A Study on Factors Determining Global Intelligibility of EFL Learners' Speech

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A Study on Factors Determining
Global Intelligibility
of EFL Learners’ Speech

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Abstract

Traditionally, the goal of pronunciation teaching has been to enable EFL learners to attain native-like pronunciation of English. However, as more and more people have come to use English as a means of wider communication across cultures, the focus of pronunciation teaching has shifted from how learners can attain native-like pronunciation to how learners can transact information effectively in oral communication. As a result, intelligibility rather than native-like pronunciation has become a legitimate goal of pronunciation teaching. So far two types of intelligibility were proposed: comfortable intelligibility and mutual intelligibility. Acknowledging that neither of them is sufficient as the goal of pronunciation teaching in the globalisation era, this author investigates a new concept of intelligibility, that is, global intelligibility, and attempts to build up the theoretical construct of global intelligibility through the reviews of previous literature and studies on intelligibility, to explore factors determining global intelligibility of EFL learners' speech from different perspectives, and to provide guidelines of pronunciation teaching for EFL learners, especially in Indonesia, to guarantee their global intelligibility.

In order to achieve the purposes, four experiments were conducted. Experiments 1 and 2 were conducted to explore factors determining global intelligibility through the analyses of ENL speakers' and ESL speakers' assessment of the intelligibility of Japanese and Indonesian EFL learners' speech (in all nine factors were investigated). The main findings of the study indicate that for comfortable intelligibility—intelligibility required for the interaction between native and non-native speakers—word stress or adjustments in connected speech may be the most essential while for mutual intelligibility—intelligibility required for the interaction between non-native speakers—sound accuracy is crucial. Assuming that global intelligibility—intelligibility required for the interaction between native and non-native speakers as well as the interaction between non-native speakers—should be the aim of teaching English as a global language, both
word stress and sound accuracy should be recognised as the crucial elements in pronunciation teaching.

Experiment 3 was conducted to examine the relationships among EFL learners' knowledge of pronunciation (especially segmental features and word stress), their oral performance, and the intelligibility of their speech. By conducting three different tests, the present experiment has disclosed a number of interesting findings. As far as the inter-correlation among the knowledge of sound accuracy and primary word stress placement measured by a paper-and-pencil pronunciation test, the knowledge of sound accuracy and primary word stress placement realised in oral performance (either controlled, natural, and overall), and intelligibility is concerned, there were three findings of the experiment. First, the knowledge of sound accuracy measured by the paper-and-pencil pronunciation test has a significant moderate correlation to the overall oral performance, but the knowledge of primary word stress placement measured by the paper-and-pencil pronunciation test did not. This is because most student participants could perform more correctly in the primary word stress placement in oral performance than in sound accuracy. Secondly, there was no significant correlation between the knowledge of sound accuracy and primary word stress placement measured by the paper-and-pencil pronunciation test and intelligibility, suggesting that knowledge of pronunciation measured by a pronunciation test does not contribute to intelligibility of EFL learners. Thirdly, concerning the correlations between the knowledge of sound accuracy and primary word stress placement realised in both controlled and natural oral performance, and intelligibility, it was found that only the knowledge of sound accuracy realised in natural performance had a moderate significant correlation to intelligibility, whereas the other three types of knowledge of pronunciation (i.e., the primary word stress placement test realised in natural oral performance, the sound accuracy test realised in controlled oral performance, and the primary word stress placement test realised in controlled oral performance) did not show any significant correlations to intelligibility. This suggests that the variance in intelligibility can be mainly explained by the knowledge of sound accuracy realised in natural oral performance.

Experiment 4 was carried out to investigate Indonesian EFL teachers’
perceptions of frequency and seriousness of EFL learners' pronunciation mistakes which may hamper their global intelligibility, and to look at native English speakers' perceptions as reference points for the analysis. An analysis of the respondents' perceptions has discovered that 14 of the 32 target mispronunciations are pedagogically significant in pronunciation instruction. Further analysis of the reasons for these major mispronunciations has reconfirmed the prevalence of interference from learners' native language in their English pronunciation as a major cause for mispronunciations. It has also revealed Indonesian EFL teachers' tendency to overestimate the seriousness of their learners' pronunciations.

Based on the findings of the study, the present author suggests that initial pronunciation teaching should focus more on primary word stress placement than on sound accuracy, that the knowledge of sound accuracy should be cultivated explicitly and implicitly in a long-term instruction (i.e., from junior high school till university), and that attention or choice of individual segmental features (consonants and vowels) should depend on the phonetic structure of EFL learners' mother tongue, taking into account L1 interference. Finally, the findings of the study are expected to be able to contribute to English language education in Indonesia, more specifically to reinforcing the promotion of pronunciation teaching.
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Chapter I

Introduction

1.1 Background of the Study

We have seen an advance of globalisation in many aspects of our daily lives in the last few decades. This has been accompanied by the upgrade of the status and roles of English as a means of communication. Today English, with around 400 million native speakers, about 400 million ESL speakers, and 600 million EFL speakers, has really become a global language (Crystal, 1997; Graddol, 2006). A crucial impact of this upgrade of the status and roles of English is that there is a significant increase in oral communication not only between native speakers of English (hereafter NSs) and non-native speakers of English (hereafter NNSs), but also between NNSs themselves (NNSs-NNSs) (Jenkins, 2000; Walker, 2001).

A pedagogical implication of this situation for the foreign language teaching profession is that ESL/EFL researchers and practitioners have come to reappraise the importance of pronunciation for successful oral communication. For example, Tudor (2001, p. 53) claims that “command of phonology of a language [the ability to understand spoken language and to produce a comprehensible version of the language] can play an important affective role in language use.” Similarly, Setter and Jenkins (2005, p. 2)
also contend that pronunciation "plays a vital role in successful communication both productively and receptively."

However, Communicative Language Teaching (CLT), a predominant paradigm of today's foreign language teaching, has rather underrated the importance of pronunciation. CLT puts more focus on the message-oriented transactions in a target language between learners than their accurate pronunciation of a target language in language classrooms. Accordingly, teachers are more concerned about how to promote successful classroom interaction in a target language through games and tasks than how to enable them to pronounce a target language accurately. Learners who are involved in the message-oriented transactions tend to pay little attention to the accuracy of their pronunciation, and as a result often make pronunciation mistakes due to their native language interference. Teachers are often tolerant of these pronunciation mistakes, partly because they are more interested in the result of transactions than the manner of transactions, and partly because they believe in the philosophy of learner-centred approach, which underlies CLT. Considering the importance of pronunciation in oral communication across cultures, this is not a desirable situation since too much tolerance of learners' pronunciation mistakes by sympathetic teachers may lead to the formation of a classroom dialect which may only be understandable for teachers and learners in language classroom and may hamper oral communication across cultures in real-life situations outside classrooms. It is high time, therefore, that pronunciation teaching for EFL learners was to be re-examined, keeping in mind the importance of pronunciation in oral communication across cultures.
In the process of re-examination of pronunciation teaching we will face an inevitable question related to the goal of pronunciation teaching: *What level of pronunciation should EFL learners aim for?* Traditionally, the goal of pronunciation teaching has been to enable EFL learners to attain native-like pronunciation of English, either Received Pronunciation (RP) accents of British speakers or General American (GA) accents of American speakers. However, as more and more people have come to use English as a means of wider communication across cultures, the focus of pronunciation teaching has shifted from how learners can attain native-like pronunciation to how learners can transact information effectively in oral communication. As a result, intelligibility rather than native-like pronunciation has become a legitimate goal of pronunciation teaching (Celce-Murcia, Brinton, & Goodwin, 1996; Cole, 2002; Cruttenden, 2001; Jenkins, 2000; Morley, 1991; Penington & Richards, 1986; Zielinski, 2006). For example, Celce-Murcia et al. (1996, p. 8) state that “intelligible pronunciation is one of the necessary components of oral communication.”

Assuming that intelligibility has become an appropriate goal of pronunciation teaching, another crucial question arises: *What kind of intelligibility should EFL learners be directed to?* This is not so simple a question to answer. Abercrombie (1956), a pioneer in the study of intelligibility, presented a classical concept of comfortable intelligibility, that is, intelligibility NNSs should aim at when they try to talk to NSs. ESL/EFL learners' accents were supposed to be comfortably intelligible to NSs. This classic concept of comfortable intelligibility, however, can be regarded as an anachronism today, because the number of NNSs around the
world has exceeded that of NSs because of the advance of globalisation through English (Crystal, 2004; Graddol, 2006), and oral communication among NNSs from different first language backgrounds has been increasing significantly. This means that EFL learners are expected to engage themselves in transactions in English not only with NSs but also, more frequently, with NNSs. Therefore, the classical concept of comfortable intelligibility needs to be critically re-examined. As a solution to this problem, Jenkins (1998) proposed a new concept of intelligibility, that is, mutual intelligibility. It is intelligibility which enables NNSs of English “to communicate successfully with other NNSs from different L1 backgrounds” (Jenkins, 1998, p. 119). This type of intelligibility is now regarded as a legitimate goal of pronunciation teaching today.

However, we believe that this cannot be a final solution for EFL learners because, although the number of NNSs is greater than that of NSs, NNSs-NSs interactions do still exist. EFL learners are still expected to be involved in oral communication with NSs as well as with NNSs. There is a need to revise the concept of intelligibility once again so that we can accommodate this situation. Moedjito and Ito (2008a) have proposed a new concept of “global intelligibility” as a candidate to expand Jenkins’ mutual intelligibility. It is intelligibility NNSs should aim at when they try to talk not only to NSs but also to NNSs (NNSs-NSs and NNSs-NNSs). We believe that this should be a legitimate goal for pronunciation teaching for EFL learners and thus have decided to pursue this topic in this dissertation.

While EFL researchers and practitioners in other parts of the globe have advocated intelligible pronunciation as a target of English
pronunciation teaching for EFL learners, pronunciation is not so emphasised in Indonesian EFL classrooms. Only 2% of 145 topics of the 2004 English curriculum for junior high schools deals with pronunciation (Moedjito, 2005). Accordingly, incomprehensible Indonesian EFL learners' pronunciation has become one of the critical problems of English language teaching (ELT) in Indonesia. Unintelligible pronunciation easily causes communication breakdown and has become a serious problem especially when Indonesian EFL speakers try to communicate with either NSs or NNSs. This situation needs to be urgently resolved by improving Indonesian EFL learners' pronunciation. To be more specific, English pronunciation teaching in Indonesia should be directed to enable Indonesian EFL learners to attain global intelligibility.

1.2 Purpose of the Study

Figure 1.1 shows schematically the structure of the study in this dissertation. Keeping in mind the importance of global intelligibility as a goal of pronunciation teaching for EFL learners, the present study approaches intelligibility from four different perspectives, that is, from a researchers' perspective, from a listeners' perspective, from a speakers' perspective, and from a teachers' perspective. From a researchers' perspective, the present study aims to build up a theoretical construct of global intelligibility, referring to previous literature on intelligibility. From a listeners' perspective, the present study investigates factors determining global intelligibility of EFL learners' speech through the analyses of assessments done by native speakers of English (ENL speakers) and ESL
speakers. From a speakers' perspective, the present study will try to clarify the relationships among EFL learners' knowledge of pronunciation (i.e., declarative or procedural knowledge), oral performance, and intelligibility. Finally, from a teachers' perspective, the present study will look at teachers' perceptions of frequency and seriousness of learners' pronunciation mistakes as factors hampering their global intelligibility.

Although global intelligibility is approached from four different perspectives, the present study is also divided into three different levels: theoretical level, research level, and practice level. On the theoretical level, the present study provides a theory-minded discussion of global
intelligibility by looking at it from researchers' perspective. On the research level, the present study carries out a series of empirical studies of global intelligibility by investigating factors which will determine global intelligibility of EFL speech from listeners' and speakers' perspectives. On the practice level, the present study conducts an ethnomethodological analysis of teachers' common sense about global intelligibility by looking at their perceptions of frequency and seriousness of EFL learners' pronunciation mistakes. On the basis of discussion on these three different levels, the present study will present guidelines of pronunciation teaching for EFL learners, especially in Indonesia, to guarantee Indonesian EFL learners' global intelligibility.

The structure of the study shown in Figure 1.1 will give rise to three purposes of the present study as follows:

(1) To build up the theoretical construct of global intelligibility through the reviews of previous literature and studies on intelligibility

(2) To explore factors determining global intelligibility of EFL learners' speech through the analysis of ENL speakers' and ESL speakers' assessment of intelligibility of EFL learners' speech, through the analysis of how EFL learners' knowledge of pronunciation (declarative knowledge) is related to their oral performance (procedural knowledge) and their intelligibility in actual oral communication, and through the analysis of teachers' perceptions of frequency and seriousness of EFL learners' pronunciation mistakes

(3) To provide guidelines of pronunciation teaching for EFL learners, especially in Indonesia, to guarantee Indonesian EFL learners' global
1.3 Structure of the Dissertation

In order to describe the study conducted to achieve the three purposes mentioned above, the present dissertation is organised into eight chapters. Following the introductory chapter (the present chapter) which covers the background and purpose of the study, the structure of the dissertation, and the significance of the study, Chapter II describes the history and current situation of pronunciation teaching in English language education in order to situate the discussion on global intelligibility to be provided in the succeeding chapters. Chapter III describes the current status of globalisation and its impacts on English pronunciation teaching, and finally confirms current issues of pronunciation teaching in EFL classrooms related to global intelligibility.

Chapter IV provides a theoretical base for the discussion of global intelligibility. First, it provides a working definition of intelligibility and reviews related studies on intelligibility. It then describes the types of intelligibility proposed in previous studies and points out their insufficiencies as a goal of pronunciation teaching. Subsequently, a new concept of global intelligibility will be proposed and the research questions for the study will be presented.

Chapter V reports Experiments 1 and 2, which have explored factors determining global intelligibility through the analyses of ENL speakers' and ESL speakers' assessments of the intelligibility of Japanese and Indonesian EFL learners' speech.
Chapter VI reports Experiment 3, which attempted to determine the relationships among EFL learners' knowledge of pronunciation (especially segmental features and word stress), their oral performance, and the intelligibility of their speech.

Chapter VII details the research which has investigated Indonesian EFL teachers' perceptions of frequency and seriousness of EFL learners' pronunciation mistakes which may hamper their global intelligibility. The research has also looked at native English speakers' perceptions as reference points for the analysis.

Chapter VIII, the concluding chapter, reviews briefly the discussion presented in the previous chapters and provides pedagogical implications for pronunciation teaching for Indonesian EFL learners on the basis of the results of the experiments and research conducted in the present study. Finally, it addresses issues for further investigation.

1.4 Significance of the Study

The current study has its significance on two levels: on the level of research on intelligible pronunciation and on the level of pronunciation instruction. First, although many studies have examined intelligible pronunciation in the context of either the interaction between NSs and NNSs (e.g., Field, 2005) or the interaction among NNSs (e.g., Cole, 2002; Jenkins, 2002), relatively little research has dealt with global intelligibility of EFL learners' speech. More specifically, in Indonesia almost no research has been conducted in the area of intelligible pronunciation, while in Japan most research has been carried out in the context of NSs and NNSs.
interaction. Therefore, by exploring factors determining global intelligibility of EFL learners' speech, the current study is expected to make a useful contribution to research for global intelligibility in the worldwide context or more specifically in the context of Asian countries.

Secondly, as far as pronunciation instruction is concerned, the findings of the research are expected to provide reference points for EFL teachers in the framework of English as a global language. These points will provide EFL teachers with useful information on what they should pay more attention to when they are dealing with their students' pronunciation. In the context of English language education in Indonesia, the findings of the study will hopefully reinforce the promotion of the inclusion of pronunciation teaching, and encourage explicit pronunciation instruction in Indonesian EFL classrooms.
Chapter II

English Pronunciation Teaching in a Historical Perspective

This chapter describes the history and current situation of pronunciation teaching in English language education in order to situate the discussion on global intelligibility to be provided in the succeeding chapters. Following a brief review of three stages in the history of foreign language teaching, this chapter describes pronunciation teaching in the period of teaching knowledge, in the period of teaching skills, and in the period of teaching communication in details.

2.1 Three Stages in the History of Foreign Language Teaching

The discussion of pronunciation teaching cannot be separated from the historical development of foreign language teaching methods. According to Richards and Rodgers (2003), foreign language teaching methods have changed for two reasons. Firstly, the development of foreign language teaching methods has indicated alterations in the types of proficiency they expect language learners to achieve; some methods aimed at developing the ability to read literature in a foreign language while others aimed at developing oral proficiency of listening and speaking. Secondly, changes in
language teaching methods have also attested to changes in theories of language and of language learning.

Ito (1999) suggests another reason for changes in foreign language teaching methods. He maintains that changes in foreign language teaching methods reflect shifts in the mode of communication, and then divides the history of foreign language teaching into three stages: (1) the period of teaching knowledge, (2) the period of teaching skills, and (3) the period of teaching communication. Following this configuration of the history of foreign language teaching suggested by Ito (1999), this author presents a rough sketch of the development of foreign language teaching methods as in Figure 2.1, reflecting the correspondence between the shifts in the mode of communication and the changes in foreign language teaching methods.

![Figure 2.1. The scheme of foreign language teaching.](image)

The first stage of foreign language teaching is the period of teaching knowledge. The predominant mode of communication in this period was through written language. People in those days obtained new information mainly by reading books. Therefore, the main goal of foreign language
teaching in this period was to enable learners to read and write in a target
target as accurately as possible. For this purpose, it was assumed that
the knowledge of grammar was indispensable. Accordingly, the Grammar-
Translation Method became a predominant language teaching method in
this period because it regarded the acquisition of grammatical knowledge by
learners as the top priority for teachers. Naturally the Grammar-
Translation Method gave more emphasis on written language skills (reading
and writing) than spoken language skills (listening and speaking) because it
was quite rare indeed for language learners to be engaged in oral
communication in a foreign language in their daily lives. As a result,
teachers were mostly concerned about the language system, and depended
on translation activities which they believed would help language learners
to acquire the language system effectively. Learners on their part tried to
learn a foreign language by analysing the details of its grammatical rules,
and then applying the acquired knowledge to the translation of sentences or
texts into and from a target language.

The second stage of foreign language teaching is the period of
teaching skills. Oral communication became popular as a mode of
communication in addition to written communication through the
development of new technology such as telephones, radios, and movies. In
the classrooms, oral communication was much more emphasised than
written communication as a goal of foreign language teaching. As a result,
the Audio-Lingual Method became a popular foreign language teaching
method, because, as its name suggests, it emphasised the learning of
listening and speaking skills more than reading and writing skills. One of
the most important characteristics of the Audio'Lingual Method was that foreign language learning was basically assumed to be a process of mechanical habit formation under the influence of behavioural psychology which provided the theoretical base to the approach. It was assumed that good language habits would be formed only by automatising the linkage between stimuli and responses. Drills of mimicry memorisation and pattern practice became the main strategies of foreign language teaching. Another significant characteristic is that the items to be learnt in a target language were always presented in spoken form first under the influence of structural linguistics which believed in the primacy of speech, as Fries (1945, p. 6) argued that "The speech is language. The written record is but a secondary representation of the language." In the classrooms, the practice of listening and speaking skills was always emphasised while the practice of reading and writing skills was assumed to only reinforce what learners learn through listening and speaking.

The third (current) stage of foreign language teaching is the period of teaching communication. Face to face cross-cultural communication, which used to be a dream for most language learners, became a reality through the increase in human traffic between countries, which in turn became possible by the advancement of the means of transportation across countries such as airplanes. The top priority for language teachers has become how to help learners to acquire the ability to use language in real situation. Teachers are more concerned about how to create in their classrooms situations in which learner can exchange information than how to organise drills to practice listening and speaking skills. As a result, Communicative
Language Teaching became a popular method of foreign language teaching since it utilises communication games and tasks involving information gaps as basic teaching strategies. Assuming that language is a system for the expression of meaning, Communicative Approach is grounded on the three principles: (1) the communication principle, that is, activities that involve real communication promote learning; (2) the task principle, that is, activities in which language is used for carrying out meaningful tasks promote learning; and (3) the meaningfulness principle, that is, language that is meaningful to the learner supports the learning process (Richards & Rodgers, 2003). In classrooms, authentic materials are often used to realise these three principles.

2.2 Teaching Pronunciation in the Period of Teaching Knowledge

The Grammar-Translation Method was widely accepted as the benchmark in the stage of teaching knowledge as is shown in Figure 2.4. This method, which began in Germany at the end of the eighteenth century, finally dominated the foreign language teaching profession in Europe from the 1840s to the 1940s. The principal characteristics of the Grammar-Translation Method can be summarised as follows (c.f., Howatt, 2004; Kelly, 1969; Richards & Rodgers, 2003):

(1) This method is a way of learning a foreign language by analysing the details of its grammatical rules, followed by the application of the acquired knowledge using translation of sentences or texts into and out of the target language.

(2) Written language skills (reading and writing) are more emphasised
than spoken language skills (speaking and listening).

(3) Vocabulary selection is based on the reading texts.

(4) Sentence is the basic unit of teaching and language practice.

(5) Accuracy is emphasised.

(6) Grammar is taught deductively.

(7) Students' native language is the medium of instruction.

As is clear from the above characterisation of the Grammar-Translation Method, pronunciation received very little attention or was totally ignored in foreign language classrooms in the period of teaching knowledge. This is quite natural if we consider the fact that predominant mode of communication in those days was through written language. Instead of teaching pronunciation, teachers devoted themselves to teaching how to translate into and from a target language. Teachers were not concerned at all whether learners' pronunciation was native-like or not, since neither they nor their learners had little access to native speakers' speech. Even if a Japanese learner pronounced sometimes as /somējimesu/, for example, the teacher rarely corrected that pronunciation as long as he/she could make an accurate translation.

Pronunciation came under the spotlight in the transition period from the period of teaching knowledge to the period of teaching skills, that is, when the Reform Movement, attempts to rectify the problems of the Grammar-Translation Method, was started by foreign language teaching methodologists who studied phonetics, a newly established science, and came to recognise the importance of teaching oral language. This Reform Movement was propelled by such new teaching methods as the Direct
Method, the Natural Method, and the Oral Method.

Led by the four principal phoneticians—Wilhelm Viëtor (1850-1918) in Germany, Paul Passy (1859-1940) in France, Otto Jespersen (1860-1943) in Denmark, and Henry Sweet (1845-1912) in England—the Reform Movement implemented several important changes to foreign language teaching. One of the most prominent changes is that oral language came to be recognised as a primary goal for foreign language learners and was emphasised from the initial stages of learning based on the three basic principles: “the primary of speech, the centrality of the connected text as the kernel of the teaching-learning process, and the absolute priority of an oral classroom methodology” (Howatt, 2004, p. 189). According to Celce-Murcia et al. (1996), these principles imply that (1) the spoken form of a language is primary and should be taught first, (2) the findings of phonetics should be applied to language teaching, (3) learners should be given phonetic training to establish good speech habits, and (4) teachers must have solid training in phonetics.

The most significant contribution by the Reform Movement to pronunciation teaching was the implementation of a phonetic alphabet into foreign language classrooms as a means of teaching foreign language pronunciation. In 1886 in Paris a small group of language teachers, steered by Paul Passy, formed an association—the Phonetic Teachers’ Association—which finally became the International Phonetic Association in 1897 (Howatt, 2004). The association was originally established to encourage the use of phonetic notation—the International Phonetic Alphabet (IPA)—for foreign language learners at schools (Jespersen, 1910) and to enable the
sounds of any language to be accurately transcribed. The latest version of IPA is presented in Figure 2.2.

### Figure 2.2. The full chart of the 2005 International Phonetic Alphabet.
In addition to the phonetic alphabet, the Reform Movement brought to foreign language classrooms Jespersen's speech organ charts (c.f., Kelly, 1969, p. 86) which illustrated how to move speech organs to pronounce English sounds, and Daniel Jones' vowel trapezium (Jones, 1918) which showed schematically the tongue positions in pronouncing cardinal vowels, as illustrated in Figure 2.3.

![Diagram of Daniel Jones' (1918) vowel trapezium and Kelly's (2000) version for English vowels]

Figure 2.3. The original version of Daniel Jones' vowel trapezium and Kelly's (2000) version for English vowels

Attempts to show English pronunciation schematically on paper were extended to the pronunciation of suprasegmental features such as intonation and sentence stress. The following examples are taken from Allen (1954, p. 5 & 10-11).

<table>
<thead>
<tr>
<th>Example of intonation</th>
<th>Examples of sentence stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>'very 'cold</td>
<td>key patterns:</td>
</tr>
<tr>
<td></td>
<td>ːI think it is</td>
</tr>
<tr>
<td></td>
<td>'writing it 'now</td>
</tr>
<tr>
<td></td>
<td>I've 'eaten them all</td>
</tr>
<tr>
<td></td>
<td>I 'want to 'know</td>
</tr>
</tbody>
</table>

19
Although these could not guarantee foreign language learners to acquire the authentic, native-like pronunciation of English sounds, they must have been the very best teaching aids to teach English pronunciation in situations where no native speakers were available as models for learners' pronunciation. Jespersen's speech organ charts and Daniel Jones' vowel trapezium are still used in pronunciation teaching in modern foreign language classrooms.

The period of transition from the period of teaching knowledge to the period of teaching skills is thus characterised by attractive new teaching aids for teaching pronunciation such as the international phonetic alphabet (IPA), Jespersen's speech organ charts, and Jones' trapezium for cardinal vowels. However, we must say that their impact, although still recognised in foreign language classrooms, must have been rather limited in scope, in those days, because there was a serious lack of competent, well-trained foreign language teachers who could realise the potentials of these teaching aids. Most of foreign language teachers had little knowledge of phonetics nor did they have any native speakers around them to consult. Consequently, many foreign language teachers still taught foreign languages through the Grammar-Translation Method since it did not require any sophisticated knowledge of phonetics. It is not until the advent of the period of teaching skills accompanied by new technology that pronunciation teaching went through a major change.

2.3 Teaching Pronunciation in the Period of Teaching Skills

The most predominant foreign language method in the period of
teaching skills is the Audio-Lingual Method. It is "[the] combination of structural linguistic theory, contrastive analysis, aural-oral procedures, and behaviourist psychology" (Richards & Rodgers, 2003, p. 53). It is based on the following five principles (Moulton, 1961; Rivers, 1972):

1. Language is speech, not writing.
2. A language is a set of habits.
3. Teach the language, not about the language.
4. A language is what its native speakers say, not what someone thinks they ought to say.
5. Languages are different.

In actual classrooms, language skills are taught in a so-called natural sequence, that is, in the order of listening, speaking, reading, and writing, because language is speech, not writing. Learners are exposed to a large amount of practice in mimicry memorization and pattern practice to make target structures automatic habits because a language is a set of habits.

Under the Audio-Lingual Method, pronunciation is emphasised from the very beginning, since it is believed that:

a person has "learned" a foreign language when he has thus first, within a limited vocabulary, mastered the sound system (that is, when he can understand the stream of speech and achieves an understandable production of it) and has, second, made the structural devices (that is, the basic arrangements of utterances) matters of automatic habit (Fries, 1945, p. 3).

The phonetic alphabet, the charts of organ speech, and the cardinal vowel trapezium became less popular as teaching aids for teaching pronunciation.
because learners could listen to authentic speech by native English speakers, either Received Pronunciation (RP) or General American (GA), as many times as they wished. We must thank to the arrival of new technology, that is, tape recorders and language laboratories.

The most significant feature of pronunciation teaching in the period of teaching skills is that foreign language learners could access to authentic pronunciation of a target language at first hand, not by secondary written media. Now learners could not only listen to native speakers’ pronunciation of English repeatedly, either at school or at home, but also they could compare their pronunciation with that of native English speakers, by using tape recorders. It can be said that the arrival of new technology revolutionised pronunciation teaching.

The Audio-Lingual Method was popular as a method to teach a foreign language up to the 1960s but gradually lost its popularity due to two reasons. First, the theoretical base of the Audio-Lingual Method (the structural linguistics and behavioural psychology) was severely criticised by Noam Chomsky (1957; 1967). Secondly, it was often found that learners who learned by the Audio-Lingual Method were unable to engage in real communication outside the classroom.

In place of the Audio-Lingual Method, Cognitive Method, along with other new methods (Asher’s Total Physical Response, Gattegno’s Silent Way, Curran’s Community Language Learning, and Lazanov’s Suggestopedia), became popular in the transition period from the period of teaching skills to the period of teaching communication. The Cognitive Approach, influenced by Chomsky’s transformational-generative grammar, stipulated that
language is governed by rules and that habit formation cannot contribute to foreign language acquisition. Consequently, grammar came into the spotlight once again while less and less attention was paid to pronunciation in foreign language classrooms. This tendency to underrate pronunciation in foreign language teaching is carried over into the period of teaching communication in which Communicative Language Teaching is a predominant teaching method.

2.4 Teaching Pronunciation in the Period of Teaching Communication

The most predominant foreign language method in the period of teaching communication is Communicative Language Teaching (CLT). This method requires that the language learning should be cooperative, self-directed, interactive, and task-based; the language teaching should be learner-centred; and the curriculum be meaningful and content-based. The primary goal of CLT is to enable learners to communicate in a target language by doing face-to-face interaction to share information. CLT is based on the following principles (Johnson, 1982; Richards & Rodgers, 2003):

1. Learners learn a language through using it to communicate.
2. Authentic and meaningful communication should be the goal of classroom activities.
3. Fluency is an important dimension of communication.
4. Communication involves the integration of different language skills.
5. Learning is a process of creative construction and involves trial and error.
In addition to the five principles, Kumaravadivelu (1992) proposes macrostrategies of CLT: (1) creating learning opportunities in classroom, (2) utilising learning opportunities created by learners, (3) facilitating negotiated interaction between participants (learners), (4) activating the intuitive heuristics of the learner, and (5) contextualising linguistic input. To be more specific, Johnson (1982) maintains five microstrategies of CLT, that is, information transfer, information gap, jigsaw, task dependency, and correction for content.

In actual classrooms, CLT does not isolate language skills (reading, writing, listening, and speaking), but uses an integrated skills approach. Language skills are not taught in a specific order either. Considering that information transfer and information gap become much more important, as asserted by Johnson (1982) in his microstrategies above, teachers’ top priority is to create conducive situations in the classrooms, which can be done by providing learners with exercises which enable them to attain the communicative objectives and to engage them in communication.

Concerning pronunciation teaching, CLT puts more focus on the message-oriented transactions in a target language between learners than their accurate pronunciation of a target language in language classrooms. Accordingly, as the facilitators of the communication process between all the participants in the classrooms, teachers are more concerned about how to promote successful classroom interaction in a target language through games and tasks than how to enable them to pronounce a target language accurately. Learners who are involved in message-oriented transactions tend to pay little attention to the accuracy of their pronunciation; as a result,
they often make a lot of pronunciation mistakes due to their native language interference. Teachers are often tolerant of these pronunciation mistakes, partly because they are more interested in the result of transactions than the manner of transactions, and partly because they believe in the philosophy of learner-centred approach, which underlies CLT. Considering the importance of pronunciation in oral communication across cultures, this is not a desirable situation since too much tolerance of learners' pronunciation mistakes by sympathetic teachers may lead to the formation of a classroom dialect which may only be understandable for teachers and learners in language classroom, but may hamper oral communication across cultures in real-life situations outside classrooms. It is high time, therefore, that pronunciation teaching for EFL learners was to be re-examined, keeping in mind the importance of pronunciation in oral communication across cultures as indicated by Celce-Murcia et al. (1996) in the following assertion:

This focus on language as communication brings renewed urgency to the teaching of pronunciation, since both empirical and anecdotal evidence indicates that there is a threshold level of pronunciation for non-native speakers of English: if they fall below this threshold level, they will have oral communication problems no matter how excellent and extensive their control of English grammar and vocabulary might be. (p. 7)

This means that instead of aiming for enabling learners to have native-like pronunciation, like a target of pronunciation teaching in the Audio-Lingual Method, pronunciation teaching should be directed to enable learners to
surpass the threshold level of pronunciation for NNSs. The next task of foreign language teaching profession is to provide ways how to integrate pronunciation teaching and communication transactions in classrooms.

2.5 Summary

To sum up this section, as shown in Figure 2.4, it is indisputable that the pronunciation teaching is always affected by what an approach or a method seeks for. If spoken language competency is emphasised, pronunciation is regarded as one of the most important components to learn although the priority, whether segmental or suprasegmental features, is different from an approach/method to another. Conversely, if the main goal of language teaching is to foster written language and/or grammar and vocabulary, pronunciation is frequently deemphasised or even ignored.

In the period of teaching knowledge with the Grammar-Translation Method, pronunciation was disregarded because the focus of foreign language teaching at that time was to enable learners to master grammatical structures and to translate reading materials from the target language to their mother tongue, and vice versa. In the transition period from the period of teaching knowledge to the period of teaching skills, particularly in the Reform Movement, pronunciation was elevated at top of foreign language teaching. As sources for pronunciation teaching, phonetic alphabet and native model of pronunciation gained their significance. In the period of teaching skills, the implementation of the Audio-Lingual Method put more emphasis on sounds. However, with the emergence of Chomsky’s transformation generative grammar, pronunciation became insignificant in
foreign language teaching. Finally, in the period of teaching communication although the proponents of CLT acknowledge that pronunciation is a part of grammatical competence which is one of the four essential factors of communicative competence, practically pronunciation is underrated. However, as globalisation has changed the status and roles of English, the importance of pronunciation and of pronunciation teaching is reappraised.

Figure 2.4. The period of English pronunciation teaching based on the development of foreign language teaching.
Chapter III

Current Issues of Pronunciation Teaching

Following Chapter II which has described the history of pronunciation teaching in English language education, this chapter describes the current situation of pronunciation teaching in order to situate the discussion on global intelligibility to be provided in the succeeding chapters. This chapter provides the current status of globalisation and its impacts on English pronunciation teaching, especially on the models and goal of pronunciation teaching.

3.1 Globalisation of English

Chapter II has described English pronunciation in a historical perspective. It is noted that at one period of time pronunciation was elevated to the top priority of foreign language teaching/learning. At other times, however, pronunciation was almost sidelined, even almost neglected as in the Grammar-Translation Method. It is also understandable that the paradigm shift of pronunciation teaching is greatly influenced by the selected approach with its underlying theories of language and theories of language learning. A careful examination of the development of English language teaching has shown that nowadays the contemporary trend of
English language teaching is not only affected by the underlying theories of language and theories of language learning, but also the status of English related to what is happening in the globe.

According to Graddol (1997), the globe of the world has been changing by the rapid growth of world economics and cultures which become increasingly interconnected and interdependent, politically, socially, and technologically. More specifically, he contends that there are six reasons why economic development encourages English:

1. joint ventures, which the headquarter are not in an English-speaking country, tend to adopt English as the lingua franca, which in turn promotes a local need for training in English;

2. establishment of joint ventures requires legal documents and memoranda of understanding, international agreement are written in English;

3. a newly established company needs for back-office workers, sales, and marketing staff with skills in English;

4. technology transfer is closely associated with English;

5. the staff of secondary enterprises also require training English for the visitors of joint ventures; and

6. English qualification is one of the entry necessities for jobs in the new enterprises.

After nine years since the release of his *The Future of English*, Graddol (2006) in his *English Next* states that “the future of English has become more closely tied to the future of globalisation itself” (p. 13). This implies that the status of English as a global language is remarkably
influenced by what is happening in the globe. Graddol (2006) has indicated 14 key trends in the connection between the status of English and the ongoing globalisation, as follows:

(1) The rise and fall of learners. A massive increase in the number of people learning English has already begun, and is likely to reach a peak of around 2 billion in the next 10-15 years. Numbers of learners will then decline.

(2) Widening of student age and need. Over the next decade there will be a complex and changing mix of learner ages and levels of proficiency. This situation will be one of many ages and many needs.

(3) Rising competition. Non-native speaker providers of ELT services elsewhere in Europe and Asia will create major competition for the UK.

(4) Loss of traditional markets. Within a decade, the traditional private-sector 'market' in teenage and young adult EFL learners will decline substantially.

(5) Irreversible trend in international students. The recent decline in international students in the main English-speaking countries is unlikely to reverse.

(6) Irrelevance of native speakers. Native-speaker norms are becoming less relevant as English becomes a component of basic education in many countries.

(7) The doom of monolingualism. Monolingual English speakers face a bleak economic future, and the barriers preventing them from learning other languages are rising rapidly.

(8) Growth of languages on the internet. The dominance of English on the internet is declining. Other languages, including lesser-used languages, are not proliferating.

(9) Other languages will compete for resources. Mandarin and
Spanish are challenging English in some territories for educational resources and policy attention.

(10) Economic importance of other languages. The dominance of English in offshore services (BPO = business process outsourcing) will also decline, though more slowly, as economic in other language areas outsource services. Japanese, Spanish, French, and German are already growing.

(11) Asia may determine the future of global English. Asia, especially India and China, probably now holds the key to the long-term future of English as a global language.

(12) The economic advantage is ebbing away. The competitive advantage which English has historically provided its acquirers (personally, organisationally, and nationally) will ebb away as English becomes a near-universal basic skill. The need to maintain the advantage by moving beyond English will be felt more acutely.

(13) Retraining needed for English specialists. Specialist English teachers will need to acquire additional skills as English is less often taught as a subject on its own.

(14) The end of 'English as [a] foreign language'. Recent developments in English language teaching represent a response to the changing needs of learners and new market conditions, but they mark a 'paradigm shift' away from conventional EFL models. (pp. 14-15)

Although these 14 key trends indicate the up-and-down status and roles of English, considering the number of speakers of English which is around 1.4 billion or a quarter of the present world's population (Crystal, 2004), English is needed for the connection among people from different first language backgrounds. Graddol (2006) provides a huge sample of data.
supporting this fact. For example, in terms of tourism, he presents the data that there were around 763 million international travellers in 2004, but nearly three-quarters of visitors from a non-English-speaking country travelling to another non-English-speaking country. This implies that there is a need for more face-to-face international interaction and that there is a growing role of English as a global language. As far as language on the internet is concerned, although the ratio of English on the internet has decreased (from 51.3% in 2000 to 32% in 2005), English still dominates computers and internet. Graddol (2006) has some reasons for the decrease in the ratio of English on the internet such as (1) more non-English speakers use the internet, (2) many more languages and scripts are now supported by computer software, (3) the internet is used for local information, and (4) many people use the internet for informal communication with friends and family in local languages. Concerning international student mobility, the number of international student coming to English-speaking countries seemed to be ever-rising, with the USA as the top (around 560 million) and the UK as the second (about 330 million), together with other English-speaking countries, totalling around 46% of 2.3 million students. In addition to international student mobility, the data shows that in 2004 about 53% of international students were taught in English. Taking these small figures into account, it is inarguably true that English is really a global language.

In the connection between globalisation and the English language, the present author prefers using the term "English as a global language" (hereafter EGL) to two other well-known terms, that is, English as an
international language (EIL) and English as a lingua franca (ELF) at least for two reasons. First, in the line with Crystal (1997) and Graddol (1997, 2006), the present author believes that the term 'EGL' may be appropriate to represent the status of English in the context of globalisation, which is really happening in the globe. However, it does not imply, as Jenkins (2007) states, that English is spoken by everyone around the world because around 1,400 millions or around a quarter of the world's population speak English either as L1 or L2 (Crystal, 2004). Nor does it indicate that the term is not the only one; therefore, the use of other terms may also be suitable for other situations. For example, Jenkins (2000) first preferred using EIL to ELF, as the title of her book *The Phonology of English as an International Language*. But few years later, after reviewing the use of ELF in a number of publications by ELF researchers and in their conference papers, she restates that EIL should be replaced by ELF for a number of advantages. Jenkins (2000) wrote a few years ago:

ELF [English as a lingua franca] emphasises the role of English in communication between speakers from different L1s, i.e. the primary reason for learning English today; it suggests the idea of community as opposed to alienness; it emphasises that people have something in common rather than their differences; it implies that 'mixing' languages is acceptable (which was, in fact, what the original *lingua francas* did) and thus there is nothing inherently wrong in retaining certain characteristics of the L1, such as accent; finally, the Latin name symbolically removes the ownership of English from the Anglos both to no one and, in effect, to everyone. (emphasised as the original, p.11)
Another reason for preferring 'EGL' to any other terms is the concept of EGL which is significantly different from that of EIL and ELF. In order to promote the status of ELF, referring to Seidlhofer (2004), Jenkins (2007) notes that there is a misconception of the use of 'International English' or EIL, that is, EIL is one clearly distinguishable, codified, and unitary variety, which is certainly not the case. However, in promoting ELF, Jenkins does not clearly recognise the successful communication between native speakers and non-native speakers, as she wrote “And unlike ELF, whose goal is in reality ENL (English as a Native Language), it is not primarily a language of communication between its NSs and NNSs, but among its NNSs” (p.4). This really contrasts to the fact that the increase in oral communication in English is not only between non-native English speakers themselves, but also between native English speakers and non-native English speakers. Therefore, taking account of globalisation and the different underlying concept of EGL, EIL or ELF, the present author needs to maintain the term EGL for the consistency throughout the dissertation.

3.2 Nativeness of English

Jenkins (2000; 2003) encapsulates that the most well-known categorisation of English is territory-and-genetic-based: English as a native language (ENL), English as a second language (ESL), and English as a foreign language (EFL). English as a native language is “the language of those born and raised in one of the countries where English is historically the first language to be spoken” (Jenkins, 2003, p. 14) such as the UK, the USA, Canada, Australia, and New Zealand. English as a second language is
the language spoken by speakers who have acquired their mother tongue and is usually assigned as an official language of the countries such as in Bangladesh, India, Malaysia, Nigeria, and Singapore. English as a foreign language is the language which serves neither specific nor official purposes within the countries and is historically learnt in order to enable learners to communicate with its ENL speakers. The EFL countries include China, Indonesia, Japan, South Korea, Thailand, and some other countries. However, as recognised by McArthur (1998), this territory-and-genetic-based categorisation has a number of difficulties. One of problematic difficulties is the fact that ENL is not a single variety of English. ENL differs significantly from one territory to another (e.g., British English and American English) and even from one region of the given territory to another region (e.g., English spoken by speakers in south of the UK is different from that in north). Another problem of the territory-and-genetic-based categorisation is the position of pidgins and creoles (e.g., English spoken in parts of Caribbean, English spoken in many places in West Africa, and English spoken in EFL settings such as Panama and Surinam in the Americas), which do not fit neatly into any one of the three categories.

Similarly, as illustrated in Figure 3.1, Kachru (1985) divides English into three concentric circles of World Englishes: the Inner Circle with around 400 millions of speakers, the Outer Circle with about 400 millions of speakers, and the Expanding Circle with around 600 millions of speakers (Crystal, 2004). He claims that the three concentric circles comprehensively represent the types of spread, the patterns of acquisition, and the functional allocation of English in diverse cultural contexts. The spread of English was
initiated when around 25,000 people immigrated from the south and east of England mostly to America and Australia. This first dispersal eventually created new ENL variants. The British English and other ENL variants constitute the Inner Circle countries where English is considered as "norm-providing." The second dispersal began when the British colonised Asian and African countries. The major period of decolonisation started in the 1960s and generated a new kind of English, English as a second language or the English spoken by people in the Outer Circle countries such as Ghana, India, Nigeria, Singapore, and so on (Howatt, 2004; Jenkins, 2003). The English spoken in the Outer Circle is regarded as "norm-developing." Those countries other than both of the Inner Circle and the Outer Circle are...
categorised into the Expanding Circle, where English is said to be "norm-dependent". The Expanding Circle countries include China, Indonesia, Japan, South Korea, and so on.

![Diagram of the Three Circles of World Englishes]

Note. In this figure, the circles are oval rather than circular, and presented vertically rather than concentrically. Note also that there are two grey areas: the first one is between the Inner Circle and the Outer Circles (Grey Area I) and the other one is between the Outer Circle and the Expanding Circle (Grey Area II).

*Figure 3.2. The revised version of the Three Circles of World Englishes.*

In few years later, Kachru (1996) revised his concept of the three concentric circles as illustrated in Figure 3.2. In his revised version, Kachru recognises a grey area between the Inner Circle and Outer Circle (Grey Area
I), and the one between the Outer Circle and Expanding Circle (Grey Area II).

Like the territory-based categorisation, Jenkins (2003) asserts that Kachru's Concentric Circles Model of English has also serious problems summarised as follows:

1. The model is based on geographical and genetics rather than on the way speakers identify with and use English.

2. There is a grey area between the Inner Circle and Outer Circle. In some Outer Circle countries (e.g., India, Malaysia, and Singapore), English may be the first language acquired by many people whereas in some Inner Circle countries English may be the second language for many people (e.g., English for Chinese in the USA).

3. There is also a grey area between the Outer Circles and Expanding Circle (e.g., a person with Ghanian-Japanese parent who was born and grown up in Japan).

4. Many English speakers are bilingual or multilingual so that it is difficult to decide which language is their L1, L2, L3, and so on.

5. It is difficult to measure speakers' proficiency by using the model.

6. The model cannot justify appropriately English for Special Purposes because the speakers of all the circles have a similar proficiency regardless of which circle speakers come from.

7. The model suggests that the situation is the same for all the countries in the same particular circle.

8. The term "Inner Circle" implies that speakers from the ENL countries are central to the effort.
As a response to Jenkins’ eight concerns, Kachru (2005) contextualises them with reference to the 1985 paper, in which the Three Circles first appeared in detail, and some of his relevant earlier papers (see also Kachru, 2005, pp. 211-20). At the end of the response, Kachru (2005, p. 220) states clearly that “Jenkins’ ‘concerns’, however, are constructed primarily on misrepresentations of the model’s characteristics, interpretation, and implication.”

Another alternative of categorising speakers of English is also proposed by Jenkins (2000). She suggests that ‘monolingual English speaker’ (MES) should replace the term ‘native speaker’ because “MESs generally use weak forms (thus pronouncing the vowel sound in words like to, from, and of as a schwa /ə/), an L2 speaker would not automatically be expected to do so” (Jenkins, 2000, p. 9). The second term is ‘bilingual English speaker’ (BES) referring to those native speakers who speak another language fluently and to those non-native speakers who speak English fluently. Finally, Jenkins also concerns the fact that a speaker may be bilingual but not in English, and labels this speaker as ‘non-bilingual English speaker’ (NBES). This categorisation has two considerable benefits: (1) BES is more favourable than MES and (2) BES displaces the distinction between speakers of L1 varieties of English and proficient speakers of L2 varieties. While proposing these terms (i.e., MES, BES, and NBES), Jenkins (2000) acknowledges that the categorisation also has problems, particularly “where should the line be drawn between BES and NBES and, more importantly, who should draw it?” (p. 10).

Three ways of categorising speakers of English have been presented:
the territory-and-genetic-based categorisation, Kachru's Three Concentric Circles Model, and Jenkins' proficiency-based categorisation. It is also noted that each categorisation has its own strengths and weaknesses. Regardless of the advantages and shortcomings of each model, the present author will continue using the term 'native speaker' (NS) and 'non native speaker' (NNS). The latter includes ESL speakers and EFL speakers. The basic division between native and non native dichotomy is formulated by McArthur as “those born to the language and those who learnt it through education” (cited in Jenkins, 2003, p. 15).

3.3 Ownership of English

The first two sections of this chapter have described the globalisation of English and the nativeness of English. It may be noted that the globalisation of English has significant effects on its status. Ito (2002) claims that the globalisation of English requires both quantitative and qualitative developments within Kachru's three concentric circles. On the quantitative side, Graddol (1997) predicted that L2 speakers of English will be more than L1 speakers if the current population and learning trends continue. Additionally, on the qualitative side, there are major status shifts from the Outer Circle countries to the Inner Circle countries and from the Expanding Circle countries to the Outer Circle countries (e.g., Argentina, Costa Rica, Denmark, and others). These major status shifts are reflected as the grey areas in Figure 3.2.

Such quantitative and qualitative developments of English will significantly affect the ownership of English. According to Kachru (1992),
the globalisation of English (i.e., the contact and convergence of English with other languages and cultures) gives rise to two processes: nativisation and Englishisation. These two processes have developed two faces of English, "one showing what the contact has formally done to various varieties of English, and the second showing what impact the English language and literature have had on other languages of the world. Related to the globalisation of English, the former process may be recognised as the 'deanglicisation' of English. It implies that English-speaking people cannot claim sole ownership of English (Crystal, 1997; Kachru, 1992). English becomes "a single language [which] has become sufficiently universal that it can be used as a global lingua franca for communication between speakers of many languages" (Graddol, 2005). As a result, it is not necessary to be near-native or native-like pronunciation as a goal of pronunciation teaching (Celce-Murcia et al., 1996; Jenkins, 2000).

3.4 Legitimacy of Native-like Pronunciation

Chapter II has described the historical review of pronunciation teaching from the period of teaching knowledge to the period of teaching communication. It may be summarised that in the period of teaching knowledge and the period of teaching skills the goal of pronunciation teaching was to enable learners to have near-native or native-like pronunciation. However, this target is really idealistic and might not be attainable (Abercrombie, 1956); therefore, native-like pronunciation of English cannot be legitimate as a goal of pronunciation teaching for EFL learners in the context of English as a global language.
As the goal of pronunciation teaching, native-like pronunciation has several deficiencies. First, it is difficult to address the concept of native English because there is no clear-cut definition of native English: which is native and which is not native. Secondly, although the basic division between native and non-native dichotomy can be formulated, there are many native varieties of English such as the Received Pronunciation, the General American, Australian English, Canadian English, and other varieties. To be a model for speaking, it is really confusing. Thirdly, in the context of globalisation English is not only a means of oral communication by NSs and NNSs, but also among NNSs who come from different cultural and linguistic backgrounds. This oral communication across cultures requires a certain type of English which can secure the successful interactions. For example, in a section on English in the globalised workplace, “English must service a range of corporate roles and identities and must be usable for both team-working and service interactions” (Graddol, 1997, p. 43). In addition to these reasons, ESL research on the critical period hypothesis (CPH) contributes to the necessary shift of native-like pronunciation to intelligibility. A number of studies on the relationship between age of acquisition and second language development (e.g., Patkowski, 1980; Snow & Hoefnagel-Höhle, 1978) have revealed that 'perfect pronunciation' and/or 'near-native pronunciation', and/or mastery of pronunciation are virtually unattainable for the vast majority of ESL learners (Morley, 1991; Lightbown & Spada, 1999). Taking into account these reasons, pronunciation teaching should aim to enable learners to achieve intelligibility, which is more realistic and attainable.
3.5 Impacts of Globalisation of English on Pronunciation Teaching

3.5.1 Addressing Pronunciation Teaching

The first question which may be addressed in pronunciation teaching relating to English as a global language is: What kind model of English pronunciation should I teach to my students? In earlier days, the answer may be simply the undifferentiated British English or American English. Beside General American and the British Received Pronunciation, there may be other possibilities such as those native varieties spoken in Australia, Canada, New Zealand, and South Africa. But now, as a result of globalisation, it is more difficult to provide an appropriate answer because there are also foreign-language varieties such as Japanese English (Japlish), Singaporean English (Singlish), and many others. The appropriate candidate to the question may be English spoken by many people in the globe, either as a working language or as a daily life language. However, which model of pronunciation for EFL learners is still unclear. For this reason, it is necessary to address which type of English is appropriate as a model of pronunciation teaching in EFL classrooms.

According to von Schon (1987), there are four criteria for choosing a model for pronunciation teaching in the countries where English is neither a native language nor a second language. These four criteria include (1) a model of English which is most admired in our own region, (2) a model of English which is most useful for our students, (3) a model of English which most consonant with the attitude of our school administration, and (4) the availability of teaching materials such as textbooks, tapes, and others. As a concluding remark, von Schon (1987, p. 27) strongly recommended that:
you choose some national standard from near the top of the cline: your own national standard, if teaching in a country like India, the Philippines, or Zambia. But under no circumstances should you choose a foreign-accent variety like Japanese English or Russian English.

However, globalisation provides the English language users opportunities to communicate orally in English with other English users. This implies that a speaker of English has to be exposed to any various models for listening and to only one specific model for speaking. In other words, it is necessary to differentiate a model for listening from a model for speaking.

### 3.5.2 Models of Pronunciation Teaching

Based on the previous discussion, it may be concluded that in pronunciation teaching it is necessary to rethink the models for listening and a model for speaking. As far as models for listening are concerned, it is important for EFL learners to be exposed to both native speakers of English and non-native speakers (i.e., ESL speakers and EFL speakers). However, the term ‘native speaker’ also has its own problems. Up to the period of teaching skills (as described in Section 2.3 of Chapter II), it was quite easy for language teachers to choose the model for listening, either the Received Pronunciation or the General American. Nowadays, this direction may become inappropriate anymore, partly because there emerge some other native varieties of English (e.g., Australian English, Canadian English, and New Zealand English) and some foreign-accent varieties of English (e.g.,
English in ESL countries, Indonesian English, Japanese English, and Russian English), and partly because it is difficult to define the nativeness of English speakers. It is rather sophisticated to decide whether many people in Singapore or many Chinese in the USA who use English for their daily lives since they were born are native speakers of English or not. Thus, the problem of how nativeness can be defined is also a big issue.

Turning to the model for listening, it is necessary to change our perceptions, from 'native speakers of English' to 'English users'. The focus of the model for listening should be placed on the English spoken by people who use English for their daily lives or people who use English as a working language, not necessarily as a native language. This kind of English comprises English for those who use it since they were born, English for ESL speakers, and English for proficient EFL speakers. In other words, EFL learners should be exposed to any varieties of English: the more varieties they are exposed to, the more advantageous they are. They may include all varieties of English: of ENL speakers, of ESL speakers, and of other EFL speakers from different linguistic backgrounds.

Unlike model for listening, model for speaking in the context of English as a global language should be specified to a certain model. The model is necessarily neither American English nor British English. In the past Japanese EFL speaker was very 'happy' if someone else said, "You speak like an American." This means that the speaker's accent was just like American accent. But, as in globalisation era, this appraisal may not of course be appropriate anymore. Being imitators of native-like accent should be replaced by genuine L2 users (Cook, 1995). Thus, if it is neither British

45
English nor American English as a model for speaking, what should the model be? This is also really a problem in pronunciation teaching. In order to decide an appropriate model for speaking, it is also necessary to set up the goal of pronunciation teaching. Then, what is the goal of pronunciation teaching in the context of English as a global language? The following section will discuss the goal of pronunciation teaching for speaking.

3.5.3 The Goal of Pronunciation Teaching: From Native-like Pronunciation to Intelligible Pronunciation

This section provides a brief discussion on the goal of English pronunciation teaching for speaking. Based on the historical review of English pronunciation teaching, it may be concluded that in the periods of teaching knowledge and of teaching skills, the goal of pronunciation teaching was primarily to enable learners to attain native-like pronunciation, which is not realistic (Abercrombie, 1956; Celcel-Murcia et al., 1996; Jenkins, 2000). Unfortunately, at the same time, the term of ‘native speaker’ of English became a serious problem. For this reasons, the goal of pronunciation teaching should be revised, from a native-like accent to a more realistic goal. For instance, in Japan Suzuki (1999) suggests Japanese English (Japlish), that is, English which is heavily influenced by the Japanese language, as a candidate of the goal of pronunciation teaching. One of the reasons of the adoption of this kind of English is the fact that the NNSs want to show their identity in their pronunciation (Jenkins, 2007; Kachru, 1996). However, setting up Japlish as the model for speaking may also be inappropriate because in some cases it will hinder successful oral
communication. This may be different from Singaporeans who set up Singlish as their model for speaking. In other words, native-like pronunciation is too high for EFL learners while localised English (e.g., Japlish or Indonesian English) cannot guarantee the flow of successful oral communication. Therefore, EFL researchers and educators have been investigating intelligibility as a new goal of pronunciation teaching. Then, how intelligibility is defined in the context of English as a global language? In order to answer this question, types of communication among English speakers should be first understood.

To begin with, adopting a three-by-three matrix of the world Englishes speaker-listener intelligibility proposed by Levis (2005), this dissertation provides its revised version, taking into account this author's consistency of using the dichotomy between native speakers vs. non-native speakers (NSs vs. NNSs). Throughout the dissertation, 'native speaker' is interchangeable with 'ENL speaker' while 'non native speaker' denotes 'ESL'.
speaker’ and/or ‘EFL speaker’. Figure 3.3 illustrates the revised version of the speaker-listener communication. The matrix has nine types of communication (hereafter ‘Communication’), which reflect different aspects of intelligibility and suggest different priorities for English pronunciation teaching.

<table>
<thead>
<tr>
<th>Listener</th>
<th>ENL</th>
<th>ESL</th>
<th>EFL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaker</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENL</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>ESL</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
</tr>
<tr>
<td>EFL</td>
<td>(7)</td>
<td>(8)</td>
<td>(9)</td>
</tr>
</tbody>
</table>

*Figure 3.4. Native speaker – native listener communication.*

As illustrated in Figure 3.4, Communication 1 has ENL speakers and listeners and is usually considered as the standard for successful communication (Field, 2005). Although the English spoken by ENL speakers is varied from one territory to another (e.g., British English versus American English) or even from a region of the given territory to another
(e.g., British English in the north versus that in the south), the communication between ENL speakers is inarguably the most mutually intelligible.

In Communications 2 and 3, the speakers are ENL speakers while the listeners are either ESL listeners or EFL listeners, as displayed in Figure 3.5. These types of communication are normal configurations for language teaching/learning in ESL or EFL contexts. For example, in the Audio-Lingual Method, ESL and EFL learners were provided with an amount of audio-visual materials based on ENL speakers.

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Listener</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENL</td>
<td>ENL</td>
</tr>
<tr>
<td></td>
<td>(1)</td>
</tr>
<tr>
<td>ESL</td>
<td>(4)</td>
</tr>
<tr>
<td>EFL</td>
<td>(7)</td>
</tr>
</tbody>
</table>

*Figure 3.6. Non-native speaker – native listener communication. This type of communication is associated with comfortable intelligibility, that is, interaction between ENL speakers as listeners, and either ESL speakers or EFL speakers as speakers (NNSs-NSs).*

In Communications 4 and 7, as shown in Figure 3.6, the speakers are either ESL speakers or EFL speakers while the listeners are ENL speakers. These types of communication refer to either the traditional goal of English pronunciation teaching (i.e., native-like pronunciation) or comfortable intelligibility (Celce-Murcia et al., 1996; Morley, 1991).
Listener

<table>
<thead>
<tr>
<th></th>
<th>ENL</th>
<th>ESL</th>
<th>EFL</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENL</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>ESL</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
</tr>
<tr>
<td>EFL</td>
<td>(7)</td>
<td>(8)</td>
<td>(9)</td>
</tr>
</tbody>
</table>

**Speaker**

**Figure 3.7.** Non-native speaker – non-native listener communication. This type of communication is associated with mutual intelligibility, that is, interaction among non-native speakers (NNSs-NNSs).

In Communications 5, 6, 8, and 9, as displayed in Figure 3.7, both the speakers and listeners are non-native speakers, either ESL speakers or EFL speakers. In order to achieve successful communication among NNSs, they have to maintain mutual intelligibility (Jenkins, 2000).

**Listener**

<table>
<thead>
<tr>
<th></th>
<th>ENL</th>
<th>ESL</th>
<th>EFL</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENL</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>ESL</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
</tr>
<tr>
<td>EFL</td>
<td>(7)</td>
<td>(8)</td>
<td>(9)</td>
</tr>
</tbody>
</table>

**Figure 3.8.** Non-native speaker – native/non-native listener communication. This type of communication is associated with global intelligibility, that is, interactions of NNSs-NSs and NNSs-NNSs.

However, either comfortable or mutual intelligibility alone is not sufficient to be the goal of pronunciation teaching. A new goal of
pronunciation teaching should be more specifically related to the status of English as a global language. Therefore, the present study concentrates on global intelligibility, which is comprised of comfortable intelligibility (Communications 4 and 7) and mutual intelligibility (Communications 5, 6, 8, and 9), as illustrated in Figure 3.8. The details of the concept of intelligibility and its types will be discussed in Chapter IV.

3.6 Summary

Following the description of the globalisation of English, the nativeness of English, the ownership of English, and the legitimacy of native-like pronunciation, this chapter has described the impacts of the globalisation on English pronunciation teaching,

The ongoing globalisation and the rapid growth of the world's population have significant impacts of the status and role of English. As a result of deanglicisation, English has become a global language. The nativeness and ownership of English have become rather difficult to trace. For this reason, legitimacy of native-like pronunciation as a goal of pronunciation teaching for EFL learners is questionable. The situation has led to the conclusion that in the context of English as a global language pronunciation has become a crucial area of English language teaching and that ESL/EFL researchers and practitioners should pay more attention to.

In EFL classrooms, the models for pronunciation teaching—the models for listening or the models for speaking—should be revisited. While the models for listening may be a variety of English (i.e., ENL speakers, ESL speakers, and EFL speakers from other linguistic backgrounds), the
model for speaking should be a specific model, that is, a model which secures successful oral communication not only between NSs and NNSs, but also among NNSs. This is recognised as a global intelligibility model which will be discussed in Chapter IV.
Chapter IV

Intelligibility as a Goal of Pronunciation Teaching

Chapter III has discussed the current issues on pronunciation teaching which ends with the necessity of revising the goal of pronunciation teaching for EFL learners, from native-like pronunciation to intelligible pronunciation. To build up a theoretical construct of global intelligibility which is the main focus of the present study, this chapter provides the definitions of intelligibility and reviews a number of the previous studies on intelligibility, more specifically comfortable and mutual intelligibility. This chapter ends with some crucial research questions concerning global intelligibility.

4.1 Concept of Intelligibility

The discussion on Chapter III leads us to conclude that intelligibility should be a new goal of pronunciation teaching for ESL/EFL learners. The next question to be addressed is what intelligibility means. To begin with, Catford (1967) claims that in every oral communication there are two essential roles which are filled by human participants, that is, the roles of performer (speaker) and addressee (listener), which require cooperation at a certain situation. This cooperation should include 'being intelligible' and
'being effective'. In many cases, being intelligible only is not sufficient for a speaker to cooperate with his/her listener. Additionally, the speaker should provide an utterance which is completely effective. Catford wrote as follows:

The effectiveness of an utterance, as defined here, is not identical with what is usually meant by the term intelligibility. Speech is generally said to be intelligible of the hearer ‘understand the words’, i.e., if his response to the linguistic forms of the utterance: that is to say, if it is in accordance with the semantic habits of the speech community whole language is being used. An utterance may be intelligible in this sense, yet ineffective in the sense that the hearer's response is not what the speaker intended. (p. 143)

To support his proposition, Catford provides an imaginary example of a foreign guest at an English tea-party where there are two kinds of baked sweetmeats, cakes and tarts. The guest wants to get a tart. Because of his limited vocabulary, he asks for a cake instead of a tart. The hostess passes him the plate of cakes. According to Catford, this situation shows that the speaker's utterance is perfectly intelligible but ineffective. This is because the hostess' response is not appropriate to his purpose in speaking.

It seems that Catford' proposition is not really well supported by his own example. It is true that the hostess' response is not appropriate to the guest's purpose in speaking. But the main problem is that the guest's purpose is not articulated due to his limited vocabulary. This purpose is still in the guest's mental state, but is not realised in the linguistic forms. Nobody knows what others have in mind. How can we have a reaction if there is no action?
Unlike Catford who thinks that the terms of intelligibility can only be used for utterances which are intelligible and effective, Kenworthy (1987, p. 13) defines intelligibility as "being understood by a listener at a given time in a given situation." She claims that the more words a listener can identify accurately when said by a particular speaker, the more intelligible the speaker is. Similarly, Derwing and Munro (2005) argue that intelligibility, as one of three aspects of foreign-accented speech, can be defined as the extent to which the speaker's intended utterance is actually understood by the listener. Unlike the two previous definitions, Zielinski (2006) relates intelligibility to the listener's ability to identify the speaker's speech signal. She claims that intelligibility is "the extent to which the speech signal produced by the speaker can be identified by the listener as the words the speaker intended to produce" (Zielinski, 2006, p. 23). The key point of these three definitions is that intelligibility is mostly related to the listener's perception of the speaker's speech signal. Assuming that words or utterances are made of sounds, the intelligibility level should be at phonemic level or its equivalence. This means that if a foreign speaker substitutes one sound or feature of pronunciation to another and the listener understands differently from what the speaker is intended to say, the foreign speaker's speech is unintelligible. Correspondingly, if the foreign speaker replaces one sound or feature in a particular word but the listener can get the same information as the speaker wants to say, the foreign speaker's speech is intelligible.

Based on these three presented definitions of intelligibility, it may be concluded that intelligibility generally refers to the listener's understanding
of the speaker speech. Intelligibility involves the role of speakers and listeners (Jenkins, 2000; Zielinski, 2006). This implies that intelligibility level of a spoken discourse is influenced by how well a speaker can produce speech signal and how well a listener can perceive it. However, it is not clear yet how much speakers' and listeners' contribution to intelligibility, which in turn guarantees successful communication. While relatively few studies were conducted to examine listeners' contribution to speech intelligibility, a number of studies on intelligibility are commonly conducted by utilising listeners (or judges) to assess speakers' speeches (e.g., Derwing & Munro, 1997; Field, 2005; Kashiwagi, Snyder, & Craig, 2006).

Moving back to the definitions discussed in this section, it is important for this author to delimit the term of intelligibility in the present study before continuing. Assuming that intelligibility is mostly associated with the understandability of the speaker's utterance, this author considers intelligibility as the extent to which the speaker's intended utterance can be understood by the listener as the speaker intended to say. This implies that in a normal situation the load of intelligibility should be first placed more on the speaker than on the listener. It is the speaker who determines the intelligibility level of speech signal. In short, how intelligible a speaker depends much on how well his/her speech can be understood by a listener.

4.2 Types of Intelligibility

4.2.1 Comfortable Intelligibility

4.2.1.1 Concept of Comfortable Intelligibility

To begin with, Abercrombie (1956) proposes the definition of
intelligibility by initiating a question as follows:

Is it really necessary for most language learners to acquire a perfect pronunciation? Intending secret agents and intending teachers have to, of course, but most other language learners need no more that a comfortably intelligible pronunciation (and by ‘comfortably’ intelligibility, I mean a pronunciation which can be understood with little or no conscious effort on the part of listener). I believe that pronunciation teaching should have, not a goal which must of necessity be normally an unrealised ideal, but a limited purpose which will completely fulfilled: the attainment of intelligibility. The learner, instead of being taken systematically through each English vowels and each consonant, and later, if there is time, through the complexities of intonation and rhythm, would have presented to him certain carefully chosen features on which to concentrate, the rest of his pronunciation being left to no more than a general supervision. (emphasised by the present author, p.37)

He argues that a perfect pronunciation or native-like pronunciation is normally an unrealised ideal, and therefore, suggests that pronunciation teaching should be limited to the attainment of comfortable intelligibility, which may be more reasonable and completely fulfilled.

Another proponent of intelligible pronunciation is Cruttenden (2001), who differentiates competence in pronunciation into three separate categories: the minimal general intelligibility, the high acceptability, and the restricted intelligibility. The general minimal intelligibility corresponds to Abercrombie’s intelligibility because it concerns with non-native speakers and native speakers interactions. Concerning the first category, Cruttenden
claims that the minimal general intelligibility possesses a set of distinctive elements which correspond in some measure to the inventory of the RP phonemic system and which is capable of conveying a message efficiently from a native English listener's standpoint, given that the context of message is known and that the listener has had time to 'tune in' to the speaker's pronunciation. (pp. 298-99)

In contrast to the minimal general intelligibility, he defines the high acceptability as "a form of speech which the native listener may not identify as non-native, which conveys information as readily as would a native's and which arrives at this result through precision in the phonetic realisation of phonemes and by confident handling of accentual and intonational patterns" (p. 299). These extreme categories of competence in pronunciation result in two different goals of pronunciation teaching for ESL/EFL learners. The minimal general intelligibility is intended to make learners have any international validity (as a model) while the high acceptability is expected to make them sound like native-speakers of English (as a norm).

The other remaining category is the restricted intelligibility which often happens in the countries where English is used as a lingua franca within their own country. These countries may have a number of indigenous languages none of which is acceptable as a national language. Ufomata (1996), for example, claims that within Nigeria it is estimated that nearly 400 local languages are spoken: therefore, it is convenient for the government to stick to a neutral language, such as English, as the official language of the country. People in many countries in Africa and Asia, such
as Kenya, India, Singapore, Malaysia and others, use English as a second language. In this situation their English lexis and grammar may conform to British or American English but their indigenous languages might often interfere in their spoken English. In sum, according to Cruttenden, intelligible pronunciation has three levels of competence in pronunciation: the minimal general intelligibility which allows learners to communicate efficiently to native speakers of English, the high acceptability which enables them to interact easily with native speakers, and the restricted intelligibility used in a country where English is a lingua franca within the country.

Morley (1991) suggests another term of intelligibility, that is, functional intelligibility, as a reasonable and desirable goal of pronunciation teaching. She defines functional intelligibility as the “spoken English that is (at least) reasonably easy to understand and not distracting to listeners” (Morley, 1991, p. 500). To be more detail, she also provides Speech Intelligibility Index for the evaluation of student communicability, as shown in Table 4.1 She differentiates six levels of intelligibility, from basically unintelligible speech to near-native one. In the levels 1 and 2, there may be oral communication breakdowns because of severe interference of foreign accents. The utterance of the speakers who are at Communicative Threshold A (levels 3 and 4) may be intelligible although foreign accents can still be identified. As far as Morley’s top category of speech intelligibility is concerned, the speakers’ speech at Communicative Threshold B is fully intelligible and only a little interference is caused by foreign accents. Since the Speech Intelligibility Index is still heavily influenced by the concept of
comfortable intelligibility, the top target is a near-native speech.

Table 4.1
Speech Intelligibility Index: Evaluation of Student Communicability

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
<th>Impact on Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Speech is basically unintelligible; only an occasional word/phrase can be recognised.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Speech is largely unintelligible; great listener effort is required; constant representations and verifications are required.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Communicative Threshold A</strong></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Speech is reasonably intelligible; but significant listener effort is required due to speaker's pronunciation/grammatical errors which impede communication and cause listener distraction; ongoing need for repetitions and verifications.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Speech is largely intelligible; while sound and prosodic variances from NS norm are obvious, listeners can understand if they concentrate on the message.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Communicative Threshold B</strong></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Speech is fully intelligible; occasional sound and prosodic variances from NS norm are present but not seriously distracting to listener.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Speech is “near-native”; only minimal features of divergence from NS can be detected; near-native sound and prosodic patterning.</td>
<td></td>
</tr>
</tbody>
</table>

(Morley, 1991, p. 502)
The fundamental definitions of intelligibility proposed by Abercrombie (1956), Cruttenden (2001), and Morley (1991) are relatively the same, but practically they are slightly different in the terms of speakers' interaction. Abercrombie does not specify in which context the interaction among language learners takes place, whether in the context of native speakers with non-native speakers (NSs- NNSs) or in that of non-native-speakers with non-native-speakers (NNSs- NNSs) whereas Cruttenden and Morley undoubtedly refer to interaction (NSs-NNSs). As far as the standard of pronunciation teaching is concerned, Cruttenden (2001) explicitly signifies the Received Pronunciation (RP) as the target of pronunciation teaching.

4.2.1.2 Priorities of Comfortable Intelligibility

Defining the concept of intelligibility is not the end of attempts dealing with intelligibility. The next question is: Which aspects of pronunciation will contribute to intelligible pronunciation? According to Abercrombie (1956), language teachers are not required to present all features of a target language pronunciation—all segmental and suprasegmental features—to their students. Instead, they have to select carefully features of pronunciation of a target language which are really essential for learners to maintain their intelligibility. He argues that there are two important things for teachers of pronunciation to consider for intelligibility. First, teachers of pronunciation must examine carefully which features of English pronunciation are important for intelligibility (related to the phonetic structure of English). Secondly, teachers of pronunciation must
decide which of these features of English pronunciation will require language learners' attention (related to the phonetic structure of learners' native language).

Fortunately, Abercrombie's assertion that the phonetic structure of learners' L1 influences their difficulty in pronunciation mastery of the target language is supported by some empirical research. For example, Derwing and Rossiter (2002) discovered that the vast majority of pronunciation problems encountered by students were segmental features (consonants and vowels). Another recent study by Moedjito (2006a) has revealed that the teacher and student respondents perceived the absence of English sounds in their L1 and the different distribution of the same or similar sounds in English and their L1 as the dominant reasons for their difficulty in English pronunciation. This implies that learners' native language is one of the factors we should assess when we decide what the priority in pronunciation teaching is. In Indonesia, for example, it is important for the Sasak people (those who live in Lombok Island, Indonesia) to distinguish the sound [u] in the word 'good' /gʊd/ from the sound [n] in the word 'god' /gɒd/ because there is a high possibility for the Sasak people to replace /u/ with /n/. The vowel /ʊ/ is rarely used while the latter vowel /n/ is close to the vowel /o/, which is commonly used in the Sasak language.

Another good example is the distinction between /r/ as in 'rice' /raɪs/ and /l/ as in 'lice' /laɪs/ for Japanese learners of English. Many Japanese learners cannot pronounce these different English phonemes accurately because the phonological system of the Japanese language does not differentiate [r] and [l]. Rather they belong to the same phoneme /r/. In short, Abercrombie
emphasises the attention to the phonetic structure of English and that of learners' native language if intelligible pronunciation is the goal of pronunciation teaching.

Regarding Abercrombie's assertion that the phonetic structures of English should be one of the important aspects in deciding the priority of pronunciation teaching, more specifically North American English (NAE) pronunciation, Celce-Murcia et al. (1996) claim that to promote intelligibility of English language learners, pronunciation instruction should move from the segmental/suprasegmental debate toward a more balanced view, that is, a pronunciation instruction which “seeks to identify the most important aspects of both segmentals and suprasegmentals, and integrate them appropriately in the course that meets the needs of any given group of learners” (p. 10). Additionally, they also claim that the issue of voice quality setting should be included in pronunciation teaching. They argue that the priorities for intelligibility should include the sound inventory consisting of 40 phonemes: 25 consonants and 15 vowels, and the suprasegmental features including stress, rhythm, adjustments in connected speech, prominence, and intonation in discourse. Like Abercrombie, they also point out that it is not necessary to provide a detailed analysis of the segmental features for learners. For example, a special attention should be paid on the sounds which do not exist in learners' native language, such as /w/, /θ/, /ð/, and /n/ for Indonesian learners.

As far as the British English is concerned, Cruttenden (2001) argues that the priority of pronunciation should consist of rhythm and accent, segmental sounds covering 24 consonants and 20 vowels (cf. Celce-Murcia et
al., 1996), sounds in connected speech regarding the existence of assimilation and elision, intonation with some types of falling tunes and rising tunes. Additionally, he remarks that the model of pronunciation should have three requisites:

(1) It should be at least as easy, and preferably easier, for the foreign student to learn as any natural model.
(2) It should be readily intelligible to most native speakers of English.
(3) It should provide a base for the learner who has acquired it to understand the major varieties of English. (p. 309)

Regardless of the dichotomy of the North American English and the Received Pronunciation, Jenner (1989) sets up a list of pronunciation teaching priorities for NNS learners of English, which “would offer the learner a guarantee of intelligibility and acceptability anywhere in the world” (p. 2). The list is recognised as the Common Core – “what all native speakers of all varieties have in common which enables them to communicate effectively with native speakers of varieties other than their own” (Walker, 2001, emphasis in original). Jenner’s Common Core is composed of the following priorities:

1. The consonantal inventory.
2. Vowel quantity: i.e. long and short.
3. Syllabic structure: i.e. closed with clusters.
4. Syllabic values: strong, weak, reduced.
6. Prominence and tonicity: i.e. location of pitch features.
7. Tones: some binary opposition, such as fall vs. fall-rise.
8. Articulatory setting: laxity and lack of movement.
9. Vowel quality: all vowels should be drawled. The details of shape then follow.
11. Voice quality, if the learner's native habits are disturbingly different from those of native varieties of English (cited in Jenkins, 2000, p. 126)

The Common Core itself emerged as the follow-up of Jenner's position arguing that many learners neither want nor need to sound like native speakers so that pronunciation teaching should maintain a certain minimum level which would make them intelligible and acceptable to native speakers. In other words, it is obvious that the listeners for Jenner's core are native speakers of English.

4.2.1.3 Research on Comfortable Intelligibility

Although comfortable intelligibility has emerged in the foreign language profession since Abercrombie's proposal in 1956, there are only relatively few studies which have investigated the influence of non standard phonological features on comfortable intelligibility.

Munro and Derwing (1995) investigated the relationship between the intelligibility of connected speech and the broad of measures of both segmental and suprasegmental features of second language speech production. Involving native speakers of Canadian English, who transcribed utterance selected from the speakers' descriptions of the story told in a series of cartoons, and Mandarin speakers as the providers of L2 speech, it
was found that there was no strong relationship between intelligibility scores, which were calculated on the basis of the number of words transcribed accurately by the listeners, and non standard phonemic errors (defined as the deletion, insertion, or substitution of a segment). Also the results disclosed that there was no strong relationship between intelligibility scores and non standard nativeness of intonation. Another study by Derwing and Munro (1997) yielded the same findings. Involving Cantonese, Japanese, Polish, and Spanish, the results of the study had revealed that there was no significant relationship between intelligibility scores and non standard phonemic errors, and that the judgments of goodness of prosody failed to correlate to intelligibility scores.

Following Derwing and Munro’s (2005) study on the relationship between the intelligibility of connected speech and the broad of measures of both segmental and suprasegmental features of second language speech production, Kashiwagi, Snyder, and Craig (2006) reported their study on the relationships between accentedness, intelligibility, and phonological errors made by Japanese speakers which reduce their intelligibility. They found that accentedness and intelligibility are two quasi-independent dimensions of NNS pronunciation, and that a strong accent does not necessarily reduce intelligibility of EFL speakers. The study also indicates that mispronunciations of segmental sounds, especially vowels, have caused considerable misunderstandings. Furthermore, the study suggests that insufficient attempts at connected speech may even have hampered communication.

Contrasting to the findings above, in African context, Atechi (2004)
conducted a study on the intelligibility of Cameroon English (CamE) speakers to ENL speakers and vice versa, and the major causes of intelligibility failure between interlocutors of these varieties. The focus of the study was on segmental and suprasegmental features. The study aimed at investigating and measuring performance in spontaneous speech by comparing the listeners’ texts to the speakers’ original version and scoring correct units, and also by analysing the phonetic errors leading to breakdown in communication. The results of the study has revealed (1) that CamE speakers are more intelligible to ENL speakers (61.3%) than ENL speakers are to CamE speakers (56.3%), (2) that CamE speakers are more intelligible to BrE speakers (62.9%) than to AmE speakers (59.7%), and (3) that BrE speakers are more intelligible to CamE speakers (58.7%) than AmE speakers are (53.9%). As far as the major causes of unintelligibility among speakers of CamE, BrE, and AmE are concerned, there are four results summarised as follows:

(1) Suprasegmental differences pose the greatest threat to intelligibility when ENL speakers listen to CamE speakers.

(2) Suprasegmental differences pose the greatest threat to intelligibility when CamE speakers listen to ENL speakers.

(3) Suprasegmental differences pose the greatest threat to intelligibility when CamE speakers listen to BrE speakers.

(4) Suprasegmental differences pose the greatest threat to intelligibility when CamE speakers listen to AmE speakers.

Based on the results, it can be claimed that suprasegmental features (particularly word stress, sentences stress, and rhythm) turned out to be the
greatest source of unintelligibility when CamE speakers interact to ENL speakers.

Recently Zielinski (2006) has reported a study which investigated a better understanding of how non standard features in the speech signal interact with the listener's processing strategies to reduce intelligibility when the listener is a ENL speaker and the speaker is a Vietnamese speaker of English. Assuming that intelligibility involves both the speaker and the listener, Zileinski proposes that reduced intelligibility (RI) was the result of the interaction between the listeners' processing strategies and a complex mix of non-standard features in the speech signal. The result has disclosed that the listeners appeared to rely on the syllable stress patterns and segments in the speech signal to identify the speakers' intended words, but for this particular Vietnamese speaker, non standard segments seemed to play a greater role in reducing intelligibility than did non standard syllable pattern stress patterns.

In addition to the studies above, Minematsu, Asakawa, Okabe, and Hirose (2004) did a study on intelligibility of the pronunciations of Japanese learners' of English. The aim of the study was to estimate probability of individual words of Japanese English (JE) being perceived correctly by American listeners and clarifying what kinds of segmental, prosodic, and linguistic errors in the words were more fatal than their correct perceptions. By comparing the Classification And Regression Tree (CART) prediction performance with human performance—in this case four American and three Japanese teachers of English—the study discovered that the performance of the machine prediction was comparable to the four American
teachers. Another finding was that there were differences in perceiving intelligibility of the pronunciation between American teachers and Japanese ones.

4.2.1.4 Summary

Comfortable intelligibility was first proposed by Abercrombie in 1956. This proposal is actually the answer of his question on the necessity of acquiring a perfect pronunciation for EFL learners. According to Abercrombie, comfortably intelligible pronunciation refers to a pronunciation which can be understood with little or no conscious effort on the part of the listener. A number of practitioners and researchers (e.g., Atechi, 2004; Celce-Murcia et al, 1996; Cruttenden, 2001; Jenner, 1989; Kashiwagi, Snyder, & Craig, 2006; Morley, 1991; Munro & Derwing, 1995; Zielinski, 2006) specify comfortable intelligibility to NNSs-NSs oral communication. However, in the context of international relationships English is not only a means of oral communication by NNSs and NSs, but also among NNSs who come from different linguistic backgrounds. This oral communication across cultures requires a certain type of English which can secure the successful interactions. The following section describes another type of intelligibility which may reduce communication breakdowns among NNSs.

4.2.2 Mutual Intelligibility

4.2.2.1 Concept of Mutual Intelligibility

In the last two decades there are significant changes influenced by worldwide political and commercial developments so that the traditional
roles of English consequently have to be re-examined (Jenkins, 2000; McKay, 2002). The fact that English is regarded as the world’s principal international language results in the increment of interaction among non-native speakers of English rather than between native speakers and non-native speakers (Walker, 2001). Moreover, the number of ENL speakers (i.e., around 400 million) is less than that of non-native speakers, comprising around 400 million ESL speakers and 600 million EFL speakers (Crystal, 2004). Therefore, efforts in pronunciation teaching should be devoted to capacitating learners of English to attain mutually intelligible pronunciation (NNSs – NNSs communication) rather than comfortably intelligible pronunciation (NSs–NNSs communication) (Jenkins, 2000; 2006).

Jenkins (2000) defines intelligible pronunciation as a pronunciation which is “dynamically negotiable between speaker and listener, rather than statically inherent in a speaker’s linguistic forms, even though participants find the process of negotiation more problematic than do fluent speakers” (p. 79). Unlike Cruttenden (2001) who deal with NSs-NNSs interaction, Jenkins promotes mutual intelligibility among non-native speakers (NNSs-NNSs) not only in international contexts, but also in intra-national ones. In the case of the intra-national contexts, for example, she refers to Bansal’s (1990) study which discovered that the differences in their varieties of English in India are much greater in terms of phonological and phonetic patterns than any other linguistic aspects such as grammatical structure and vocabulary.

However, Jenkins' proposal of intelligibility is not a final target of pronunciation teaching. It has generated debates in this area. For example,
with ten questions on the phonology of English as an international language, Keys and Walker (2002) attempt to stimulate further reasoned debates about the issues, especially on 1) the question of the word 'intelligibility' in the evaluation of foreign accent, 2) the teachable/learnable distinction and its applications in classroom language teaching practice, 3) the development of the key elements of the Lingua Franca Core (LFC), and 4) the rethinking of the status of the native speakers. The first issue as well as a number of previous studies is being discussed in this chapter while the last three issues have been detailed in Chapter III.

4.2.2.2 Priorities of Mutual Intelligibility

By modifying Jenner's Common Core, Jenkins (2000) proposes a new pronunciation syllabus, the Lingua Franca Core (LFC), based on the findings from empirical research where English pronunciation is approached in its sociolinguistic context (Jenkins, n.d. c.). The aim of her research was to find out which features of British/American English pronunciation are essential for intelligible pronunciation and which are not. The findings of the research have been formulated into LFC in order to establish a degree of segmental and suprasegmental balance appropriate to lingua franca interactions (English as an international language), not interaction between native speakers and non-native speakers of English. The precise contents of LFC are those items which are crucial if pronunciation is to be intelligible. She claims that the most important areas for the preservation the mutual intelligibility in EIL are most consonant sounds, appropriate consonant cluster simplification, vowel length
distinction, and nuclear stress. The following paragraphs provide the summary of the categories. In addition to these important areas, Jenkins maintains the use of articulatory settings as an important factor for learners to foster their speech intelligibility.

As far as the segmental features are concerned, there are at least four important points. First, all the consonants are important except for /θ/ as in 'thin', /ð/ as in 'this', and dark /l/ or [ɬ]. These first two consonants are not crucial for EIL intelligibility because they can be substituted by the dental variants [t] and [d] which occur in many areas of Britain. Secondly, phonetic requirements, namely, aspiration following word-initial voiceless stops /p/, /t/, and /k/ are essential for EFL learners to prevent them being heard as /b/, /d/, and /ɡ/. Thirdly, consonant clusters at the beginning and in the middle of words are important for EIL learners. For instance, the cluster /str-/ in the word 'string' cannot be simplified to /st-/ as in 'sting' because the change will create communication breakdown. Another example is that the orthographic <t> in 'listen' and 'castle' which will never be pronounced because <t> elision in such words is obligatory. Lastly, the fortis-lenis consonantal distinction influences the length of a preceding vowel sound. Phonemically /iː/ in seat /sɪt/ is commonly classified as a long vowel and /ɪ/ in sit /sɪt/ as a short vowel. However, phonetically in actual realisation the vowel /iː/ in sit may be as long as the vowel /ɪ/ in seat. This is due to two reasons: the shortening effect of the final plosive (in this case it is /ɪ/) and the degree of muscle tension required to produce those sounds (i.e., lax for /iː/ and tense for /ɪː/).

Based on her empirical data of international language talk, in terms of suprasegmental features, Jenkins claims that the weak forms, other
features of connected speech (e.g., elision, assimilation), stress-timing, word stress, and pitch movement are not essential to LFC. However, she recognises that nuclear (or tonic) stress—the stress on the most important word (or syllable) in a group of words—is crucial. Nuclear stress highlights the most salient part of the utterance, which the listener must pay attention to. Failure to put an appropriate nuclear stress may change the message the speaker intended to say. In the following sentence, the stress pattern of the first part changes to give extra emphasis to the contrasting items regarding the second part of the sentence.

Did you buy a tennis racket at the sports centre this morning, or
(a) was it a squash racket?
(b) did you buy it yesterday?
(c) did you only borrow one?
(d) was it your girlfriend who bought it?
(e) at the tennis club? (Jenkins, 2000, pp. 153-4)

If the speaker intends to ask about the kind of racket, the appropriate second part of the sentences must be the clause (a) *was it a squash racket?* as the contrast to ‘a tennis racket’; while the speaker clarifies the time of the activity ‘buy’, it must the clause (b) *did you buy it yesterday?* as the contrast to ‘this morning’, and so on. This example shows that the faulty nuclear stress will affect the message being communicated. For this reason, Jenkins asserts that nuclear stress is essential to LFC.

Jenkins further contends that the effective use of articulatory settings is important for learners to foster their speech intelligibility. More specifically, she claims that “languages differ quite radically in their
articulatory settings” (p. 156) with difference in tension, in the shape of the tongue, in pressure of the articulators, in lip-cheek-jaw postures and movement. She argues that bad articulatory settings cause language learners to have more problems in pronunciation as indicated in the following quotation:

[The speakers are] far more difficult to achieve (near-)target pronunciations in those areas which cause particular intelligibility problems, i.e. consonant and nuclear stress production. This is because articulatory settings act as a kind of link or pivot between segmentals and suprasegmentals. On the other hand, mastery in this area both facilitates the production of core sounds and enables the speakers to manipulate these sounds to produce nuclear stress, i.e., to utter sounds with greater length, loudness, and (if the English system is ultimately acquired) pitch movement. (Jenkins, 2000, p. 156)

However, she is not sure whether the use of articulatory settings is important for intelligibility or not. Therefore, she invites researchers to identify precisely which aspects of the articulatory settings are important for pronunciation intelligibility.

The above discussion shows that there are some basic features of pronunciation which seem sufficiently to be the priority for the majority of learners. The priority may consist of the segmental features and suprasegmental features, including the consonant inventory, the vowel inventory, rhythm, stress, adjustments in connected speech, and intonation. However, there are at least two remaining questions. First, many studies have been conducted to identify the priority for intelligibility, but most of
them are in NNSs-NNSs interaction in ESL contexts. So, what should sufficiently be the priority for intelligibility in EFL contexts? Secondly, regarding Jenkins' proposal of LFC and Abercrombie's idea of the necessity of addressing learners' native language, do the proposed features of the priority for intelligibility really work well anywhere as learners' native language are different from one place to another? For example, some certain priorities are suitable for Japanese learners of English, but may not be appropriate at all to Indonesian learners. The consonant cluster /pl/ and the final sound /l/ in the word plural must be one of the priorities for intelligible pronunciation for Japanese learners, but not for Indonesian learners as they exist in the phonological system of the Indonesian language. In this case, the ecological approach (Tudor, 2001), which focuses on the realities and is less concerned with generalisations than with local realities, may be worthwhile to consider.

In addition to these considerations, we also have another issue, that is, teachability-learnability. Having identified the phonological features of English pronunciation does not mean that there are no problems of implementing the identified phonological features in pronunciation teaching. Critical questions may be addressed to this issue: *Can all the phonological features of English pronunciation be taught?* or *Can these features be learned?* Dalton and Seidlhofer (1994) suggest that

For pedagogical purposes, it might in fact be helpful to think about the various aspects of pronunciation along a teachability-learnability scale. Some things, say the distinction between fortis and lenis consonants, are fairly easy to describe and generalise—they are
teachable. Other aspects, notably the attitudinal function of intonation are extremely dependent on individual circumstances and therefore nearly impossible to isolate out for direct teaching ... In other words, some aspects might better to be left for learning without teacher intervention. (pp. 72-3)

It is clear that certain features of English pronunciation can be learned while some others cannot be learned successfully in classrooms. Thus, the most important thing to do is to identify which aspects of English pronunciation have high legitimacy to be taught and learnt in classrooms. The aspects should be realistic and relevant to intelligible pronunciation.

4.2.2.3 Research on Mutual Intelligibility

Research on mutual intelligibility was initiated by Jenkins' (2000) empirical study on the international talk of six learners of English (two Japanese, three Swiss-German, and one Swiss-French) with upper-intermediate or low-advanced level of English. The data were recorded by completing various tasks as the participants practiced for the Cambridge Certificate in Advanced English Speaking examination. The eight hours of recordings were transcribed, listened to again, and the transcription annotated phonetically whenever pronunciation deviated from an L1 target form. The annotated transcriptions were then examined for evidence of phonological convergence by means of suppression of L1 transfer errors, depending on whether interlocutors shared one another's L1 or not. The phonological deviations that did occur were analysed qualitatively and then selected variables were submitted to Chi-square. The results of the study
has disclosed that one of the speakers made considerable effort to replace L1 phonological transfer when he was interacting in English with a speaker from another L1. This was statistically confirmed by tests very strongly in the case of the Swiss-German speakers, less in the case of the Japanese speakers. This study was then replicated by involving a Taiwanese and a Korean who were engaged first in social conversation. This replication was conducted to demonstrate that the type of convergence (by replacement transfer) does involve the making adjustments according to the needs of the receiver, and not merely an attempt at indiscriminate reduction in phonological error. It was found that there had been occasions when they had not understood one another, and that the main cause had been the other's pronunciation. Regarding the results of the study, Jenkins (2000) noted three main pedagogical implications: (1) it is necessary to get to grips with the nature of intelligibility as it relates to these specific L2 contexts; (2) it is important to identify contrived norms based on a subset of core EIL phonological features, which can then be learned by all international speakers of English; and (3) it is necessary to devise methods for classroom pedagogy which build on the instinctive desire of NBESs (non bilingual English speakers) to accommodate phonologically for their interlocutors in ILT (international language talk) speech situations.

Following her empirical research in 2000, Jenkins (2002) conducted a study on a sociolinguistically based, empirically researched pronunciation syllabus for English as an international language. The purposes of the study were (1) to demonstrate the extent to which intelligibility in NNS-NNS interaction can break down oral communication as a result problems at the
phonological level; (2) to identify which specific phonological features are implicated in the breakdown; and (3) to consider two other factors which contribute to (un)succesful EIL communication. The participants of the study were of upper-intermediate to low advanced level as recognised by the University of Cambridge Local Examination Syndicate (ECLES) in that students hold the First Certificate of English (FEC) or the Certificate of Advanced English (CAE) qualification. The results of the study have indicated the following three results. Firstly, there were four categories of phonological errors which most often caused problems: consonant sounds (e.g., substitution of /p/ for /t/), nuclear stress (e.g., misplacing of nuclear stress on the 'you' instead of the word 'do' in the following sentence: I smoke more than you DO = 'I smoke more than you do.'), vowel length, and non-permissible simplification of consonant clusters. Secondly, in NNS-NNS interaction, the receiver tends to focus on the acoustic signal and direct his or her effort to decoding what has been heard. Thirdly, instead of converging on each other's pronunciation, when intelligibility is particularly important, speakers converge on what they interpret as a more target-like pronunciation.

Along the lines of Jenkins's investigation into the phonology of English as an international language, Cole (2002) conducted a study which investigated the role of ENL vowel quality in NNS-NNS interactions. The settings of the study were (1) a classroom lesson in general purpose EFL at a Japanese tertiary institution emphasizing oral skills and (2) a social dinner at a restaurant in Japan. The participants were young adults (20 – 33 years) NNSs of different national and cultural backgrounds who
communicated in English each other. Analysing the excerpts by using the criteria for successful interactions (i.e., comprehensible or incomprehensible interaction), the findings of the study were congruent with Jenkins’ claim that EIL learners do not need specific instruction on vowel quality. However, there was anecdotal evidence suggesting that some learners, depending on their mother tongue, need instruction on specific vowel sounds to raise their awareness of the sounds. For example, it might be necessary for Japanese speakers of English to have explicit instruction to differentiate /æ/ as in 'hat' from /ə/ as in 'hut'.

In 2005 Jenkins investigated the role of teacher attitudes and identity by conducting an in-depth interview to eight NNS teachers of English from different L1 background: Italy, Japan, Malaysia, Poland, and Spain, who had a high level of proficiency in English. She provides a tentative conclusion that it cannot be taken for granted that teachers from the Expanding Circle countries wish unequivocally to use their accented English to express their L1 identity or membership in an international community. Some aspects such as their past experiences, factors in their present situation, their assessment of their future chances of success, and the attachment to their mother tongue may affect their attitudes to English at the deeper level. She also remarks that:

[it] seems likely that EFL [English as a lingua franca] pronunciation will only be taken up if teachers themselves ultimately see an EFL identity as providing their students with accents which will enhance rather than damage their future social and economic prospects internationally. (p. 542)
Moving from segmental to suprasegmental features, Field (2005) investigated the role of lexical stress to intelligibility. The study was purely and simply whether incorrect placement of lexical stress by a non native speaker rendered the form of words unintelligible to an interlocutor. The experiment was conducted by asking two groups of listeners, native speakers and non native speakers, to transcribe recorded material of a non native speaker, in which the variables of lexical stress and vowel quality were manipulated. The statistical result of the study indicated an overall decrement of 19.78% for native English speakers and 21.28% for non native speakers. This finding might suggest that the threat to intelligibility posed by incorrect placement of lexical stress is quite small: affecting only around 8% of content words if every word were misstressed. It may be concluded that lexical stress should be an area of concern for teachers though perhaps not a top priority.

4.2.2.4 Summary

Unlike comfortable intelligibility, mutual intelligibility is significantly required for oral communication among NNSs who come from different linguistic backgrounds. Pioneered by Jenkins, mutual intelligibility is now regarded as a legitimate goal of pronunciation teaching for EFL learners. However, in globalisation era oral communication across cultures cannot be restricted to those between NSs and NNSs or among NNSs only. Interactions among speakers of English may happen between NSs and NNSs, and among NNSs at the same time. Therefore, global intelligibility is absolutely needed to avoid communication breakdowns.
4.2.3 Global Intelligibility

Sections 4.2.1 and 4.2.2 have discussed comfortable intelligibility and mutual intelligibility respectively. Comfortable intelligibility is required for interaction between NSs and NNSs while mutual intelligibility is required for interaction among NNSs. However, these types of intelligibility cannot accommodate the current situation, that is, globalisation. EFL learners really need global intelligibility, that is, intelligibility required for the interaction between NSs and NNSs as well as for the interaction among NNSs. Assuming that global intelligibility is the new goal of pronunciation teaching for EFL learners, the important question to answer is: What aspects of pronunciation determine global intelligibility of EFL learners' speech?

A preliminary study (Moedjito, 2008b) of 37 junior high school EFL teachers' perceptions of the priorities in pronunciation teaching conducted by the present author has revealed that it is necessary for language teachers to consider the balance treatment of both segmental and suprasegmental features in pronunciation teaching. All the teachers agreed that segmental and suprasegmental features should be the priority in pronunciation teaching. However, when the interviewees were asked a further question Which segmental and suprasegmental features should be considered more in pronunciation teaching?, all of them preferred segmental features (vowels and consonants) as their priority. This is because they found that there was a significant difference between the system of English pronunciation and that of learners' mother tongue (the Sasak language of Lombok Island, Indonesia). This implies that Indonesian EFL teachers are still more concerned with the segmental features (consonants
and vowels) than with the suprasegmental ones.

This finding notably contrasts with the present trend of pronunciation instruction for ESL/EFL learners. Numerous applied linguists (e.g. Bowen, Madsen, & Hilferty, 1985; Florez, 1998; Power, 2003; Wong, 1987) propose the suprasegmental features as the priority of pronunciation instruction rather than the segmental features. Bowen et al. (1985) claim that the priority order of pronunciation teaching should be fluency, word stress, rhythm and intonation, and vowels and consonants. Florez (1998) argues that the suprasegmental features are more prominent in pronunciation instruction. Wong (1987) also supports the idea that the most relevant components of pronunciation that play a greater role in English communication are rhythm and intonation. In Indonesia context, this finding supports the results of the previous study which reveals the remarkable reasons for learners' difficulty in English pronunciation: (1) the absence of English sounds in learners' native language and (2) the different distribution of the same or similar sounds in the phonetic structure of English and that of their L1 (Moedjito, 2006a). Thus, the absence of English sounds and the different distribution of the same or similar sounds in L1 and L2 prompt Indonesian EFL teachers to consider consonants and vowels as the priority of pronunciation instruction in Indonesian classrooms.

However, referring to the mean scores of the collected data which were all greater than the median, the findings of the present study are consonant with some studies on the importance of the balance of the segmental and suprasegmental features (e.g., Amity, 2003; Goodwin, 2001; Jenkins, 2000; Moedjito, 2006c; Ufomata, 1996). Jenkins (2000) proposes Lingua Franca Core (LFC) that requires the balance between the segmental features (consonants,
consonant clusters, and vowels) and the suprasegmental features (particularly, nuclear stress or prominence). Moreover, Ufomata (1996) claims that vowels and consonants are the essential features of pronunciation along with sounds in combination, stress, and intonation. Taking these findings into consideration, it may be concluded that Indonesian EFL teachers qualitatively have the same view of the inclusion of both segmentals and suprasegmentals of English pronunciation although they quantitatively have different opinions of these features. As the data of the study was collected by using the questionnaire distributed to the teacher respondents and the interviews, the findings of the study need to be justified by conducting other studies utilising EFL learners' speech.

4.3 Summary and Issues for Further Investigation

Following Chapter III which describes the current status of globalisation and the reasons for the necessary shift of native-like or localised pronunciation to intelligibility, this chapter describes the definition of intelligibility and its types, particularly comfortable intelligibility and mutual intelligibility, with some related important research. From the literature review, it may be concluded that recently ESL/EFL researchers and practitioners have begun to reappraise the importance of intelligible pronunciation, particularly global intelligibility, because mastering comfortable or mutual intelligibility alone is insufficient for EFL speakers in globalisation era. However, studies on intelligibility are relatively few compared with studies on other topic interests (e.g., four language skills, grammar, and vocabulary). Therefore, more research should be conducted
on intelligibility "to establish the most effective ways of assessing it and to identify the factors that contribute to it" (Derwing & Munro, 2005, p. 391).

To be more specific, in the context of English as a global language, we need more specific information on global intelligibility, more specifically about:

(1) the factors determining global intelligibility for EFL learners;

(2) the relationship among EFL learners’ knowledge of pronunciation, their oral performance, and intelligibility; and

(3) the features of English pronunciation are important for EFL learners to learn.

In order to provide such missing information, a series of experiment have been conducted and will be described in the following three chapters.
Chapter V

Factors Determining Intelligibility of EFL Learners

Chapters II, III, and IV have provided a literature review of pronunciation teaching in English language education, globalisation, and previous studies on intelligibility. One of the crucial points is the fact that intelligibility should be the main goal of English as a global language (EGL) instruction. Such being the case, EFL teachers should be aware of factors determining global intelligibility. This chapter describes two parallel studies which investigated the factors determining global intelligibility of EFL learners' speech.

5.1 Background

The increase of oral communication across cultures has been the instrument of the promotion of the status of English as a global language (Crystal, 1997; Jenkins, 2000; McKay, 2002), necessitating the revision of the goals of teaching English for ESL/EFL learners (Jenkins, 2000; McKay, 2002). In pronunciation teaching, a new goal should be to help learners to attain global intelligibility which ensures successful oral communication not only between NSs and NNSs, but also among NNSs themselves.
In real language classrooms, language teachers should be equipped with the knowledge of global intelligibility, including what it means and what factors will contribute to global intelligibility and to what extent. For this purpose, sufficient information about global intelligibility is necessary. However, unlike the factors of comfortable intelligibility (e.g., Celce-Murcia et al., 1996; Morley, 1991; Walker, 2001) or mutual intelligibility (e.g., Jenkins, 2000; 2002), very limited information is available for EFL teachers about factors determining global intelligibility. We need to develop an instrument which specifies factors for global intelligibility for EFL learners. Therefore, this author decided to conduct a study which explored factors determining global intelligibility of EFL learners’ oral communication through the analysis of ENL speakers’ and ESL speakers’ assessments of EFL learners’ utterances.

5.2 Purpose

On the basis of the above reasoning, the following research questions were formulated:

RQ1: Which factors of intelligibility are important for ENL speakers?

RQ2: Which factors of intelligibility are important for ESL speakers?

RQ3: What will emerge as common primary factors of global intelligibility?

In order to answer these research questions, two parallel experiments were conducted in sequence of time. Both experiments were basically similar to each other. The significant differences between the first and second experiments were in the EFL-learner participants (Japanese EFL learners as the student participants in Experiment A and Indonesian EFL learners as the student participants in Experiment B).
learners as the student participants in Experiment B) and the sequence of the investigated tentative factors determining intelligibility (see Appendix A for Japanese EFL learners and Appendix B for Indonesian EFL learners). The following two sections—Section 5.3 Experiment A and Section 5.4 Experiment B—provide details of the experiments.

5.3 Experiment A

5.3.1 Method

5.3.1.1 Participants

In order to answer the research questions, the study involved five Japanese secondary school students (all female) as the providers of EFL utterances, and five ENL speakers and five ESL speakers as the evaluators of the EFL speakers' utterances. All the EFL learners were tenth graders and had been studying English at school for more than three years, approximately four fifty-minute lessons per week. All the ENL speakers come from different English-speaking countries (i.e., one American, one Australian, one British, and two Canadians) were language teachers at Japanese universities. Four of the ENL speakers had lived in Japan for more than five years while the other one had lived in Japan for one and a half years. The ESL-speaker assessors comprise two Ghanaians, one Malaysian, one Malawian, and one Filipino. All the ESL speakers had received primary, secondary, and tertiary education in English in their home country. Three of the ESL speakers had lived in Japan for about one and a half years while the other two ESL speakers have lived in Japan for about 10 months.
5.3.1.2 Data Collection

First, the present researcher listed nine tentative factors contributing to global intelligibility through the analysis of preceding literature on this topic (e.g., Celce-Murcia, et al., 1996; Jenkins, 2000; Morley, 1991). Then the researcher recorded EFL learners' utterances (one-minute self-introductions). Finally, the researcher designed an assessment sheet which provided the main source of data of the study (the assessment sheet of factors determining intelligibility of Japanese EFL learners is indicated in Appendix A). The assessment has ten components for evaluation: overall intelligibility and its nine tentative contributing factors. The assessment of these ten components was carried out in three rounds. In the first round, the assessors were required to evaluate (1) sound accuracy, (2) word stress, (3) lexical accuracy, and (4) grammatical accuracy. In the second round, the assessors were required to evaluate (5) adjustments in connected speech, (6) sentence stress, (7) intonation, and (8) rhythm. In the third round, the assessors were required to evaluate (9) fluency and (10) intelligibility, and to provide free comments of the whole assessment scheme. The assessors were required to evaluate the EFL learners' utterances through a five-point Likert scale (1 refers to 'the least native-like utterance' while 5 refers to 'the most native-like utterance'). The EFL speakers' utterances in the research were randomly sequenced for the assessors although each assessor assessed the utterances in a fixed order for all the three rounds. The ENL speakers and the ESL speakers individually assessed the recorded EFL learners' utterances. Each assessor listened to each of the EFL learners' utterances three times.
5.3.1.3 Data Analysis

The data collected from the assessment and the questionnaire were quantitatively analysed. The Pearson’s correlation coefficients were calculated for nine contributing factors of intelligibility in order to find out which factors were eligible for multiple regression analysis which would in turn show the relationship between intelligibility and its contributing factors. As the criteria for further analysis, the contributing factors should have at least a modest correlation to intelligibility \((r \geq .40)\). All the statistical analyses were performed using SPSS 13.0 for Windows.

5.3.2 Results

5.3.2.1 Descriptive Statistics and Correlations

Table 5.1 presents the mean scores \((M)\) and standard deviations \((SD)\) of the ENL-speaker assessors and of the ESL-speaker assessors, and the mean differences between the scores by the ENL-speaker assessors and the ESL-speaker assessors \((ENL – ESL \text{ Mean Difference})\).

Table 5.2 shows the correlation coefficients of the factors determining intelligibility of EFL learners’ speech and their ranks in strength of correlation for the ENL-speaker assessors and the ESL-speaker assessors. Concerning the rank order of the intelligibility factors, the Spearman’s correlation test revealed that there was no significant relationship between the assessment of the ENL-speaker assessors and that of the ESL-speaker assessors, \(r_s = .18, p = .64\). This means that the data of the five ENL-speaker assessors do not correlate with the data of the five ESL-speaker assessors.

In the case of the data of the ENL-speaker assessors, five of the nine
contributing factors had a modest correlation to intelligibility: sound accuracy, word stress, lexical accuracy, adjustments in connected speech, and sentence stress. As for the ESL-speaker assessors, there were two factors which had a high correlation to intelligibility (i.e., sound and rhythm) and three factors which had a modest correlation (i.e., word stress, sentence stress, and intonation).

Table 5.1

*Descriptive Statistics of Intelligibility and Its Contributing Factors in Experiment A*

<table>
<thead>
<tr>
<th>Assessment Items</th>
<th>ENL&lt;sup&gt;a&lt;/sup&gt;</th>
<th>ESI&lt;sup&gt;b&lt;/sup&gt;</th>
<th>ENL – ESI Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Overall Intelligibility</td>
<td>3.12</td>
<td>.78</td>
<td>3.16</td>
</tr>
<tr>
<td>Intelligibility Factors:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sound accuracy</td>
<td>2.96</td>
<td>.74</td>
<td>3.08</td>
</tr>
<tr>
<td>Word stress</td>
<td>3.36</td>
<td>.70</td>
<td>3.20</td>
</tr>
<tr>
<td>Sentence stress</td>
<td>3.04</td>
<td>.89</td>
<td>3.04</td>
</tr>
<tr>
<td>Adjustments in connected speech</td>
<td>2.76</td>
<td>.78</td>
<td>2.60</td>
</tr>
<tr>
<td>Intonation</td>
<td>3.08</td>
<td>.81</td>
<td>2.96</td>
</tr>
<tr>
<td>Rhythm</td>
<td>2.88</td>
<td>.93</td>
<td>2.64</td>
</tr>
<tr>
<td>Fluency</td>
<td>3.04</td>
<td>.84</td>
<td>3.12</td>
</tr>
<tr>
<td>Lexical accuracy</td>
<td>3.20</td>
<td>.71</td>
<td>3.48</td>
</tr>
<tr>
<td>Grammatical accuracy</td>
<td>2.52</td>
<td>.71</td>
<td>3.00</td>
</tr>
</tbody>
</table>

*Note.* Maximum score = 5.00.

<sup>a</sup><sub>n = 25</sub>; <sup>b</sup><sub>n = 25</sub>.
Although these correlation coefficients show the relationship of each factor to intelligibility, they cannot tell us much about the predictive power of the independent variables. In order to show the relationship between intelligibility and its contributing factors, the enter-method regression analyses were subsequently performed to each set of data of the ENL-speaker assessors and the ESL-speaker assessors which had at least a moderate correlation to intelligibility ($r \geq .40$).

Table 5.2

<table>
<thead>
<tr>
<th>Intelligibility Factors</th>
<th>ENL</th>
<th>ESL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$r$</td>
<td>Rank</td>
</tr>
<tr>
<td>Sound accuracy</td>
<td>.44*</td>
<td>4</td>
</tr>
<tr>
<td>Word stress</td>
<td>.68**</td>
<td>1</td>
</tr>
<tr>
<td>Sentence stress</td>
<td>.53**</td>
<td>2</td>
</tr>
<tr>
<td>Adjustments in connected speech</td>
<td>.46*</td>
<td>3</td>
</tr>
<tr>
<td>Intonation</td>
<td>.31</td>
<td>7</td>
</tr>
<tr>
<td>Rhythm</td>
<td>.25</td>
<td>9</td>
</tr>
<tr>
<td>Fluency</td>
<td>.37</td>
<td>6</td>
</tr>
<tr>
<td>Lexical accuracy</td>
<td>.41*</td>
<td>5</td>
</tr>
<tr>
<td>Grammatical accuracy</td>
<td>.26</td>
<td>8</td>
</tr>
</tbody>
</table>

Note. *$n = 25$; ** $n = 25$.

*p < .05; **$p < .01$.

5.3.2.2 Factors Determining Intelligibility

The summary of the modified reader-friendly representation of the
results of the multiple regression analyses is presented in Table 5.3 for the ENL-speaker assessors and in Table 5.4 for the ESL-speaker assessors.

For the ENL-speaker assessors, it was found that the value of the multiple coefficient of determination was $R^2 = .48$, $p < .05$. This means that the five investigated contributing factors (i.e., sound accuracy, word stress, sentences stress, adjustments in connected speech, and lexical accuracy) might account significantly for 48% of the variation in intelligibility of EFL learners' utterances and 52% can be explained by other than the investigated factors. However, a closer examination of the result has revealed that only the standardised coefficient ($\beta$) of word stress was statistically significant, $\beta = .60$, $p < .05$. This implies that only word stress might have a positive effect on the intelligibility of EFL learners' speech.

Table 5.3

Multiple Regression Analysis of Contributing Factors for Intelligibility Assessed by the ENL-speaker Assessors in Experiment A

<table>
<thead>
<tr>
<th>Independent Variables (Contributing Factors)</th>
<th>Dependent Variables (Intelligibility)</th>
<th>$B$</th>
<th>$SE B$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound accuracy</td>
<td>Intelligibility</td>
<td>0.09</td>
<td>0.25</td>
<td>.01</td>
</tr>
<tr>
<td>Word stress</td>
<td>Intelligibility</td>
<td>0.66</td>
<td>0.30</td>
<td>.60*</td>
</tr>
<tr>
<td>Sentence stress</td>
<td>Intelligibility</td>
<td>-0.03</td>
<td>0.31</td>
<td>-.04</td>
</tr>
<tr>
<td>Adjustments in connected speech</td>
<td>Intelligibility</td>
<td>0.11</td>
<td>0.31</td>
<td>.18</td>
</tr>
<tr>
<td>Lexical accuracy</td>
<td>Intelligibility</td>
<td>0.13</td>
<td>0.27</td>
<td>.11</td>
</tr>
</tbody>
</table>

Note. $R^2 = .48$, $p < .05$; $^*p < .05$.

As for the ESL-speaker assessors, it was found that the value of the
multiple coefficient of determination was $R^2 = .66$, $p < .01$. This means that the five investigated contributing factors (i.e., sound accuracy, word stress, sentence stress, intonation, and rhythm) might account significantly for 66% of the variation in intelligibility of EFL learners' utterances and 34% can be explained by other than the five investigated factors. However, a careful consideration of the result has disclosed that only the standardised coefficient ($\beta$) of sound accuracy was statistically significant, $\beta = 48$, $p < .05$. This implies that only sound accuracy might have a positive effect on the intelligibility of EFL learners' speech.

Table 5.4

*Multiple Regression Analysis of Contributing Factors for Intelligibility Assessed by the ESL-speaker Assessors in Experiment A*

<table>
<thead>
<tr>
<th>Independent Variables (Contributing Factors)</th>
<th>Dependent Variables (Intelligibility)</th>
<th>$B$</th>
<th>$SE_B$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound accuracy</td>
<td>Intelligibility</td>
<td>0.51</td>
<td>0.21</td>
<td>.48*</td>
</tr>
<tr>
<td>Word stress</td>
<td>Intelligibility</td>
<td>-0.07</td>
<td>0.32</td>
<td>-.06</td>
</tr>
<tr>
<td>Sentence stress</td>
<td>Intelligibility</td>
<td>0.22</td>
<td>0.24</td>
<td>.21</td>
</tr>
<tr>
<td>Intonation</td>
<td>Intelligibility</td>
<td>-0.08</td>
<td>0.26</td>
<td>-.09</td>
</tr>
<tr>
<td>Rhythm</td>
<td>Intelligibility</td>
<td>0.33</td>
<td>0.37</td>
<td>.33</td>
</tr>
</tbody>
</table>

*Note. $R^2 = .66$, $p < .01$; *$p < .05.*

As proposed in Section 5.2 of this chapter, the current study attempts to explore three research questions: *Which factors of intelligibility are important for ENL speakers?*, *Which factors of intelligibility are important for ESL speakers?*, and *What will emerge as common primary factors of
global intelligibility?

In the case of the ENL-speaker assessors, the results of the study have revealed that there are five factors which may have substantial relationship to intelligibility: sound accuracy, word stress, lexical accuracy, adjustments in connected speech, and sentence stress. Among these factors, word stress has turned out to be the most significant factor for intelligibility. As far as the ESL-speaker assessors are concerned, there are also five factors which may predict intelligibility: sound accuracy, word stress, sentence stress, intonation, and rhythm. Of these five factors, sound accuracy has turned out to be the most significant factor determining intelligibility. Interestingly, although the most significant factor for the ENL-speaker assessors is different from that for the ESL-speaker assessors, the study has also revealed that three contributing factors (i.e., sound accuracy, word stress, and sentence stress) have been evaluated as significant factors equally by the ENL-speaker assessors and the ESL-speaker assessors. Despite the shared factors determining intelligibility, the ENL-speaker assessors assessed adjustments in connected speech and lexical accuracy to be possible contributors to intelligibility while the ESL-speaker assessors estimated intonation and rhythm as potential predictors for intelligibility.

5.4 Experiment B

5.4.1 Method

5.4.1.1 Participants

Like Experiment A, the present experiment also involved EFL
students as the providers of EFL learners' speech, and five ENL speakers and five ESL speakers as the evaluators of the EFL speakers' utterances. Instead of Japanese EFL learners, Experiment B involved six Indonesian EFL learners (three males and three females), which made the present study remarkably different from Experiment A. All the EFL learners were tenth graders and had been studying English at school for more than three years, approximately four fifty-minute lessons per week. In order to maintain the consistency of the intelligibility judgement of EFL learners' speech, Experiment B involved the same ENL speakers and ESL speakers as they were as in Experiment A.

5.4.1.2 Data Collection

The student participants (the providers of EFL speakers' utterances) of this experiment are different from those of Experiment A. Another significant difference between Experiment A and Experiment B is the process of collecting data, particularly the sequence of the investigated components for evaluation. As mentioned in Section 5.3.1.2 Data Collection of Experiment A, the assessment of Experiment B also has ten components for evaluation: overall intelligibility and its nine tentative contributing factors, which were carried out in three rounds (the assessment sheet of factors determining intelligibility of Japanese EFL learners is indicated in Appendix B). In the first round, the assessors were required to evaluate (1) the intelligibility of EFL learners' utterances and to provide free comments on the speakers' intelligibility or unintelligibility. In the second round, the assessors were required to evaluate (2) fluency (3) sound accuracy, (4) word
stress, (5) lexical accuracy, and (6) grammatical accuracy. In the third round, the assessors were required to evaluate (7) adjustments in connected speech, (8) sentence stress, (9) intonation, and (10) rhythm. As in Experiment A, the assessors were also required to evaluate the EFL learners' utterances through a five-point Likert scale (1 refers to the least native-like utterance while 5 refers to the most native-like utterance). The EFL speakers' utterances in the research were randomly sequenced for the assessors although each assessor assessed the utterances in a fixed order for all three rounds. The ENL-speaker assessors and the ESL-speaker assessors individually assessed the recorded EFL learners' utterances. Each assessor listened to each of the EFL learners' utterances three times.

5.4.1.3 Data Analysis

The data collected from the assessment and the questionnaire were quantitatively analysed. The Pearson's correlation coefficients were calculated for nine contributing factors of intelligibility in order to find out which factors were eligible for multiple regression analysis which would in turn show the relationship between intelligibility and its contributing factors. As the criteria for the further analysis, the contributing factors should have at least a modest correlation to intelligibility ($r \geq .40$). All the statistical analyses were performed using SPSS 13.0 for Windows.

5.4.2 Results

5.4.2.1 Descriptive Statistics and Correlations

Table 5.5 presents the mean scores ($M$) and standard deviations ($SD$)
Table 5.5

Descriptive Statistics of Intelligibility and Its Contributing Factors in Experiment B

<table>
<thead>
<tr>
<th>Assessment Items</th>
<th>ENL&lt;sup&gt;a&lt;/sup&gt;</th>
<th>ESL&lt;sup&gt;b&lt;/sup&gt;</th>
<th>ENL – ESL Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Overall Intelligibility</td>
<td>3.06</td>
<td>.75</td>
<td>3.00</td>
</tr>
<tr>
<td>Intelligibility Factors:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sound accuracy</td>
<td>2.75</td>
<td>.69</td>
<td>3.61</td>
</tr>
<tr>
<td>Word stress</td>
<td>3.19</td>
<td>.86</td>
<td>3.56</td>
</tr>
<tr>
<td>Sentence stress</td>
<td>3.47</td>
<td>.65</td>
<td>3.28</td>
</tr>
<tr>
<td>Adjustments in connected speech</td>
<td>3.72</td>
<td>.57</td>
<td>2.94</td>
</tr>
<tr>
<td>Intonation</td>
<td>3.14</td>
<td>.83</td>
<td>3.17</td>
</tr>
<tr>
<td>Rhythm</td>
<td>3.25</td>
<td>.81</td>
<td>3.31</td>
</tr>
<tr>
<td>Fluency</td>
<td>3.50</td>
<td>.78</td>
<td>3.39</td>
</tr>
<tr>
<td>Lexical accuracy</td>
<td>3.03</td>
<td>.85</td>
<td>2.75</td>
</tr>
<tr>
<td>Grammatical accuracy</td>
<td>3.19</td>
<td>.74</td>
<td>3.14</td>
</tr>
</tbody>
</table>

Note. Maximum score = 5.00.

<sup>a</sup>n = 36; <sup>b</sup>n = 36.

of the ENL speakers and of the ESL speakers, and the mean differences between the scores by the ENL-speaker assessors and those by the ESL-speaker assessors (ENL – ESL Mean Difference).

Table 5.6 shows the correlation coefficients of the factors determining intelligibility of EFL learners’ speech and their ranks in strength of correlation for the native English speaker assessors and the ESL speaker assessors. Concerning the rank order of the intelligibility factors, the
Spearman’s correlation test revealed that there was no significant relationship between the assessment of the ENL-speaker assessors and that of the ESL-speaker assessors, $r = .22$, $p = .58$. It means that the data of the five ENL-speaker assessors do not correlate with the data of the five ESL-speaker assessors.

Table 5.6
Correlations of Factors Determining Intelligibility in Experiment B

<table>
<thead>
<tr>
<th>Intelligibility Factors</th>
<th>ENLa</th>
<th>Rank</th>
<th>ESLb</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound accuracy</td>
<td>.08</td>
<td>6</td>
<td>.66**</td>
<td>1</td>
</tr>
<tr>
<td>Word stress</td>
<td>-.06</td>
<td>7</td>
<td>-.11</td>
<td>6</td>
</tr>
<tr>
<td>Sentence stress</td>
<td>.01</td>
<td>9</td>
<td>-.17</td>
<td>4</td>
</tr>
<tr>
<td>Adjustments in connected speech</td>
<td>.51**</td>
<td>1</td>
<td>.55**</td>
<td>2</td>
</tr>
<tr>
<td>Intonation</td>
<td>.17</td>
<td>4</td>
<td>.14</td>
<td>5</td>
</tr>
<tr>
<td>Rhythm</td>
<td>.12</td>
<td>5</td>
<td>.05</td>
<td>7</td>
</tr>
<tr>
<td>Fluency</td>
<td>.39*</td>
<td>3</td>
<td>.45**</td>
<td>3</td>
</tr>
<tr>
<td>Lexical accuracy</td>
<td>.49**</td>
<td>2</td>
<td>.05</td>
<td>8</td>
</tr>
<tr>
<td>Grammatical accuracy</td>
<td>-.02</td>
<td>8</td>
<td>.05</td>
<td>9</td>
</tr>
</tbody>
</table>

*Note. an = 36; bn = 36.
*p < .05; **p < .01.

In the case of the data of the ENL-speaker assessors, three of the nine contributing factors had a modest correlation to intelligibility: adjustments in connected speech, fluency, and lexical accuracy. As for the ESL-speaker assessors, there were also three factors which had a moderate correlation to
intelligibility: sound accuracy, adjustments in connected speech, and fluency.

Although these correlation coefficients show the relationship of each factor to intelligibility, they cannot tell us much about the predictive power of the independent variables. In order to show the relationship between intelligibility and its contributing factors, the enter-method regression analyses were subsequently performed to each set of data of the ENL-speaker assessors and the ESL-speaker assessors, which were significantly correlated to intelligibility.

5.4.2.2 Factors Determining Intelligibility

The summary of the regression analyses is presented in Table 5.7 for the ENL-speaker assessors and in Table 5.8 for the ESL-speaker assessors. For the ENL-speaker assessors, it was found that the value of the multiple coefficient of determination was $R^2 = .37, p < .01$. This means that the investigated contributing factors (i.e., adjustments in connected speech, fluency, and accuracy) might account significantly for 37% of the variation in intelligibility of EFL learners' utterances and 63% can be explained by other than the investigated factors. However, a closer examination of the result has revealed that only the standardised coefficient ($\beta$) of adjustments in connected speech was statistically significant, $\beta = 51, p < .01$, implying that only adjustments in connected speech might have a positive effect on the intelligibility of EFL learners' speech.

As for the ESL-speaker assessors, it was found that the value of the multiple coefficient of determination was $R^2 = .53, p < .05$. This means that the investigated contributing factors (i.e., sound accuracy, adjustments in
connected speech, and fluency) might account significantly for 53% of the variation in intelligibility of EFL learners' utterances and 47% can be explained by other than the investigated factors. However, a careful consideration of the result has disclosed that only the standardised coefficient ($\beta$) of word stress was statistically significant, $\beta = 38, p < .05$. This implies that only sound accuracy might have a positive effect on the intelligibility of EFL learners' speech.

Table 5.7

*Multiple Regression Analysis of Contributing Factors for Intelligibility Assessed by the ENL speaker Assessors in Experiment B*

<table>
<thead>
<tr>
<th>Independent Variables (Contributing Factors)</th>
<th>Dependent Variables (Intelligibility)</th>
<th>$B$</th>
<th>$SEB$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjustments in connected speech</td>
<td>Intelligibility</td>
<td>0.67</td>
<td>0.20</td>
<td>.51**</td>
</tr>
<tr>
<td>Fluency</td>
<td>Intelligibility</td>
<td>0.24</td>
<td>0.16</td>
<td>.25</td>
</tr>
<tr>
<td>Lexical accuracy</td>
<td>Intelligibility</td>
<td>0.30</td>
<td>0.15</td>
<td>.34</td>
</tr>
</tbody>
</table>

*Note. $R^2 = .37, p < .01$; **$p < .01$.*

Table 5.8

*Multiple Regression Analysis of Contributing Factors for Intelligibility Assessed by the ESL speaker Assessors in Experiment B*

<table>
<thead>
<tr>
<th>Independent Variables (Contributing Factors)</th>
<th>Dependent Variables (Intelligibility)</th>
<th>$B$</th>
<th>$SEB$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound accuracy</td>
<td>Intelligibility</td>
<td>0.51</td>
<td>0.22</td>
<td>.38*</td>
</tr>
<tr>
<td>Adjustments in connected speech</td>
<td>Intelligibility</td>
<td>0.28</td>
<td>0.14</td>
<td>.30</td>
</tr>
<tr>
<td>Fluency</td>
<td>Intelligibility</td>
<td>0.24</td>
<td>0.14</td>
<td>.25</td>
</tr>
</tbody>
</table>

*Note. $R^2 = .53, p < .05$; *$p < .05$.*
As Experiment A, the current study also attempts to explore the three same research questions: Which factors of intelligibility are important for native English speakers?, Which factors of intelligibility are important for ESL speakers?, and What will emerge as common primary factors of global intelligibility?

In the case of the ENL-speaker assessors, the result of the study has revealed that there are three factors which may have substantial relationship to intelligibility: adjustments in connected speech, fluency, and lexical accuracy. Among these factors, the component of adjustments in connected speech has shown to be the most significant factor for intelligibility. As far as the ESL-speaker assessors are concerned, there are also three factors which may predict intelligibility: sound accuracy, adjustments in connected speech, and fluency. Of these three factors, sound accuracy appears to be the most significant factor determining intelligibility.

5.5 Discussion

Regarding the most significant factors for intelligibility, it may be summarised that there is significant difference in the assessment of the contributing factors between the ENL speakers and the ESL speakers, either for Japanese EFL learners or for Indonesian EFL learners. For Japanese EFL learners, the ENL speakers judged word stress as the most important factor for intelligibility while the ESL speakers ascertained that sound accuracy was the most crucial. For Indonesian EFL learners, the ENL speakers assessed adjustments in connected speech as the most important factor for intelligibility while the ESL speakers found out that sound
accuracy was the most important. Interestingly, the findings of both studies have shown that the ESL speakers have posted sound accuracy as the paramount factor determining intelligibility for both Japanese and Indonesian EFL learners.

A closer examination of the difference in the assessment of EFL learners' intelligibility has discovered that there are at least three reasons for the different assessments between the ENL speakers and the ESL speakers. The first prominent reason for these differences is the assessors' familiarity with EFL speakers' utterances (Jenkins, 2000). As a matter of fact, four out of the five ENL speakers involved in the study are those who have lived in Japan more than five years, and therefore they are very knowledgeable of Japanese learners' English pronunciation, while all the ESL speakers have lived in Japan for less than two years. This factor may be responsible for the difference in the assessment of the EFL speakers' utterances between the ENL speakers and the ESL speakers. The ENL speakers seem to concentrate their assessments not only on the EFL speakers' sound accuracy but also on other suprasegmental features or language components which they think are more important, such as word stress, adjustments in connected speech, and lexical accuracy. In contrast, the ESL speakers find it more difficult to understand the utterance of Japanese secondary school students because the way Japanese learners pronounce English words is often different from the way they do. Unlike the ENL speakers, their experience of living in Japan for a relatively short time with less exposure to Japanese speakers' English pronunciation may have hampered their understanding of messages being conveyed. The fact that
the assessment of intelligibility is substantially influenced by the familiarity with EFL speakers' pronunciation is also supported by the ENL speakers who claim that the relative ease with which they understand the utterance of Japanese secondary school students is due to their experience of living in Japan for a long time, as expressed in the following comments by the ENL speakers on the collected data of the EFL speakers' utterances:

Excerpt 1 (NE-2)

"[English spoken by Japanese EFL learners is] easy to understand for people who are accustomed to Japanese pronunciation or vocabulary choice."

Excerpt 2 (NE-3)

"I would imagine it (English spoken by Japanese EFL learners) very difficult for people without experience [of living in Japan] to understand."

The second reason for the difference in the assessment of the contributing factors between the ENL speakers and the ESL speakers concerns the assessors' profession. All the ENL-speaker assessors are involved in academic life at Japanese universities as lecturers. This makes them more alert to linguistic aspects of pronunciation and intelligibility. Compared with the ENL-speaker assessors, all the ESL-speaker assessors are postgraduate students who have few chances to interact in English with Japanese students although they are also involved in academic life at
Japanese universities. The ESL speakers in the study communicate mostly with their group members alone, namely, other English-speaking foreign students. When talking to each other, they may pay more attention to messages being communicated than the linguistic aspects of language, more specifically suprasegmental features such as word stress.

As a cumulative point of the first and second reasons, the assessors' tolerance may become the third rationale behind the difference. Being ENL speakers who are more familiar with the EFL speakers' utterances and have language teaching experience for such a long time makes them more tolerant towards EFL speakers' word pronunciation accuracy than the ESL-speaker assessors are. At the same time the ENL speakers assessed more deeply the EFL speakers' utterances, especially those which hinder oral communication such as word stress.

The findings of the study, particularly that sound accuracy is regarded as the priority for determining intelligibility, is partly consistent with the findings contributed by a number of studies on the relative importance of segmental features to intelligibility (Jenkins, 1998, 2000, 2002; Rajadurai, 2001; Suenobu, Kanzaki, & Yamane, 1992; Zielinski, 2003). For example, Jenkins (2000) proposes Lingua Franca Core (LFC) as a crucial safeguard for intelligibility between NNSs (Jenkins, 1998, 2000). On the basis of her empirical research, Jenkins suggests that LFC should cover all consonant sounds (except the pair of inter-dental fricatives /θ/ and /ð/, and the dark /l/ or [ɫ]), vowel sounds, and nuclear stresses.

When NSs and NNSs communicate with each other, word stress or adjustments in connected speech may be more crucial as a factor
determining intelligibility than sound accuracy, depending on the EFL learners' mother tongue. As for Japanese EFL learners, attention should be placed more on word stress, which in turn is reflected by the inclusion of primary word stress recognition in the paper-and-pencil test of pronunciation in the nationwide English tests by the National Centre for University Entrance Examinations. For Indonesian EFL learners, however, the component of adjustments in connected speech needs more attention. This may happen because in the phonological system of either the Indonesian language—the national language of Indonesia—and the Sasak language—the native language of the participants of the present study—there is no properties of adjustments in connected speech. The fact that word stress is a prominent factor determining intelligibility in native and non-native interaction is also consonant with a number of studies which explored the impact of suprasegmental features on intelligibility by contrasting it with the impact of other factors such as phoneme accuracy and accentedness (e.g., Anderson-Hsieh & Koehler, 1988; Anderson-Hsieh, Johnson, & Koehler, 1992; Derwing, Munro, & Wiebe, 1998). A recent study on the role of lexical stress (Field, 2005) also discovered that the extent to which intelligibility was compromised depended greatly on the direction in which lexical stress was shifted and the changes in the vowel quality.

However, as the main goal of pronunciation teaching should be to help learners to attain global intelligibility, identifying the primary contributing factors of intelligibility required of NNSs in their attempts to communicate either with NSs or with other NNSs separately is not sufficient. With regard to the issue of global intelligibility, researchers and
educators need to accommodate all the factors determining intelligibility of both types of interaction, not only between NSs and NNSs interaction but also between NNSs. Concerning the results of the study, both of segmental features (i.e., sound accuracy) and suprasegmental features (i.e., word stress and adjustments in connected speech) should be considered as the common primary factors contributing to global intelligibility.

5.6 Summary

Although the present study has revealed several interesting facts about factors determining intelligibility of EFL learners' oral communication, this author must admit that the study has also several limitations. First, the data analysis was based on EFL speakers' utterances on a single topic which lasted only one minute. Secondly, the participants of the study were limited in age; only senior high school students participated in the study (as the providers of the EFL learners' utterances). In spite of these shortcomings, several interesting facts are disclosed. The main findings of the study indicate that for comfortable intelligibility—intelligibility required for the interaction between NSs and NNSs—word stress or adjustments in connected speech may be the most essential while for mutual intelligibility—intelligibility required for the interaction between NNSs—sound accuracy is crucial. Assuming that global intelligibility—intelligibility required for the interaction between NSs and NNSs as well as the interaction between NNSs—should be the aim of teaching English as a global language, sound accuracy, word stress, and adjustments in connected
speech should be recognised as the crucial elements in pronunciation teaching.
Chapter VI

Relationships Among EFL Learners’ Knowledge of Pronunciation, Oral Performance, and Intelligibility

Chapter V reported the results of Experiments 1 and 2. One of the findings indicated that the most probable factors determining global intelligibility of EFL learners' speech might be sound accuracy and word stress. This chapter reports Experiment 3, which was conducted to explore how EFL learners' knowledge of pronunciation, measured by paper-and-pencil pronunciation test, is related to oral performance and intelligibility.

6.1 Background

It has been noted in the first three chapters of this dissertation that one of the impacts of globalisation is the increase of oral communication in English across cultures. To be able to perform successfully inter-cultural and different linguistic communication, it is necessary for NNSs to have sufficient capacities, one of which is global intelligibility. As defined in Chapter IV of this dissertation, global intelligibility is the property NNSs should aim for when they try to talk not only to NSs, but also to NNSs. Global intelligibility (Moedjito & Ito, 2008b) is usually achieved by a
successful manipulation of segmental accuracy and word stress (Moedjito, 2008a), which are the focus of the present chapter.

It is rather difficult to say it is fortunate or not, but in Japan these two aspects of pronunciation (segmental accuracy and word stress) have been the main focus of paper-pencil tests of pronunciation in nationwide English tests by the National Center for University Entrance Examinations. The inclusion of pronunciation questions in paper-pencil tests of English proficiency has long been rather severely criticized by many EFL researchers (e.g., Ito, 2005; Wakabayashi & Negishi, 1993), mainly on the basis of the lack of its validity as the means of evaluating EFL learners’ pronunciation. On an empirical basis, however, a complete consensus has not yet been attained. Sasaki and Shirahata (1992) reported that paper-pencil tests of primary word stress placement were valid to a certain degree in measuring learners’ speaking performance, although Takei (1989) revealed that paper-pencil pronunciation tests, for segmental accuracy or for primary word stress placement, were not valid at all in evaluating learners’ speaking performance. However, these studies used the participants’ performance of pronunciation of isolated words as the data for their analysis. This means that it is not clear how learners’ knowledge of pronunciation measured by paper-pencil tests is related to their oral performance and intelligibility in actual oral communication on a discourse level.

6.2 Purpose

In order to obtain such missing information, this empirical study was
conducted to examine how EFL learners' knowledge of pronunciation assessed by a paper-and-pencil pronunciation test is related to their oral performance and intelligibility in actual oral communication. For this purpose, the following three research questions were formulated:

RQ1: Which aspects of EFL learners' knowledge of pronunciation are more related to their oral performance?

RQ2: Which aspects of EFL learners' knowledge of pronunciation are more related to their intelligibility?

RQ3: Which aspects of EFL learners' oral performance are more related to their intelligibility?

6.3 Method

6.3.1 Participants

The participants of the present study were ten Japanese EFL learners enrolled at a national university in Japan, two native English speakers (one American and one Canadian), and two Japanese professional EFL instructors. The student participants, who majored in English, were the providers of EFL learners' speech samples. Their English abilities measured by TOEIC ranged from a low of 600 to a high of 870 \((M = 705)\). The reason these students were selected as the participants of the study is that we considered it necessary for the participants to have a certain degree of English proficiency to carry on a conversation for some time in order for us to assess their intelligibility. The native English speakers who participated in the study were teachers at a Japanese university. These native English speakers were the assessors of intelligibility of the student
participants' speech and of their oral performance in terms of sound accuracy. One of the native English speakers was also the interviewer in the interview test. The two Japanese professional EFL instructors, who had lived in English speaking countries for a relatively long time (3 and 10 years respectively), participated in the study as the assessors of the student participants' oral performance in terms of primary word stress placement.

6.3.2 Data Collection

To solve the proposed research questions, data was collected by three different instruments: an oral reading test (OR), an interview test (IV), and a paper-and-pencil pronunciation test (PT). The first two tests were conducted to measure the student participants' oral performance while the third test was administered to measure their knowledge of pronunciation in terms of sound accuracy and primary word stress placement.

As far as oral performance is concerned, three types of data were collected: (1) controlled oral performance (COP) in the oral reading test, (2) natural oral performance (NOP) in the interview test, and (3) overall intelligibility. For the controlled and natural oral performance data, the student participants' oral performance of the oral reading and interview tests were recorded, using a digital voice recorder, and then presented to the assessors. In the oral reading test, the student participants read a 115-word passage (see Appendix C for oral reading material). The statistical analysis was focused on the pronunciation of the first 25 content words (tokens, not index) of the passage read aloud by all the student participants (see Appendix D for assessment of sound accuracy and Appendix E for
assessment of primary word stress placement). Two types of data were collected from this oral reading test: sound accuracy (hereafter SA-OR) and placement of primary word stress (hereafter WS-OR). In the interview test, the student participants were interviewed by one of the two ENL speakers about their personal experience of studying English. The statistical analysis was focused on the first 25 words (token, not index) which appeared in the individual speeches; there was a different list of words for each student participant. Two types of data were also collected from this interview test: sound accuracy (hereafter SA-IV) and placement of primary word stress (hereafter WS-IV). As far as the overall intelligibility of the student participants' speeches is concerned (hereafter ITB, a maximum of 10 points), the two ENL speakers were asked to assess each individual student participants' overall intelligibility while listening to their oral performance in the oral reading and interview tests in live or a recorded situations.

Concerning the paper-and-pencil pronunciation test, the student participants completed the word-level pronunciation knowledge test consisting of 25 questions for sound discrimination and 25 questions for primary word stress placement (see Appendix G for the paper-and-pencil pronunciation test). For sound discrimination, each question had four options (words). The student participants were asked to choose one word; the pronunciation of the underlined part was different from those in the other three words, and the student was asked to write its number in the provided space. In order to decrease the 'guessing' effect by the student participants, the present author included intentionally several questions in which all four options had exactly the same pronunciation. In this case, the
student participants were asked to write “0” in the provided space. Similarly, for primary word stress placement, each question had four options. The student participants were asked to choose one word; the stress pattern was different from those in the other three words, and the student was asked to write its number in the provided space. In order to decrease the ‘guessing’ effect by the student participants, the present author included intentionally several questions in which all the four options had exactly the same word stress pattern. In this case, the student participants were required to write “0” in the provided space. The 200 words in the pronunciation test were basically selected from the word lists of Level 1 to Level 4 in JACET 8000 (JACET, 2003). The actual selection process of these 200 words was conducted with reference to (1) the difficulties in pronunciation faced by Japanese learners (Power, n.d.; Kelly, 2000), (2) the distribution of word stress patterns provided by Carnegie Mellon University Pronouncing Dictionary, and (3) the distribution of word stress patterns which appeared in the interviews recorded in a recent series of the English Journal magazine (ALC). In order to elicit their real time judgment as much as possible, the student participants were required to spend only 8 seconds for each question. Two types of data were collected from this paper-and-pencil pronunciation test: sound accuracy (hereafter SA-PT) and placement of primary word stress (hereafter WS-PT).

6.3.3 Data Analysis

There were seven different types of data collected in the study: (1) sound accuracy from the oral reading test (SA-OR), (2) primary word
stress placement from the oral reading test (WS-OR), (3) sound accuracy from the interview test (SA-IV), (4) primary word stress placement from the interview test (WS-IV), (5) overall intelligibility (ITB), (6) sound accuracy from the pronunciation paper test (SA-PT), and (7) primary word stress placement from the pronunciation paper test (WS-PT).

It should be noted that the types of the collected data were different; therefore, the following standard of scoring was adopted. As far as SA-OR and SA-IV are concerned, the present author gave 1 point for not accurate pronunciation, 2 points for a little accurate pronunciation, and 3 points for accurate pronunciation. Concerning WS-OR, WS-IV, SA-PT, and WS-PT, the present author gave 1 point for the correct answer and zero point for the wrong answer. For ITB, the present author asked the native speaker assessors to evaluate the EFL learners' utterances through a nine-point Likert scale (1 refers to 'unintelligible speech' while 5 refers to 'completely intelligible speech'). The complete instrument of intelligibility assessment can be seen in Appendix F. The prescribed standard of scoring resulted in difference in the maximum scores of these data. The maximum score of sound accuracy in oral performance (SA-OR and SA-IV) was 75, that of primary word stress placement in oral performance (WS-OR and WS-IV) and pronunciation knowledge (SA-PT and WS-PT) was 25, and that of intelligibility of EFL learners' speech (ITB) was 5. Because the maximum scores were different among these tests, all the raw scores were converted into 10-point scales. These converted scores were used for our analyses.

As far as the assessment of the oral performance is concerned, two native English speakers and two Japanese EFL instructors worked in pairs.
Therefore, an interrater reliability analysis was performed to determine consistency among the raters, using the Kappa statistics (Landis & Koch, 1977). The interrater reliability for the native English speaker raters was significantly high for ITB, SA-OR, and SA-IV ($\kappa = 0.69$, $p < .01$; $\kappa = 0.76$, $p < .01$; $\kappa = 0.81$, $p < .01$ respectively). The interrater reliability for the Japanese professional EFL instructors was extremely high for WS-OR and WS-IV ($\kappa = 1.00$, $p < .01$ and $\kappa = 1.00$, $p < .01$ respectively). In order to investigate the proposed research questions, the average of the scores of the two raters was first calculated, and then submitted to the Pearson's correlation analysis to examine interconnections among the investigated variables and to the multiple regression analysis to show the relationship between intelligibility and the three tests (i.e., the paper-and-pencil pronunciation test, the oral reading test, and the interview test).

6.4 Results

6.4.1 Descriptive Statistics and Correlations

Table 6.1 presents the descriptive statistics for the assessment of intelligibility, pronunciation knowledge (the paper-and-pencil pronunciation test), controlled oral performance (the oral reading test), and natural oral performance (the interview test).

As indicated in Table 6.1, the converted mean scores of primary word stress placement were higher than those of sound accuracy for all the three tests. This implies that EFL learners will overcome problems of primary word stress placement earlier than those of sound accuracy. Secondly, the converted mean scores of sound accuracy and primary word stress
placement in the interview test were better than those in the oral reading test, which in turn were better than those in the paper-and-pencil pronunciation test. The most probable reason for this finding is because the words used in the paper-and-pencil pronunciation test were prepared by the present researchers while in the interview test the student participants were able to use the words they knew.

Table 6.1

Descriptive Statistics of the Participants' Written and Oral Performance

<table>
<thead>
<tr>
<th>Variables</th>
<th>Raw Scores</th>
<th>Converted Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>M</td>
</tr>
<tr>
<td>Intelligibility (ITB)</td>
<td>5</td>
<td>3.97</td>
</tr>
<tr>
<td>Pronunciation Knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SA-PT</td>
<td>25</td>
<td>13.40</td>
</tr>
<tr>
<td>WS-PT</td>
<td>25</td>
<td>16.40</td>
</tr>
<tr>
<td>Controlled Oral Performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SA-OR</td>
<td>75</td>
<td>65.75</td>
</tr>
<tr>
<td>WS-OR</td>
<td>25</td>
<td>23.55</td>
</tr>
<tr>
<td>Natural Oral Performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SA-IV</td>
<td>75</td>
<td>67.80</td>
</tr>
<tr>
<td>WS-IV</td>
<td>25</td>
<td>24.65</td>
</tr>
</tbody>
</table>

*Note.* The maximum score of the converted data was 10 points.

The main concern of this study was to investigate the relationships among EFL learner's knowledge of pronunciation, oral performance, and intelligibility. Therefore, the Pearson product-moment correlation test was first performed to examine the intercorrelations among the scores of the intelligibility of EFL learners' speech (ITB), the paper-and-pencil
pronunciation test (pronunciation knowledge: SA-PT and WS-PT), the oral reading test (controlled oral performance: SA-OR and WS-OR), and the interview test (natural oral performance: SA-IV and WS-IV). The summary of the results of the correlation test is presented in Table 6.2.

Table 6.2
Intercorrelations Among Intelligibility, Pronunciation Knowledge, and Oral Performance

<table>
<thead>
<tr>
<th>Variables</th>
<th>ITB</th>
<th>SA-PT</th>
<th>WS-PT</th>
<th>SA-OR</th>
<th>WS-OR</th>
<th>SA-IV</th>
<th>WS-IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligibility (ITB)</td>
<td>1.00</td>
<td>.38</td>
<td>.62</td>
<td>.44</td>
<td>.12</td>
<td>.73*</td>
<td>.19</td>
</tr>
<tr>
<td>SA-PT</td>
<td>1.00</td>
<td>.33</td>
<td>.38</td>
<td>.45</td>
<td>.60</td>
<td>.62</td>
<td></td>
</tr>
<tr>
<td>WS-PT</td>
<td>1.00</td>
<td>.29</td>
<td>.41</td>
<td>.22</td>
<td>.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SA-OR</td>
<td>1.00</td>
<td>.04</td>
<td>.23</td>
<td>.11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WS-OR</td>
<td>1.00</td>
<td>.71*</td>
<td>.59</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SA-IV</td>
<td>1.00</td>
<td>.43</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WS-IV</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < .05.

6.4.2 Relationship Between EFL Learners' Knowledge of Pronunciation and Their Oral Performance

Concerning the correlation between pronunciation knowledge (SA-PT and WS-PT) and oral performance (SA-OR, WS-OR, SA-IV, and WS-IV), it was found that all the correlation coefficients of knowledge of sound accuracy were higher than those of knowledge of primary word stress placement, as shown in Table 6.2. However, these correlation coefficients
cannot tell us much about the predictive power of the independent variables (SA·PT and WS·PT) for the dependent variables (controlled and natural oral performance).

Table 6.3

Summary of Multiple Regression Analyses of the Predictive Power of Pronunciation Knowledge for Oral Performance

<table>
<thead>
<tr>
<th>Independent Variables (Pronunciation Knowledge)</th>
<th>Dependent Variables (Oral Performance)</th>
<th>$B$</th>
<th>$SEB$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound accuracy</td>
<td>Oral Reading</td>
<td>0.18</td>
<td>0.07</td>
<td>.74*</td>
</tr>
<tr>
<td>Word stress</td>
<td>Oral Reading</td>
<td>-0.11</td>
<td>0.07</td>
<td>-.45</td>
</tr>
<tr>
<td>Sound accuracy</td>
<td>Interview</td>
<td>0.10</td>
<td>0.32</td>
<td>.81*</td>
</tr>
<tr>
<td>Word stress</td>
<td>Interview</td>
<td>-0.04</td>
<td>0.32</td>
<td>-.28</td>
</tr>
</tbody>
</table>

*Note. The data of the oral reading test was the average of the combined scores of sound accuracy and primary word stress placement. This procedure was also applied for the data of the interview test.

$R^2 = .53, p > .05$ for Oral Reading; $R^2 = .59, p < .05$ for Interview. *$p < .05$.

In order to examine the predictive power of the independent variables against the dependent variables, we performed two multiple regression analyses separately. As shown in Table 6.3, the modified reader-friendly representation of the results of the enter multiple regression analysis has disclosed that the value of the multiple coefficients of determination ($R^2$) for the controlled oral performance and the natural oral performance were $R^2 = .53, p > .05$ and $R^2 = .59, p < .05$ respectively. This means that pronunciation knowledge (sound accuracy and primary word stress placement) might explain the variation in the controlled oral performance.
for 53% although it is not significant, and that pronunciation knowledge can
significantly account 59% of the variation in EFL learners’ natural oral
performance. A careful examination of the results indicated that for both
oral reading and interview, the standardized coefficients of knowledge of
sound accuracy ($\beta = .74, p < .05$ and $\beta = .81, p < .05$ respectively) were
significantly higher than those of knowledge of primary word stress
placement ($\beta = -.45, p > .05$ and $\beta = -.28, p > .05$ respectively). This suggests
that EFL learners’ knowledge of sound accuracy may have more predictive
power than that of primary word stress placement as a factor to explain the
variation in oral performance.

6.4.3 Relationship Between EFL Learners’ Knowledge of Pronunciation
and Their Intelligibility

Concerning the correlation between pronunciation knowledge (SA·PT
and WS·PT) and intelligibility, Table 6.4 shows that the correlation
coefficient of knowledge of primary word stress placement ($r = .62, p > .05$)
was higher than that of sound accuracy ($r = .38, p > .05$). In order to
examine the predictive power of the independent variables (SA·PT and WS·
PT) against the dependent variable (intelligibility), an enter-method
multiple regression analysis was performed.

Table 6.4 indicates that the value of $R^2$ was .42, $p > .05$, meaning
that EFL learners’ pronunciation knowledge (sound accuracy and primary
word stress placement) might explain 42% of the variation in intelligibility
although the obtained value is not significant. To be more specific, the result
indicated that the standardized beta value of primary word stress
placement ($\beta = .56, \ p > .05$) was higher than that of sound accuracy ($\beta = .20, \ p > .05$). This implies that EFL learners' knowledge of primary word stress placement will be more important than their knowledge of sound accuracy in order to increase the intelligibility of their speeches.

Table 6.4

<table>
<thead>
<tr>
<th>Independent Variables (Pronunciation Knowledge)</th>
<th>Dependent Variables (Intelligibility)</th>
<th>$B$</th>
<th>$SE_B$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound accuracy</td>
<td>$\rightarrow$ Intelligibility</td>
<td>0.10</td>
<td>0.15</td>
<td>.20</td>
</tr>
<tr>
<td>Word stress</td>
<td>$\rightarrow$ Intelligibility</td>
<td>0.28</td>
<td>0.16</td>
<td>.56</td>
</tr>
</tbody>
</table>

Note. $R^2 = .42, \ p > .05$.

6.4.4 Relationship Between EFL Learners' Oral Performance and Their Intelligibility

Concerning the correlation between oral performance (SA·OR, WS·OR, SA·IV, and WS·IV) and intelligibility, Table 6.2 shows that the correlation coefficients of natural oral performance (interview) were higher than those of controlled oral performance (oral reading), and that the correlation between the sound accuracy in the interview and intelligibility was the highest ($r = .73, \ p < .05$). In order to examine the predictive power of the four variables of the oral performance (SA·OR, WS·OR, SA·IV, and WS·IV) against intelligibility, a multiple regression analysis was performed. Table 6.5 summarises the result of the analysis.

Table 6.5 shows that the values of $R^2$ for the four variables of the oral performance were statistically significant ($R^2 = .87, \ p < .05$). This means
that the four independent variables of the oral performance can explain 87% of the variation in intelligibility. A rigorous analysis of the result has shown that oral performance in the interview test has greater predictive power than oral performance in the oral reading test as a factor to explain the variation in intelligibility. It has also shown that the standardized beta value of sound accuracy in the interview test was the highest among the four independent variables ($\beta = 1.25, p < .01$). This implies that sound accuracy in natural oral performance will be very important as a factor to increase EFL learners' intelligibility. However, this does not mean that knowledge of primary word stress placement is not important. As was revealed in the process of transcribing the interviews for data analysis, the participants tended to use simple words to convey their messages. As a result, their performance in primary word stress placement was almost perfect. They made very few mistakes in word stress placement. This may explain the relatively low predictive power of word stress placement in the interview test against intelligibility, as is seen in Table 6.5.

<table>
<thead>
<tr>
<th>Independent Variables (Oral Performance)</th>
<th>Dependent Variables (Intelligibility)</th>
<th>$B$</th>
<th>$SE$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound accuracy - Oral Reading → Intelligibility</td>
<td>0.20</td>
<td>0.35</td>
<td>.10</td>
<td></td>
</tr>
<tr>
<td>Word stress - Oral Reading → Intelligibility</td>
<td>-0.99</td>
<td>0.31</td>
<td>-.85*</td>
<td></td>
</tr>
<tr>
<td>Sound accuracy - Interview → Intelligibility</td>
<td>3.83</td>
<td>0.75</td>
<td>1.25**</td>
<td></td>
</tr>
<tr>
<td>Word stress - Interview → Intelligibility</td>
<td>0.63</td>
<td>0.79</td>
<td>.58</td>
<td></td>
</tr>
</tbody>
</table>

*Note. $R^2 = .87, p < .05$. * $p < .05$; ** $p < .01$*
However, concerning their performance in sound accuracy, they made a considerable number of mistakes although they used simple words. This is probably because they were too much concerned about the content of the interview to pay enough attention to accurate pronunciation of those simple words. These mistakes in sound accuracy may explain the high predictive power of sound accuracy in the interview test detected in the present analysis.

6.5 Discussion

The first research question being investigated in the study is the aspects of EFL learners' knowledge of pronunciation are more related to their oral performance. The result has revealed that EFL learners' knowledge of sound accuracy may have more predictive power than that of primary word stress placement as a factor to explain the variation in oral performance. This is a noticeable contrast to the findings of previous studies (e.g., Sasaki & Shirahata, 1992; Takei, 1989, Ito, 2005), which revealed that phoneme discrimination recognition of a paper-and-pencil pronunciation test was not valid to measure learners' speaking ability. These contradictory findings might have been obtained because the types of oral tasks used in this study were different from those of the previous studies. We used oral reading and interview tests to assess EFL learners' oral performance in discourse while the previous studies used isolated vocabulary items.

The second research question being investigated in the study is the aspects of EFL learners' knowledge of pronunciation are more related to
their intelligibility. The finding of the study has shown that neither sound accuracy nor primary word stress placement is not significantly related to EFL learners' intelligibility although EFL learners' knowledge of primary word stress placement will be quantitatively more important than their knowledge of sound accuracy in order to increase the intelligibility of their speeches.

The third research question being investigated in the study is the aspects of EFL learners' oral performance are more related to their intelligibility. The finding has revealed that sound accuracy of natural oral performance contributes significantly to EFL learners' intelligibility. The word 'natural' here may be defined as authentic or real in oral communication. Unlike in the oral reading test in which the target of investigation is intentionally pre-defined, the findings of the study are evidence to suggest that in normal or real communicative events the EFL learners tend to use simple words to convey their message. Despite the use of simple words, the findings show that EFL learners' speech is not free from problems. The analysis of the target words has shown that they still have problems with their intelligibility due to inappropriate pronunciation of segmental features: vowels and consonants. At the same time, it was found that EFL learners seem not to have significant problems with primary word stress placement.

6.6 Summary

The present study was conducted to investigate the relationships among EFL learners' knowledge of pronunciation, their oral performance
and intelligibility. By conducting three different tests, the present study has disclosed a number of interesting facts in the area of pronunciation teaching. First, it was found that EFL learners’ knowledge of sound accuracy might be one of the important factors related to their oral performance. Secondly, although EFL learners’ knowledge of sound accuracy and primary word stress placement altogether might not contribute to the intelligibility of their speech, the latter had a moderate correlation to their intelligibility. Finally, sound accuracy can be responsible for the variance of the intelligibility of EFL learners’ speech in actual oral communication on discourse level.

Focusing on the factors which may influence intelligibility, we have a very interesting, but seemingly contradictory result. As far as pronunciation knowledge is concerned, primary word stress placement has greater predictive power than sound accuracy. As far as oral performance is concerned, sound accuracy has greater predictive power than primary word stress placement. The problem is how to accommodate this contradictory result. Our tentative explanation is that even intermediate students, like our participants, make very few mistakes in primary word stress placement in natural communication since they tend to use simple words. On the other hand, even intermediate students make a considerable number of mistakes in sound accuracy even though they use simple words. This may lower the predictive power of primary word stress placement and increase the predictive power of sound accuracy as factors to explain variation in intelligibility. This implies that in order to improve EFL learners' intelligibility, we have to try to improve our students' sound accuracy on
discourse level in natural communication. In the past too much attention has been paid to sound accuracy on word level for the sake of pronunciation tests and practices. It is high time we should change the focus in pronunciation teaching.

Although the study has revealed some interesting findings, it has its limitations such as the sample of the study. The number of Japanese EFL learners who were involved in the study is relatively small. Therefore, it is rather dangerous to generalise the results to other EFL learners. Another limitation concerns the background of the student participants. In the present study, the student participants were majoring in English. In the future it would be a worthwhile study to investigate the relationship among EFL learners' knowledge of pronunciation, oral performance, and intelligibility by using non-English students.
Chapter VII

Mispronunciations Reducing Intelligibility of EFL Learners

The findings of the three previous experiments have revealed that sound accuracy (consonants and vowels) may be the most significant factor determining global intelligibility of EFL learners' speech. This chapter reports Experiment 4, which explored EFL teachers' and ENL speakers' perceptions of mispronunciations of English speech sounds produced by Indonesian EFL learners.

7.1 Background

With more than 1,350 million second language speakers and around 337 million native speakers, English is now regarded as the world's principal international language and indeed as a global language (Crystal, 1997; Jenkins, 2000; McKay, 2002; Walker, 2001). English is spoken in almost every part of the world. Oral communication in English across cultures has constantly been increasing (Jenkins, n.d.a; n.d.b). The pedagogical implication of this situation is that there is a need to revise the goals of teaching English for ESL/EFL learners. In Indonesian context, for example, the aim of teaching English is not anymore to help learners to
develop their knowledge, art, science and technology (Depdikbud, 1994). Indonesian teachers of English are now expected to help learners not only to develop their receptive abilities to access information in the language, but also to enable learners to improve their productive skills, specifically to interact with people from other linguistic and cultural backgrounds in real communication (Depdiknas, 2004). Thus ‘living’ or ‘real’ English should become the priority in English language classrooms (Widdowson, 2003).

In terms of spoken language, pronunciation is considered as one of the essential elements for the success of oral interaction (Carruthers, 1987; Celce-Murcia et al., 1996; Dalton & Seidlenhofer, 1994; Fraser, 1999, 2006; Macdonald, 2002). In Indonesian context, however, English pronunciation has rather been neglected. Many Indonesian teachers of English do not know how to deal with pronunciation; they do not know what to teach and how to teach. As a result, many Indonesian learners make a considerable number of mistakes in pronunciation when they try to speak in English. Those mispronunciations will decrease the intelligibility of Indonesian learners’ speech to a considerable degree. Needless to say, this will hamper the flow of oral communication. This is really a minus factor for Indonesia’s globalisation. It is necessary, therefore, for EFL teachers to properly deal with learners’ mispronunciations in their pronunciation teaching. However, very little information is available for Indonesian teachers about learners’ mispronunciations, more specifically about what mispronunciations are pedagogically significant in terms of frequency and seriousness in real-life communication. Therefore, it is quite probable that Indonesian teachers will deal with their learners’ mispronunciation solely on the basis of their
personal intuitions.

7.2 Purpose

In order to provide such missing information concerning learners' mispronunciations, this study was conducted to explore Indonesian EFL teachers' perceptions of learners' mispronunciations of English speech sounds (hereafter mispronunciations) and to compare them with those of ENL speakers' so that the general tendencies and discrepancies in perceptions between the two groups could be identified. On the basis of this reasoning, this study tried to answer the following research questions:

RQ1: What kinds of mispronunciations are common among Indonesian EFL learners?

RQ2: What kinds of mispronunciations are serious for Indonesian EFL learners?

RQ3: How do Indonesian EFL teachers' perceptions of the seriousness of mispronunciations differ from those of ENL speakers'?

RQ4: What kinds of mispronunciations are pedagogically significant?

7.3 Method

7.3.1 Participants

A total of 80 respondents, 50 Indonesian EFL secondary school teachers and 30 ENL speakers, voluntarily participated in the study. Of the 50 Indonesian respondents, 26 (20 males, 6 females) were senior high school teachers and 24 (15 males, 9 females) were junior high school teachers. These teachers had teaching experience of various length: 7 teachers with
1.5 years of teaching experience, 11 teachers with 6.10 years of teaching experience, 18 teachers with 11.15 years of teaching experience, and 14 teachers with more than 15 years of teaching experience. Thirty-six teachers had Bachelors of Education in English Language Education while 14 had Diplomas in Education of English Language Education (all were junior high school teachers). The ENL speakers (18 males, 12 females) included 3 Americans, 3 British, 1 Irish, and 23 Canadians.

7.3.2 Data Collection

To answer the research questions, a paper-form questionnaire was prepared. It was composed of 32 target utterances which were presumed to have been produced by Indonesian EFL learners. Each utterance was composed of two sentences with a target mispronunciation in the second sentence. These 32 target mispronunciations cover 19 consonants and 13 vowels which were selected on the basis of the literature review and the present researcher's experience as an EFL teacher at senior high schools in Indonesia. Each investigated utterance was accompanied by a pre-coded five-point Likert-scale for the judgment of the frequency of the target mispronunciations and their seriousness, from 1 (‘not common’ for frequency; ‘not serious’ for seriousness) to 5 (‘very common’ for frequency; ‘very serious’ for seriousness).

The questionnaire addressed the frequency and seriousness of mispronunciations. As far as the frequency of learners’ mispronunciations is concerned, the focus was on Indonesian EFL teachers’ perceptions since they encountered learners’ mispronunciations in their language classrooms.
on a daily basis. As far as the seriousness of learners' mispronunciations is concerned, Indonesian EFL teachers' perceptions should be qualified by ENL speakers' perceptions. This is partly because Indonesian EFL teachers' perceptions were not always dependable due to their lack of experience of cross-cultural oral communication in English and due to their preoccupation with linguistic differences, and partly because this study tried to find out how their perceptions of the seriousness differ from ENL speakers' perceptions. The assessors' evaluations were based on their own intuitive perceptions. The details of the questionnaire are indicated in Appendix H for the Indonesian respondents and Appendix I for the ENL-speaker respondents.

The questionnaire was distributed to Indonesian secondary school teachers of English and also to ENL speakers. The questionnaire was designed to be anonymous and unregistered so that the respondents could give their honest opinion. Two different methods were used to collect data from the participants. For the Indonesian respondents the original copy of the questionnaire was sent by e-mail attachment to the co-operator of this study in Indonesia, who printed it out, photocopied, and distributed the copies directly (in person, not by mail) to the respondents of the study. Two weeks later, the distributed questionnaire sheets were collected by the co-operator, packed, and sent back to the researcher. For the ENL speakers the copy of the questionnaire was either directly handed to the respondents who were living in Japan or sent by e-mail to the co-operator in Canada, who printed it out, handed the copies to the respondents, and sent them back by facsimile to the researcher. The retrieved questionnaire sheets were
sorted and only the valid questionnaire sheets with complete answers were analysed.

7.3.3 Data Analysis

The tabulated scores of the frequency were averaged for each target mispronunciation and served as the basis for dichotomising the target mispronunciations into common or uncommon groups and into serious or unserious groups. Those target mispronunciations whose scores were at least the same as the median (i.e., 3.00) in terms of the frequency were classified as common and those whose scores were below the median were classified as uncommon. The same procedure was adopted for splitting the mispronunciations into serious and unserious groups. Furthermore, in order to examine the mispronunciations which were pedagogically significant, the calculated mean scores were mapped out onto a matrix of the frequency and seriousness. In addition to the mean-median comparison, the data was submitted to a Wilcoxon Mann-Whitney test to determine whether there were significant differences in the perceptions of the seriousness of the mispronunciations between the Indonesian respondents and the ENL-speaker respondents.

7.4 Results

7.4.1 Descriptive Statistics

Table 7.1 presents the mean scores of all collected data on the Indonesian EFL teachers' perceptions of the frequency ($f$) and seriousness of the target mispronunciations (EFL), the ENL speakers' perceptions of the
seriousness of the target mispronunciations (ENL), and the difference in the mean scores of the perceptions of the seriousness of the target mispronunciations between the Indonesian EFL teachers and the native English speakers (EFL – ENL Mean Difference).

### Table 7.1

**Mean Scores of Respondents' Perceptions of the Target Mispronunciations**

<table>
<thead>
<tr>
<th>Target Mispronunciations</th>
<th>( f )</th>
<th>Seriousness</th>
<th>EFL</th>
<th>ENL</th>
<th>EFL – ENL Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consonants:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M1 /p/ ( \rightarrow ) /f/ : /pepə/ ( \rightarrow ) /fɛpə/</td>
<td>2.80</td>
<td>3.18</td>
<td>3.00</td>
<td>0.18</td>
<td></td>
</tr>
<tr>
<td>M2 /b/ ( \rightarrow ) /p/ : /kræb/ ( \rightarrow ) /krɛp/</td>
<td>2.84</td>
<td>3.12</td>
<td>4.33</td>
<td>1.21**</td>
<td></td>
</tr>
<tr>
<td>M3 /t/ ( \rightarrow ) /ʃ/ : /ti/ ( \rightarrow ) /ʃi/</td>
<td>1.84</td>
<td>1.98</td>
<td>2.33</td>
<td>0.35</td>
<td></td>
</tr>
<tr>
<td>M4 /d/ ( \rightarrow ) /t/ : /rod/ ( \rightarrow ) /rot/</td>
<td>3.08</td>
<td>3.16</td>
<td>2.77</td>
<td>0.39</td>
<td></td>
</tr>
<tr>
<td>M5 /ʃ/ ( \rightarrow ) /p/ : /paɪəmən/ ( \rightarrow ) /paɪəmən/</td>
<td>3.44</td>
<td>3.58</td>
<td>3.00</td>
<td>0.58*</td>
<td></td>
</tr>
<tr>
<td>M6 /v/ ( \rightarrow ) /p/ : /glævz/ ( \rightarrow ) /glæps/</td>
<td>3.74</td>
<td>3.80</td>
<td>3.03</td>
<td>0.77**</td>
<td></td>
</tr>
<tr>
<td>M7 /v/ ( \rightarrow ) /b/ : /vɔut/ ( \rightarrow ) /bɔut/</td>
<td>3.38</td>
<td>3.40</td>
<td>2.57</td>
<td>0.83**</td>
<td></td>
</tr>
<tr>
<td>M8 /v/ ( \rightarrow ) /f/ : /vlæz/ ( \rightarrow ) /filæz/</td>
<td>3.22</td>
<td>3.26</td>
<td>3.07</td>
<td>0.19</td>
<td></td>
</tr>
<tr>
<td>M9 /θ/ ( \rightarrow ) /t/ : /θri/ ( \rightarrow ) /triz/</td>
<td>3.38</td>
<td>3.74</td>
<td>2.30</td>
<td>1.44**</td>
<td></td>
</tr>
<tr>
<td>M10 /θ/ ( \rightarrow ) /f/ : /θm/ ( \rightarrow ) /fɛm/</td>
<td>2.42</td>
<td>2.40</td>
<td>2.33</td>
<td>0.07</td>
<td></td>
</tr>
<tr>
<td>M11 /θ/ ( \rightarrow ) /s/ : /mʌʊθ/ ( \rightarrow ) /maʊs/</td>
<td>2.80</td>
<td>3.16</td>
<td>2.80</td>
<td>0.36</td>
<td></td>
</tr>
<tr>
<td>M12 /ð/ ( \rightarrow ) /d/ : /weðə/ ( \rightarrow ) /wedə/</td>
<td>3.64</td>
<td>3.78</td>
<td>2.23</td>
<td>1.55**</td>
<td></td>
</tr>
<tr>
<td>M13 /ð/ ( \rightarrow ) /v/ : /braðə/ ( \rightarrow ) /braʊə/</td>
<td>2.18</td>
<td>2.30</td>
<td>2.17</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>M14 /ð/ ( \rightarrow ) /z/ : /leðə/ ( \rightarrow ) /lezə/</td>
<td>3.08</td>
<td>3.04</td>
<td>2.53</td>
<td>0.51*</td>
<td></td>
</tr>
</tbody>
</table>

**Table 7.1 Continues**
Table 7.1 (continued)

<table>
<thead>
<tr>
<th>Target Mispronunciations a</th>
<th>f</th>
<th>Seriousness EFL b</th>
<th>Seriousness ENL c</th>
<th>EFL – ENL Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>M15 /ʃ/ → /ʃ/ : /ʃʃ/ → /ʃʃ/</td>
<td>3.54</td>
<td>3.96</td>
<td>3.47</td>
<td>0.49*</td>
</tr>
<tr>
<td>M16 /ʒ/ → /ʃ/ : /pleʒə/ → /pleʃə/</td>
<td>3.62</td>
<td>3.64</td>
<td>1.77</td>
<td>1.87**</td>
</tr>
<tr>
<td>M17 /ʒ/ → /ʒ/ : /ɪkspΛʊzən/ → /ɪkspΛʊzən/</td>
<td>3.04</td>
<td>2.96</td>
<td>2.07</td>
<td>0.89**</td>
</tr>
<tr>
<td>M18 /ʒ/ → /dʒ/ : /tredʒə/ → /tredʒə/</td>
<td>3.56</td>
<td>3.54</td>
<td>2.80</td>
<td>0.74**</td>
</tr>
<tr>
<td>M19 /n/ → /ŋ/ : /sæŋ/ → /sæŋ/</td>
<td>1.78</td>
<td>1.86</td>
<td>3.50</td>
<td>1.64**</td>
</tr>
</tbody>
</table>

Vowels:

| M20 /ɪ/ → /ɪ/ : /piːʃəs/ → /piːʃəs/ | 3.62 | 3.58 | 3.63 | 0.05 |
| M21 /ɪ/ → /ɪ/ : /ʃip/ → /ʃip/ | 3.30 | 3.56 | 3.50 | 0.06 |
| M22 /e/ → /e/ : /bɛd/ → /bɛd/ | 1.76 | 1.66 | 2.63 | 0.97** |
| M23 /æ/ → /e/ : /bɛnd/ → /bɛnd/ | 3.24 | 3.40 | 2.73 | 0.67** |
| M24 /æ/ → /ɛ/ : /hæt/ → /hæt/ | 2.50 | 2.74 | 3.80 | 1.06** |
| M25 /æ/ → /ʌ/ : /k æt/ → /kʌt/ | 1.86 | 1.92 | 3.20 | 1.28** |
| M26 /u/ → /ʊ/ : /tʌls/ → /tʌls/ | 3.34 | 3.60 | 2.03 | 1.57** |
| M27 /o/ → /u/ : /bʌl/ → /bʌl/ | 3.14 | 3.14 | 2.57 | 0.57* |
| M28 /o/ → /n/ : /kʊk/ → /kʊk/ | 2.52 | 2.58 | 4.23 | 1.65** |
| M29 /e/ → /i/ : /keɪk/ → /kɪk/ | 3.00 | 3.18 | 3.57 | 0.39 |
| M30 /ɛ/ → /ɛ/ : /res/ → /res/ | 2.92 | 2.88 | 2.80 | 0.08 |
| M31 /ɔ/ → /n/ : /kʊd/ → /kʊd/ | 3.28 | 3.42 | 2.80 | 0.62* |
| M32 /ɔ/ → /ɔ/ : /kʊd/ → /kʊd/ | 3.34 | 3.50 | 3.07 | 0.43 |

Note. The maximum score is 5.00. a The complete utterances are shown in Appendix G for Indonesian respondents and Appendix H for ENL respondents.

b n = 50; c n = 30. * p < 0.05; ** p < 0.01.
7.4.2 Common Mispronunciations

As indicated in Section 7.3.3, learners’ mispronunciations were regarded as common in this paper if their mean scores were at least the same as the median (i.e., 3.00). As shown in Figure 7.1, out of the 32 target mispronunciations (19 consonants and 13 vowels), 20 items (63%) were regarded as common and 12 items (37%) as uncommon. Those 20 common mispronunciations involved 12 consonants (63% of the target consonants) and eight vowels (67% of the target vowels) whereas those 12 uncommon mispronunciations involved seven consonants (37% of the target consonants) and five vowels (33% of the target vowels).

32 Target Mispronunciations
(19 Consonants and 13 Vowels)

Common: 20
Consonants: 12
Vowels: 8

Uncommon: 12
Consonants: 7
Vowels: 5

M4 /d/ → /t/
M5 /θ/ → /t/  
M6 /r/ → /l/  
M7 /l/ → /l/  
M8 /r/ → /l/  
M9 /θ/ → /l/  
M10 /θ/ → /l/  
M14 /θ/ → /l/  
M15 /θ/ → /l/  
M16 /θ/ → /l/  
M17 /θ/ → /l/  
M18 /θ/ → /l/  

Figure 7.1. Indonesian EFL teacher respondents’ perceptions of the frequency of mispronunciations of English speech sounds.

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Concerning the 20 common mispronunciations, 12 cases involved consonant mispronunciations and 8 vowel mispronunciations. Of the 12 consonant mispronunciations, 11 cases involved fricatives and one case involves a plosive. Of the 11 fricative mispronunciations, 5 cases (i.e., M5 /ʃ/→/p/, M6 /ʒ/→/p/, M7 /v/→/b/, M9 /θ/→/l/, and M12 /ð/→/d/) featured the replacement with learners’ L1 plosives, 4 cases (i.e., M8 /v/→/f/, M14 /s/→/z/, M16 /z/→/j/, and M17 /ʒ/→/z/) featured the replacement with other English fricative consonants which did not exist in learners’ L1, and 2 cases (i.e., M15 /ʃ/→/s/ and M18 /ʒ/→/ɕ/) featured the replacement with other consonants which existed both in English and learners’ L1.

Of those 8 common vowels, 3 cases (i.e., M20 /i:/→/i/, M21 /u:/→/u/, and M23 /æ/→/e/) involved front vowels, 2 cases (i.e., M26 /u:/→/u/ and M27 /o:/→/o/) involved back vowels, and 3 cases (i.e., M29 /ɛ:/→/i/, M31 /ɔ/→/o/, and M32 /ɔ/→/o/) involved diphthongs. M23 featured the replacement of a front open-mid lax vowel /æ/ with a front close-mid lax vowel /e/ while M20 and M21 showed the interchangeable replacement of /i:/ and /i/. In terms of back vowels, M26 and M27 also showed the interchangeable replacement of /u:/ and /u/. The three cases of diphthong mispronunciation all featured substitution with the close variants of vowels in learners’ L1.

7.4.3 Serious Mispronunciations

As shown in Figure 7.2, the Indonesian respondents viewed 22 mispronunciations (69%) as serious and 10 mispronunciations (31%) as unserious, whereas their ENL speaker counterparts perceived only 14 mispronunciations (44%) as serious and 18 mispronunciations (56%) as
unsenous.

Of the 22 serious mispronunciations perceived by the Indonesian respondents, 14 cases involved consonants (74% of the target consonants), and 8 cases involved vowels (62% of the target vowels). Of these 14 serious mispronunciations involving consonants, 11 cases featured the mispronunciations of fricatives which were replaced either with the plosive consonants in learners' L1 (e.g., /v/ is mispronounced either /p/ or /b/) or with the similar fricative sounds in their L1 (i.e., /θ/ and /ʃ/ were mispronounced as /s/).

Figure 7.2. Respondents' perceptions of the seriousness of mispronunciations of English speech sounds.

Of the 14 serious mispronunciations perceived by the ENL speakers,
7 cases involved consonants (37% of the target consonants), and 7 cases involved vowels (54% of the target vowels). Of these 7 serious mispronunciations involving consonants, 2 cases (M1 /p/ → /f/ and M2 /b/ → /p/) featured the mispronunciation of plosives, 4 cases (M5 /f/ → /p/, M6 /v/ → /p/, M8 /v/ → /f/, and M15 /ɭ/ → /s/) featured the mispronunciation of fricatives, and 1 case (M19 /n/ → /ŋ/) featured the mispronunciation of a nasal. Of the 7 serious mispronunciations involving vowels, 4 cases (M20 /i/ → /ɪ/, M21 /i/ → /ɪ/, M24 /æ/ → /a/, and M25 /æ/ → /ʌ/) featured the mispronunciation of front vowels, 1 case (M28 /u/ → /ʊ/) featured the mispronunciation of a back vowel, and 2 cases (M29 /ɛ/ → /ɪ/ and M31 /ɜ/ → /ʌ/) featured the mispronunciation of diphthongs.

Of the 8 serious mispronunciations involving vowels, 4 cases involved the interchangeable replacement of two pairs of vowels (i.e., /i/ ↔ /ɪ/ in M20 and M21, and /u/ ↔ /ʊ/ in M26 and M27); 1 case (M23) involved the replacement of the front open-mid lax vowel /æ/ with /ɛ/, and 3 cases (i.e., M29, M31, and M32) involved the substitution of diphthongs with the allophones of the vowels in learners' native language.

7.4.4 Significant Difference in the Perceptions of the Seriousness

As presented in Table 7.1, a Wilcoxon Mann Whitney test has disclosed that there existed a significant difference in the perceptions of the seriousness between the Indonesian EFL teachers and the ENL speakers for 20 target mispronunciations (63% of the 32 target mispronunciations).

Of these 20 mispronunciations, 4 mispronunciations (all are consonants: M2 /b/ → /p/, M5 /f/ → /p/, M6 /v/ → /p/, and M15 /ɭ/ → /s/) were
perceived as serious by both groups of the respondents, 10 mispronunciations (6 consonants: M7 /v/→/b/, M9 /θ/→/v/, M12 /ð/→/d/, M14 /ð/→/z/, M16 /ʒ/→/ʒ/, and M18 /ʒ/→/ʃ/; and 4 vowels: M23 /æ/→/e/, M26 /u/→/u/, M27 /u/→/u/, and M31 /ɔʊ/→/o/) were perceived as serious by Indonesian EFL teachers alone, 4 mispronunciations (1 consonant: M19 /n/→/ŋ/; and 3 vowels: M24 /æ/→/æ/, M25 /æ/→/ʌ/, and M28 /u/→/ʌ/) were perceived as serious by ENL speakers alone, and 2 mispronunciations (1 consonant: M17 /ʒ/→/z/; and 1 vowel: M22 /e/→/u/) were rated as unserious by both groups of the respondents. Of those four mispronunciations which were rated as serious by both groups, there was only one mispronunciation (i.e., M2 /b/→/p/) whose mean score of the ENL speakers was larger than that of the Indonesian EFL teachers.

7.4.5 Pedagogically Significant Mispronunciations

The term of *pedagogically significant mispronunciations* in this study refers to the mispronunciations which were perceived as common or uncommon by the EFL teacher respondents and as serious by the ENL speakers, taking into account the reasons as described in Section 7.3.2.

As illustrated in Figure 6.3, the matrix of the pedagogically significant mispronunciations has led to the classification of the 32 target mispronunciations into the following four groups:

1) Group 1: eight mispronunciations (25% of the target mispronunciations) which were serious and common, involving four consonants (i.e., M5 /f/→/p/, M6 /v/→/p/, M8 /v/→/f/, and M15 /ʃ/→/s/) and four vowels (i.e., M20 /i/→/i/, M21 /u/→/u/, M29 /ɛ/→/i/, and M32 /ɔʊ/→/ɔ/);
2) Group 2: six mispronunciations (19% of the target mispronunciations) which were serious but uncommon, involving three consonants (i.e., M1 /p→/ʊ/, M2 /b→/p/, and M19 /n→/ŋ/) and three vowels (i.e., M24 /æ→/æ/, M25 /æ→/ʌ/, and M28 /u→/ʊ);

\[\begin{array}{cccc}
6 & 2 & 4.3 & 8

28 & 4.2 & & \\
24 & 3.8 & 20 & \\
19 & 3.5 & 21 & 15

8

25 & 3.1 & 8 & 32

\end{array}\]

Note. \(C^- = \) uncommon; \(C^+ = \) common; \(S^- = \) unserious; \(S^+ = \) serious

**Figure 7.3.** Mean matrix of the Indonesian respondents’ perceptions of the frequency and ENL speakers’ perceptions of the seriousness.
3) Group 3: 12 mispronunciations (37% of the target mispronunciations) which were unserious but common, involving eight consonants (i.e., M4 /d/→/t/, M7 /v/→/b/, M9 /θ/→/t/, M12 /ð/→/d/, M14 /s/→/z/, M16 /ʃ/→/f/, M17 /ʒ/→/z/, and M18 /e/→/æ/) and four vowels (i.e., M23 /æ/→/e/, M26 /u/→/u/, M27 /u/→/u/, and M31 /ɔu/→/o/); and

4) Group 4: six mispronunciations (19% of the target mispronunciations) which were unserious and uncommon, involving four consonants (i.e., M3 /t/→/θ/, M10 /θ/→/t/, M11 /θ/→/s/, and M13 /ð/→/v/) and two vowels (i.e., M22 e/→/a/ and M30 /æ/→/e/).

7.5 Discussion

The study was designed to explore and compare the Indonesian EFL teachers’ and ENL speakers’ perceptions of the mispronunciations of English sounds focusing on the frequency of those mispronunciations and their seriousness, the significant differences in the perceptions between the Indonesian EFL teachers and the ENL speakers, and the pedagogically most significant mispronunciations in EFL classrooms.

As far as the frequency of mispronunciations is concerned, the result of the study has indicated that 20 mispronunciations (12 consonants and 8 vowels) were perceived as common by the Indonesian EFL teachers. This implies that Indonesian EFL learners are still facing a problem with pronunciation although this indicator inarguably needs to be qualified with the seriousness of the common mispronunciations.

Concerning serious mispronunciations, there is a tendency for Indonesian EFL teachers to overestimate the seriousness of learners’
mispronunciations. One reason for this overestimation is the fact that Indonesian EFL teachers lack experience interacting with English speaking people so that they do not feel confident accessing the seriousness of the target mispronunciations. Another reason is that Indonesian EFL teachers tend to perceive the seriousness of learners' mispronunciations on the basis of their limited knowledge about English phonology mainly obtained from lectures and phonology books which are usually linguistically oriented with little reference to problems Indonesian EFL learners are to encounter in real communicative situations. Thus, actual experience of oral communication in English is crucial for EFL teachers so that they can decide what aspects of English pronunciation are more important and have greater pedagogical significance for EFL learners.

Apart from the discussion of which mispronunciations are common and serious, the results of the study have led to the discovery that there are 14 mispronunciations (seven consonants and seven vowels) which are considered as pedagogically significant mispronunciations in pronunciation teaching. These 14 mispronunciations are categorised as pedagogically significant mispronunciations because they are considered serious by ENL speakers and eventually to cause communication breakdown. Therefore, they require more serious attention in pronunciation teaching in Indonesian classrooms (cf. Kashiwagi, Snyder, & Craig, 2006; Rajadurai, 2007). These 14 mispronunciations are detailed as follows:

1. M1 /p/-/b/ : any position of /p/, which is over-generalised due to the influence of another foreign language of Indonesian EFL learners (i.e., Arabic);
2. M2 /b/ → /p/ : final position of /b/, which phonetically does not exist in the final position in both EFL learners’ L1 (the Sasak language) and the Indonesian language.

3. M5 /l/ → /p/ : any position of /l/, which does not exist in both EFL learners’ L1 (the Sasak language) and the Indonesian language.

4. M6 /v/ → /p/ : any position of /v/, which does not exist in both EFL learners’ L1 (the Sasak language) and the Indonesian language.

5. M8 /v/ → /l/ : any position of /v/, which does not exist in both EFL learners’ L1 (the Sasak language) and the Indonesian language.

6. M15 /f/ → /s/ : any position of /f/, which does not exist in both EFL learners’ L1 (the Sasak language) and the Indonesian language.

7. M19 /n/ → /ŋ/ : final position of /ŋ/, which is over-generalised due to the influence of another local language (Buginese).

8. M20 /i/ → /i/ : interchangeable with /i/, both sounds [i:] and [i] belong to the same phoneme /i/.

9. M21 /u/ → /u/ : interchangeable with /u/, both sounds [u] and [u] belong to the same phoneme /u/.

10. M24 /æ/ → /ʌ/ : confused because of different spelling systems between English and EFL learners’ L1 or the Indonesian language.

11. M25 /æ/ → /ʌ/ : confused because of different spelling systems between English and EFL learners’ L1 or the Indonesian language.
12. M28 /u/ → /a/ : confused because of different spelling systems between English and EFL learners' L1 or the Indonesian language

13. M29 /ai/ → /u/ : the target diphthong does not exist in both EFL learners' L1 and the Indonesian language

14. M32 /ou/ → /o/ : the target diphthong does not exist in both EFL learners' L1 and the Indonesian language

A careful analysis of these 14 mispronunciations has revealed that they are mostly caused by the following three major factors:

(1) Absence of English sounds in learners' L1

Although some English sounds do not exist in learners' L1, some learners can pronounce these sounds due to the prior learning of other languages such as Arabic or another local language—that is, Buginese (the language spoken by people who live in the province of South Sulawesi, Indonesia). In the case of the mispronunciation /v/ → /f/ (M8), for example, many Indonesian EFL learners, especially those who are Moslems, can produce the voiceless labiodental fricative /f/ properly because of Arabic influence. However, this language transfer is not always put in the right place so that many learners over-generalised frequently, such as /p/ → /f/ (M1).

(2) Different distribution of the same sounds in English and learners' L1

The English phoneme /b/ as in M2, for example, can exist in final, middle, or initial positions while the Sasak or Indonesian phoneme /b/ never exists in the final position. According to the writing system of the Indonesian language, the letter <b> can exist in the final position but its
pronunciation is always devoiced as [b]. Even in many cases, the final phoneme /b/ is usually pronounced as the voiceless bilabial plosive /p/, such as /kræb/ which is mispronounced as /kræp/.

(3) Different categorisation of sounds in English and learners' L1

In terms of vowels, Gimson (in Cruttenden, 2001) asserted that "most foreign learners will have trouble attaining the vowel system of any variety of English, including RP" (p. 103). This assertion is reasonably compatible with the findings of the present study. Unlike English which has many vowels and diphthongs (up to 20), either Indonesian learners' native language or the Indonesian language mostly has only five vowels with their allophones: /a/ with [a] and [a]; /i/ with [i] and [iː]; /u/ with [u] and [uː]; /e/ with [ɛ], [ɛː], and [aː]; and /o/ with [o] and [oː]. For this reason, many Indonesian students, for example, are facing a problem to differentiate the sound [iː] as in /ʃip/ for 'sheep' from the sound [i] as in /ʃip/ for 'ship' because these sounds [iː] and [i] are the allophones of the Indonesian phoneme /i/. Unfortunately, this difficulty becomes more complicated because of English spelling, which does not correspond to the English sounds while Indonesian spelling and its sound always coincide. In the Indonesian language, for example, the letter <a> is always pronounced as the primary cardinals [a] or [ɑ].

Thus the findings of the study are consonant with recent research findings that the absence of English sounds in learners' L1 and the different distribution of the same/similar sounds in English and learners' L1 are the main reasons for difficulty in pronunciation for EFL learners (Carruthers, 1987; Moedjito, 2006b; Ohata, 2004). Based on these findings, the conclusion
reached is that learners’ native language is still an active agent for the mispronunciation of English sounds through phonological negative transfer. This finding is partly consistent with Lado’s (1957) contrastive analysis hypothesis (CAH) which assumes that it would be easy for L2 learners if the elements of L2 were similar to those of their L1, and it would be difficult for them if those elements were different from those of their L1. This suggests that CAH is still useful as an explanatory tool to clarify learners’ mispronunciations.

7.6 Summary

Although this study has revealed several interesting facts about mispronunciations by Indonesian EFL learners, it must be pointed out that the study has several limitations. First, it investigated only the segmental features of pronunciations with no reference to suprasegmental features such as intonations and sentence stresses. Secondly, the participants of the study were limited to the Indonesian EFL teachers and the native English speakers who were chosen on an opportunistic basis, not on a random basis. Thirdly, the data of the study was collected by means of a paper-form questionnaire dealing with the 32 target mispronunciations which in turn were compiled on the basis of the author’s self-experience as an EFL teacher at Indonesian senior high schools. Fourthly, only native speakers’ perceptions were used as reference points for comparison with Indonesian EFL teachers’ perceptions. Considering the fact that English is now used as a global language, it may be necessary to include NNSs who regularly use English as a second language.
While acknowledging these limitations of the study, it is believed that the findings can be used as the points of reference for better English pronunciation teaching in EFL classrooms. The study also suggests that Indonesian EFL teachers should review their own perceptions of the seriousness of mispronunciations of English sounds. More attention should be paid to the significant mispronunciations through explicit instruction such as specific explanations and demonstrations concerning the differences in two languages, and production drills and sound discrimination exercises focused on these differences.

As generally accepted, pronunciation should focus not only on segmental features, but also on suprasegmental features. The next study should be extended to those suprasegmental features such as rhythm, intonation, stress, and adjustments in connected speech. Furthermore, because the participants of the study were limited to the Indonesian EFL teachers and ENL speakers, ESL speakers should be included as evaluators of the seriousness of mispronunciations in the next study if the fact that the interaction between non-native speakers (NNS·NNS communication) has steadily been increasing is taken into consideration (Jenkins, 2000, McKay, 2002; Walker, 2001). As long as English is taught as a global language, a legitimate goal should be global intelligibility, not intelligibility which is comfortable only to native speakers of English. The present study is a step toward this final goal.
Chapter VIII

Conclusion

This chapter begins by providing concise reviews of each chapter in the dissertation. Next, it also provides guidelines of pronunciation teaching for Indonesian EFL learners on the basis of the results of the experiments and researches conducted in the present study. Finally, it addresses issues for further investigation.

8.1 Summary of the Study

The dissertation describes the present study which aims (1) to build up the theoretical construct of global intelligibility through the reviews of previous literature and studies on intelligibility; (2) to explore factors determining global intelligibility of EFL learners' speech through the analysis of ENL speakers' and ESL speakers' assessment of intelligibility of EFL learners' speech, through the analysis of how EFL learners' knowledge of pronunciation (declarative knowledge) is related to their oral performance (procedural knowledge) and their intelligibility in actual oral communication, and through the analysis of teachers' perceptions of frequency and seriousness of EFL learners' pronunciation mistakes; and (3) to provide guidelines of pronunciation teaching for EFL learners, especially
in Indonesia, to guarantee their global intelligibility.

For this purpose, Chapter II of the dissertation has provided the history and current situation of pronunciation teaching in foreign (English) language education in order to situate the discussion on global intelligibility to be provided in the succeeding chapters.

After a brief historical review of pronunciation teaching in foreign (English) language education, Chapter III has described the current status of globalisation and its impacts on English pronunciation teaching, and has finally confirmed the current issues of pronunciation teaching in EFL classrooms related to global intelligibility.

Chapter IV has provided a theoretical base for the discussion of global intelligibility. After providing a working definition of intelligibility and reviews related studies on intelligibility, it then has described the types of intelligibility proposed in previous studies and has pointed out their insufficiencies as a goal of pronunciation teaching. At the end of review of literature and previous studies on intelligibility, the dissertation has proposed a new concept of global intelligibility as the main focus of the present study and has presented the research questions for the study.

Chapter V has described two parallel experiments, Experiments 1 and 2, which were conducted to explore factors determining global intelligibility through the analyses of ENL speakers’ and ESL speakers’ assessment of the intelligibility of Japanese and Indonesian EFL learners’ speech (in all nine factors were investigated). The main findings of the study indicate that for comfortable intelligibility—intelligibility required for the interaction between native and non-native speakers—word stress or
adjustments in connected speech may be the most essential while for mutual intelligibility—intelligibility required for the interaction between non-native speakers—sound accuracy is crucial. Assuming that global intelligibility—intelligibility required for the interaction between native and non-native speakers as well as the interaction between non-native speakers—should be the aim of the teaching English as a global language, both word stress and sound accuracy should be recognised as the crucial elements in pronunciation teaching.

Chapter VI has reported Experiment 3 which was conducted to examine the relationships among EFL learners' knowledge of pronunciation (especially segmental features and word stress), their oral performance, and the intelligibility of their speech. By conducting three different tests, the present experiment has disclosed a number of interesting. Comparing the participants' performance within the tests, the mean scores of primary word stress placement for all the tests were always higher than those of sound accuracy, suggesting that the knowledge of primary stress placement is acquired earlier than knowledge of sound accuracy. As far as the inter-correlations among the knowledge of sound accuracy and primary word stress placement measured by a paper-and-pencil pronunciation test, the knowledge of sound accuracy and primary word stress placement realised in oral performance (either controlled, natural, and overall), and intelligibility is concerned, there were three findings of the study. First, the knowledge of sound accuracy measured by the paper-and-pencil pronunciation test has a significant moderate correlation to the overall oral performance, but the knowledge of primary word stress placement measured by paper-and-pencil
pronunciation test did not. This is because most student participants could perform more correctly in the primary word stress placement in oral performance than in sound accuracy. Secondly, there was no significant correlation between knowledge of sound accuracy and primary word stress placement measured by the paper-and-pencil pronunciation test and intelligibility, suggesting that knowledge of pronunciation measured by a pronunciation test does not contribute to intelligibility of EFL learners.

Thirdly, concerning the correlations between the knowledge of sound accuracy and primary word stress placement realised in both controlled and natural oral performance, and intelligibility, it was found that only the knowledge of sound accuracy realised in natural performance had was a moderate significant correlation to intelligibility, whereas the other three types of knowledge of pronunciation (i.e., that of primary word stress placement realised in natural oral performance, that of sound accuracy and primary word stress placement realised in controlled oral performance) did show any significant correlations to intelligibility. This suggests that the variance in intelligibility can be mainly explained by the knowledge of sound accuracy realised in natural oral performance.

Chapter VII has described a research which was carried out to investigate Indonesian EFL teachers' perceptions of frequency and seriousness of EFL learners' pronunciation mistakes which may hamper their global intelligibility, and to look at native English speakers' perceptions as reference points for the analysis. For this purpose, a paper-form questionnaire consisting of 32 target mispronunciations was distributed to Indonesian secondary school teachers of English and also to
native English speakers. An analysis of the respondents’ perceptions has discovered that 14 of the 32 target mispronunciations are pedagogically significant in pronunciation instruction. Further analysis of the reasons for these major mispronunciations has reconfirmed the prevalence of interference from learners’ native language in their English pronunciation as a major cause for mispronunciations. It has also revealed Indonesian EFL teachers’ tendency to overestimate the seriousness of their learners’ pronunciations.

8.2 Pedagogical Implications for Pronunciation Teaching for EFL Learners

Acknowledging the shortcomings of the series of experiments which this dissertation has described, the findings of the study are expected to have significant pedagogical implications for English pronunciation teaching for EFL classrooms, especially in the context of English language education in Indonesia. First, since in Indonesia pronunciation does not appear to have a central and integrated position within the curricula, the findings of the study suggest that pronunciation should be paid more attention within formal curricula by offering detailed guidance for teachers on pronunciation teaching. Secondly, assuming that global intelligibility is a new target of pronunciation teaching language teachers should pay more attention to segmental features (i.e., consonants, vowels, and diphthongs) and suprasegmental features, particularly word stress and adjustments in connected speech. This is in line with one of Abercrombie’s (1956) assertions that language teachers must consider which features of English pronunciation they should pay more attention to. Finally, as far as the
segmental features are concerned, instead of being taken systematically through each consonant and each vowel, pronunciation teaching should focus on those significantly pedagogical important consonants, vowels, and diphthongs. This is also consonant with another assertion of Abercrombie that language teachers should also consider learners' native language. By implementing these three proposals into practice, the present author believes that pronunciation teaching will be more reasonable and completely fulfilled. And more importantly, EFL learners can attain global intelligibility, a requirement for successful oral communication in globalisation era.

8.3 Suggestions for Further Investigation

Whilst contributing to the complex concept of global intelligibility, it is important to note for further areas of research. Considering the limitations of the experiments, there are still wide-opening areas for further investigation on global intelligibility. From the participants' perspective, it is necessary to conduct more research on global intelligibility with the participants from different linguistic backgrounds. Concerning the focus of the study, we particularly need to carry out research on nuclear stress and adjustments in connected speech which are indicated by one of the experiments of the study (Experiment B in Chapter V).
References


Crystal, D. (2004). The past, present, and future of World English. In Andreas Gardt and Bernd Hüppauf (Eds.), Globalisation and the
future of German (pp. 27-46). Berlin: Mouton de Gruyter.


Education.


Moedjito. (2008b). Priorities in English pronunciation teaching in EFL
classrooms. *k@ta Journal* 10(2), 129-142.


## Appendix A

### Assessment Sheet of Factors Determining Intelligibility

(for Japanese EFL Learners)

<table>
<thead>
<tr>
<th>Speaker 1</th>
<th>Round 1</th>
</tr>
</thead>
</table>

This section aims at finding out your assessment of the speaker's use of fluency, word pronunciation accuracy, word stress, lexical accuracy, and grammatical accuracy. Please indicate your assessment by circling one of the referent numbers above the descriptor.

### Word Pronunciation Accuracy

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>A great number of mispronunciations are present.</td>
<td>Many mispronunciations are present.</td>
<td>Some mispronunciations are present.</td>
<td>Few mispronunciations are present.</td>
<td>Almost no mispronunciations are present.</td>
</tr>
</tbody>
</table>

### Word Stress

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>A great number of incorrect placements of word stress are present.</td>
<td>Many incorrect placements of word stress are present.</td>
<td>Some incorrect placements of word stress are present.</td>
<td>Few incorrect placements of word stress are present.</td>
<td>Almost no incorrect placements of word stress are present.</td>
</tr>
</tbody>
</table>

### Lexical Accuracy

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>A great number of lexical errors are present.</td>
<td>Many lexical errors are present.</td>
<td>Some lexical errors are present.</td>
<td>Few lexical errors are present.</td>
<td>Almost no lexical errors are present.</td>
</tr>
</tbody>
</table>

### Grammatical Accuracy

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>A great number of grammatical errors are present.</td>
<td>Many grammatical errors are present.</td>
<td>Some grammatical errors are present.</td>
<td>Few grammatical errors are present.</td>
<td>Almost no grammatical errors are present.</td>
</tr>
</tbody>
</table>

---

### Speaker 1 | Round 2

This section aims at finding out your assessment of the speaker's use of adjustments in connected speech, sentence stress, intonation, and rhythm. Please indicate your assessment by circling one of the referent numbers above the descriptor.

### Adjustments in Connected Speech

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost no adjustments in connected speech occur.</td>
<td>Few adjustments in connected speech occur.</td>
<td>Some adjustments in connected speech occur.</td>
<td>Many adjustments in connected speech occur.</td>
<td>Almost all adjustments in connected speech occur.</td>
</tr>
</tbody>
</table>

### Sentence Stress

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost no correct placements of correct sentence stress are present.</td>
<td>Few correct placements of correct sentence stress are present.</td>
<td>Some correct placements of correct sentence stress are present.</td>
<td>Many correct placements of correct sentence stress are present.</td>
<td>Almost all correct placements of correct sentence stress are present.</td>
</tr>
</tbody>
</table>

### Intonation

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely disturbing; great additional listener effort is required.</td>
<td>Disturbing; much additional listener effort is required.</td>
<td>Somewhat disturbing; some additional listener effort is required.</td>
<td>Little disturbing; little additional listener effort is required.</td>
<td>Not disturbing at all; no additional listener effort is required.</td>
</tr>
</tbody>
</table>

### Rhythm

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely disturbing; great additional listener effort is required.</td>
<td>Disturbing; much additional listener effort is required.</td>
<td>Somewhat disturbing; some additional listener effort is required.</td>
<td>Little disturbing; little additional listener effort is required.</td>
<td>Not disturbing at all; no additional listener effort is required.</td>
</tr>
</tbody>
</table>
This section aims at finding out your assessment of the overall intelligibility. Please indicate your assessment by circling one of the referent numbers above the descriptor.

<table>
<thead>
<tr>
<th>Fluency</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluency refers to the property of a person that delivers information smoothly and effortlessly.</td>
<td>A great number of pauses and corrections occur.</td>
<td>Many pauses and corrections occur.</td>
<td>Some pauses and corrections occur.</td>
<td>Few pauses and corrections occur.</td>
<td>Almost no pauses and corrections occur.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Intelligibility</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligibility refers to the property of a speaker which can be understood with little or no conscious effort on the part of listener.</td>
<td>Not intelligible at all; great listener effort is required.</td>
<td>Little intelligible; much listener effort is required.</td>
<td>Reasonably intelligible; some listener effort is required.</td>
<td>Largely intelligible; little listener effort is required.</td>
<td>Fully intelligible; no listener effort is required.</td>
</tr>
</tbody>
</table>

Please write here if you have any additional comments on the speaker’s intelligibility or unintelligibility.
Appendix B

Assessment Sheet of Factors Determining Intelligibility
(for Indonesian EFL Learners)

### Speaker 1

This section aims at finding out your assessment of the overall intelligibility. Please indicate your assessment by circling one of the referent numbers above the descriptor.

<table>
<thead>
<tr>
<th>Intelligibility</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not intelligible at all; great listener effort is required.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Little intelligible; much listener effort is required.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reasonably intelligible; some listener effort is required.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Largely intelligible; little listener effort is required.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fully intelligible; no listener effort is required.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please write here if you have any additional comments on the speaker’s intelligibility or unintelligibility.

---

### Speaker 1

This section aims at finding out your assessment of the speaker’s use of fluency, word pronunciation accuracy, word stress, lexical accuracy, and grammatical accuracy. Please indicate your assessment by circling one of the referent numbers above the descriptor.

<table>
<thead>
<tr>
<th>Fluency</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>A great number of pauses and corrections occur.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Many pauses and corrections occur.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some pauses and corrections occur.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Few pauses and corrections occur.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Almost no pauses and corrections occur.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Word Pronunciation Accuracy</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>A great number of mispronunciations are present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Many mispronunciations are present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some mispronunciations are present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Few mispronunciations are present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Almost no mispronunciations are present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Word Stress</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>A great number of incorrect placements of word stress are present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Many incorrect placements of word stress are present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some incorrect placements of word stress are present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Few incorrect placements of word stress are present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Almost no incorrect placements of word stress are present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lexical Accuracy</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>A great number of lexical errors are present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Many lexical errors are present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some lexical errors are present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Few lexical errors are present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Almost no lexical errors are present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grammatical Accuracy</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>A great number of grammatical errors are present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Many grammatical errors are present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some grammatical errors are present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Few grammatical errors are present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Almost no grammatical errors are present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
This section aims at finding out your assessment of the speaker’s use of adjustments in connected speech, sentence stress, intonation, and rhythm. Please indicate your assessment by circling one of the numbers above the descriptors.

<table>
<thead>
<tr>
<th>Adjustments in Connected Speech</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost no adjustments in connected speech occur.</td>
<td>Few adjustments in connected speech occur.</td>
<td>Some adjustments in connected speech occur.</td>
<td>Many adjustments in connected speech occur.</td>
<td>Almost all adjustments in connected speech occur.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sentence Stress</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost no correct placements of correct sentence stress are present.</td>
<td>Few correct placements of correct sentence stress are present.</td>
<td>Some correct placements of correct sentence stress are present.</td>
<td>Many correct placements of correct sentence stress are present.</td>
<td>Almost all correct placements of correct sentence stress are present.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Intonation</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely disturbing; great additional listener effort is required.</td>
<td>Disturbing; much additional listener effort is required.</td>
<td>Somewhat disturbing; some additional listener effort is required.</td>
<td>Little disturbing; little additional listener effort is required.</td>
<td>Not disturbing at all; no additional listener effort is required.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rhythm</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely disturbing; great additional listener effort is required.</td>
<td>Disturbing; much additional listener effort is required.</td>
<td>Somewhat disturbing; some additional listener effort is required.</td>
<td>Little disturbing; little additional listener effort is required.</td>
<td>Not disturbing at all; no additional listener effort is required.</td>
<td></td>
</tr>
</tbody>
</table>
Appendix C

Oral Reading Material

Electronic mail or e-mail has several important advantages over telephones and regular mail. The main advantage of e-mail is that it takes very little time to send and receive messages. You can send e-mail to your friends in foreign countries only in a few seconds. The second advantage of e-mail is that you can send messages to people in other parts of the world for just a few cents. The third reason for using e-mail is that you don’t have to worry about the time difference. You can send messages while your friends are sleeping, and they can reply at their convenience. Lastly, e-mail allows you to send a single message to many people simultaneously. (115 words)
Appendix D

The Content Words of Oral Reading Material for Assessment of Sound Accuracy

Please evaluate the sound accuracy (please ignore word stress accuracy) of the speaker’s utterance by circling one of the following referent numbers:

3 = accurate  2 = a little accurate  1 = not accurate.

Electronic mail or e-mail has several important advantages over telephones and regular mail. The main advantage of e-mail is that it takes very little time to send and receive messages. You can send e-mail to your friends in foreign countries only in a few seconds. The second advantage of e-mail is that you can send messages to people in other parts of the world for just a few cents. The third reason for using e-mail is that you don’t have to worry about the time difference. You can send messages while your friends are sleeping, and they can reply at their convenience. Lastly, e-mail allows you to send a single message to many people simultaneously.
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# Appendix F

**Instrument of Assessing the Intelligibility of EFL Learners’ Speech in the Oral Reading and Interview Tests**

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Speech is fully intelligible; no listener effort is required; occasional sound and prosodic variances from NS norm are present but not seriously distracting to listener.</td>
</tr>
<tr>
<td>4.5</td>
<td>Speech is largely intelligible; little listener effort is required; while sound and prosodic variances from NS norm are obvious, listener can understand if they concentrate on the message.</td>
</tr>
<tr>
<td>3.5</td>
<td>Speech is reasonably intelligible, but some listener effort is required due to speaker's pronunciation errors which impede communication and cause listener distraction; ongoing need for repetitions and verifications.</td>
</tr>
<tr>
<td>2.5</td>
<td>Speech is little intelligible; much listener effort is required; constant repetitions and verifications are required.</td>
</tr>
<tr>
<td>1.5</td>
<td>Speech is not intelligible at all; great listener effort is required; only an occasional word/phrase can be recognized.</td>
</tr>
<tr>
<td>1</td>
<td>Speech is not intelligible at all; great listener effort is required; only an occasional word/phrase can be recognized.</td>
</tr>
</tbody>
</table>
Appendix G

Pronunciation Test

発音知識確認シート

Part A
例にならって、下線部の発音が他の三つの場合と異なるものを見つけて、回答欄にその単語の番号を記入してください。もし、すべて同じ場合には解答欄にゼロの番号を記入してください。

例１ ball chat jack sack (1) 例２ bit did hit ship (0)

1. accommodation latent patient regulation ( )
2. account bought coursework resource ( )
3. achieve attach champion chemistry ( )
4. addition arrival combine design ( )
5. allow borrow owner swallow ( )
6. association emotion situation suggestion ( )
7. audience daughter pause sauce ( )
8. breakfast breath creature jealous ( )
9. capture marry passage shadow ( )
10. cassette essential pressure successful ( )
11. character chorus machine stomach ( )
12. classic dessert essay message ( )
13. compass monkey nothing onion ( )
14. complete delete immediate procedure ( )
15. cough laugh though tough ( )
16. couple enough outline young ( )
17. cultivate justice produce publisher ( )
18. cut punish put shut ( )
19. escape measure single whiskey ( )
20. excellent lecture medicine pretty ( )
21. imagine magic target villager ( )
22. increase meadow please tease ( )
23. leather rhythm southern thumb ( )
24. lengthy monthly wealthy worthy ( )
25. marriage obligation passenger transport ( )
Part B

例にならって、アクセントが置かれる位置が他の三つの場合と異なるものを見つけて、回答欄にその単語の番号を記入してください。もし、すべて同じ場合には間答欄にゼロの番号を記入してください。

例１

<table>
<thead>
<tr>
<th>例 1</th>
<th>例 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>chǐl-dren</td>
<td>al-low</td>
</tr>
<tr>
<td>jāck-et</td>
<td>lí-cence</td>
</tr>
</tbody>
</table>

1. a-ban-don | es-tab-lish |
2. ac-ci-dent | en-ter-tain |
3. ac-cur-a-cy | com-fort-a-ble |
4. ad-just | for-give |
5. af-ter-noon | con-tri-bute |
6. at-tempt | im-prove |
7. bar-gain | fore-cast |
8. bat-tle | gold-en |
9. be-lief | lo-cate |
10. bound-a-ry | de-liv-er |
11. cal-cu-late | har-mo-ny |
12. cam-paign | gar-bage |
13. can-cer | hu-mor |
14. chal-lenge | ef-fort |
15. con-ven-tion-al | dis-tri-bu-tion |
16. cred-it | con-trol |
17. dan-ger-ous | fa-vor-ite |
18. de-clare | meth-od |
19. de-moc-ra-cy | ef-fi-ci-en-cy |
20. dread-ful | gen-ius |
21. e-con-o-my | ex-am-i-nee |
22. em-ploy | fla-vor |
23. fan-cy | gov-ern |
24. guar-an-tee | in-tro-duce |
25. re-gret | so-lar |

お名前：______________________ ( G1 / G2 / G3 / G4 / M1 / M2 )

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Appendix H

The Questionnaire on the Common Mispronunciations of English Sounds
(for Indonesian EFL Teachers)

Before You Start

a. In the following examples, only the mispronounced part of the target word is italicised while the original form of the target word is maintained as much as possible. The target word itself is presented in the parenthesis.

b. The phonetic transcriptions are given on the basis of *Longman Pronunciation Dictionary* by J. C. Wells (2000).

Suppose you are talking with a foreigner in English. You will come across the following examples of mispronunciation of English sounds. Please indicate how frequent and serious you will find those examples of mispronunciation by choosing the referent number (1 – 5) which indicates your perception of frequency and seriousness.

**Frequency (C):**
5 = very common 4 = common 3 = somewhat common 2 = rarely 1 = not common

**Seriousness (S):**
5 = very serious 4 = serious 3 = somewhat serious 2 = hardly serious 1 = not serious

<table>
<thead>
<tr>
<th>Target Mispronunciation</th>
<th>Example</th>
<th>C</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. /p/ → /f/</td>
<td>You know tomorrow is the deadline. Have you finished your paper? /festə//pərpa/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. /p/ → /b/</td>
<td>You like seafood very much, don’t you? Will you have some crab (crab)? /kreɪp/kraeb/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. /ɪ/ → /ɪ/</td>
<td>Please make yourself at home. Would you like some tea (tea)? /ti/ /tɪ/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. /d/ → /t/</td>
<td>Now, let’s start fishing. Where is my rod (rod)? /rɒd/ /rod/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. /ʃ/ → /p/</td>
<td>I’m proud of my father. He’s a fireman (fireman). /pərəmən/ /faɪəmən/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. /v/ → /p/</td>
<td>It’s very cold outside. Don’t forget to put on your gloves (gloves). /glʌps/ /glʌvz/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. /v/ → /b/</td>
<td>Who won the election? Do you know the result of the vote (vote)? /vaʊt/ /vaut/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. /v/ → /v/</td>
<td>I don’t like staying in hotels. Are there any villas (villas) around here? /ˈvɪləs/ /ˈvɪləs/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. /θ/ → /t/</td>
<td>I don’t need too many volunteers. Three (Three) is enough. /tri/ /θri/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. /θ/ → /f/</td>
<td>Nancy has been in hospital for three months. Now, she looks very pale and thin (thin). /fɪn/ /θɪn/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. /θ/ → /s/</td>
<td>Let me see your bad tooth. Open your mouth (mouth), please. /maʊθ/ /maʊθ/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. /θ/ → /d/</td>
<td>Did you enjoy your holiday? How was the weather (weather)? /ˈweðə/ /ˈweðə/</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Appendix H continues)
<table>
<thead>
<tr>
<th>Target Mispronunciation</th>
<th>Example</th>
<th>C</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. /θ/ → /θ/</td>
<td>Hi, Beth, this is Tom. May I speak to your braver (brother)? /braʊə/ /brəðə/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. /θ/ → /z/</td>
<td>Thanks a lot. It’s the finest leacher (leather) jacket I’ve ever seen. /leɪzə/ /lɛðə/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. /s/ → /z/</td>
<td>It’s fine today. Why don’t we go to the shore (shore)? /ʃɔː/ /ʃɔː/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. /s/ → /ʃ/</td>
<td>Don’t mention it. It was my pleasure (pleasure). /plɛʒə/ /plɛʒə/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. /s/ → /z/</td>
<td>She lit the gas range. Then there was a loud explosion (explosion). /iksplouzn/ /iksplauʒən/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. /s/ → /dz/</td>
<td>I really like this museum. It has many art treasures (treasures). /tredʒəz/ /tredʒəz/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. /s/ → /ʒ/</td>
<td>She is very lucky to marry John. He is the only son (son) of a rich family. /sʌn/ /sʌn/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. /tʃ/ → /ʃ/</td>
<td>Which kind of fruit do you like? I myself like peaches (peaches). /piːtʃəz/ /piːtʃəz/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. /n/ → /ɲ/</td>
<td>Sorry, all the air tickets were sold out! We have to go by ship (ship). /ʃɪp/ /ʃɪp/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. /æ/ → /ə/</td>
<td>I had a very bad flu yesterday. I was in bed (bed) by nine. /bɛd/ /bɛd/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. /æ/ → /e/</td>
<td>I’ve heard you’re a good guitarist. Why don’t you join our band (band)? /bænd/ /bænd/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. /æ/ → /aː/</td>
<td>The meeting is very formal. So, please take off your hat (hat). /haːt/ /haːt/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. /æ/ → /ʌ/</td>
<td>We like animals. We used to keep two dogs and a cat (cat). /kæt/ /kæt/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. /z/ → /ʃ/</td>
<td>I want to fix my bicycle. May I borrow your tools (tools)? /tʃuːz/ /tʃuːz/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. /β/ → /w/</td>
<td>He’s a nice farmer. He can control his bull (bull) very well. /bʊl/ /bʊl/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. /uː/ → /oː/</td>
<td>Anton is going to prepare the dinner tonight. He is a good cook (cook). /kʊk/ /kʊk/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. /æ/ → /iː/</td>
<td>I like sweets a lot. Where can we eat the best cake (cake) here? /kɛk/ /kɛk/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30. /æ/ → /e/</td>
<td>I am completely exhausted. That was a really tough race (race). /reɪs/ /reɪs/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. /ɔ/ → /oː/</td>
<td>My brother used to be in the navy. So, he can use the Morse code (code). /kɔd/ /kɔd/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. /ɔ/ → /ɔː/</td>
<td>You look gorgeous today. Where did you get this nice coat (coat)? /kɔt/ /kɔt/</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Appendix I

**The Questionnaire on the Common Mispronunciations of English Sounds**  
*for Native English Speakers*

#### Before You Start

a. In the following examples, only the mispronounced part of the target word is italicised while the *original form of the target word is maintained* as much as possible. The target word itself is presented in the parenthesis.

b. The phonetic transcriptions are given on the basis of *Longman Pronunciation Dictionary* by J. C. Wells (2000).

Suppose you are talking with a foreigner in English. You will come across the following examples of mispronunciation of English sounds. Please indicate how serious you will find those examples of mispronunciation by choosing the referent number (1 - 5) which indicates your perception of seriousness.

<table>
<thead>
<tr>
<th>Target Mispronunciation</th>
<th>Example</th>
<th>Very serious = 5</th>
<th>Serious = 4</th>
<th>Somewhat serious = 3</th>
<th>Hardly serious = 2</th>
<th>Not serious = 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. /p/ → /f/</td>
<td>You know tomorrow is the deadline. Have you finished your <em>figure</em> (paper)? /ˈfiːər/ /ˈfiːrə/</td>
<td></td>
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</tr>
<tr>
<td>2. /p/ → /b/</td>
<td>You like seafood very much, don’t you? Will you have some <em>crab</em> (crab)? /ˈkræb/ /ˈkræb/</td>
<td></td>
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</tr>
<tr>
<td>3. /ɪ/ → /a/</td>
<td>Please make yourself at home. Would you like some <em>tea</em> (tea)? /ˈtiː/ /ˈtiː/</td>
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</tr>
<tr>
<td>4. /d/ → /t/</td>
<td>Now, let’s start fishing. Where is my <em>rod</em> (rod)? /ˈrɒd/ /ˈrɒd/</td>
<td></td>
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</tr>
<tr>
<td>5. /ɜː/ → /p/</td>
<td>I’m proud of my father. He’s a <em>fireman</em> (fireman). /ˈfaɪərmən/ /ˈfaɪərmən/</td>
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</tr>
<tr>
<td>6. /v/ → /p/</td>
<td>It’s very cold outside. Don’t forget to put on your <em>gloves</em> (gloves). /ˈɡlʌvz/ /ˈɡlʌvz/</td>
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</tr>
<tr>
<td>7. /v/ → /b/</td>
<td>Who won the election? Do you know the result of the <em>vote</em>? (vote)? /ˈvɔt/ /ˈvɔt/</td>
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</tr>
<tr>
<td>8. /v/ → /f/</td>
<td>I don’t like staying in hotels. Are there any <em>villas</em> (villas) around here? /ˈvɪləs/ /ˈvɪləs/</td>
<td></td>
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</tr>
<tr>
<td>9. /ð/ → /t/</td>
<td>I don’t need too many volunteers. <em>Three</em> (Three) is enough. /ˈθriː/ /ˈθriː/</td>
<td></td>
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</tr>
<tr>
<td>10. /θ/ → /f/</td>
<td>Nancy has been in hospital for three months. Now, she looks very pale and <em>thin</em> (thin). /ˈθiːn/ /ˈθiːn/</td>
<td></td>
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</tr>
<tr>
<td>11. /θ/ → /s/</td>
<td>Let me see your bad tooth. Open your <em>mouth</em> (mouth), please. /ˈmaʊθ/ /ˈmaʊθ/</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>12. /ð/ → /d/</td>
<td>Did you enjoy your holiday? How was the weather (weather)? /ˈweðə/ /ˈweðə/</td>
<td></td>
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</tr>
<tr>
<td>13. /θ/ → /v/</td>
<td>Hi, Beth, this is Tom. May I speak to your <em>brother</em> (brother)? /ˈbɹəθər/ /ˈbɹəθər/</td>
<td></td>
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</tr>
<tr>
<td>14. /θ/ → /z/</td>
<td>Thanks a lot. It’s the finest <em>leather</em> (leather) jacket I’ve ever seen. /ˈliːðər/ /ˈliːðər/</td>
<td></td>
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</tr>
</tbody>
</table>

(Appendix I continues)
<table>
<thead>
<tr>
<th>Target Mispronunciation</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. /ʃ/ → /s/</td>
<td>It's fine today. Why don't we go to the shore? /ʃɔr/ /ʃɔr/</td>
</tr>
<tr>
<td>16. /ʒ/ → /ʃ/</td>
<td>Don’t mention it. It was my pleasure (pleasure). /pleʃ/ /pleʃ/</td>
</tr>
<tr>
<td>17. /ʒ/ → /ʒ/</td>
<td>She lit the gas range. Then there was a loud explosion (explosion). /ɪkspləʊzən/ /ɪkspləʊzən/</td>
</tr>
<tr>
<td>18. /ʒ/ → /ʒ/</td>
<td>I really like this museum. It has many art treasures (treasures). /trɛʒərz/ /trɛʒərz/</td>
</tr>
<tr>
<td>19. /æ/ → /ɜ/</td>
<td>She is very lucky to marry John. He is the only son (son) of a rich family. /sæn/ /sæn/</td>
</tr>
<tr>
<td>20. /i/ → /i/</td>
<td>Which kind of fruit do you like? I myself like peaches (peaches). /ptʃes/ /ptʃes/</td>
</tr>
<tr>
<td>21. /i/ → /i/</td>
<td>Sorry, all the air tickets were sold out! We have to go by ship (ship). /ʃɪp/ /ʃɪp/</td>
</tr>
<tr>
<td>22. /e/ → /i/</td>
<td>I had a very bad flu yesterday. I was in bed (bed) by nine. /bɛd/ /bɛd/</td>
</tr>
<tr>
<td>23. /æ/ → /æ/</td>
<td>I’ve heard you’re a good guitarist. Why don’t you join our band (band)? /bænd/ /bænd/</td>
</tr>
<tr>
<td>24. /æ/ → /ɔ/</td>
<td>The meeting is very formal. So, please take off your hat (hat). /hæt/ /hæt/</td>
</tr>
<tr>
<td>25. /æ/ → /æ/</td>
<td>We like animals. We used to keep two dogs and a cat (cat). /kæt/ /kæt/</td>
</tr>
<tr>
<td>26. /ʌ/ → /ʊ/</td>
<td>I want to fix my bicycle. May I borrow your tools (tools)? /tuːz/ /tuːz/</td>
</tr>
<tr>
<td>27. /ʌ/ → /ʌ/</td>
<td>He’s a nice farmer. He can control his bull (bull) very well. /bʌl/ /bʌl/</td>
</tr>
<tr>
<td>28. /ʌ/ → /ɔ/</td>
<td>Anton is going to prepare the dinner tonight. He is a good cook (cook). /kʊk/ /kʊk/</td>
</tr>
<tr>
<td>29. /æ/ → /ɪ/</td>
<td>I like sweets a lot. Where can we eat the best cake (cake) here? /keɪk/ /keɪk/</td>
</tr>
<tr>
<td>30. /æ/ → /e/</td>
<td>I am completely exhausted. That was a really tough race (race). /reɪs/ /reɪs/</td>
</tr>
<tr>
<td>31. /əʊ/ → /ə/</td>
<td>My brother used to be in the navy. So, he can use the Morse code (code). /kɔd/ /kɔd/</td>
</tr>
<tr>
<td>32. /əʊ/ → /ɔ/</td>
<td>You look gorgeous today. Where did you get this nice coat (coat)? /kɔt/ /kɔt/</td>
</tr>
</tbody>
</table>
## Appendix J

### Comparison of Phonemic Alphabets (Consonants)

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<tr>
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<tr>
<td>1. pen</td>
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<tr>
<td>2. back</td>
<td>/b/</td>
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<tr>
<td>3. ten</td>
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<tr>
<td>4. dive</td>
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<tr>
<td>5. cart</td>
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<td>6. go</td>
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<tr>
<td>7. chin</td>
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<tr>
<td>8. jam</td>
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<tr>
<td>9. fit</td>
<td>/ɪ/</td>
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<td>10. vat</td>
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<td>11. thin</td>
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<td>12. then</td>
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<td>14. zoo</td>
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<tr>
<td>15. shoe</td>
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<td>16. beige</td>
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<td>17. how</td>
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<td>18. mad</td>
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<td>19. net</td>
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<tr>
<td>20. ring</td>
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<tr>
<td>21. win</td>
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<td>22. late</td>
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<tr>
<td>23. red</td>
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<td>24. yes</td>
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<tr>
<td>25. when</td>
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(Appendix J continues)
### Comparison of Phonemic Alphabets (Vowels)

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<tr>
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<tr>
<td>2. pit</td>
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</tr>
<tr>
<td>3. set</td>
<td>/ɛ/</td>
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<tr>
<td>4. mat</td>
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<tr>
<td>5. some</td>
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<tr>
<td>6. father</td>
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<td>/ɑː/</td>
<td>/ɑː/</td>
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<td>7. pot</td>
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<td>8. bought</td>
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<td>/ɔː/</td>
<td>/ɔː/</td>
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<td>9. good</td>
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<td>11. bird</td>
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<td>15. boy</td>
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<td>17. how</td>
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<td>19. share</td>
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<tr>
<td>20. poor</td>
<td>/uə/</td>
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* Unstressed syllable.