

## **CHAPTER II**

### **REVIEW OF RELATED LITERATURE**

Review of related literature presents the theoretical framework and previous studies.

#### **A. Review of Related Literature**

##### **1. Intelligibility**

###### **a. The Concept of Intelligibility**

International intelligibility of English is defined as a one way process of effort in which non native speakers made themselves understood by native speakers who have privilege to decide whether it is intelligible or not.<sup>21</sup> It means that the native speakers' perception can be used to measure the intelligibility of non native speakers because they have right to decide how the speakers' said.

In addition, intelligibility is described as a complex of factors comprising recognizing an expression, knowing its meaning, and knowing what that meaning signifies in the sociocultural context.<sup>22</sup> It means that intelligibility is not only the right of native speakers, but also the right of the listeners while native speakers or non native speakers. The factor such as the

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<sup>21</sup> Jennifer Jenkins, *The Phonology of English as an International Language New Models, New Norms, New goals*, (New York: Oxford University Press, 2000),69

<sup>22</sup> (Bangboose, 1998) as cited in Taesung Kim, *Accentedness, Intelligibility....* 7

expression, the meaning of words, and the meaning in sociocultural context has a role to decide the term ‘intelligibility’.

Besides, the intranational use of English by local of region may not be intelligible to the English use outsiders because they want to keep private conversation, for example. This does not mean that they cannot use English internationally to communicate with outsider. Yet, localized varieties that are frequently used in local situations with different objectives are often not understood by outsiders, i.e. non-locals.<sup>23</sup>

Furthermore, the term ‘intelligibility’ is defined as the extent to which a speaker’s utterance is actually understood<sup>24</sup>. This means that intelligibility does not focus on the meaning, but it focuses the recognition of the listeners on the word, phrase or sentence produced by speaker.

According to Kachru and Smith intelligibility is the recognition of a word or another sentence-level element of an utterance. For example, if one were to hear “anyone lived in a pretty how town,” one would probably recognize this as an utterance made up of six English words. When told that this is the first line of an e. e. cummings’ poem, one could accept that but still have no idea of what the utterance may mean.<sup>25</sup>

From the concern rise by Karchu and Smith, the focus of intelligibility is the recognition of utterance. An utterance is a category that includes not just sentences but any construction that is meaningful in the context in which it

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<sup>23</sup> Yamuna Kachru - Larry E. Smith, *Cultures*....., 59

<sup>24</sup> (Munro et.al., 2006) as cited in Taesung Kim, *Accentedness, Intelligibility*.... 7

<sup>25</sup> Yamuna Kachru - Larry E. Smith, *Cultures*....., 61

occurs.<sup>26</sup> Besides, an utterance could only be considered intelligible if it is effective. It means that the listener should be able to respond to a speaker's intentions in a manner which is appropriate to the purpose in speaking. Here, the term 'intelligibility' can only be used for utterances which are both intelligible and effective.<sup>27</sup>

The term intelligibility may be different for different people. While talking about intelligibility, other aspects are needed to be considered, such as comprehensibility and interpretability. Comprehensibility is the recognition of a meaning attached to a word or utterance, i.e. the contextual meaning of the word in a sociocultural setting as well as the illocutionary force of an utterance. While, interpretability is the recognition by the hearer/reader of the intent or purpose of an utterance, i.e. the perlocutionary effect the speaker/writer is aiming at<sup>28</sup>. Therefore, it can be said that intelligibility focuses on word or utterance recognition. Comprehensibility focuses on the meaning of a word or sentence. It means that interpretability focuses on the meaning behind word or sentence. Intelligibility and comprehensibility concern with the speaker and interpretability concerns with the listener/the reader.

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<sup>26</sup> Charles F. Meyer, *Introducing English Linguistics* (New York: Cambridge University Press, 2009), 50.

<sup>27</sup> Clatford (1950,8) as cited in Herrn Samuel Ngwa Atechi, Doctoral Dissertation: "*The Intelligibility.....*", 43

<sup>28</sup> Yamuna Kachru - Larry E. Smith, *Cultures.....* 62 and 63.

## **b. Types of Intelligibility**

The concept of intelligibility has been defined, and it can be different meaning for different people. Besides, there are some types of intelligibility that are often seen in research. The types of intelligibility are described as follows.

### **1) Speech Intelligibility**

Speech intelligibility has been defined as how clearly a person speaks so that listeners comprehend his or her speech.<sup>29</sup> Another expert defines speech intelligibility as the degree of utterances produced by speaker understood by listeners. The judgment of speech intelligibility is on the basis of the acoustic signal, as opposed to comprehensibility, which also incorporates signal-independent information such semantics, syntax, and physical context.<sup>30</sup>

### **2) Mutual Intelligibility**

The degree of understanding of speakers from two or more speech communities in communication is called mutual intelligibility. Mutual intelligibility is often based on the impressions of speakers and hearers, the degree of understanding in communication when they encounter

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<sup>29</sup> (Leddy, 1999) as cited in Libby Kumin, Ph.D., CCC-SLP, Speech intelligibility and childhood verbal apraxia in children with Down syndrome, 2006, Down Syndrome Research and Practice 10(1), 10-22

<sup>30</sup> (Duffy, 2005 and Yorkston, Strand, & Kennedy, 1996) as cited in Zachary D. Hall, “*Effect Of Rate Reduction On Speech Intelligibility In Individuals With Dysarthria*”, 2013

speakers from other groups, or when they are accustomed to the speech of other groups.<sup>31</sup>

### 3) Pronunciation Intelligibility

Besides, pronunciation intelligibility is defined as a type of pronunciation that can be understood by listeners without much effort.<sup>32</sup>

### 4) Phonological intelligibility

In more specific of pronunciation is phonology. Phonological intelligibility are relates with the similarity of the syllable onset, the nucleus, the coda, and the stress in a poly-syllabic word. Phonological differences between two dialects in the language system affect intelligibility, and influence the well communication.<sup>33</sup> Phonology has the core features, they are segmental features (vowel and consonant), and suprasegmental features (of word stress, sentence stress, rhythm, prominence, and intonation).<sup>34</sup> However, many segmental are important in preservation of phonological intelligibility.<sup>35</sup>

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<sup>31</sup> Michael Gasser, <http://www.indiana.edu/~hlw/Introduction/dialects.html>, Dialects and Languages, Indiana University, 2002, accessed in April 19 2014

<sup>32</sup> Neide Cesar Cruz, “*An Exploratory Study of Pronunciation Intelligibility in the Brazilian Learners’ English*”, the ESPECIALIST Universidade Federal, vol. 24, n° 2 2003, 156

<sup>33</sup> James H. Yang, *English Phonological Intelligibility: A Phono-Numerical Measure*, (Taiwan: National Yunlin University of Science and Technology)

<sup>34</sup> Marriane Celce-Murcia, *Teaching Pronunciation*....., 35

<sup>35</sup> Jennifer Jenkins, *The Phonology of English*....., 135

### c. Measurement of Intelligibility

Basically, there are two types measurement of intelligibility: subjective measurement and objective measurement. In subjective measurement, the listeners' perception is required to measure the speaker's intelligibility by assigning in the numerical value.<sup>36</sup> According to Hongyan in his dissertation states that "the subjective measurement is getting from opinion which is taken by rating scale, and the native speakers are the excellent and reliable raters in measuring intelligibility of speech utterance". It means that the judgment from native speakers can be taken for reliable rater of intelligibility measurement.

Besides, there is objective measurement which uses functional testing, and there are two types of functional testing, on-line and off-line test. Functional test needs listeners to recognize words. The words can be recognized through recognizing of vowel and consonant which is the smallest unit in individual speech sound or phoneme, and clusters which is the smallest linguistic unit in morpheme.<sup>37</sup>

In addition, for assessing intelligibility there are some ways that can be used. Firstly, the way for assessing intelligibility is by recording the voice of the speakers, and presenting them to listeners who indicated what they heard. This test focuses on the words in quiet and noise. Secondly, a cloze test

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<sup>36</sup> Zachary D. Hall, "*Effect.....*", 5

<sup>37</sup> Wang Hongyan, Doctoral Dissertation: "*English as.....*", 25

completed by listeners based on a passage read by speakers from various first language backgrounds. Thirdly, a standardized test used which second language speakers read sentences or paragraphs aloud, and then listener select a picture corresponding to the read material and give multiple-choice responses to questions based on the reading. Fourthly, listeners summarize the main idea of short presentations by second language users. Fifthly, a now-common technique used, the dictée task, in which listeners heard sentence-length samples and wrote them out in standard orthography, and then the data are scored in terms of words correctly transcribed. Sixthly, the passages read aloud by second language speakers and then presented them to native listeners, who responded to comprehension questions. Finally, a verification task is used in which listeners heard short true and false sentences read aloud by native and nonnative speakers, and indicated their comprehension through true or false responses<sup>38</sup>.

#### **d. Influencing Factor on Intelligibility**

Mi-Young Jung states that “for establishing intelligibility, some factors needed to be fixed such as pronunciation, stress, intonation, and the vowel and consonant sounds of English.”<sup>39</sup> This means that those aspects need

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<sup>38</sup> Jette G. Hansen Edwards and Mary L. Zampini, *Phonology and.....* 201.

<sup>39</sup> Mi-Young Jung, *The Intelligibility and.....*, 142

to be described in detail for knowing whether the utterance is intelligible or not. These factors of intelligibility are described as follows.

### 1) Pronunciation

In some particular cases, the intelligibility problem is able to be solved by using pronunciation help. Furthermore, in teaching and learning aspect, many language teachers suggest intelligibility as the goal of pronunciation teaching because students should use good pronunciation in order to be able to be always understood. If they have bad pronunciation, and it is not up in standard, then it can affect in communication that they cannot communicate effectively.<sup>40</sup> Pronunciation also may be able to help speech production and understanding of spoken English such as explained by Joan Kerr.

Joan Kerr states that how she was able to help a Cantonese speaker of English achieve considerably greater intelligibility by working on his point of articulation – changing his focus of resonance. Whereas many Cantonese vowels occur toward the back of the mouth, English ones are frequently articulated nearer the front or in the centre of the mouth. The moment you can get Cantonese speakers, she suggested, to bring their vowels further forward, increased intelligibility occurs.<sup>41</sup>

Besides, in term of pronunciation, interlocutors engaged in *Interlanguage Talk*, have accurate perception in phonological form because they are unable to access other information in the process of

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<sup>40</sup> Jeremy Harmer, *The Practice...*, 248 - 249

<sup>41</sup> Jeremy Harmer, *The Practice...*, 248



switch level, from sound to word to co-text to context, which characterizes fluency.<sup>42</sup> However, pronunciation have two features; segmental and suprasegmental.

Linguistic refers to this inventory of vowels and consonant as the segmental aspect of language. The segmental features and their distinguish characteristics are consonants and vowels. In addition, to having their own inventory of vowels and consonants, language also have unique features that transcend the segmental level. These suprasegmental features involve those phenomena that extend over more than one sound segment. These suprasegmental features consist of word stress, sentence stress, and rhythm along with adjustment in connected speech (i.e. the adjustments or modifications that occurs within and between words in the stream of speech), such as assimilation and linking. Suprasegmental features that are sensitive to the discourse context and the speaker's intent: prominence and intonation.<sup>43</sup>

Based on the quotation above, pronunciation features have more than stress, intonation, and vowel and consonant sound. However, these other features may not decrease or increase intelligibility.

## 2) Stress

Before going down to the definition of stress, it is needed to know what the syllable is. Marie Krčmová defines a syllable as “the easiest and the most immediate articulatory unity of functional elements of speech that is satisfactory for communication”. When talking about syllables, the features such as strong and weak syllable have to be included. These

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<sup>42</sup> Jennifer Jenkins, *The Phonology of English*....., 93

<sup>43</sup> Marriane Celce-Murcia, *Teaching Pronunciation*, (United States of America: Cambridge University Press, 2008), 35.

syllable will influence the speak production since speech is not monotonous.<sup>44</sup> However, here, the researcher does not go down to discuss about syllable. Yet, it is important to know the definition of stress.

Jana Langrová states that “all the scholars agree that stress is a prominence that is given to certain syllables in a word or a sentence when pronouncing it”. Stress belongs to a group of prosodic or suprasegmental features of speech. These, as scholars claim, are of great importance to the intelligibility of speakers.<sup>45</sup> In addition, stress is defined as “a shorter term variation that highlights a specific syllable or a semantically important word”.<sup>46</sup> As we can see in daily life that our speech is not monotonous. People can achieve their goal in communication when they need to use various means. In this case are suprasegmental features of language which is the force or intensity of their voice, pitch, timber, pace and pausing. These means form the base of speech modulation ways. In other words we are talking about how it possible to modulate our speech. These include word stress, sentence stress, emphasis, and intonation.<sup>47</sup>

A word can be have primary stress, secondary stress or unstressed.

The mark ' before the stressed syllable is indicated for writing the primary

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<sup>44</sup> Jana Langrová, Master Diploma Thesis: “*Stress and.....*”, 14-15.

<sup>45</sup> Jana Langrová, Master Diploma Thesis: “*Stress and Intelligibility: Pronunciation of Secondary School Students of English*”(Masaryk University, 2012), 16.

<sup>46</sup> --, An Overview of Speech Synthesis and Recognition, ([http://fileadmin.cs.lth.se/cs/Personal/Pierre\\_Nugues/ilppp/chapters/speech.pdf](http://fileadmin.cs.lth.se/cs/Personal/Pierre_Nugues/ilppp/chapters/speech.pdf), accessed on July 17<sup>th</sup> 2014), 8

<sup>47</sup> Jana Langrová, Master Diploma Thesis: “*Stress and.....*”, 15.

stress, and for secondary stress the same mark is used but is placed at the bottom of the syllable. If a word does not have mark such in primary stress or secondary stress, it is called unstressed.<sup>48</sup> Primary stress is also called as nuclear stress. It can be used to identify the speaker's intended meaning. Nuclear stress is crucial for intelligibility in Inter-Language Talk. Misplaced nuclear stress makes error and affects the communication problem when people are allowed to identify the correct nuclear production and placement in order to interpret message.<sup>49</sup>

The placement of stress can be in suffix or prefix. Yet, this study does not present about the stress placement because it is too complex area. In addition, the placement of stress can be in word or sentence. Whereas, word stress is seemed important to first language receivers, but it is rarely affect intelligibility problem. On the other hand, misplaced word stress will influence the nuclear stress, and misplaced word stress will influence unintelligibility.<sup>50</sup>

### 3) Intonation

While speakers are speaking, they may have some meaning of what they will say. It may produce different intonation. Besides, what the meaning of intonation is, and what the use of intonation in speaking is.

Ahrens for example, defines intonation as “the pitch contour of an

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<sup>48</sup> Jana Langrová, Master Diploma Thesis: “*Stress and.....*”, 18.

<sup>49</sup> Jennifer Jenkins, *The Phonology of English.....*, 153

<sup>50</sup> Jennifer Jenkins, *The Phonology of English.....*, 150

utterance”, while Shlesinger considers “intonation to be characterised by parameters like accent, pitch, duration and speed”.<sup>51</sup> Furthermore, the definition of intonation is found as “a longer-term variation that is linked to the grammatical structure”.<sup>52</sup> Whereas, the use of Intonation is to show the intended meaning of what the people are saying. In addition, intonation is used to deliver feeling. Finally, intonation has important role in discourse since it signals when speakers have finished the points they wish to make, tells people when they wish to carry on with a turn, and indicate agreement and disagreement.<sup>53</sup> Furthermore, Jeremy Harmer states the function of Intonation.

According to Jeremy Harmer, Intonation is vital carrier of meaning, by varying the pitch of our voice we indicate whether we are asking a question or making a statement, whether we are enthusiastic or bored, or whether we want to keep talking or whether, on the contrary, we are inviting someone else to come into the conversation.<sup>54</sup>

From the quotation above, intonation has important role in conveying meaning. Then, what the effect of intonation in intelligibility is. Some studies show the effect of intonation on intelligibility. Francuz conclusion was that “intonation affects how well listeners comprehend newsreaders messages”. Furthermore, a study made by Braun, Dainora & Ernestus

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<sup>51</sup> Elisabeth Holub, *Does Intonation Matter? The Impact of Monotony on Listener Comprehension*, (University of Vienna, 2010), 118.

<sup>52</sup> --, *An Overview of Speech Synthesis and.....*, 8

<sup>53</sup> Jeremy Harmer, *The Practice....*, 38-39

<sup>54</sup> Jeremy Harmer, *The Practice....*, 249

showed that “an unfamiliar intonation pattern slows down the processing of speech and thereby reduces intelligibility, which indicates the importance of intonation”. Another study made by Sara and Jesper concluded that “there is connection between intonation and intelligibility”. The group who listened to lively intonation has larger speech intelligibility than the group who listened to monotone intonation. In addition, this study concluded that monotone intonation can decrease speech intelligibility.<sup>55</sup>

#### 4) Vowel and consonant sound

Before knowing the effect of vowel and consonant sound on intelligibility, it is needed to know the definition of vowel and consonant itself.

A vowel is a speech sound made by allowing breath to flow out of the mouth, without closing any part of the mouth or throat. Letters of the English alphabet that represent vowels: a, e, i, o, u, and sometimes y. Whereas, a consonant is a speech sound made by partially or completely blocking the flow of air through the mouth (using the lips, teeth, tongue, and palate). Letters of the English alphabet that represent consonants include all the letters that are not vowels.<sup>56</sup>

In addition, Fei Chen defines vowels and consonants as,

Vowels and consonant are two categories of speech sounds existing in all languages. Vowels are characterized by a relatively open vocal tract with sustained voicing in production

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<sup>55</sup> Sara Marklund and Jesper Zacariasson, “*The Intonation’s Effect on Speech Intelligibility and Attitudes*” (Sweden: University of Gothenburg, 2014), 9.

<sup>56</sup> --, “Review of Vowels and Consonant”, (<http://www.montessoritraining.net> accessed on July 13<sup>th</sup>, 2014)

and low frequency energy and long duration, whereas consonants are characterized by complete or partial vocal tract constriction in production and high frequency energy and short duration.<sup>57</sup>

From the quotation above, it is known that vowels and consonants are two different units of sound, and they include in the category of speech sound. A study concluded that vowel and consonant have contribution on intelligibility, especially sentence intelligibility, but vowel has higher contribution than consonant.<sup>58</sup> Furthermore, the substitution of consonant for example dental fricative pair /θ/ and /ð/ does not cause intelligibility, but the deletion of consonants cause intelligibility. Whereas, the substitution of vowel for example “the substitution of /ɜ:/ with /ɑ:/ causes intelligibility problem”.<sup>59</sup>

## 2. Speech

### a. Definition of speech

The definition of speech may be varied from every expert. Edward defines “speech as a human activity that varies without assignable limit as we pass from social group to social group, because it is a purely historical heritage of the group, the product of long-continued social usage”.<sup>60</sup> In

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<sup>57</sup> Fei Chen, et.al., *Assessing The Perceptual Contributions of Vowels and Consonants to Mandarin Sentence Intelligibility*, (The University of Hong Kong, 2013)

<sup>58</sup> Fei Chen, et.al., *Assessing The Perceptual Contributions of Vowels and Consonants to Mandarin Sentence Intelligibility*, (The University of Hong Kong, 2013)

<sup>59</sup> Jennifer Jenkins, *The Phonology of English*.....,137-145

<sup>60</sup> Edward Sapir, *Language: An Introduction to The Study of Speech*, (New York: Harcourt, Brace, 1921), 2

addition, speech is also defined as “(language) communication by word of mouth”.<sup>61</sup> This means that speech produced orally, and its function is as communication by a group of people.

## **b. Element of Speech**

Speech has three elements; vocabulary, grammar and prosody.<sup>62</sup> It means that they have important role in producing the speech. They have to be presented when speaker produces speech. Whereas, one cannot stand as individual element in order to be able to produce the appropriate speech.

According to Burn and Broman “vocabulary is the stock of words used by person, class or profession to state their idea”.<sup>63</sup> It means that the words produced will present idea of the speaker. Here, the idea can be expressed through speech. In addition, Hornby states that “vocabulary is the total numbers of words in a language, and vocabulary is a list of words with their meaning”.<sup>64</sup> It means that vocabulary is not words without meaning instead of meaningful word. It may consist of not only one word but also more than one word. The meaningful word will produce the speech.

Besides, the definition of grammar according to Swan is “the rules that show how words are combined, arranged, or changed to show certain kinds of

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<sup>61</sup> <http://www.audioenglish.org>

<sup>62</sup> G. H. Monrad-Krohn, *The Third Element of Speech: Prosody in Neuro-Psychiatric Clinic*, (<http://bjp.rcpsych.org/>, Accessed on July 13<sup>th</sup> 2014)

<sup>63</sup> Ike Anisa, *Improving Students' Vocabulary Mastery Using Experimental Learning*, (Klaten: Universitas Widya Darma Klaten, 2010), 169.

<sup>64</sup> Ike Anisa, *Improving Students' Vocabulary.....*, 169.

meaning”. In addition, Lado states that “grammar is the study of rules that are claimed to tell the students what he should and should not say in order to speak language of the social educated class”. Then, according to Cook and Sutter “grammar is a set of rules by which people speak and write. These rules are not always understood consciously because the rules we refer to are those hardly anyone ever thinks about, but wish allow people to use their language easily and naturally most of the time.”<sup>65</sup> These definitions mean that the way people speak in a good manner in order for the interlocutor able to understand what is said.

Another element of speech is prosody. Prosody is similar to the melody and rhythm of speech. It has necessary role for a significant part of the intelligibility and naturalness of sentences. Prosody consists of syntactic, semantic, as well as emotional information. Prosodic aspects has some features such as in English stress and intonation.<sup>66</sup> It means that prosody is like the melody of speech. Speech cannot have the meaning without prosody. If it is not present on speech, the speech will flat and meaningless, or the interlocutor may have different interpretation to what intended by speaker.

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<sup>65</sup> Rachmawati, *Chapter II*, (<http://digilib.ump.ac.id/files/disk1/20/jhptump-ump-gdl-rachmawati-962-2-chapter-i.pdf>, accessed on July 17<sup>th</sup> 2014)

<sup>66</sup> --, *An Overview of Speech Synthesis and.....*, 8



### c. Types of Speech on Intelligibility

In context of intelligibility, speech is seen into two aspects. They are clear speech and conversational speech. The clear speech has higher intelligibility than the conversational speech.<sup>67</sup>

Clear speech is defined as the speech that naturally arises when a talker is in difficult communication situation.<sup>68</sup> Clear speech can show high increases of result in auditory speech recognition by listeners' performance.<sup>69</sup> It means that clear speech is speech produced in isolated words. The speaker are not freely produced the speech based on their intention. However, it can cause the speaker more intelligible because the speaker says as to someone with difficulty to understand. It is showed in the quotation bellow.

According to Jean-Pierre the term of clear speech was used to describe the speech intelligibility scores obtained for tokens of speech generated following a request to produce speech patterns that would make the talker more intelligible (i.e. "articulate each word clearly as if you are saying to someone who had difficulty understanding what you are saying.")<sup>70</sup>

Besides, another kind of speech in intelligibility is conversational speech. It is not only focus on words but also the complexity of the utterance. Yet, conversational speech consist of elements that actually assist the listener

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<sup>67</sup> Picheny *et al.*, 1985 as cited in Ann R. Bradlow and David B. Pisoni, "Recognition of spoken words by native and non-native listeners: Talker-, listener-, and item-related factors", 1999

<sup>68</sup> Picheny, Durlach, and Braida, 1985 as cited in Jean-Pierre Gagne, et.al, "Across Talker Varicompetence in Auditory, Visual and Audio-Visual Speech Intelligibility for Conversational and Clear Speech", Vol. XXVII, 1994

<sup>69</sup> Jean-Pierre Gagne, et.al, "Across.....", 137

<sup>70</sup> Jean-Pierre Gagne, et.al, "Across.....", 155

including the linguistic context of the message (creating varying degrees of predictcompetence within each utterance), nonverbal signals (gestures, postures and facial expressions), and the conversational milieu (i.e., topic being discussed, preceding utterances, etc.)<sup>71</sup> This means that the speakers can speak based on their intention, and there is no isolated word. However, it may be more difficult to understand than clear speech because sometimes the interlocutors do not totally know the message conveyed by the speakers.

### 3. Transcription

Transcription is the action of documenting or recording of words in the same language that involves either reading material or listening of recording material, so they can give information to a third person at the next stage.<sup>72</sup> Transcription is also defined as “records properties of spoken language”<sup>73</sup>. It means that transcription is the result of recording spoken language that is written and produced words.

As mentioned above that intelligibility can be measured by allowing the listener to make orthographic transcription, it is needed to define the meaning of orthography. Orthography is the branch of knowledge concerned with the study

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<sup>71</sup> Peter Flipsen JR, “*Measuring the Intelligibility of Conversational Speech in Children*”, (USA: University of Tennessee, 2006)

<sup>72</sup> Noa A. *Difference Between Transcription and Translation*.( <http://www.differencebetween.net> accessed on June 27, 2014)

<sup>73</sup> Friederike Lüpke, *Transcription, Orthography, and Other Level of Representation*, ([http://www.hrelp.org/events/workshops/eldp2010\\_3/resources/transcription\\_luepke.pdf](http://www.hrelp.org/events/workshops/eldp2010_3/resources/transcription_luepke.pdf), accessed on July 14<sup>th</sup> 2014)

of spelling and representing sounds of a language by letters and diacritics.<sup>74</sup> It means that orthography is similar to spelling. Therefore, it can be concluded that orthography transcription is the result of written work in the form of word from the recording process. Orthographic transcription can be in the form of speech corpus such explains in the quotation bellow.

“The most basic type of annotation that makes a collection of speech recordings into a speech corpus is some kind of orthographic transcription. This can range from a simple chain of words per recording item (based for instance on the script that was used during the recording) to an extensive labeling of several different semantic layers. The choice about what is to be included in the transcript is dependent on the type of speech corpus and the intended usage.”<sup>75</sup>

The quotation above means that orthographic transcription is used as the result of speech recording. It can be a word or a long sentence from the recording. It all depends on the goal of listener for knowing the speech recording.

## **B. Review Of Previous Studies**

There are some previous study focusing in intelligibility and native perception. Firstly, dissertation written by Atechi under the title *The Intelligibility of Native and Non Native English Speech: A Comparative Analysis of Cameroon English and American and British English* focusing on the measurement of the intelligibility of Cameroon English speakers to British and American English

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<sup>74</sup> Anu Grag. *A.Word.A.Day—Orthography*.( <http://wordsmith.org/words/orthography.html>, accessed on June 27, 2014)

<sup>75</sup> BITS Projekt Akun 2004/06/01 . *Orthographic Transcription* ( <http://www.bas.uni-muenchen.de/forschung/BITS/TP1/Cookbook/node124.html>, accessed on June 27, 2014)

speakers and vice versa. This study showed that Cameroon English is more intelligible to Native English speakers (British English and American English) than Native English Speakers to Cameroon English, Cameroon English is more intelligible to British English than to American English, and British English is more intelligible to Cameroon English than to American English. Another focus of this study is for knowing the cause of the intelligibility failures of the interlocutors among these speakers which focus on segmental and supra segmental phonology. The result showed that there was greatest threat caused by supra segmental differences, such as when native speakers listen to Cameroon English caused intelligibility failure for supra segmental differences as opposed to segmental differences, phonotactic differences, and lexical differences. In addition, when Cameroon English speaker listen to native speakers caused intelligibility failure for supra segmental differences as opposed to phonotactic and segmental differences respectively. Moreover, when Cameroon English speaker listen to British English speakers caused intelligibility failure for supra segmental differences as opposed to phonotactic and segmental differences respectively. Finally, when Cameroon English speaker listen to American English speakers caused intelligibility failure for supra segmental differences as opposed to phonotactic and segmental differences respectively<sup>76</sup>.

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<sup>76</sup> Herrn Samuel Ngwa Atechi, Doctoral Dissertation: “*The Intelligibility of Native and Non-native English Speech: A Comparative Analysis of Cameroon English and American and British English*” (Vorgelegt Der Philosophischen Fakultät Der Technischen Universität Chemnitz, 1969)

Secondly, a study on intelligibility titles *The Effect of Age and Native Speaker Status* which focuses on the natural voice and syntactic voice. The participants are 69 people who has 50 people of young group and 19 people of older group, but 43 people has English as first language and 26 people has English as second language. The result shows that the native speakers' status influences the speech intelligibility instead of the age (young and old adult). The non-native listeners performed significantly worse than the native listeners in the synthetic speech condition although no differences were found in the natural speech condition<sup>77</sup>.

Thirdly, the journal written by Mi-Young Jung titles *The Intelligibility and Comprehensibility of World Englishes to Non-Native Speakers* which focusing on pronunciation difficulty and differently from first language and crucial factors in communication when English is used in world Englishes. The pronunciation relates with intelligibility which focuses on word, and communication relates with comprehensibility which focuses on meaning. The result shows that for achieving intelligibility needs some factors such as intonation, stress, and pronunciation of English and for achieving comprehensibility acquire linguistic, cultural, socio-cultural, and pragmatic aspect. The result also reports that students' thought of the factors of comprehensibility is more difficult or significant than intelligibility so meaningful communication is more important than pronunciation.<sup>78</sup>

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<sup>77</sup> Catherine Watson, et., all, "*The Effect of Age and Native Speaker Status on Intelligibility*", (New Zealand: University of Auckland, 2013)

<sup>78</sup> Mi-Young Jung, "The Intelligibility and Comprehensibility of Word Englishes to Non-native Speaker". *Journal of Pan-Pacific Association of Applied Linguistics*, (Korean University, 2010)

Fourthly, a study titled *Perception of Foreign Accent in Spontaneous L2 English Speech* which focusing on comparative judges' assessment of spontaneous second language accented English speech of speakers from different native language backgrounds by native and non-native speakers, and the signal which is used by native and non native speakers judges to assess degree of foreign accent. The result shows that Mandarin judges are less sensitive to foreign accent in second language speech than native judges. However, second language speaker who has strong accent are more intelligible to Mandarin judges than to native judges. In addition, the perceived degree of accent of Mandarin judges is lower for the Mandarin and Cantonese accented utterances than for the French, Spanish, and Russian accented utterances. It also shows that first language backgrounds affect non-native judges' assessment of degree of foreign accent.<sup>79</sup>

Fifthly, a study which has topic of native speakers' perception titled *Native Speakers' Perceptions to Non-Native English Speech* which has aim to investigating the rating and intelligibility of different non-native varieties of English, those are French English, Japanese English, and Jordanian English by native English speakers. This study also aims to investigate the attitudes of native English speakers toward foreign English accent. The result shows that the Jordanian accent are the most intelligible in dimensions of clarity, fluency and accuracy than French speakers, and the Japanese speakers has the lowest in those dimensions from the

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<sup>79</sup> Jiahong Yuan<sup>1</sup>, Yue Jiang, Ziang Song, “*Perception of Foreign Accent in Spontaneous L2 English Speech*”, (U.S.A and.China:University of Pennsylvania and Xi'an Jiaotong University)

native speakers perceptions. The native speaker' attitudes are more positively to Jordanian English than French English and Japanese English.<sup>80</sup>

Sixthly, a study by the title *The Judgment of Intelligibility and Foreign Accent by Listeners of Different Language Background* written by Hsueh Chu Chen which focuses on multiple aspects of English phonological pattern spoken by Chinese speakers with different language background, the perceptual judgment of non-native speakers on the intelligibility of Chinese accented English, and the effects of the listener's language background on their perceptions of Chinese-accented speech. The participants are grouped into five group, Native speaker group, ESL group (Filipino and Pakistani), EFL group (Japanese and Korean), Mandarin group and Cantonese group. The result shows that all group achieved at least 70% intelligibility on both accent, Cantonese and Mandarin accented English which Mandarin and EFL group 80%, and native English group listeners achieve the highest score; 90% Cantonese-accented English and 97% Mandarin-accented English. In addition, both Cantonese and Mandarin-accented English have low rate from all listeners' perceptual judgment. Yet, Mandarin-accented English has higher rate than Cantonese-accented English because Mandarin-accented English is easier to understand than Cantonese-accented English. The result also shows that some aspects make both speeches unintelligible; Cantonese-accented speech is several

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<sup>80</sup> Maysa Jaber and Riyad F. Husein, "Native Speakers' Perception of Non-Native English Speech", *English Language Teaching*, Vol. 4, No. 4, 2011

word-stress shifts or double primary stresses, and Mandarin-accented speech is the mispronunciation of unknown words.<sup>81</sup>

Seventhly, a study written by James Emil Flege., et, al by the title *Effects on Experience of Non-Native Speakers' Production and Perception of English Vowels* which the participants of non-native speakers are German, Spanish, Mandarin, and Korean. The result shows that experience that is gain by non-native speakers influence their perception of vowel production. The experienced non-native speakers are more accurately in producing and perceiving vowels than inexperienced non native speakers. In more specific of the result of this study is the experienced German subjects make greater use of spectral cues in identifying the vowel *bat-bet* continuum than the inexperienced Germans, the experienced Mandarin subjects make greater use of spectral cues in identifying the vowels in both the *beat-bit* and *bat-bet* continua than inexperienced Mandarin subjects, both Korean groups will make more use of temporal cues than will the NE subjects to identify vowels in the *beat-bit* continuum, and less to use spectral cues to identify the vowels *bat-bet* continuum, and both Spanish groups will use spectral cues for *beat-bit* less than the NE subjects, but much like the NE subject.<sup>82</sup>

Eighthly, another study focusing on perception and production English vowels titles *Native Italian Speakers' Perception and Production of English Vowels* written

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<sup>81</sup> Hsueh Chu Chen, 2011, "Judgment of Intelligibility and Foreign Accent by Listeners from Different Language Background", *The Journal of Asia Tefl* Vol. 8, No. 4, pp. 61-83.

<sup>82</sup> James Emil Flege, Ocke Shwen Bohn and Sunyoung Jang, 1997, "Effects of Experience on Non-native Speakers' Production and Perception of English Vowels", *Journal of phonetic*, 25, University of Alabama at Birmingham, U.S.A, Aarhus University, Denmark, and University of Pennsylvania, U.S.A.



by James Emil Flege et.al.,. This study uses intelligibility test to assess the vowel production accuracy in which native English speaking listeners try to identify the vowels spoke by native Italian speakers, and categorial discrimination test is used for assessing vowel perception. This study differs Italian speakers on the period living in Canada and the use of Italian language, and the result showed that native Italian speakers have difficulty in producing English some English vowels because those English vowels have the same production in different Italian vowels. Then, they have better perception in English-English contrast than English-Italian contrast<sup>83</sup>.

Ninth, a study about perception written by Ering M. Ingvalson et.al., titles *Predicting Native-English like Performance by Native Japanese Speakers* which focuses on degree of foreign accent, intelligibility of production /I/ and /i/, and competence to perceive natural speech /I/ and /i/. the result shows that native Japan speakers are correctly and naturally producing those English sound as intended by the native English, they also have native English like performance on degree of perceived foreign accent and it is caused by increasing lengths of residency in North America (LOR), more years of being a student in an English environment (EngEd), and/or decreasing amounts of Japanese usage (JUse)<sup>84</sup>.

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<sup>83</sup> James Emil Flege, Ian R. A. MacKay, and Diane Meador, 1999, Native Italian Speakers' Perception and Production of English Vowels, University of Alabama at Birmingham, University of Ottawa, and Speech and Language Sciences Research Laboratory

<sup>84</sup> Ingvalson, E.M.,et al., 2011, Predicting native English-like performance by native Japanese speakers. *Journal of Phonetics* , doi:10.1016/j.wocn.2011.03.003

Tenth, thesis written by Etik Khusnul Khotimah titles *The Correlation between the Competence of Phonemic Transcription Mastery and English Pronunciation at PBI, IAIN SUNAN AMPEL, SURABAYA*. This study focuses to measure the competence of students of PBI semester 4 in pronunciation skill especially in phonemic transcription which is part of the segmental feature of pronunciation. The result shows that 70% students are in the level of average in English Pronunciation which has score 41-60, and 46% students are in the bad level which has score 21-40.<sup>85</sup>

In this research, the writer will focus on the correlation between speech intelligibility and the competence in transcription. Speech intelligibility allows native speakers to give their perception as the rater for measuring the intelligibility of the students in the fourth semester of English Teacher Education Department. Speech intelligibility here focuses on the level. Since the native English speakers have English as their mother tongue, they are the good rater in speech utterance, and it will be able to know the level of intelligibility. Besides, the transcription is orthographic transcription. The researcher uses this term because there is theory that presents orthographic transcription as the measurement of intelligibility. Therefore, the researcher wants to know whether there is correlation between the level of intelligibility and the competence in transcription.

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<sup>85</sup> Etik Khusnul Khotimah, Unpublished Thesis: “*The Correlation between the Competence of Phonemic Transcription Mastery and English Pronunciation at PBI, IAIN SUNAN AMPEL, SURABAYA*” (Surabaya: IAIN Sunan Ampel Surabaya, 2012)