue and the palate. The *sh* sound is represented as [ʃ] and the *ch* sound is represented as [tʃ], which are voiceless palatal sounds. The voiced palatal sounds are represented with symbol [ʒ], [dʒ], [j].

f. Velars

Sounds produced with the back of the tongue against the velum are called velars. There is a voiceless velar sound, represented by the symbol [k]. The voiced velar sounds are represented by [g] and [ŋ].

g. Glottals

There is one sound that is produced without the active use of the tongue and other parts of the mouth. The symbol for this sound is [h], which is voiceless sound. (Yule, 2010)

3. Manner of Articulation

Manner of articulation is a type or degree of closure of the speech organs. There are six different manners of articulation. These manners as follows:

a. Stops/Plosives

The sounds [p], [b], [t], [d], [k], and [g] are all produced by some form 'stopping' of the airstream (very briefly) then letting it go abruptly. This type of consonant sound, resulting from a blocking or stopping effect on the airstream, is called a **stop** or **plosive**.

b. Fricatives

The manner of articulation used in producing the set of sounds [f], [v], [θ], [ð], [s], [z], [ʃ], and [ʒ] involves almost blocking the airstream and having the air push through the very narrow opening. As the air is pushed through, a type of friction is produced and the resulting sounds are called **fricatives**.

c. Affricates

If you combine a brief stopping of the airstream with an obstructed release which causes some friction, you will be able to produce the sounds [tʃ] and [dʒ] these are called **affricates**.

d. Nasals

When the velum is lowered and the airstream is allowed to flow out through the nose to produce [m], [n], and [ŋ], the sounds are described as **nasals**.

e. Liquids

The [l] sound is called a **lateral liquid** and is formed by letting the airstream flow around the sides of the tongue as the tip of the tongue makes contact with the middle of the alveolar ridge. The [r] sound is formed with the tongue tip raised and curled back near the alveolar ridge.

f. Glides

The sounds [w], [j], and [h] are described as **glides**. These sounds are typically produced with the tongue in motion (or gliding) to or from the position of a vowel and are sometimes called semi-vowels or approximants. (Yule, 2010:35-37)

Table 1 Consonant Sounds

	Bilabial		Labio-dental		Dental		Alveolar		Palatal		Velar		Glottal	
	-V	+V	-V	+V	-V	+V	-V	+V	-V	+V	-V	+V	-V	+V
Stops	P	b					t	d			k	g		
Fricatives			F	v	θ	ð	s	z	ʃ	ʒ				
Affricates									tʃ	dʒ				
Nasals		m						n				ŋ		
Liquids								l, r						
Glides		w								j				h

Source (Yule, 2010:34)

Phonological Knowledge and Pronunciation Ability cannot be separated, because both of them relate each other. Phonological knowledge is refers to those aspects of production and properties of the sound system that are specific to a particular language. So it can affect the quality of students' pronunciation ability. Without learn about phonological knowledge, the students cannot pronounce the word based on the phonetic rule. The students maybe can speak English with their friends or teacher so they think that they are good enough in speak English. But after a few years they go to England or the USA and nobody understands what they are saying if they don't learn about phonological knowledge.

Research Methodology

This research is categorized as quantitative research. According to Creswell, (2014), Ary, Jacobs, & Sorensen (2010), and Fraenkel & Hyun (2012) state that quantitative research is a research that examine the theory and test the hypothesis. Since the data of this research is numeral and use statistic to analyzed the data. Based on the problems and the objectives of this research, the design of the research is correlation design. This research uses this design because the purpose of this research is to identify the relationship between phonological knowledge and pronunciation ability and the strength of the relation. Population of this research is the fourth semester

students of English Department of Lamongan Islamic University in academic year 2019/2020. There are 51 students as the population. The writer takes 20 students as the sample. This sample is taken by random sampling technique. The data of this research were analyzed by using SPSS 25 software program.

Finding and Discussion
Finding

The writer used test as the instrument of the research to collect the data that was followed by 20 respondents of the 4th semester students of English Department of UNISLA. Each student had 2 scores; phonological knowledge and pronunciation ability scores. The writer can obtain the information that the lowest score in phonological knowledge test was 43 and the highest score was 67. The result of the phonological knowledge test was as the variable X. Meanwhile, the writer can obtain the information that the lowest score in pronunciation ability test was 44 and the highest score was 69. The result of the pronunciation ability test was as the variable Y.

After the data had been collected, the writer used statistic calculation of Pearson Product Moment Formula to analyze whether there was a correlation between phonological knowledge and pronunciation ability. The following table show the calculation result based on the theory. $_{xy}$) used Pearson Product Formula. $r_{xy} = 0{,}223$. That was the result of the calculation from the data derived from variable X and Y. The correlation of Pearson Product Moment was signed by r_{xy} with the provisions of the r_{xy} value not more than 1 (-1 ≤ r ≥ ± 1). If r_{xy} value = -1 it means that the correlation was perfect negative, if the r_{xy} = 0 it means that there was no correlation, while if the r_{xy} = 1 it means that the correlation was very strong.

From the table above, the writer can conclude that the correlation of variable X and Y was classified on low correlation because r_{xy} value of the correlation was 0,223. After the writer had known the level of the correlation, the writer conducted test of significance using t_{count} formula to know whether there was a significant correlation between variable X and Y. $t_{count} = 1{,}002$

The result of the significance test of the correlation was 1,002. In determining whether there was any significant correlation between variable X and Y, the writer used the following test rule:

If $t_{count} \geq t_{table}$ so Ha is acceptable, it means that there is a significant correlation between variable X and Y.

$t_{count} \leq t_{table}$ so Ho is acceptable, it means that there is no a significant correlation between variable X and Y.

Based on the rule above, the writer proposed the Hypothesis Alternative (Ha) and Hypothesis Null (Ho) as follows:

Ha   : there is a significant correlation between phonological knowledge and pronunciation ability of fourth semester students of English Department of UNISLA in the Academic Year 2019/2020.

Ho   : there is no a significant correlation between phonological knowledge and pronunciation ability of fourth semester students of English Department of UNISLA in the Academic Year 2019/2020

Based on the t_{count} formula a = 0,05 and n = 20 so the writer conducted test of two parties. Dk = n – 2 = 20 – 2 = 18 so the writer obtained the t_{table} = 1,002., $t_{count} \leq t_{table}$ (1,002 ≤ 2,101), so Ho is acceptable. It means that there was no a significant correlation between phonological knowledge and pronunciation ability of fourth semester students of English Department of UNISLA in the academic year 2019/2020 It means that the correlation should be ignored and considered that there was no a correlation between two variables, whatever the magnitude of the correlation. It might be caused by the strength of the correlation that classified on low correlation.

Discussion

Phonological knowledge is in relation to the phonology and phonetics knowledge. Students need to have this in order to help them in doing pronunciation. However, based on the finding of this research, there was no correlation between phonological knowledge and pronunciation ability. However, according to the theory Phonological knowledge has relation to the phonological ability because if someone or students have good knowledge about phonology, hence it is in line with their pronunciation ability. In this case, having knowledge in Phonology could lead the students to have good pronunciation if they practice (Yule, 2010).

However, the research finding showed different result. After students were getting pronunciation test, and information about phonetics and phonology, the result

was beyond expectation. It may be caused by the lecturer and the students. It means that there may be something wrong from the lecturer or student. In other words, it may cause several students were not in really practicing the pronunciation at classroom or at home. If the students were seldom to practice and repeat the lesson from the lecturer, it can cause poor pronunciation. In terms of the lecturer, it may be caused that the lecturer was not maximum in teaching pronunciation either segmental or suprasegmental features (underhill, 2005) and giving exposure to students about how to pronounce English in good way. Besides, the exposure about Phonological knowledge that covered phonetics and phonology were not optimum.

In brief, this research had been conducted by the researcher and found that there is no a significant correlation between phonological knowledge and pronunciation ability of fourth semester students of English Department of UNISLA in the Academic Year 2019/2020.

Conclusion and Suggestion

There is a correlation between phonological knowledge and pronunciation ability of fourth semester students of English Department of Lamongan Islamic University in the academic year 2019/2020. Although there is a correlation between two variables, the correlation is classified on the low correlation level. It means that phonological knowledge of the students can affect the students' pronunciation ability although it very low. Besides, the writer conducted the significance test to answer the research problem of this research. Actually there was no a significant correlation between phonological knowledge and pronunciation ability of fourth semester students of English Department of Lamongan Islamic University in the academic year 2019/2020.

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