

**PHONOLOGICAL INTELLIGIBILITY: A STUDY OF
MALAY AND CHINESE LEARNERS OF ENGLISH IN
MALAYSIA**

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SUMMARY

This thesis is based on the notion of the importance of intelligibility in L2 varieties of English. This study examines the phonological intelligibility of selected pronunciation features in interactions between 22 Malay and Chinese learners of English in Malaysia. The database contains about 23 hours of interactions based on four information gap tasks. Drawing on the Lingua Franca Core (LFC), this study identifies specific pronunciation features that impede intelligibility in the interactions, examines how the participants negotiate intelligibility in terms of using communicative strategies as well as compare how phonological variation is used to accommodate to interlocutors in same L1 and different L1 interactions.

This thesis argues that in the existing and emerging L2 varieties of English, it is pronunciation that is the most diverse linguistic construct and, ironically, pronunciation is usually the least researched area. It is essential to study the relationship between phonology of L2 varieties and intelligibility, if international and intranational communication is to be promoted through the English language. The underlying assumption of this thesis is that phonological intelligibility in L2 varieties of English has to be examined from the point of the view of its speakers and hearers, the L2 users, who use English for international and intranational communication, predominantly with other L2 users. In most L2 English contexts, the L1 user or the native speaker is seldom the referent and rarely the interlocutor. L2 users are rarely monolinguals learning English in a L1 context. This mirrors the situation in Malaysia, where English has played a dominant role as a language of intranational

communication amongst its multicultural people. Due to the language policy in Malaysia, most Malaysians are usually proficient in the national language, Malay, English (which is taught as a second language in schools) and their respective L1s.

The Lingua Franca Core and the Communication Accommodation Theory are utilized as a broad framework in designing the methodology and analyzing the spoken data. The spirit underlying this thesis and the approach adopted in interpreting the findings are influenced by the Lingua Franca Core. Intelligibility, in this thesis is the core focus. Contrasting with past studies, this thesis argues that intelligibility is a dynamic construct that is constantly negotiated between speaker and listener, and intelligibility has to be viewed from the point of view of its users; i.e. how English is used in a Malaysian context. Tied to this dynamic notion of intelligibility, is the issue of phonological variation as a resource to accommodate to interlocutors of differing first languages.

The findings in this study support some of the core features that are important in maintaining intelligibility that are suggested in the LFC. There are some minor differences found in this study from the LFC that will be discussed. However, in terms of the use of phonological variation to accommodate interlocutors of same and different L1s, the participants of this study show a different pattern than the patterns found in previous studies. This study also found that communicative strategies that involve pronunciation are an integral part in resolving intelligibility problems in a collaborative manner.

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LIST OF ABBREVIATIONS

CAT =	Communication Accommodation Theory
DLDs =	different language dyads
EFL =	English as a Foreign Language
EIL =	English as an International Language
ELF =	English as a Lingua Franca
ESL=	English as a Second Language
ELT=	English language teaching
IL=	interlanguage
ILT=	interlanguage talk
L1 =	first language
L2 =	second language
LFC =	Lingua Franca Core
ME =	Malaysian English
MUET=	Malaysian University English Test
NS =	native speaker
NNS =	non native speaker
P1ML =	participant 1 with Malay as L1
P1CH =	participant 1 with Chinese as L1
RP=	Received Pronunciation
SAT =	Speech Accommodation Theory
SLA =	second language acquisition
SLDs =	same language dyads

CHAPTER 1

INTRODUCTION

1.1 Changing Priorities, Changing Realities and English Language Teaching

This study examines the suitability of some of the notions related to the Lingua Franca Core (LFC) proposed by Jenkins (1995, 2000a, 2002a) in a Malaysian context. This study evolved as response to the changes in the role that English plays in the world today and how these changes have impacted on the status and role of English in Malaysia specifically. In recent years, the goals of English language teaching and the notion of the native speaker (NS) as the norm provider are being questioned as a result of the rise of English as an international language (EIL) and the reality that there are now more non-native speakers (NNSs) of English than NSs (Crystal, 1997; Graddol, 1997; Jenkins, 2007; B. B. Kachru, 2005; Kachru & Nelson, 1996; Kirkpatrick, 2007b; Svartvik & Leech, 2006). In line with these changes, the relevance and appropriateness of research based on NS norms and Inner Circle contexts are also being re-evaluated and re-defined. This study seeks to investigate English from the perspective of its users in a Malaysian context where the learning and teaching of English are entrenched in NS norms, although in reality the English used in Malaysia is different from that used in Inner Circle contexts.

Another pertinent issue related to the changes caused by the rise of English as an international and intranational language in non Inner Circle countries is the issue of intelligibility. Intelligibility is often in the centre of debates regarding the need for a 'standard' model of native English for international communication to ensure mutual

intelligibility in diverse societies (Quirk, 1990) versus the argument that nativized or second language (L2) varieties of English are legitimate and should develop their own norms based on local standards (Jenkins, 2004b; Widdowson, 1997). Advocating a standard model of native English to ensure intelligibility seems to be an ideological position and does not take into account the changing realities of the uses and users of English in L2 contexts.

Jenkins (2000a, p.4) notes that in existing as well as emerging L2 varieties of English, it is pronunciation that is the most diverse linguistic construct and it is also pronunciation that is the “area of greatest prejudice and preconception, and the one most resistant to change on all sides”. The ‘change’ referred to here is the change in the norms adopted in the research and teaching of English. In many countries around the world, English is an established nativized or L2 variety in the society and flourishes in terms of its syntax, vocabulary and distinctive sounds. Yet, in L2 English contexts, exonormative norms are normally adopted in terms of the teaching goals and Inner Circle standards are considered to be models of ‘good English’. The suitability and viability of these Inner Circle models in L2 contexts are rarely questioned. It is essential to study the relationship between phonology of L2 varieties and intelligibility, if international and intranational communication is to be promoted through English.

One of the underlying themes of this thesis is that intelligibility in L2 varieties of English has to be examined from the point of the view of its users, the NNSs, who use English for

international as well as intranational communication, predominantly with other NNSs. The NS is no longer the sole referent and rarely the interlocutor in a L2 setting. In Malaysia, although, English does not play an important role as the Malay language (which is the only official language of administration and medium of instruction in most schools), English is still extensively used for intranational communication among its people of various races. English is preferred to other languages as it is not identified with any one ethnic community and is considered to be a neutral language compared to Malay which is identified with the Malay community (Asmah, 2003).

With the existence of English in the Malaysian sociocultural context as a L2 variety, the important role English plays as a language of wider communication among Malaysians and the rise of English as an international language due to globalization, intelligibility has become a central issue. The English taught in Malaysian schools is based on external norms of British English, given Malaysia's colonial history (Rajadurai, 2004a, 2004b). However, in reality, the English that exists in Malaysia and spoken by most of its people, is far removed from what is represented in the syllabus and curriculum. In terms of the use of English, there is a lot of variation depending on the context of use, social class and ethnicity of the interlocutors.

The goals of English language teaching and research in L2 English contexts need to reflect the current realities and changing priorities of the speech community. However, these changes and realities are rarely reflected in the methodologies and syllabus used in schools. Kirkpatrick, Deterding and Wong (2008) state that empirical research into the

“international intelligibility of non-native varieties” is important in order to highlight that L2 varieties make better classroom models than native varieties. The intelligibility of L2 varieties used for intranational communication can also contribute to a classroom model as these represent the reality of language use in a community. Jenkins’ LFC (1995, 2000a, 2002a) is one of the pioneering works that situates phonological intelligibility research from the perspective of actual language use and its users. Thus in this study, some of the notions of the LFC related to intelligibility are examined in a Malaysian context.

Apart from re-evaluating language use in terms of intelligibility in a Malaysian context, this thesis also seeks to re-examine the notion of intelligibility itself and how it is investigated. Again this re-examination of intelligibility has its roots in the LFC, which investigates intelligibility based on language in use from the perspective of its users, who are mainly NNSs. Furthermore, in this thesis intelligibility is viewed as “not a monolithic construct, but that it requires constant negotiation and adjustment in relation to speaker-listener factors specific to the particular context of the interaction” (Setter & Jenkins, 2005, p.12).

This thesis will look at how intelligibility has been investigated, which will include the methods used in examining intelligibility as well as the participants involved in intelligibility studies. Most research has focused on intelligibility from the perspective of the NS, i.e. what is intelligible for the NS. However, given the change in the use and users of English in the world today, the focus of intelligibility studies

need to shift. The NS is no longer the sole referent; and in most instances is no longer the interlocutor in most interactions, outside Inner Circle contexts. This thesis hopes to contribute, in some way, to this by investigating phonological intelligibility based on elicited interactions of a group of learners in a Malaysian context. B. B. Kachru (1992) called for the need of paradigm shifts in English Language Teaching (ELT) in terms of its research, teaching and the understanding of the sociolinguistic reality of the uses of English in a variety of contexts. It is hoped that this thesis makes a small contribution to understanding the changing realities of the use and users of English in a Malaysian context.

1.2 Research Questions

As discussed above, the main aim of this study is to examine intelligibility from the perspective of its users. Thus, this study seeks to identify specific pronunciation features that affect intelligibility in the interactions of Malay and Chinese learners in a public university in Malaysia. In this study, intelligibility is assumed to be compromised when there are miscommunications related to pronunciation problems. The pronunciation features examined here are based on the LFC introduced by Jenkins (1995, 2000a, 2000a). In this study the focus is specifically on consonantal features, aspiration of voiceless plosives and consonant simplification in word initial, medial and final positions. Vowels and suprasegmentals are excluded from this study (see Section 2.10.1 for a discussion on this). Another aim of this research is to examine if, and how participants use phonological variation to accommodate to their

co-participants of the same first language (L1) and a different L1 in order to prevent intelligibility problems for their interlocutors (Chapter 6).

Specifically, based on the recorded interactions of the Malay and Chinese participants, this study seeks to answer the following questions:

1. In the recorded interactions, in the event of a miscommunication is intelligibility compromised as a result of:
 - a. addition of consonant segments?
 - b. substitution of consonant segments?
 - c. deletion of consonant segments?
 - d. the absence of aspiration in voiceless plosives?
 - e. simplifying word initial consonant clusters?
 - f. simplifying word medial consonant clusters?
 - g. simplifying word ending consonant clusters?
2. Which pronunciation features are important in maintaining intelligibility in these interactions?
3. How do participants negotiate intelligibility in these interactions when there is a miscommunication?
4. In negotiating intelligibility, do participants vary phonological features in same L1 dyads (SL1) and different L1 dyads (DL1) interactions to accommodate their interlocutors? If so, how?

1.3 Relevance of the Study

Most studies in L2 phonology are deeply rooted in linguistic and psycholinguistic theories, which basically use the NS¹ as the norm (Tench, 1996). Ioup's (1984) study shows that NNS Englishes diverge from each other more in terms of pronunciation than of the other linguistic levels (cited in Jenkins, 2002a). The present study will be based on elicited interactions of L2 learners in a context where English has existed as an important second language and commonly used for intranational communication. It has been noted by several researchers that there is a need to look at L2 varieties of English as independent varieties that require investigations without recourse to external norms (Jenkins, 2004b; B.B. Kachru, 1992; Y. Kachru, 2005; Lowenberg, 1993; Sridhar & Sridhar, 1986). It is hoped that this study will also contribute, in some way, to the study of L2 varieties of English, specifically spoken Malaysian English (ME), as the data used in this study is based on elicited interactions from learners/users of English in a Malaysian context.

Furthermore, the majority of research on intelligibility examines it from the point of view of the listener, i.e. what is perceived to be intelligible to the listener. This study, however, will look at intelligibility as a construct that is negotiated between speaker and listener at the locutionary and illocutionary level. There is a need to study L2 interactions and evaluate features that obstruct intelligibility as well as how intelligibility is maintained and negotiated. This will help in making informed

¹ The terms 'native speaker' (NS) and 'non-native speaker' (NNS) are used in this study to reflect their use in the literature and academic discourse. These terms are not intended as value judgments on speakers and users of the English language. The preferred terms for this study are 'L1-speaker/user' and 'L2-speaker/user' (Cook, 2002; Prodromou, 2008).

decisions in formulating a syllabus pertaining to pronunciation; as most are currently based on NS norms. The LFC is appropriate to the context of this study as it aims to promote intelligibility, as well as maintain regional appropriateness among L2 interlocutors. The LFC redefines phonological and phonetic error based on intelligibility.

In the LFC, 'error' is no longer assessed based on external norms but based on the effect certain pronunciation features have on intelligibility; i.e. what is deemed to be intelligible to the participants of specific interactions (Jenkins, 2000a). This allows for language teaching and learning goals to be based on the context and the users of English, and thus reduces the need for dependence on external norms which are not suitable for all the language learning contexts. This study, in using the LFC as a reference point to study intelligibility in a Malaysian language learning context, ultimately hopes to contribute empirical data to confirm (or refute) some of the claims and findings made by the LFC as called for by Jenkins (2002a).

1.4 Scope and Limitations

This study is an extension of the LFC in terms of identifying pronunciation features that impede intelligibility. However, due to the focus of this study and restrictions in terms of time and access to the participants, only certain aspects of the LFC are examined. In this study, only consonantal features, aspiration of voiceless plosives and simplification of consonant clusters are examined in terms of their effect on intelligibility. Unlike Jenkins' (1995, 2000a, 2002a) work that uses participants of

varying L1s to look at phonological variation and accommodation patterns, this study uses participants representing two major ethnic groups in Malaysia. This is not to disregard the importance of any other ethnic group in Malaysia, but is a result of the difficulty in locating participants of other ethnic groups in the university where the data collection took place.

One other limitation of this study is in terms of the participants that are used in the study. Following Jenkins (1995, 2000a, 2002a), the focus of this study is on examining interactions by learners of English. Thus the findings of this study have to be treated cautiously as the findings are derived from data gathered from learners, not proficient speakers of English. The learners of this study were chosen based on their proficiency in English and it was ensured that all of them had the same level of proficiency in English. However, as the proficiency levels are based on a national level examination taken much earlier, at the time of data collection the participants' proficiency levels may not be the same. Some of the participants could have improved their English language skills. One other limitation of this study is in terms of the L1 of the participants. The L1 of the participants is based on the participants' own perception and self reports. The information regarding their L1s was gathered through the language history interviews and questionnaires (Chapter 3). Thus, there may be discrepancies in terms of their actual L1s and what the participants reported in this study. This is a particular limitation with the Chinese participants as there are various dialects that are associated with them.

One further limitation of this study is that the data is elicited using information gap tasks. Thus the data in this study cannot be equated with naturally occurring talk. In interpreting the data, this has to be kept in mind and will be highlighted throughout the analysis and findings of this study. The limitations and strengths of the methodology adopted in this study will be discussed further in Chapter 3.

1.5 Description of Key Terms

In this thesis accommodation patterns are taken to mean the variation in the use of certain phonological features (Coupland, 1984; Giles, Coupland, & Coupland, 1991; Jenkins 1995, 2000a, 2002a) and one of the motivations in varying speech features is to achieve communication efficiency (Beebe & Giles, 1984; Coupland, 1984, 2007; Giles et al., 1991). The Communication Accommodation Theory (CAT) will be used to investigate how participants use phonological variation to accommodate to their interlocutors of the same and different L1s.

Communicative strategies are used by speakers to ensure successful communication and to preserve the “face of participants” (Firth, 1996; Kirkpatrick, 2007a; Meierkord, 2000). The notion of using communicative strategies to preserve “the face of participants” is one aspect that distinguishes ELF research from SLA research (Meierkord, 2000). In this study, the ELF notion of the use of communicative strategies is adopted, i.e. how participants use various communicative strategies to ensure successful communication and mutual understanding.

Intranational communication involves communication within the local speech community; whereas international communication is communication with wider speech communities of the world (Ooi, 2001, p.xi). For instance, the use of English in Malaysia between Malaysians of various L1s is for intranational communication. The use of English between Malaysians and Americans, Singaporeans, and Australians for trade purposes is part of international communication. The use of English among ASEAN (Association of South-East Asian Nations) member countries is another example of international or regional communication; i.e. communication between Malaysia and its immediate neighboring countries.

For this study, intelligibility, following Jenkins' (2000a) definition, is taken to represent the recognition of words and utterances as well as the ability to produce the appropriate sounds. Although 'comprehensibility' and 'interpretability' are also important in order to fully comprehend the nature of 'understanding' (Smith & Nelson, 1985), I adopt Jenkins' (2000a) view that when most L2 speakers of English are engaged in receiving and producing sounds, they do not (for most of the time) engage beyond the level of recognizing and deciphering the sound signals (intelligibility level) as they are focused on the form of messages instead of the meaning. This differs from Smith and Nelson's (1985, p.335) assertion that "the most serious misunderstandings occur at the level of comprehensibility and interpretability", i.e. at the pragmatic level of utterances. In this study, instances of miscommunications in the interactions are used to examine intelligibility problems caused by pronunciation features. Although the focus of this study is to specifically

look at phonological intelligibility, it is not always possible to delineate phonology from other aspects of language like syntax and lexis.

The terms native speaker (NS) and non-native speaker (NNS) are used in this study, to reflect the practice in the literature and academic circles. As discussed above, the preferred terms in this study are L1 users and L2 users of English in place of NSs and NNSs respectively. However, the terms NS and NNS as they are usually used in the literature are explained briefly to lay the foundation for further discussion on this matter. NS refers to those from Inner Circle countries for whom English is a mother tongue or first language (L1). Meanwhile, NNSs refer to those speakers of English from the Outer and Expanding Circles. Nativized or L2 varieties refer to the English that is used in some Outer Circle countries, where the Englishes in these contexts have evolved into localized forms and can be distinguished from Inner Circle varieties of English. Nativized or L2 varieties are also distinguished from the English in Expanding Circle countries where English plays a more limited role. Section 2.2 discusses the different roles and uses of English in these different contexts. This study focuses on examining the uses and users of English in a Malaysian context where English has existed for a long time and has evolved into a variety that has its own norms and standards.

The three features examined in this study, i.e. consonantal features, aspiration of voiceless plosives in initial positions and consonant clusters will be investigated based on seven phonological processes. Phonological process here is used to describe

the “sound patterns” in the English language that is spoken by the participants in this study (Khan, 1985). This study is largely concerned with sound patterns or processes that are used by the participants that lead to intelligibility problems in the interactions. Jenkins (2000a) found that additions, substitutions and deletions of consonants in her data regularly caused loss of intelligibility. These three phonological processes related to consonantal segments are mostly linked to learners’ L1s (Gimson, 2008; Jenkins, 1995, 2000a, 2002a). In this study, ‘addition’ is taken to represent the insertion of a segment which is not originally present in a word (Deterding & Poedjosoedarmo, 1998). Section 4.4.1 discusses the addition process. ‘Substitution’, on the other hand, involves the use of another sound segment to replace a segment in a word. For instance, the use of /l/ in place of /r/ in ‘cross’. Section 4.4.2 discusses the substitution process. Deletion involves the omission of a segment altogether in a word (Collins & Mees, 2003; Gimson, 2008; Hawkins, 1984; Jenkins, 2000a; Khan, 1985; Lass, 1984). In this study, deletion is taken to represent the omission of a single consonant segment in words. Deletion, in this study, does not involve the deletion of segments that occur in consonant clusters. For example, the deletion of /t/ in ‘boat’ is categorized as deletion of a single segment; whereas the omission of /t/ in ‘count’ is categorized as simplification of word final consonant clusters (see Section 4.4.3).

1.5 Overview of Thesis

Chapter 2 looks at some of the relevant issues and areas related to this study. It starts by describing the changing roles of English and pronunciation pedagogy as well as

the influence of these changes on the goals of English language teaching. This is followed by looking at research on intelligibility and L2 pronunciation research, re-examining SLA and interlanguage research in the light of the changing roles of English. Chapter 2 continues with a discussion on the Communication Accommodation Theory (CAT) and its use to investigate phonological variation and intelligibility. This is followed by a discussion on the role and status of the English language in Malaysia, and miscommunications in interactions. The last section of Chapter 2 discusses the theoretical framework which is based on the relevant theoretical and methodological claims discussed in Chapter 2. Chapter 3 describes the research design of the study, the methods in data collection as well as the pilot studies. Chapter 3 explains in detail the various decisions taken in designing the methodology in terms of the elicited speech data, the two pilot studies, the instruments that were used, the procedure employed during data collection, the transcription process and the limitations of the study.

Chapters 4 to 6 move onto the analysis and discussions of the main study. Chapter 4 presents the quantitative analysis of this study and attempts to answer the first two research questions (see Section 1.2 above for a list of the research questions). Chapter 4 presents a quantitative perspective of the pronunciation features that impede intelligibility in the recorded interactions. The pronunciation features are examined based on seven pre-determined phonological processes. An interpretive approach in examining intelligibility is used in Chapter 5. Specifically, Chapter 5 examines intelligibility in terms of the strategies that are used for negotiating

intelligibility and managing miscommunications. Chapter 6, then, examines how the participants use phonological variation to accommodate to their interlocutors of the same and different L1s. Finally, Chapter 7 discusses the conclusions and implications of the findings of this study in terms of methodological, theoretical and pedagogical perspectives; in addition it proffers suggestions for future research.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The previous chapter outlined the underlying theme of this thesis, i.e. the need to re-think and re-define the various roles that are ascribed to English in different parts of the world today; as well as the impact of the changes in the role and status of English on research and the teaching of English. This chapter furthers this argument by looking at how the changing roles of English have influenced the various areas concerned with the teaching and learning of English. Wherever possible an attempt will be made to link the arguments to the Malaysian context, given that this research uses data from Malaysian participants.

This chapter starts by looking at the changing roles of English and pronunciation pedagogy and the influence of these changes on the goals of English language teaching. This is followed by examining research on intelligibility and L2 pronunciation research, and then re-examining SLA and interlanguage research in the light of the changing roles of English. Next, is a discussion on the Communication Accommodation Theory (CAT) and its use to investigate phonological variation and intelligibility. This is followed by a discussion on the role and status of the English language in Malaysia, followed by a section that discusses miscommunications in interactions. The last section discusses the theoretical framework which is informed by the relevant theoretical and methodological claims that were discussed in the earlier sections in this chapter.

2.2 The Changing Roles of English and Pronunciation Research and Pedagogy

Jenkins (2000a, p.5) argues that until fairly recently the goal of English language teaching to people for whom it is not a first language was assumed to be clear-cut and uncomplicated, i.e. “learners wished primarily to be able to communicate effectively with native speakers of English, who were considered by all to be the owners of the language, guardians of its standards, and arbiters of acceptable pedagogic norms”. This goal over the years has led to the supremacy of the NS as the norm provider for those to whom English is not the first language, i.e. the NNSs or the L2 users of the language. However, in recent years, with the changing role of English as a “global language” (Crystal, 1997) and deliberations about the “ownership of English” (Widdowson, 1994), these goals and the notion of the NS as the norm provider are being questioned in line with the rise of EIL and the recognition of L2 or indigenized varieties of English as well as the reality that there are now more NNSs (or L2 users) of English than NSs (or L1 users) (Crystal, 1997; Graddol, 1997; Y. Kachru & Nelson, 2006).

It is now acknowledged that NNSs do not solely learn English to communicate with NSs; in fact in many parts of the world, many NNSs may never even use English with a NS (Jenkins, 1995, 2000a, 2002a, 2002b, 2006a; B. B. Kachru, 1992; Y. Kachru & Nelson, 2006; Kirkpatrick, 1998; Levis, 2005). English, in many countries, is widely used for intranational purposes as well as regional and international purposes. For instance, English is the de facto language of communication between members of the ASEAN, and for some ASEAN nations, like Singapore and the Philippines, English is also the official language of government and education (Deterding & Kirkpatrick,

2006). In Malaysia, the position and role of English is deeply entrenched in the society given the country's colonial experience and English is considered as a 'second language' i.e. second most important language in terms of its official recognition and as a language of educational instruction (Abdul Rafie, 2005; Asmah, 1992, 2003; Awang, 2003; Azlina, Kaur, Aspalila, & Rosna, 2005; Ganguly, 2003; Geok, 2004; Gill, 2005). Asmah (2003) notes that as English is not a native language to any ethnic group in Malaysia, most Malaysians choose to use English for interethnic communication and in most cases resort to the use of Malay only if a participant is unable to converse in English. Although there are various discussions on the role of English in the Malaysian context, the variety of English language that exists in Malaysia is rarely at the centre of these discussions.

Despite the compelling evidence that the role and position of English has changed in many countries, Jenkins (2000a, 2007) argues that English language teaching pedagogy has largely failed to change its methodologies and focus to accommodate the changing roles of English. Jenkins (2000a) adds that the goals of learning English are no longer "as a foreign language in communication with its 'native speakers'...(but) English as a lingua franca in communication with other 'non-native speakers', i.e. as an international language" (p.1). EIL or ELF², according to Jenkins

² Jenkins (2000a) conflates the use of EIL and ELF. Although Jenkins (2000a) acknowledges that her research builds on prior work by Smith (1992, 1983), Smith & Bisazza (1982), Smith and Nelson (1985), and, Smith & Rafiqzad (1979), her initial notion of EIL is different from Smith and his colleagues' interpretation of EIL. Smith and Bisazza (1982) include NSs as well as NNSs as the participants in their research on EIL; whereas for Jenkins (2000a), EIL only refers to communication among NNSs from different countries representing the Expanding Circle. Thus in this study, when referring to Jenkins' work, the term ELF will be used specifically, in order to avoid confusion and to remain true to Jenkins (2000a) arguments on the role and purpose of English as a means of language of communication among NNSs and NSs as no longer determining the norms in ELF communication.

(2002b) is a “*world* language whose speakers communicate mainly with other NNSs, often from different L1s than their own” (p.140). Thus in an ELF setting, in terms of intelligibility, participants need to be intelligible to and understand other NNSs and not NSs, and it is not necessary to approximate an Inner Circle variety (Jenkins, 2000a, 2004a, 2006d). Thus in ELF there is no issue of who ‘owns’ English and whose standard should be used.

The issue of ‘ownership’ of English and standards for its users as discussed by Jenkins (1995, 2000a, 2002a, 2006a, 2006b) in the LFC, is also true for many other Outer Circle countries. As Jenkins (2000a) rightfully notes the purpose of using English in many countries has changed. This is especially true in countries like Malaysia. English is no longer a language merely to converse with NSs; it is flourishing as a language of intranational communication which is used for wider communication in many multilingual settings. Methodologies and syllabus design in English language teaching are largely based on NS norms and standards; although for many learners in most parts of the world (excluding those in the Inner Circle) there will never be a need or even an opportunity to speak to a NS. But these learners are required to acquire NS like competence.

2.2.1 Kachru’s Three Concentric Circles

In this study, Kachru’s three concentric circles framework, i.e. the Inner, Outer and Expanding Circles, is used to discuss the uses and users of English internationally (B. B. Kachru, 1985; B. B. Kachru & Nelson, 1996). The Inner Circle, according to B. B.

Kachru and Nelson (1996, p.78) encompasses “the old variety English-using countries, where English is the first or dominant language”. Inner Circle countries include among others the United States of America, Britain, Australia, Canada and New Zealand³. The Outer Circle refers to countries like India, Nigeria, Pakistan, Singapore, South Africa and Zambia, where English has “institutionalized functions and standing as a language of wide and important roles in education, governance, literary creativity and popular culture” (B. B. Kachru and Nelson, 1996, p.78). In the Expanding Circle countries, on the other hand, English plays various roles but is acquired for more specific purposes than in the Outer Circle. These include learning English for scientific and technical purposes. Some Expanding Circle countries include China, Indonesia, Iran, Japan, Korea and Nepal.

However, B. B. Kachru and Nelson (1996) caution that the status and role of a language, especially in multilingual societies are amenable to changes⁴. Thus a country in the Outer Circle can, through its language policies, move towards the Expanding Circle over the years or vice versa. This has happened, to a certain

³ In this study, the term ‘Standard English’ is used to refer to the variety of English associated with Inner Circle countries, and ‘L2 or indigenized variety of English’ will be used to refer to the variety of English associated with Outer Circle countries. Although, this distinction is rather simplistic as the issue of what is a ‘standard’ is in itself rife with controversies, the use of ‘Standard English’ here is not meant to imply that L2 varieties of English are less ‘standard’. In fact, the main argument of this thesis is to show that L2 varieties of English are sufficient to fulfil the needs of their users, and thus should not be judged as being sub-standard or less developed than ‘Standard English’.

⁴ B. B. Kachru (1992) also distinguishes between L2 varieties and foreign language varieties, where L2 varieties are essentially the “institutionalized varieties” of English, such as in South Asia and West Africa; whereas the foreign language varieties are the “performative varieties”, as in Iran and Japan (p. 52). These two concepts differentiate between the role of English as a second language and English as a foreign language. Performance varieties have a more restricted and specialized function, meanwhile institutionalized varieties, according to B. B. Kachru (1992, p.52), have “ontological status” as these varieties have been in existence for some time in the specific country and the process of nativization of its registers and styles has already taken place.

extent, to the role and status of English in Malaysia. In the 50 years since independence, various policy changes have drastically changed the linguistic scenery in terms of the status and role of English in the Malaysian education system. There is a dissonance among researchers in categorizing English in Malaysia in terms of the Kachru's concentric circles. Bamgbose (1998), Y. Kachru and Nelson (2006), and Jenkins (2007) categorize Malaysia as belonging to the Expanding Circle while others attribute Malaysia as belonging to the Outer Circle (Deterding & Kirkpatrick, 2006; Jenkins, 2000a; Lowenberg, 1993; Rajadurai, 2002). Although this study is based on Jenkins' (1995, 2000a, 2002a) framework of the LFC and ELF interaction, the view adopted in this study is that the English language in Malaysia is an indigenized or L2 variety in the Kachruvian sense. This is based on the observation that English plays an extensive role in the sociocultural context in Malaysia as well as research that demonstrates English as a L2 variety that has evolved with its own grammar and pronunciation (Baskaran, 2004, 2005b; Platt & Weber, 1980; Rajadurai, 2004a, 2004b; Tongue, 1974; Wong, 1983). The issue of the status and role of English in Malaysia is discussed in further detail in Section 2.7. Kirkpatrick, Deterding and Wong (2008) argue that empirical research into the "international intelligibility of non-native varieties" is important in order to highlight that L2 varieties make better classroom models than native varieties.

2.2.2 The Native Speaker (NS) and the Non-Native Speaker (NNS)

This notion of the NS as the target interlocutor and reference point for the L2 user is reflected in most SLA research. Jenkins (2006b) when commenting on the focus of

most SLA research states that "...the main focus for the majority of SLA researchers is, nevertheless, on finding ways of facilitating the acquisition of as near native-like competence as required by the learner, teacher, or 'system', be this by means of tasks, scaffolding, comprehensible input/output, or whatever" (p.139). Currently there is seldom the need of having the NS as the model and reference point for most learners. In many countries, especially in the Outer Circle, English has played an institutionalized role and is widely used for intranational as well as international purposes.

The NS is very seldom the target interlocutor in most interactions in the Outer and Expanding Circle countries. In these countries, especially in the Outer Circle, English is used extensively for communication in both public and private domains. Prodromou (2008, p.29) asserts that one of the fundamental motives of learning English in the traditional SLA models of ESL is wrongly assumed to be "integrative" rather than merely "instrumental"; i.e. English is learnt to communicate with its NSs as opposed to learning English to access resources. The integrative motive for learning English could hold true for some learners in Inner Circle contexts. However, currently this is rarely the case in Outer Circle contexts. Thus persisting in advocating near-native competence for these L2 users and stressing that anything less as being deviant from the norm does not account for the sociolinguistic reality of learners outside Inner Circle countries. It also does not account for the L2 varieties of English that exists in Outer Circle countries.

Lowenberg (1986) in discussing the relationship between SLA and sociolinguistic context observes that “with regard to theories of second-language acquisition, differences between the norms of native-speaker varieties and English as used by non-natives can clearly no longer be interpreted globally as marking stages in the non-native speakers’ acquisition of English” (p.80). L2 varieties of English should be studied independently and not be constantly overshadowed by L1 varieties. However, SLA research and English language teaching pedagogy still postulate the NS as the norm, and L2 varieties are constantly described in terms of L1 varieties. Any differences between the two are often referred to as ‘deviances’ or ‘errors’, pointing to the deficiency of L2 varieties of English (see Ellis, 1994, 1997; Ellis & Barkhuizen, 2005; Gass & Selinker, 2008; Han & Selinker, 2005; Nunan, 1996).

2.3 L2 Phonology and Intelligibility

With the emergence of L2 varieties of English and ELF, and the re-evaluation of the validity and necessity of imposing NS norms on NNSs, an issue that has come to the fore is the notion of intelligibility. Intelligibility is often used to defend Standard English, or as Widdowson refers to it as “a certain brand of English” that is said to ensure “quality of clear communication and standards of intelligibility” (1994, p.379). Some researchers argue that there is a need for Standard English to ensure mutual intelligibility among its speakers across the world (Graddol, 1997; Quirk, 1990). It is argued that the Outer and Expanding Circle countries need to depend on Inner Circle countries for the norms of Standard English to ensure that a common form of ‘English’ is maintained for intelligible intranational and international communication.

These Inner Circle varieties, such as Received Pronunciation (RP) and General American (GA), are also promoted as the norm for the Outer and Expanding Circles as these varieties have been extensively codified and most instructional materials are based on these established varieties.

The flip side of the 'Standard English' argument above is the call to "democratize" English (Jenkins, 2000a). As English is used in different parts of the world, it is argued that English has become a truly international language (Jenkins, 2000a, 2002a, 2006c; Seidlhofer, 2002; Smith & Nelson, 1985; Widdowson, 1994, 1997); and there should be, what Jenkins (2002b, p.25) terms "local norms for local standards". It is the prerogative of the respective countries where English is used to determine their own standards. Widdowson (1994), in response to the argument that English will become diverse and its varieties mutually unintelligible, states that it is logical that English will diversify as it is used by different communities for their own communicative and communal needs. A language evolves according to its use and role in a society as well as the needs of its users. Thus to maintain that the same standards of use and functions of English in Inner Circle countries should be applied in the Outer and Expanding Circles seems to disregard the actual use and users of the language. Norms should be developed from what is intelligible to a specific community as opposed to imposing external norms that may be irrelevant.

2.3.1 Intelligibility and Pronunciation

Intelligibility is central to the argument of the legitimacy of Standard English and L2 varieties of English, i.e. the argument of who ‘owns’ English and which pedagogical model should be used (Y. Kachru & Nelson, 2006). This issue of intelligibility is further compounded when we look at phonological intelligibility. Is it necessary to sound like a NS or is it sufficient to have a “comfortably intelligible pronunciation” (Abercrombie, 1991) and what ensures intelligibility at the level of phonology? If we use the NS-NNS argument, there are now more NNSs than NSs, and most interactions are between NNSs and NNSs, logically this should be reflected in research and pedagogy surrounding pronunciation. This is not the case in most countries as Bamgbose (1998) observes that although L2 varieties of the Outer and Expanding Circles are seen as expressions of local identities, L1 norms are still highly regarded. Levis (2005, p.370) attributes the contradictions in pronunciation pedagogy and research to the influence of two opposing ideologies, i.e. the “nativeness principle” i.e. it is possible and desirable to achieve native-like pronunciation; and the “intelligibility principle” i.e. learners just need to be understandable. However, Levis (2005) notes that most current materials published on pronunciation and used widely in Outer and Expanding Circles still reflect the “nativeness principle”.

Although a L2 user is immediately recognizable by his/her accent, there is a reluctance to adopt the L2 variety as a pedagogical model. The pedagogical goal of native-like accent is in most cases unattainable especially for most adult L2 learners (Han & Selinker, 2005; Jenkins, 2000a; Setter & Jenkins, 2005). If the goal of

communication is intelligibility, thus retaining the local or regional accent is acceptable as research has shown that accent does not have a clear correlation with understanding (Munro & Derwing, 1999). Instead of imposing pedagogical goals that are based on external and unrealistic norms, it is time to look at norms that are local to the context where English exists as a L2 variety. Hung (2002, p.7) makes a practical observation when he states that “our learners will *always* speak English with identifiable local accent” (*italics* in original). Thus why should learners’ pronunciation be ‘modified’ using external, foreign standards? Kirkpatrick et al. (2008, p.360) state that intervention in pronunciation is only necessary when “it interferes with intelligibility”. Norms should be based on the effects of errors on intelligibility in a local context; not based on external norms that may be of no help to the learners.

These are just some of the issues surrounding intelligibility. A study done by Jenkins (1995) shows that pronunciation is the greatest factor that affects intelligibility of L2 learners of English from a variety of L1s when they interact in English. Intelligibility is crucial in defining the communicative needs of learners (Deterding & Kirkpatrick, 2006; Hung, 2002; Jenkins, 1995, 2000a; Kirkpatrick et al., 2008; Levis, 2005). One way of ensuring that some form of intelligibility is preserved or maintained, especially for expedient international and intranational communication is to have a set of minimal core standards which are sensitive to local and international contexts and also allow for identity maintenance of its users. One such attempt is Jenkins’ LFC that is a “revised pronunciation syllabus which targets for production those features of

GA and RP which were found...to be crucial in promoting intelligible pronunciation in ELF interactions” (Jenkins, 2006b, p.76). The LFC will be further discussed in Section 2.9.

2.3.2 Defining and Conceptualizing Intelligibility

In Section 2.3.1 above, I discussed the role of intelligibility in determining standards and norms for pronunciation pedagogy, especially in L2 contexts. Intelligibility is without a doubt an important component of communication. In pronunciation pedagogy, one of the most important goals of pronunciation teaching is intelligibility (Abercrombie, 1991; Celce-Murcia, Brinton, & Goodwin, 1996; Jenkins, 2000a, 2004b). In addition, intelligibility is also seen as being essential in the discussion and understanding of L2 varieties of English, especially in the adoption of models and norms. But B.B. Kachru (1992, p.64) observes that in linguistic and pedagogical literature, intelligibility is the “least researched and least understood” construct, owing to the vast number of variables involved in it. And when intelligibility is used to discuss English, it becomes vague and interpreted in varied ways, due to the complexity of the issues surrounding the English language as well. Hence, intelligibility must be used in a specific sense in terms of specific context of participants and situation (B. B. Kachru & Nelson, 1996; Y. Kachru & Nelson, 2006; Levis, 2005; Rajadurai, 2007). In order to further understand the arguments surrounding intelligibility, it is necessary to unravel the concept of intelligibility itself. The following section discusses some of the components of intelligibility.

In general, intelligibility is used to refer to the extent to which a speaker's intended message is understood by a listener (Brown, 1991; Derwing & Munro, 1997; Kirkpatrick et al., 2008; Munro & Derwing, 1995; Munro, Derwing, & Morton, 2005; Nelson, 1993). A review of the literature though will show that there are various definitions of intelligibility and as a result of this there are numerous ways in which intelligibility has been investigated over the years (see Berns, 2008; Nelson, 2008; Rajadurai, 2007, for a review of past research on intelligibility). For the purpose of this study, I will only discuss two approaches of studying and defining intelligibility which have direct relevance to this study, i.e. the work done on intelligibility by Smith (1983, 1992) and Jenkins' (1995, 2000a, 2002a) earlier work on phonological intelligibility.

Nelson (2008, p.307) in discussing the developments in the study of intelligibility since 1969, attributes Larry Smith's contribution to the field of intelligibility as "a good solid frame on which to hang our investigations and analyses of Englishes as they are spoken". Most other works on intelligibility are somewhat based on Smith's definition of intelligibility (Berns, 2008; Nelson, 2008). Smith and his colleagues, situate intelligibility in an international perspective, in the context of EIL and World Englishes (WE), involving cross-cultural communication (Smith, 1992, 1983; Smith & Bisazza, 1982; Smith & Nelson, 1985; Smith & Rafiqzad, 1979). In order to make research on international intelligibility in EIL more relevant and focused, Smith and Nelson (1985) stress that it is essential to distinguish between three key concepts: *intelligibility*, *comprehensibility* and *interpretability*; and they caution that these terms

should not be used interchangeably. These three components form part of a continuum of complexity of understanding, with *intelligibility* at the lowest level and *interpretability* at the highest.

Intelligibility, according to Smith (1992), refers to distinguishing words and utterances into recognizable units. In keeping with this definition, intelligibility is usually assessed by the ability of listeners to approximate in writing sounds they hear on a tape (Smith & Bisazza, 1982; Smith & Rafiqzad, 1979). In Smith's (1985) analysis, comprehensibility is the next level of understanding. Comprehensibility, according to Smith, refers to assigning meaning to words and this level is important as it enables the assignment of words and phrases to their referents or categories. The highest level of understanding, that Smith discusses, is interpretability which refers to recognizing the purpose and intent of an utterance.

Nelson (2008) suggests that Smith's three-tiered level of describing understanding, in terms of intelligibility, comprehensibility and interpretability, allows for a comprehensive study of linguistic communication. These three components of understanding allow for a focused and holistic study of communication. Smith's work highlights that intelligibility is an interactional process between speaker and hearer (Jenkins, 2000a; Kirkpatrick et al., 2008). Intelligibility, in Smith's research paradigm, is usually studied at the level of sound and involves the ability to distinguish and understand words.

Jenkins (1995; 2000a; 2002a) building on the concept of intelligibility of Smith and Nelson (1985), offers her definition of intelligibility in the context of interlanguage talk (ILT)⁵ in an ELF context. Jenkins (2000a, p.78) defines intelligibility as concerning:

the production and recognition of the formal properties of words and utterances and, in particular, the ability to produce and receive phonological form, but regards the latter as a prerequisite (though not a guarantee) of ILT success at the locutionary and illocutionary level.

Though Jenkins (2000a) employs concepts from speech act theory (e.g. locutionary and illocutionary), but her definition is essentially an extension of Smith and Nelson's (1985) notion of intelligibility. It is important to note that, Jenkins (2000a) acknowledges the adoption of Smith and Nelson's (1985) concept of intelligibility, but she adds that her approach to intelligibility is more in the spirit of Bansal (1990) and Ufomata (1990), i.e. in terms of the purpose and contexts of use of English for both international and intranational contexts. Moreover, Jenkins (2002a, p.79) also highlights about the "negotiation of intelligibility which consists of the establishment and maintenance of the necessary conditions to achieve understanding...(which) in ILT...are probably above all, mutually intelligible pronunciation".

Jenkins' (1995, 2000a, 2002a) approach builds on Smith and Nelson's (1985) seminal work on intelligibility. Some of the components in Jenkins' (2000a, pp.78-9) approach to intelligibility include the role of both the speaker and listener in establishing and maintaining intelligibility, the importance of pronunciation in

⁵ Jenkins (2000a, p.19) uses ILT specifically to refer to "the speech of NBES (*non-bilingual English speakers*) from different L1s as they engage in interaction" and the purpose, rather than the result, of the interaction is ELF.

determining intelligibility, as well as visualizing intelligibility as a construct that is dynamically negotiated between the interlocutors. Jenkins (2000a) argues that for learners involved in ILT, understanding is mostly compromised at the level of intelligibility due to pronunciation problems; however, Smith and Nelson (1985) argue that it is the third level of understanding that is most important, i.e. interpretability. These differences could be due to the fundamental approach taken in assuming the role of English in discourse; i.e. for most of Smith's work, English is seen as being used in an international context and in cross-cultural communication situations that involve NSs and NNSs (i.e. between NS-NNS, or between NNS-NNS). For Jenkins (1995, 2000a, 2002a) English is used as a lingua franca among learners of different first languages, and the involvement of the NS is disregarded, i.e. the NS is no longer an interlocutor or imposes norms on the English language that is used. However, it should be noted that Jenkins' (1995, 2000a, 2002a) participants are all learners of English in an Inner Circle context.

For this study, intelligibility, following Jenkins' (2000a) definition, is taken to represent the recognition of words and utterances as well as the ability to produce the appropriate sounds. Although 'comprehensibility' and 'interpretability' are also important in order to fully comprehend the nature of 'understanding', I adopt Jenkins' (2000a) view that when most L2 and ELF speakers are engaged in receiving and producing sounds, they do not (for most of the time) engage beyond the level of recognizing and deciphering the sound signals (intelligibility level) as they are focused on the form of messages instead of meanings. This differs from Smith and Nelson's (1985, p.335) assertion that "the most serious misunderstandings occur at

the level of comprehensibility and interpretability”, i.e. at the pragmatic level of utterances.

Levis (2005) provides a further insightful dimension of intelligibility where he suggests that judgment of what is intelligible involves linguistic as well as nonlinguistic factors. Nonlinguistic factors here can include the sociolinguistic reality of the speaker/hearer which can manifest through the accent of the speaker (Levis, 2005). Levis (2005, p.375) suggests that even for NNSs, the influence of language identity and language attitudes could be present and influence intelligibility. Accent could be a mark of social belonging. As such investigating intelligibility at the level of phonology, especially between speakers and listeners of different L1s, can provide insights on how accommodation strategies work; i.e. how interlocutors adjust to each others pronunciations. Levis (2005) discusses this issue in relation to findings by Jenkins (2000a) where it is found that same-L1 NNSs pairs make a greater number of pronunciation deviations than different-L1 NNSs. This is what Jenkins (2000a, p.168) terms as “convergence”, an accommodation strategy, where NNSs speak English with more ‘deviant’ pronunciation in order to accommodate to their interlocutors, of the same L1. Thus, here the notion of intelligibility, apart from being part of the concept of ‘understanding’ in communication (Smith and Nelson, 1985), can also be seen as an underlying motivation for speakers to adjust their speech to accommodate their listeners (see Coupland, 1984; Thakerar, Giles, & Cheshire, 1982). Thus intelligibility is a complex construct and should not just be viewed

merely as a psycholinguistic or linguistic manifestation. Intelligibility can offer insights into the social nature of language use and its users.

The discussion above has shown two main approaches in defining intelligibility. Intelligibility is important in investigating the role of ‘understanding’ in maintaining communication. Jenkins’ (2000a) approach to intelligibility is clearly situated in her concern for explaining how learners negotiate intelligibility at the level of pronunciation and the influence of their various L1s on the English that they use in the ensuing negotiations. Smith and Nelson’s (1985) approach to intelligibility, comprehensibility and interpretability has been phenomenal in terms of its contribution to the research of understanding and intelligibility in an EIL context. Section 2.9 will highlight the specific aspects related to intelligibility that are adopted in the framework of this study.

2.3.3 Investigating Intelligibility

Intelligibility is central to effective communication. However, Rajadurai (2007, p.89), in a review of intelligibility studies, highlights that most intelligibility studies are highly inconsistent in terms of the definitions employed, methodology used and the participants that are involved. This severely hinders the generalizability and comparisons of intelligibility studies. In this section, I will briefly highlight some of the methodology used in investigating intelligibility, in terms of the procedures of collecting the data, the role of context in the studies as well as the participants involved in the studies.

Some intelligibility studies rely on using recordings that are later played to participants for evaluation in terms of the intelligibility of the recorded speech. The recordings used vary among others in terms length, time and contextualization (Rajadurai, 2007). For instance, stimulus recordings range from word lists (Deterding, 2006), sentences (Munro & Derwing, 1995), passages (Smith, 1992; Smith & Bisazza, 1982; Smith & Rafiqzad, 1979; Suenobo, Kanzaki, & Yamane, 1992), and interviews (Deterding, 2005; Deterding & Low, 2005; Kirkpatrick et al., 2008). The contextualization for the recordings also differ; for instance in Smith and Bisazza's (1982) study, the passages are read by speakers of different L1s (i.e. readers/speakers are from Hong Kong, India, the Philippines, Japan Taiwan, Thailand and Hawaii) and Dayag's (2007) investigation of the intelligibility of Philippine English is based on spontaneous speeches and reading of passages and word lists by Filipinos. For stimulus recordings, Deterding (2005) uses an interview between a lecturer who is a L1 speaker of English and a student who speaks Estuary English from England; while Kirkpatrick et al. (2008, p.362) uses interviews of "well-educated" speakers of English from Hong Kong.

There are also intelligibility studies that rely on less restrictive elicitation techniques. For instance, Varonis and Gass (1985a) analyse an authentic telephone conversation between a L2 learner of English and a worker in an electronic shop; Deterding and Kirkpatrick (2006) look at group discussions on various topics among L2 speakers from the ASEAN region recorded in a language laboratory; Jenkins (1995, 2000a) examines intelligibility based on interactions that are elicited through various

information gap tasks in a language classroom setting; and Rajadurai (2004b) uses 'naturalistic' data gathered by her participants who record their own daily interactions.

The various ways of eliciting speech for intelligibility usually have different assumptions concerning the contextualization of the research. Rajadurai (2007, p.90) argues that most studies disregard the main tenet of communication i.e. that it is context-specific, and highly influenced by the setting, topic, participants etc. Although Smith's work has been highly appreciated, the manner in which intelligibility is investigated disregards the participants as intelligibility is only studied from the listener's perspective (see Smith, 1992; Smith & Bisazza, 1982; Smith & Rafiqzad, 1979). For instance, Smith (1992) investigates intelligibility from the perspective of the listeners' (NSs and NNSs), i.e. their perceptions of taped conversations of other NSs and NNSs. The listeners are asked to approximate what they hear by completing a cloze procedure. Research of this nature provides insights into the intelligibility of NSs to NNSs or vice versa, but it does not fully represent the "interactional construct between speaker and listener" (Smith 1992, p.76). Research of this nature conceptualizes intelligibility as an one-dimensional construct although it does offer some insights about the processes of cross cultural communication. Two important implications to emerge from these studies are that NSs are not always the most intelligible; and that intelligibility is an interactional process between speaker and listener and not just speaker-or listener-centred (Smith and Nelson, 1985).

Jenkins (2000a) proposes a concept of intelligibility based on Smith and Nelson's (1985) study where Jenkins conceptualizes intelligibility as being a dynamic construct, i.e. constantly negotiated between speakers and listeners. Jenkins (1995, 2000a, 2002a) data comes from interactions among a group of learners of different L1s in a language classroom. The interactions are based on information gap tasks that are part of the learners' classroom practice. In Jenkins' (1995) study, the context of language use is clear; and the participants have opportunities to adjust their speech according to the task and their interlocutors. In this context, English is used as a means of communication with other L2 speakers of English. In Jenkins' (1995, 2000a, 2002a) work, intelligibility is not measured in terms of the accuracy of pronouncing words in a certain manner but is determined by the participants themselves. Intelligibility studied in this way reflects the collaborative nature of communication.

In recent years research on intelligibility has focused on international intelligibility, focusing on L2 speakers from various countries, and many of whom are learners of English (Deterding, 2005; Jenkins, 1995, 2000a, 2002a; Kirkpatrick et al., 2008; Smith, 1992; Smith & Bisazza, 1982; Smith & Rafiqzad, 1979; Suenobo et al., 1992). In addition, there is also an increase in research that looks at intelligibility of L2 speakers from the ASEAN region (Deterding & Kirkpatrick, 2005, 2006; Deterding & Low, 2005; Rajadurai, 2004b). Research done on intelligibility in recent years show that intelligibility needs to be investigated as a dynamic construct; i.e. the interactive nature of talk, and the methodology used to investigate intelligibility should also

reflect the interactive nature of intelligibility. The reality of English language use and its users should also be reflected when investigating intelligibility. English is no longer seen as belonging to a select few, who set the rules and norms for the rest of the users. Intelligible speech cannot be measured based on the monolingual speaker; the reality and needs of English speakers today who are multilinguals and bilinguals, also need to be addressed. Intelligibility is an important construct, and it should be investigated from a realistic perspective; the goals of intelligibility research should be more flexible to account for the different uses of English in the world today.

2.4 Second Language Acquisition (SLA)

With the changing roles of English and the rising number of learners in the Outer and Expanding Circles, the role of mainstream SLA and its suitability in representing the acquisition and learning of English in these contexts is being questioned (Firth & Wagner, 1997; Jenkins, 1995, 2000a, 2002a, 2006b; Y. Kachru, 2005; Y. Kachru & Nelson, 2006; Sridhar & Sridhar, 1986). Mainstream SLA is concerned with the acquisition of any additional language after the learning of the L1 in an environment where “there is considerable access to speakers of the language being learned” (Gass & Selinker, 1994, p.5). This represents the language acquisition, for instance, of Chinese L1 speakers learning English in Canada. Most research in SLA concentrates on the acquisition and learning of English by NNSs in Inner Circle contexts, mostly involving immigrants and students from Outer and Expanding Circles. Findings from research of this nature contribute to the teaching and learning of English as a Second Language (ESL) in Inner Circle environments.

However, Jenkins (2006a) maintains that this view of ESL in Inner Circle contexts is frequently conflated with another use of the term ESL, i.e. the use of ESL in countries where English is an indigenized language and has an institutionalized role, i.e. English in India, Singapore or Malaysia, for instance. This results in the generalization of SLA studies done in Inner Circle contexts to Outer and Expanding Circle countries; where the learning contexts, goals of communication and the purpose of using English are often different from those in Inner Circle countries.

SLA, Jenkins (2006d) argues, is still concerned with NS norms and the ultimate goal for the learner who is the focus of SLA research is usually taken to be as the ability to communicate effectively with NSs. SLA is mostly discussed in reference to L1 acquisition and native-norms. For instance, Ritchie and Bhatia (1996, p.35), in summarizing the scope of SLA state that

...the questions that have dominated much research in L1 acquisition and use constitute a valid, productive basis for the investigation of L2 phenomena as well and that such problems in L1 investigation as the logical and developmental problems in the study of SLA as in the study of L1 acquisition.

In SLA, L2 acquisition is frequently assumed to be similar with L1 acquisition. This 'L1' refers to the acquisition English in an Inner Circle context, a monolingual context in most cases. While there are NNSs who do learn English as a L2 or L3 or additional language for use in Inner Circle contexts; SLA, to some degree, has failed to represent learners in the Outer and Expanding Circles. Learners in the Outer and Expanding Circles have different contexts of learning and their goals for learning English may not be similar to learners in the Inner Circle. For instance, very few

learners of English in the Outer and Expanding Circles will need to interact with NSs in their home countries. Rather, English, in many Outer and Expanding Circle countries, is often used for interaction with other L2 users.

If one of the goals of SLA is expressed as being “the study of why only some learners appear to achieve native-like proficiency in more than one language”, the goal does not represent all contexts and aims of L2 acquisition (Gass & Selinker, 1994, p.1). This is only a partial view of L2 acquisition, mainly of learners in the Inner Circle. As Jenkins (2006d, p.139) reiterates “(b)oth the nativized Englishes of the outer circle and the lingua franca Englishes of the expanding circle are learnt and used in communication contexts where NSs are not the target interlocutors, and therefore where they do not have the right to regard themselves as the reference point against which correctness is judged”⁶. Although most interactions in the Outer and Expanding Circles involve interactions between L2 users, at the moment there is very little research on NNS-NNS interactions in Outer and Expanding Circles that is represented in SLA literature. Firth and Wagner (1997) maintain that even where NNS-NNS interaction or L2 data is the focus of the study, in most SLA studies, the NNS data will be compared with NS baseline data. Thus the NS is always a standard by which the NNS is judged and compared with.

⁶ Berns (2008, p.331) notes that the world English position, proposed by B.B. Kachru (1996), deliberately does not adopt notions of “international and universal language” when discussing the functions of English (as does Jenkins 1995, 2000a, 2002a) in the world as these notions “mask dimensions of the English language today...(and) the notion world Englishes...serves more adequately to take into account the multiplicity of identities, canons, and the voices that represent the relevance and the power of the sociolinguistic context and the extent of bilinguals’ linguistic creativity”.

The basis in SLA of equating L2 acquisition with L1 acquisition does not take into account that most L2 users already know and use other languages. They are not monolinguals like the majority of NSs in Inner Circle contexts. Thus for most L2 users the acquisition of English as L2 or as an additional language should never be compared with the acquisition of a L1. Most L2 users in the Outer and Expanding Circles are bilinguals or multilinguals; unlike the NS in the Inner Circle, for whom English is the usually the only language he/she knows. The learner in the Outer or Expanding Circle is in a different socio-cultural context from the learner in a monolingual setting, thus it is not fair or appropriate to apply and extend research done in a monolingual setting to a bilingual/multilingual setting. These learners are already successful language learners (of other languages) and should not be subjected to a monolingual view of language acquisition. For the purpose of this study, bilingualism is taken to mean the knowledge and use of at least two languages at any given time, even if the fluency and use of the languages vary over time and context (Brisk, 2005). Bilingualism is discussed in Section 3.2.4.

Although much of SLA research does not rely on data from the acquisition of English from Outer and Expanding Circles, SLA's relevance in these contexts cannot be disregarded altogether. As Sridhar and Sridhar (1986, p.12) note that most of the research on L2 English acquisition, "have remained descriptive and atheoretical, rather than based on rigorous and systematic empirical research". Although this statement was made about two decades ago, things have remained more or less the same. Research on L2 English language acquisition in Outer and Expanding Circles

need to be more systematically approached and data more rigorously collected. Sridhar and Sridhar (1986, p.4) suggest that there is a need to re-evaluate critically the applicability of SLA theories to the particular circumstances of language learning in Outer and Expanding Circles rather than uncritically applying and accepting all the assumptions of SLA research carried out in Inner Circle contexts.

SLA has much to offer to the systematic study of L2 varieties of English and its users, in terms of data collection and analysis. However, the current tradition in SLA research does not place much emphasis on the nature of acquisition in multilingual settings, it is still very much focused on the acquisition of a second or third (or any other number) language in a monolingual setting. This is no longer relevant for more than half the world's population. In order to stay relevant to the current situation and the international role of English, SLA has to account for the changing goals and realities of English language learning in multilingual settings.

One way this can be done is by looking at language not only as a mental construct (as is done in current SLA research) but also as a social construct of its users that are of a diverse nature. As Firth and Wagner (1997, p.286) state when they argue for the re-conceptualization of SLA that it should be “a more theoretically and methodically balanced enterprise that endeavors to attend to, explicate, and to explore, in equal measures and, where possible, in integrated ways, both the *social* and *cognitive* dimensions of Second/Foreign Language use and acquisition” (*italics* in original). Most of the L2 acquisition of English occurs in contexts where the learner is a

bilingual and the reasons for learning English are varied. SLA has to account for this and not view L2 learners as the same as monolinguals acquiring another language. The English language in Outer and Expanding Circles is not learnt to merely communicate with NSs, it is also used for international as well as intranational communication with other NNSs, often from diverse backgrounds and L1s.

2.5 Interlanguage (IL)

Y. Kachru (2005) in discussing the relevance of world Englishes to SLA observes that “(t)heoretically, research in SLA could benefit from re-evaluating the usefulness of the concepts of native speaker, linguistic competence, transfer, interlanguage, and fossilization in the context of acquisition of additional languages” (p.162). In relation to this, the following section examines three related concepts that are important in understanding and discussing phonological intelligibility in a L2 English context; i.e. interlanguage (IL), transfer of L1 and fossilization.

IL is “a continuum between the L1 and L2 along which all learners traverse” (Larsen-Freeman & Long, 1991, p.60). IL is also often used to refer to the “linguistic system” of L2 learners at any one time which draws on the learners’ L1 and L2, the L2 in this case English (Ellis, 1997, p.33). A learner’s IL is usually compared with the target language, i.e. in most cases the target is the English of Inner Circle countries, and any differences between this and the learner’s output is usually labelled ‘error’ or ‘deviance’ and attributed largely to ‘transfer’ of L1 (see Major, 2001; Mitchell & Myles, 2004; Selinker, 1972, 1992). When these ‘errors’ do not change

over time and become fixed within the learner's linguistic system, this phenomenon is termed 'fossilization' (Han & Selinker 2005; Selinker 1972, 1992). In SLA, fossilization is often used to explain L2 learners' inability to attain native-like competence. Han and Selinker (2005) stress that the concepts of fossilization and IL are central issues in SLA and "may be the main reason why there is a field of second language acquisition at all" (p.455). Theoretically, if the goal of a L2 learner is to achieve native-like competence and interact solely with NSs then the concept of IL is applicable. However, in view of the changing roles of English and the growing number of L2 English users, IL and fossilization do not correctly represent L2 acquisition in Outer and Expanding Circles.

Jenkins (2002a) argues that IL theory should not be applied to Outer Circle contexts as "Outer Circle English speakers are not attempting to identify with Inner Circle speakers or to produce the norms of an exonormative variety of English grounded in an Inner Circle experience" (p.167). Thus persistently using IL theory and fossilization to explain acquisition of L2 varieties disregards the changing roles and uses of English (outside the Inner Circle) as well as imposes a monolingual and mono-varietal bias in what are naturally bilingual or multilingual societies (Sridhar & Sridhar, 1986).

IL is also grounded in looking at the competence of learners, i.e. their linguistic systems as opposed to the performance of learners. Studying the competence of

learners is a fundamental goal of SLA and this can be observed from the statement by Long (1997, pp.318-19), i.e.:

(t)he goal of research on SLA, qualitative or quantitative, inside or outside the classroom, in the laboratory or on the street, is to understand how changes in that internal mental representation are achieved, why they sometimes appear to cease (so-called “fossilization”), and which learner, linguistic, and social factors (and where relevant, which instructional practices) affect and effect the process.

In SLA, mental processes are of high importance and performance is peripheral, usually treated as being influenced by social factors. Performance of learners which is highly variable is not treated as part of learners’ competence or as part of the developing IL grammar (Tarone, 2005). Furthermore, in SLA, there is a clear dichotomy between what is known and how it is used. The system or the mental grammar is the focus and the performance of the learner, i.e. the actual language use of learners is peripheral. At the heart of SLA, the individual and his/her mental grammar is the focus and the variation that comes with performance is most often treated as individual variation and very rarely as a consequence of the “world around speakers and hearers” which is “a myriad of factors...for example social relations, identities, task, physical setting...” (Firth and Wagner, 1997, p.293).

Mainstream SLA has not been able to fully account for the changing roles and uses of English, especially the acquisition of L2 varieties of English in Outer Circle countries. Because of SLA’s reliance on the NS as the norm, most linguistic and performance differences when compared to the NS in the L2 varieties are labelled as errors and deviations (Firth and Wagner, 1997). Thus most L2 learners are labelled

as defective or failed language learners. The reliance on SLA research influences most pedagogical goals in L2 contexts as these are still based on Inner Circle norms. We impose on our learners unrealistic and unnecessary goals based on NSs.

Another concept related to IL theory that is important to phonological intelligibility is the notion of transfer. Language transfer typically refers to learners applying rules and forms of the L1 onto the L2. This is a vague way of defining transfer as it does not indicate the degree or manner of influence of the transfer process (Odlin, 1989). But a study of the various definitions available in SLA does not help in unraveling language transfer (Gass & Selinker, 2008; Kellerman & Smith, 1986; Odlin, 1989; Sharwood Smith, 1994; Tarone, 1978). This sentiment is reflected by Dechert and Raupach (1998) when they state that “(t)ransfer is a highly ambiguous term. In spite of three decades of intensive research, there is still no generally accepted agreement of what transfer in language is” (p.ix). Whatever the notions surrounding transfer, it plays an important role in L2 acquisition, especially interlanguage phonology (Ioup & Weinberger, 1987). Transfer, in combination with other factors such as developmental processes, stylistic and contextual factors, plays a crucial role in the acquisition of L2 phonology (Ioup & Weinberger, 1987; James, 1996; Jenkins, 1995, 2000a, 2002a, 2004b, 2006b; Leather & James, 1991; Major, 1998, 2001; Tarone, 1988).

Jenkins (2000a), in her study of NNS-NNS interactions, found that L1 transfer (i.e. transfer from the learners’ L1 or mother tongue) is the major cause of

unintelligibility. Interestingly, she also found that her NNS learners are able to vary the amount of L1 transfer according to the L1 of their interlocutors as well as how crucial it is for them to be intelligible to their interlocutors. Transfer of L1 phonology is not just a linguistic dimension, but also involves a social dimension as learners are able to vary L1 transfer according to their interlocutors' L1 and to the context they are in. The study of L1 phonological transfer can help determine which specific L1 features that impede intelligibility. Some L1 transfer may even make NNSs more intelligible to their interlocutors. Transfer may be a crucial factor in determining intelligibility in communication, and not always in a negative way. Thus, transfer of L1 phonology should not be seen only as “interference from the mother tongue” (Swan & Smith, 2001, p.xi). The reasons for using transfer from the L1 may be varied, i.e. it can be due to habit formation (Jenkins, 1995, 2000a; Leather & James, 1996; Major, 2001) which is a direct influence of the L1 or as Jenkins' study and work in CAT show, it can be a strategy to accommodate to their interlocutors (Coupland, 1984; Giles, Coupland, & Coupland, 1991; Jenkins, 1995, 2000a, 2002a). Thus pedagogical aims that advocate replacing all L1 features that are deemed as different from NS targets may not be helpful for learners.

Sridhar and Sridhar (1986) stress that transfer in L2 varieties should be viewed from a bilingual's perspective as transfer in a bilingual/multilingual context is more than just an acquisition strategy. Transfer of L1 features in a L2 variety should no longer be viewed as attributable to “interference” but may act as “effective simplification strategies, modes of acculturation, and as markers of membership in the community

of speakers of a given indigenized variety” (Sridhar & Sridhar, 1986, p.10). Lowenberg (1993), based on a study of forms and functions of language transfer at the level of lexical borrowing, code mixing and code switching in Malaysian English (ME), found that transfer is used as a strategy to acculturate English to the local situation and local norms. Thus in such L2 situations, transfer is not used to approximate to NS norms but rather as a strategy to adapt English to local norms based on the local cultural and socio-political experiences of the specific community.

The use of concepts such as IL, fossilization and transfer that are employed to describe the L2 learner and L2 learning processes exemplify how SLA views L2 learners and L2 varieties of English. Cook (2006) maintains that interlanguage originally refers to an independent grammar that L2 learners possess; but in the SLA tradition, learners’ grammar is often compared with that of NSs. Thus, the L2 varieties are deemed to be deficient when compared to the native varieties as they are invariably different. The three concepts discussed above highlight the practice in SLA that applies NS norms when describing L2 users. What is considered variation in a NS context is considered an error if used by a L2 learner. Despite these shortcomings, these three concepts are important when examining phonological intelligibility; if SLA’s inherent monolingual bias is avoided. As Sridhar and Sridhar (1986, p.12) caution on the goal of SLA, i.e. “(p)aradoxical as it may seem, SLA researchers seem to have neglected the fact that the goal of SLA is bilingualism”. If we keep in mind that most L2 users are bilinguals or multilinguals, we will be able to look at L2 acquisition in a more insightful manner.

2.6 Communication Accommodation Theory (CAT) and Intelligibility

Coupland (1984) states that speakers will attempt to match the linguistic speech patterns of their interlocutors to gain social approval and/or increase communication efficiency. This is an act of “convergence”, which in the CAT paradigm, is defined as a strategy where “individuals adapt to each other’s communicative behaviors in terms of a wide range of linguistic/prosodic/non-vocal features including speech rate, pausal phenomena and utterance length, phonological variants, smiling, gaze and so on” (Giles & Coupland, 1991, p.63). Several empirical studies that have used CAT as a basis have shown that the aims of speech adjustments as a means of accommodating to interlocutors among others include increasing comprehensibility, improving intelligibility, gaining approval of interlocutors, projecting and maintaining a positive social identity (Beebe & Giles, 1984; Coupland, 1984; Giles et al., 1991; Giles & Smith, 1979; Rajadurai, 2004b; Shepard, Giles, & Le Poire, 2001; Shockey, 1984; Thakerar et al., 1982; Zuengler, 1991).

Jenkins (1995, 2000a, 2002a) extends the CAT framework and looks at accommodation as the relationship between L1 transfer (i.e. transfer from the learners’ own L1s) and the L1 of the interlocutor. Jenkins (1995, 2000a, 2002a) found in her study of NNS-NNS interactions in the context of ELF that same-L1 NNS pairs had a greater number of pronunciation ‘deviations’ than did pairs of speakers from different L1s. Drawing on the CAT, Jenkins (2000a) argues that these accommodation patterns with different-L1 and same-L1 interlocutors indicate that

speakers adjust their speech either in the direction of their interlocutors (convergence) or away from them (divergence).

The transfer from L1 is a form of “convergence” in ILT, which Jenkins (2000a, p.64) states, involves “the making of adjustments according to the needs of the receiver, and not merely an attempt at indiscriminate reduction in phonological (transfer) error”. The NNSs in Jenkins’ (1995, 2000a, 2002a) study used phonological variation systematically to improve communication, and sound more intelligible to their interlocutors. Jenkins argues that transfer of L1 phonology by her participants is used as a strategy to converge with interlocutors, where in with interlocutors of different L1s less transfer is used. Intelligibility requirements in the L2 (English) are reduced if both speakers have the same L1, but if both speakers have different L1s the requirements for intelligibility increases as “exposure to one another’s imperfect speech will lead to modifying of the perceptual apparatus” (Jenkins 2000a, p.48).

Although Jenkins (1995, 2000a, 2002a) investigated accommodation patterns of same-L1 and different-L1 speakers in the context of EIL, the notion of accommodation is equally important in contexts where English is used for intranational and intercultural communication. Jenkins’ (1995, 2000a, 2002a) notion of speakers accommodating to their interlocutors by varying their pronunciation in order to increase intelligibility and communication efficiency will be used to analyse accommodation patterns in this study. However, in this study, the focus is on how certain phonological features are varied according to the L1 of the interlocutors. It is

assumed that speakers are conscious that certain phonological features may affect intelligibility in the interactions and they may vary the use of these features in order to ensure communication efficiency (Giles & Coupland, 1991). This corresponds to the notion that intelligibility in L2 pronunciation is “not a monolithic construct, but that it requires constant negotiation and adjustment in relation to speaker-listener factors specific to the particular context of the interaction” (Setter & Jenkins, 2005, p.12). L2 speakers interacting in English adapt and adjust their speech patterns to their interlocutors’ needs and the context they are in, as a way of ensuring communication efficiency. The use and adoption of specific features of CAT in this study is further discussed in Section 2.9.

2.7 The English Language in Malaysia

Post independence language policy instituted in Malaysia saw the initial shift in functional range and importance from English towards Malay, the national language. However, English continued to function as an official language in administration, education, diplomacy and commerce for ten years after Malaysia’s independence. Presently, due to the importance of English, especially for international communication, it has continued to play an important role in Malaysia (Abdul, 2002; Asmah, 1979, 2003; Awang, 2003; Azlina et al., 2005; Baskaran, 2004, 2005b; David & Govindasamy, 2006; Gill, 2002, 2005; Rajadurai, 2004a, 2004b). Most official regional communication with neighbouring countries is carried out in English. For instance, English is the de facto language of communication for ASEAN. Although, English does not play as an important role as Malay, it is still extensively used for intranational communication

among its people of various races. Asmah (2003) notes that as English is not identified with any one ethnic community, English is considered as a neutral language compared to Malay which is identified with the Malay community. And thus, most Malaysians usually use English for intranational communication.

In order to understand the status of English in Malaysia, it is essential to know the history of language planning and policy in Malaysia. The defining point of Malaysian language planning came about with the passing of the Malaysian Education Policy 1961 and the National Language Act 1967. With the passing of these two policies, the Malay language replaced English and came to be the national and sole official language as well as the medium of instruction in mainstream primary, secondary and tertiary education through public policy and strong nationalistic spirit (Asmah, 1992). Before 1970, English was the medium of instruction in most schools. A language-medium conversion process of all public English medium schools was initiated in 1968, and by 1984, Malay had become the sole medium of instruction in all national schools and tertiary education; English, until 2003, was only taught as a compulsory subject in all schools (Solomon, 1988).

English became the “second most important language” in Malaysia and has continued to survive but with less proficient users as well as a marked decrease in formal and informal domains of use (Asmah, 1992, p.24). Asmah (2003, p.99) also notes that the “second language” status denoted to English

really means second in importance in the hierarchy of the Malaysian languages, seen in terms of the official recognition given to the

language, its importance as a language of educational instruction, as well as its position as an important language in the professions.

This status as the second most important language allows for the use of English in meetings, conferences, international events as well as in the private sector (which depends heavily on foreign trade) and print and broadcast media. Baskaran (2004) notes that this liberal policy has allowed for the use of English for international and intranational communication; and at the same time upholds the Malay language as the national language. This policy has also ensured that English is widely used for interpersonal and intranational communication, and the range of English proficiency among Malaysians can range from near-native levels to a *patois* level, which Baskaran equates to as an “uneducated style of speech communication” (2004, p.1036).

Education plays an important part in determining the status of the various languages in Malaysia. There is a dual education system; i.e. national schools where the medium of instruction is Malay, with English taught as a subject, and national-type or vernacular schools where the medium of instruction is either Mandarin or Tamil, and with Malay and English taught as subjects. However, this dual system is only at the primary school level⁷, for the first six years of a child’s education. The minority ethnic groups have been able to maintain their vernaculars but these languages are not accorded any official status in the country. In short, only two languages are accorded full official status in

⁷ However, there are, at present, 14 independent Chinese secondary schools in the country. These schools do not receive any financial assistance from the government and rely on public donations. The medium of instruction in these schools is Mandarin but they use a prescribed syllabus from the Ministry of Education (Yang, 1998).

Malaysia, i.e. Malay and English. Other vernacular languages are used by their respective speakers and have a more restricted role in Malaysia.

For about four decades after independence, there was unwavering support from the government and state agencies to establish and propel Malay as the national and sole official language in government and educational domains. However, in 2003, the government announced rather drastic changes in language policy which saw the re-introduction of English as a medium of instruction in the teaching of science and mathematics, from primary to tertiary levels and in both national and national-type schools⁸ (Azlina et al., 2005; Gill, 2005). Before 2003, the importance of English was downplayed and its role was not officially recognized by the government in order to strengthen the National Language Policy and safeguard the position of the Malay language.

In 2003, the main reason used by the government for this about-turn in language policy was the importance of English for international communication in the era of globalization (Gill, 2005). The impact of globalization and the declining proficiency levels of English among the new generation of Malaysians contributed to the re-introduction of English instruction for science and mathematics. One other underlying reason, noted by the former Prime Minister of Malaysia, Tun Dr. Mahathir

⁸ In the process of writing this thesis, the government announced a change of policy of the teaching of science and mathematics in English. On the 9th of July 2007, the Education Minister announced that the teaching of science of science and mathematics will be changed back to the Malay language. All national schools will use Malay in the teaching of science and mathematics; and vernacular schools will use their respective vernacular languages. The change will be introduced in phases and will be completed by 2012 (Zulkifli, Zabry, & Chong, 2009).

Mohamad, who was responsible for the introduction of this policy, is that English is re-introduced for the benefit of the Malays themselves. He states that the “policy had to be adopted to ensure that the Malays’ command of English would be on par with the non-Malay students from the non national-type schools⁹” (Zaini & Marhaini, 2005).

Looking at the shifts of the role of English in Malaysia in the post independence years, we come to the question of whether Malaysia at the present time, is an Outer or Expanding Circle country, in the Kachruvian sense. Some researchers refer to Malaysia as an English as a Second Language (ESL) or Outer Circle member, presumably based on Malaysia’s colonial past and the existence of English as a medium of instruction prior to 1984 (Deterding & Kirkpatrick, 2006; Jenkins, 2000b; Lowenberg, 1993; Rajadurai, 2002). Some researchers on the other hand, refer to Malaysia as belonging to the Expanding Circle (Bangbose, 1998; Y. Kachru & Nelson, 2006). It is not easy to categorize the position of English in Malaysia, as the range of proficiency and mastery in English among Malaysians is of varying degrees. Thus, Malaysia’s history, as well current socio-political situation, needs to be understood to determine if English is truly the “second most important language” in Malaysia at present (Asmah, 1992). English may be termed as a second language for most Malaysians given its position in the Malaysian education system, however, the ‘English’ that exists in Malaysia is seldom discussed; i.e. what is the ‘English’ taught in schools and spoken by Malaysians. What is

⁹ Translated from Malay, the Malay version reads: “Pendekatan paksaan terpaksa diambil kerana jika tidak penguasaan bahasa Inggeris oleh pelajar Melayu tidak akan sama dengan penguasaan cemerlang bahasa Inggeris oleh penuntut bukan Melayu dari sekolah bukan kebangsaan”.

usually discussed is the role and status of English vis-à-vis Malay; however, there seems to be paucity in researching the English language that is used.

All these issues have serious implications for English language policy and teaching in Malaysia. As B.B. Kachru (1985, pp.13-14) cautions “(t)he outer and expanding circle cannot be viewed as clearly demarcated from each other...What is an ESL region at one time may become an EFL region at another time or vice versa”. This has happened to Malaysia in its push to make Malay the sole national language and medium of instruction in schools. For the past 20 years, English has become an additional language in Malaysia to many of its people. For instance, for the participants of this study, English seems to be an additional language that they learn at school and a language they may or may not speak at home or with friends, as they have other languages to fall back on. However, there are also Malaysians who list English as their first language. The use of English in Malaysia varies depending on the location, social class and ethnicity of the users. Despite all these issues, English is usually the language used for intercultural communication as it does not carry the “sociolinguistic connotations of the indigenous languages” (Y. Kachru & Nelson 2006, p.187). Thus, it is common for Malaysians of various ethnicities to use English in public and private domains.

Currently, the pedagogical aims of English language teaching in Malaysia is based on the standards of the Inner Circle model, that of RP (Rajadurai, 2004a, 2004b). This could be attributed to the legacy of colonialism as well as the deep-seated belief that Standard English is needed to converse with its NSs. However, this does not reflect the

sociolinguistic reality of English use in Malaysia, as most interactions when English is used is between Malaysians, who obviously are L2 users of the language. The NS is no longer the sole target interlocutor. English has always been used intranationally for communication by Malaysians of various ethnicities. As noted above, there is a lack of research that focuses on the formal features of the English¹⁰ used in Malaysia. Kirkpatrick (2006, p.18) when referring to countries which rely on NS models, notes that “(i)t is time, then, for a description of LFE (*Lingua Franca English*) and its speakers’ communicative techniques”. There is a need to look at the formal features of the English language that exists in Malaysia in order to accord its users with rights to the language that they use daily. The English that Malaysians use is uniquely theirs and external standards that are not congruent with the sociocultural environment should not be imposed on the community of ‘English’ speakers and users in Malaysia.

2.9 Miscommunication

Miscommunication is categorized as a type of problematic communication (Ellis, 1994; Gass & Varonis, 1991; Milroy, 1984; Varonis & Gass, 1985a, 1985b). A review of related literature shows that defining the different aspects of ‘problematic communication’ is not a straightforward task. There is very little uniformity among researchers in terms of defining and delineating the different aspects and levels in problematic communication. As Gass and Varonis (1991, p.123) note “there is little consistency between and even within authors concerning such terms

¹⁰ Baskaran (2004, p.1036) refers to the variety of English in Malaysia as “Malaysian English (ME) owes much of its co-existence with other local languages.” Although, ME is noted by researchers (see Baskaran, 2004, 2005a, 2005b; Platt & Weber, 1980; Rajadurai, 2004a, 2004b; Tongue, 1974; Wang, 1987; Wong, 1983), the Malaysian syllabus and curriculum are entirely based on Inner Circle standards (Rajadurai, 2004a).

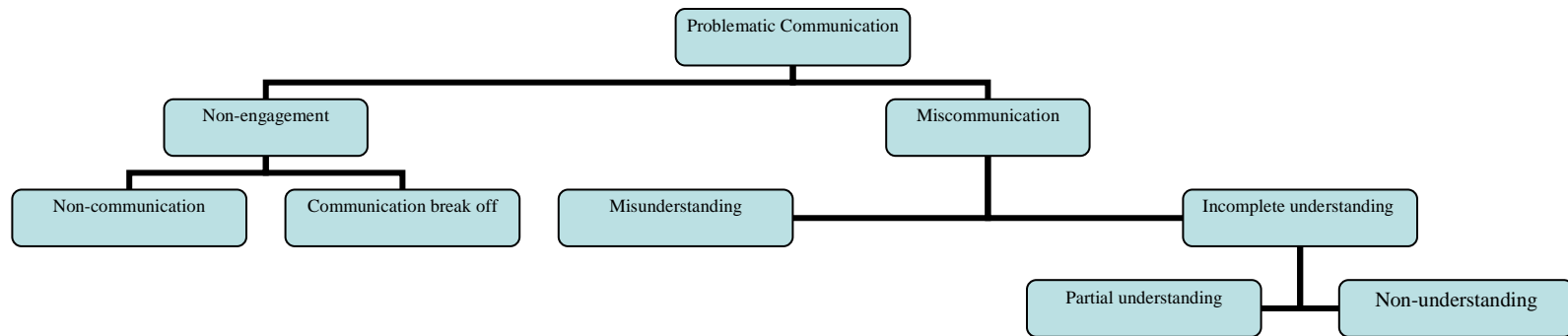
‘miscommunication’, ‘misunderstanding’, and ‘communication breakdown’ as different researchers are using different terms for the same phenomenon, on the one hand, and the same term for different phenomena, on the other”. What for one researcher is considered as ‘miscommunication’ is categorized as ‘misunderstanding’ by another.

An overview of the terms used in relation to problematic communication highlights the inconsistencies and ambiguities that are prevalent in the literature. For instance, Deterding and Kirkpatrick (2006) use the terms “breakdown in communication” and “misunderstandings”; Varonis and Gass (1985a) discuss problems in communication in terms of “misunderstanding” and in a different study discuss it in terms of “misunderstanding”, “no understanding” and “incomplete understanding” (Varonis & Gass 1985b); Milroy (1984) uses “miscommunication”, “misunderstanding” and “breakdown in communication”; Bremer (1996) employs “non-understanding” and “mis-understanding”, and, Gass and Varonis (1991) discuss problematic communication in terms of “non-engagement”, “miscommunication”, “misunderstanding”, “incomplete understandings” as well as “negotiated communication”.

In view of all the different terms available to represent ‘problematic communication’, I have decided to adopt Gass and Varonis’s (1991) taxonomy of problematic communication (shown in Figure 1 below). Therefore, in this study, the more general term ‘miscommunication’ will be used to represent aspects of problematic

communication that occur in the data. Although Gass and Varonis (1991) further categorize ‘miscommunication’ as consisting of “misunderstandings” and “incomplete understanding”, in this study no such distinction is made. The general term ‘miscommunication’ will be used and it will be taken to subsume both ‘misunderstandings’ and ‘incomplete understanding’ (which includes both ‘non-understanding’ or ‘partial understanding’). As the focus of this study is on intelligibility at the phonological level, no distinction is made in terms of the different categorical levels of understanding as done in the research discussed above. All problematic communication is categorized generally as ‘miscommunication’ for the purpose of this study. The framework to detect miscommunications will be discussed in Section 4.2.

Figure 1: Problematic Communication Types



(Source: Gass and Varonis, 1991, p.124)

2.8.1 Miscommunication and Intelligibility

According to Milroy (1984, p.8) “miscommunication” occurs “when there is a mismatch between the speaker’s intention and the hearer’s interpretation”. Thus in order to achieve successful communication it is important for speakers and hearers to be in sync in terms of relaying meaning and interpreting the message. A lapse in this process results in a miscommunication. In this study the specific instances of these ‘mismatches’ or the term adopted in this study, ‘miscommunication’ will be identified using a framework that will be discussed in Section 4.2. The cause of the miscommunications will then be examined in terms of the underlying phonological features that may have contributed to the miscommunication. The basis of using miscommunications to investigate phonological intelligibility is based on Jenkins’ (1995, 2000a, 2002a) work that looks at instances of miscommunications and the underlying pronunciation problems that may have contributed to the miscommunications.

Miscommunications are a central part of communication. To the best of my knowledge, there has been no research in the area of miscommunication in a Malaysian context. The importance as well as neglect of the study of miscommunication is highlighted by Coupland, Wiemann and Giles (1991, pp.2-3), where the authors state that one aim of their compilation of articles on miscommunication is

...to rescue ‘miscommunication’ from its theoretical and empirical exile, and explore its rich explanatory potential in very diverse contexts. Miscommunication may be a matter of transient annoyance, or it can inhibit life-satisfaction, health and healing. On the other hand,

it is easy to overlook what 'miscommunication' may positively contribute to ongoing interaction and social relationships.

Miscommunications fit in well with the study of intelligibility, as every miscommunication requires some form of negotiation in order to be resolved. Examining the underlying problems that cause miscommunications and the subsequent resolution of the miscommunication can provide an avenue to the study of the role of pronunciation in maintaining and impeding intelligibility. However, it should be noted that not all instances of miscommunications are caused by problems at the phonological level. There may be other causes of miscommunication, i.e. linguistic, social, cultural factors or a combination of any of these factors (Bremer, 1996; Deterding & Kirkpatrick, 2006; Ellis, 1994; Gass & Varonis, 1991; Milroy, 1984; Varonis & Gass, 1985a, 1985b). Phonology may only be one of the causes of misunderstandings although Jenkins (1995, 20002, 2002a) found that pronunciation was the most likely cause of miscommunication in interactions of learners of English. It should be noted that Jenkins' study is based on L2 learners of English in an Inner Circle country, although the data was collected over a period of time.

There are some researchers who argue that focusing on miscommunication as being untenable as participants very rarely indicate openly when there is a miscommunication (Bremer, 1996; Deterding & Kirkpatrick, 2005; Rajadurai, 2004b). However, I feel that focusing on miscommunications in interactions allows us to directly investigate the underlying cause of problematic communication. There may not be many overt indications of miscommunications by speakers but subtler

indicators of miscommunications can be found if the data is scrutinized further (Varonis and Gass, 1985b; Bremer, 1996). In addition, a database of recorded data that is fairly extensive allows for repeated and intensive analysis to locate instances of miscommunications. Based on these arguments and findings from the pilot studies of this study (see Sections 3.2.1 and 3.2.2 for a discussion of the two pilot studies), an analytical framework to identify miscommunication based on Varonis and Gass (1985b), and Deterding and Kirkpatrick's (2006) studies are used to identify instances of miscommunication in the data. The framework is discussed in Section 4.2.

2.9 Theoretical Framework

Miles and Huberman (1994, p.20) state that a conceptual or research framework is “simply the researcher’s map of the territory being investigated”. In this study the ‘territory’ that is being investigated can be broadly summarised as: what specific consonant features obstruct intelligibility and how do the participants vary phonological features when there is a miscommunication? See Section 1.2 for the specific research questions. This study is, to a certain degree an extension of Jenkins’ (1995, 2000a, 2002a) work, particularly examining the viability of certain features of the LFC in the Malaysian context (see Section 3.1 for a discussion on the extension of Jenkins’ study and the research design of the present study).

The LFC has shaped the perspectives and approaches adopted in this study, from the conception of the research questions through the data collection process and the analysis, to the interpretation of the data. Apart from the LFC, some notions from the

CAT are also central in this study, especially in analyzing and interpreting phonological variation in the data. However, there are a few modifications that have been made to adapt these two approaches to the present study, to suit the Malaysian context and the specific research objectives of this study. In the following sections, I will briefly highlight the aspects of the LFC and the CAT that have directly influenced the research design and form the basis for the theoretical framework of this study.

2.9.1 The Lingua Franca Core (LFC)

The LFC¹¹ is a “revised pronunciation syllabus which targets for production those features of GA and RP which were found...to be crucial in promoting intelligible pronunciation in ELF interactions” (Jenkins, 2006b, p.76). Based on data from interactions of learners of English of varying L1s, Jenkins’ LFC identifies a set of segmental and non-segmental features that obstruct mutual intelligibility in EIL interactions, when these features are not pronounced in a target-like (NS) manner, and also examines how the NNSs (of the study) accommodated to their interlocutors by varying certain features in their interactions (see Jenkins, 1995, 2000a, 2002a, 2006b, 2006c). The LFC is also groundbreaking in the sense that it re-defines ‘error’ as

no longer based on proximity to NS norms but on the degree to which it affects intelligibility in ELF communication...the core approach thus recognizes the rights of NNSs of the Expanding Circle to their own ‘legitimate’ regional accents rather than

¹¹ This study acknowledges, that although the LFC is groundbreaking in its own right, there also various issues associated with the LFC that that are still contentious and sometimes contradictory to its goals; one of which is the conflating of ELF with the world Englishes paradigm which has resulted in much debate (Berns, 2008; Holliday, 2005; B. B. Kachru, 2005; Prodromou, 2008). Some of the problems associated with the LFC according to Prodromou (2008) include the position of L2 varieties in the ELF perspective and the danger of the LFC becoming a model when essentially it was initiated to reject the imposition of models or norms in the teaching of English.

regarding any deviation from NS pronunciation norms as an error (as is the case in English as a Foreign Language approaches) (Jenkins, 2006c, pp.37-8).

The LFC uses mutual intelligibility as a yardstick to gauge important pronunciation features, and, 'errors' are viewed in terms of how certain pronunciation features affect intelligibility in EIL interactions. The LFC is grounded in empirical data and the data is derived from interactions of learners of varying L1s interacting in an EIL context. Thus, for Jenkins, it is the users of the English language in a specific context and the variety of English that is used and its effect on intelligibility that should be the deciding factors for language teaching goals. Although Jenkins (2000a) indicates that the LFC specifically addresses learners/speakers in the EIL or ELF contexts, some of the underlying orientations and premises of the LFC are relevant to other contexts where English is not a native/L1 or for speakers who use English as one of the languages of wider communication; as in Malaysia.

The LFC's approach of determining the importance of pronunciation features based on their effects on intelligibility in interactions, its methodology that emphasizes the role of context and interactional data, as well as how errors and the users of English are viewed within the approach, makes the LFC an appropriate approach to investigate its principles and methodology in other situations. In the LFC, pronunciation features are assigned to 'core' and 'non-core' categories, where 'core' features need to be pronounced in a manner close to the NS target to ensure intelligibility in an ELF interaction; whereas 'non-core' features are not necessary in ELF contexts and systematic differences from NS target could be considered

legitimate regional L2 English pronunciation features (Jenkins, 2000a, 2002a, 2006b, 2007). The core and non-features of the LFC and the pronunciation features of ‘traditional’ EFL/ESL syllabus are shown in Tables 1 and 2.

Table 1: LFC Core Features: Comparison with EFL/ESL and ELF Pronunciation Targets (Jenkins, 2006b, p.78)

		EFL/ESL target Traditional syllabus	ELF target Lingua Franca Core
1.	The consonantal inventory	<ul style="list-style-type: none"> •all sounds 	<ul style="list-style-type: none"> •all sounds except /θ/, /ð/, /ʌ/
		<ul style="list-style-type: none"> •RP non-rhotic /r/, GA rhotic /r/ •RP intervocalic [t] •GA intervocalic [ɾ] 	<ul style="list-style-type: none"> •rhotic /r/ only •intervocalic [t] only
2.	Phonetic requirements	<ul style="list-style-type: none"> •rarely specified 	<ul style="list-style-type: none"> •aspiration after /p/ /t/ /k/ •appropriate vowel length before fortis / lenis consonants
3.	Consonant clusters	<ul style="list-style-type: none"> •all word positions 	<ul style="list-style-type: none"> •word initially, word medially
4.	Vowel quantity	<ul style="list-style-type: none"> •long-short contrast 	<ul style="list-style-type: none"> •long-short contrast
5.	Tonic (nuclear) stress	<ul style="list-style-type: none"> •important 	<ul style="list-style-type: none"> •critical

Table 2: LFC Non- Core Features: Comparison with EFL/ESL and ELF Pronunciation Targets (Jenkins, 2006b, p.78)

		EFL/ESL target Traditional syllabus	ELF target Lingua Franca Core
1.	Vowel quality	<ul style="list-style-type: none"> •close to RP or GA 	<ul style="list-style-type: none"> •L2 (consistent) regional qualities
2.	Weak forms	<ul style="list-style-type: none"> •essential 	<ul style="list-style-type: none"> •unhelpful to intelligibility
3.	Features of connected speech	<ul style="list-style-type: none"> •all 	<ul style="list-style-type: none"> •inconsequential or unhelpful
4.	Stress-timed rhythm	<ul style="list-style-type: none"> •important 	<ul style="list-style-type: none"> •unnecessary
5.	Word stress	<ul style="list-style-type: none"> •critical 	<ul style="list-style-type: none"> • can reduce flexibility / unteachable
6.	Pitch movement	<ul style="list-style-type: none"> •essential for indicating attitudes and grammar 	<ul style="list-style-type: none"> •unnecessary / unteachable

Below is a discussion of some of the notions from the LFC (Jenkins 1995, 2000a, 2002a) that are instrumental in shaping the design, analysis as well as interpretations of this study. Here, I will also briefly describe how these notions have been adapted to suit the context of this study as well as why these notions have been adopted.

- The idea that some pronunciation features are more important than others in maintaining intelligibility in interactions, which Jenkins (1995, 2000a, 2002a) terms as “core” and “non-core” features. In this study, the focus is on examining some of the core features suggested by Jenkins (1995, 2000a, 2002a) and their effects on intelligibility in elicited interactions. The pronunciation features that will be examined in this study are based on the core features of the LFC and the features include all realizations of consonantal features, aspiration of voiceless plosives and phonotactic structures that include consonant clusters in initial, medial and final position (see Table 1 above). Jenkins also lists some vowels and suprasegmental features as core features of the LFC (see Jenkins 1995, 2000a, 2002a), but these are excluded in this study. In the LFC, vowel length contrast is a core feature. However, in this study vowels are excluded as most research on ME notes that long and short vowels are normally conflated and there is a loss of contrast between long and short vowels (Baskaran, 2004, 2005a, 2005b; Brown, 1988; Zuraidah, 2000). Tonic stress is also excluded from this study, although this is noted as a core feature in the LFC. This is in keeping with focusing only on segmentals in this study. The focus is only on the three areas listed above, i.e. the core areas 1, 2 and 3 listed in Table 1.

- The three core features examined in this study, i.e. consonantal features, aspiration of voiceless plosives in initial positions and consonant clusters will be investigated using seven phonological processes that are directly related to these pronunciation features. These phonological processes are addition of consonants, substitution of consonants, deletion of consonants, presence or absence of aspiration of voiceless plosives in initial position, simplification of onsets, simplification of word medial clusters and simplification of final consonant clusters or codas. All the miscommunications that are located in the data will be examined and categorized according to the seven processes listed above. Jenkins (2000a) found that additions, substitutions and deletions of consonants in her data regularly caused loss of intelligibility. These three phonological processes related to consonantal segments are mostly linked to learners' L1s (Gimson, 2008; Jenkins, 1995, 2000a). Thus in this study, the seven phonological processes mentioned above will be used to examine the data and categorize the miscommunications accordingly.
- The LFC is based on analyses of miscommunications that occur in task based interactions involving learners of English with various L1s (Jenkins, 1995, 2000a, 2002a). The LFC is derived from data of interactions of learners involved in completing information gap tasks in language classrooms. Thus, the contexts of the interactions are clearly defined and the main goal of the learners in these interactions is exchanging information efficiently and

accurately in order to accomplish the tasks successfully. In this study, similarly, the data are elicited from learners involved in completing information gap tasks. Thus the context and the goals of the interactions are clearly defined. Context, in this study, is taken to mean the linguistic as well as extra-linguistic context involved in the interactions, i.e. the English learning environment as well as the use of the language tasks. Instances of miscommunications also form a basis of delineating pronunciation features that obstruct intelligibility in interactions. As Jenkins (1995, 2000a, 2002a) does not specifically highlight the framework in locating miscommunications, a framework for locating instances of miscommunications based on previous research is developed and is discussed in Section 4.2 (see Deterding & Kirkpatrick, 2006; Gass & Varonis, 1985, 1991; Milroy, 1984; Varonis & Gass, 1985a, 1985b).

- In the LFC, the appropriateness of phonological variation is assessed based on its effect on intelligibility. Thus not all phonological variations from the “norm” by learners are regarded as “deviations” or “errors” as these are sometimes referred to in SLA literature (see Ellis, 1994, 1997; Ellis & Barkhuizen, 2005; Gass & Selinker, 2008; Han & Selinker, 2005; Nunan, 1996). Phonological variation, in the LFC, is examined in terms of inter-speaker and intra-speaker variation. Inter-speaker variation refers to “the transfer of features of the particular L1 on to the production (and, of course, the reception) of the target language” and is most noticeable in the

pronunciation of a speaker; and in the LFC is conceptualized as “acceptable L2 inter-speaker variation” i.e. not all transfer of phonological features from the L1 of a speaker will impede intelligibility (Jenkins, 2000a, pp. 27-8). Intra-speaker variation, on the other hand, refers to “the adjusting of both style and level of accuracy...in response to the particular set of circumstances in which an interaction is taking place” (Jenkins, 2000a, p.54). L2 speakers need to be aware of the various ways of adapting to their interlocutors and the context of the interaction. Thus, in the LFC not all variation from the norm is considered an error; variation is examined in terms of its effect on mutual intelligibility of the speakers and hearers of the interaction. This notion of variation in the LFC allows for the flexibility in the adoption of phonological features by L2 users English, i.e. only features that obstruct intelligibility need to be adopted into the existing pronunciation repertoire of the L2 user; and acceptable variation depends on the interlocutor and the context of the interaction.

- The notion of intelligibility is adopted from Jenkins (2000a, p.78), where she defines intelligibility as concerning “the production and recognition of the formal properties of words and utterances and, in particular, the ability to produce and receive phonological form, but regards the latter as a prerequisite (though not a guarantee) of ILT¹² success at the locutionary and illocutionary level”. In addition, in the LFC, intelligibility is viewed as an “act of

¹² Jenkins (2000a) uses ILT (Interlanguage Talk) to refer to the speech of non-bilingual English speakers from the ‘Expanding Circle’ involved in EIL interactions.

negotiation” between both the speaker and listener, and involves accommodation in terms of “making allowances for an interlocutor’s accent” (Jenkins 2000a, p.79). This study adopts Jenkins’ definition of intelligibility, and thus, speech is assumed to be intelligible as long as the speaker’s message (‘production’) is understood by the interlocutor (‘recognition’), and there is no overt display of miscommunication by both the participants. The framework for detecting miscommunications is outlined in Section 4.2. Intelligibility, in this study is viewed as a construct that is negotiated between speakers and listeners where in the process of negotiating intelligibility, participants accommodate to their interlocutors by varying certain phonological features. Although the focus of this research is on phonological intelligibility, it is not always possible to distinguish phonology from other aspects of language like syntax and lexis.

- Another aspect which is the focus of this study is investigating how the participants vary or use pronunciation features as part of their communicative strategies when there is a miscommunication. Jenkins’ LFC does not specifically address the use of communicative strategies. However, Jenkins (2000a, p.210) recommends that EIL learners need to add to their repertoire “accommodation skills” that would allow them to “adjust their pronunciation in response to a specific interlocutor’s receptive needs...and to the ability to adjust their (receptive) expectations in relation to the interlocutor’s own pronunciation”. Communicative strategies that are studied in lingua franca

research (see Firth, 1996; Kirkpatrick, 2007a; Meierkord, 2000; Watterson, 2008) are one avenue to investigate the accommodation skills involved in interactions and allows us to further understand how learners negotiate intelligibility when there is a miscommunication.

- One aspect that has a different focus in this study is the use of the notion of ILT that assumes that there is no shared background knowledge between the participants as they have different L1s (Jenkins 1995, 2000a, 2002a). Jenkins (2000a, p.75) notes that in ILT, “speakers ‘have little in common’ apart from their non-bilingual proficiency in the L2 and the mutual desire to achieve a particular goal in an interaction”. However, the participants in this study share background knowledge (i.e. they are all Malaysians) as well socio-cultural knowledge having been educated in the Malaysian education system. However, the Malaysian education system is unique in the sense that it allows for a choice in the medium of instruction (vernacular language versus national language) at primary and secondary school levels; and at the same time the education system ensures the acquisition of the national language and English for all its citizens. See Sections 2.7 and 3.2.4 for discussions on the medium of instruction in Malaysian schools. Most Malaysians know at least two languages, usually at varying levels of proficiency. Although the position of English in Malaysia is fairly clear and is usually debated vis-à-vis as a threat to the Malay language, very little is usually mentioned as to what constitutes ‘the English language’ in a Malaysian context. The conundrum, then is, investigating how select Malaysians learners, who share a socio-cultural

background, appropriate and use English and how they accommodate each other when there is an intelligibility problem. This allows for the testing of the viability of the LFC to different contexts as called for by Jenkins (2000a, 2006a, 2006b).

This study is an extension of the LFC. Various notions from the LFC have shaped and influenced the research design as well as the underlying spirit of this study. The LFC is groundbreaking in the sense that the learners and/or the users of the language are the focus of the research. The 'norms' for a pronunciation syllabus, according to the LFC, emerges from the users of the English language in a specific context (Jenkins, 2000a). Phonological variation is assessed based on its effects on intelligibility in a particular setting, and not based on comparisons with external norms. One of the strengths of the LFC is the sensitivity it shows to the users of the English language and the context of use of the English language. Some of the notions can be extended beyond the EFL sphere to assess phonological intelligibility in interactions. Hence, the main aim of this study is to examine some of the propositions of the LFC in a context where English plays a wider role as a language of intercultural and intranational communication. This will indirectly allow us to re-assess pedagogical claims and implications of the LFC as well as an avenue to better understand learners and their accommodative strategies in a different context than that of the original study of Jenkins (1995).

2.9.2 Communication Accommodation Theory¹³ (CAT)

The CAT is a social psychological theory and was originally devised to explain the cognitive and affective motivations underlying speech styles in social interactions (Beebe & Giles, 1984; Giles & Coupland, 1991). The CAT was introduced as an extension of the SAT, to include the investigation of non-verbal and discursive dimensions of social interaction (Giles & Coupland, 1991). The SAT/CAT was introduced to overcome the overly descriptive nature of some sociolinguistics methods in understanding and investigating spoken behaviour (Beebe & Giles, 1984; Giles & Smith, 1979; Thakerar et al., 1982).

One of the propositions¹⁴ of the CAT that is relevant to the present study is the assertion that

people will attempt to converge linguistically towards the speech patterns believed to be characteristic of their recipients when they (i) desire their social approval and the perceived costs of so acting are proportionally lower (identity maintenance function) than the rewards anticipated; and/or (ii) desire a high level of communication efficiency (cognitive organization function) (Coupland, 1984, p.49).

Convergence, in the CAT paradigm is defined as a strategy where “individuals adapt to each other’s communicative behaviours in terms of a wide range of linguistic/prosodic/non-vocal features including speech rate, pausal phenomena and utterance length, phonological variants, smiling, gaze and so on” (Giles & Coupland, 1991, p.63). Several empirical studies based on the CAT framework have shown that the aims of speech adjustments among others include increasing comprehensibility,

¹³ An earlier version of the Communication Accommodation Theory (CAT) is known as the Speech Accommodation Theory (SAT).

¹⁴ Thakerar et al. (1982) discusses six basic propositions of the CAT.

improving intelligibility, gaining approval of interlocutors, projecting and maintaining a positive social identity (Beebe & Giles, 1984; Coupland, 1984; Giles et al., 1991; Giles & Smith, 1979; Rajadurai, 2004b; Shepard et al., 2001; Shockey, 1984; Thakerar et al., 1982; Zuengler, 1991).

The notions of ‘convergence’ and ‘increasing comprehensibility for interlocutors’ from the CAT are extended in the LFC where Jenkins (1995, 2000a, 2002a) looks at the relationship between phonological variation and accommodation patterns in the interactions of learners of English of various L1s. Jenkins defines ‘accommodation patterns’ as the convergence of participants on one another’s speech and adopt(ing) more “target-like”¹⁵ forms in their interactions involving interlocutors of different L1s (Jenkins 1995, 2000a, 2002a). Jenkins (1995, 2000a, 2002a) found that her participants made significant efforts in suppressing L1 phonological transfer when interacting in English with speakers from different L1s as compared to speakers sharing the same L1. Jenkins (1995, 2000a, 2002a) attributes this to the participants accommodating to their interlocutors by suppressing transfer of certain phonological features in order to make their speech more comprehensible and intelligible to their interlocutors of different L1s.

In CAT, apart from employing standard variationist methods of “ranking realizations of a single linguistic feature on a scale of standardness-nonstandardness and assigning these realizations (variants) numerical values”, Coupland (1984, p.55) also advocates

¹⁵ Jenkins (2000a) work focuses on talk between learners who have not fully acquired English and as the goal of interaction is communication efficiency, she discusses ‘target-like’ as being the adoption of correct forms of Standard English, i.e. Received Pronunciation (p.180).

for “interpretive procedures” to account for phonological variation in interactions. For instance, Coupland (1984) uses the standard variationist approach of quantifying phonological features as well as an interpretive framework to examine the speech of a travel agent in Cardiff. Coupland (1984) focuses on four phonological variables to show how the travel agent varies the use of the four variables in her own speech to match the features of her interlocutors in an attempt for increasing communicational efficiency. In addition, Coupland (1984, p.65) argues that the travel agent’s linguistic matching to her interlocutors’ speech also can be interpreted as an attempt “to convey via her pronunciation...a persona which is similar to that conveyed by her interlocutors”.

In this study, both the approaches, i.e. quantification as well interpretive framework, of the CAT will be used to examine if and how participants vary specific phonological features to accommodate to their interlocutors. However, in this study, the motivation underlying accommodation is assumed to be communication efficiency as the participants need to exchange information in order to complete the information gap tasks. It is assumed that in order to complete the tasks, the participants will vary certain phonological features that they think may obstruct intelligibility for their hearers. Quantifying the frequency of occurrences of the features will allow for the examination of the patterns of distribution of the features; whereas the interpretive framework will allow us to understand how phonological variation is used to negotiate intelligibility.

2.9.3 Concluding Remarks

The LFC is the cornerstone of this study. This research is essentially an extension of the LFC, and attempts to look at the viability of some of the features of the LFC in a context where English is widely used for intranational communication. However, in this study some of the assumptions of the LFC have been adapted to reflect the status and the role of the English language in Malaysia. The CAT is used to examine accommodation patterns of the participants as the CAT is able to account for speech variation in the direction of enhancing intelligibility, to a certain extent. Both the features of the LFC and the CAT discussed above will inform and direct the interpretation and analysis of the research data in the ensuing chapters.

2.10 Conclusion

This chapter has argued for the re-conceptualization of several key areas that are related to English language teaching and research. As English is no longer seen as belonging to the ‘native speaker’ or the L1 user, the role and status of English in various countries are being questioned and re-defined. As Prodromou (2008, p.x) observes there is an “...increasing sense that the concept of the ‘native speaker’ was not absolute, but relative”. Research in the area of L2 varieties of English and ELF have shown that the NS in most situations is mostly at the periphery, i.e. relative to the NNS and the speech situation; English is no longer used solely for interactions with NSs. In fact, as the arguments above have shown, in a country like Malaysia, English plays a central role as a language of intranational communication as well as a medium of instruction in schools together with other languages, and English is not

solely for use with NSs. In most countries, the role and status of English is constantly changing or has changed due to globalization. But, in most cases, this reality of the changing roles and status of English in a society rarely influences pedagogy and research in English, which still remain loyal to the NS.

The introduction of the LFC can be taken as being instrumental in re-conceptualizing several pertinent areas related to pronunciation research and pedagogy. The LFC posits the user of the language and the concept of intelligibility as being the yardstick of acceptable norms. Intelligibility is central to communication, yet due to its complex nature it has been seen as a one dimensional construct and mostly investigated from the NS's point of view. The fundamental nature of intelligibility as being interactive and negotiated between the speaker and listener is often disregarded. Several other related areas such as SLA and interlanguage are also deeply rooted in investigating language learning from a NS's point of view.

The LFC provides an avenue to investigate English use and its users in a different light. Thus, in this study some of the principles and methods used in the LFC will be applied to investigate pronunciation features that obstruct intelligibility in interactions among a group of learners for whom English plays an important role. The CAT is also insightful, in that it shows that speakers actively modify their speech to enhance intelligibility. Phonological variation in the CAT is not merely seen as a deviation from the norm, but as a strategy to enhance communication. Thus, CAT and LFC complement each other in explaining the interactive nature of speech and

intelligibility, as well as representing the users of the language as actively using language on their own terms. In the LFC and CAT, variation is seen in terms of its effects on intelligibility and as a strategy to accommodate to hearers.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.0 Introduction

This chapter discusses the research design and the methodology background for this study. First, a brief overview of Jenkins' (1995) study is given as it forms the basis for the research design adopted in this study. This will be followed by a discussion on the research methodology that was used in this study, in terms of the two pilot studies, the participants involved in this study, the instruments used to collect the interaction data, and the procedures involved in the data collection. This will be followed by a brief discussion on the transcription process and the limitations of the methodology adopted in this study.

3.1 Background of Research Design

In Chapter Two, it was argued that most past research on intelligibility has focused on investigating intelligibility from the perspective of the listener and the NS. Chapter Two also highlighted that most L2 research has been investigated in a paradigm that situates the supremacy of the NS as the model for 'normal' speech and uses the monolingual speaker as the norm. It was also argued that given the changing roles of the English language, there is a need for frameworks and methodologies that mirror the changing (or changed) roles and functions of English in the world today. There is a need to re-think and re-focus research involving L2 varieties of English and their users. One groundbreaking work that has shifted paradigms in terms of researching

the roles and functions of L2 varieties of English that was highlighted in Chapter Two is the LFC by Jenkins (1995, 2000a, 2002a). Both the framework and the research design and methodology for this study is essentially based on Jenkins' work on the LFC, specifically her study of learners of English of varying L1s (1995, 2000a, 2002a). This section will briefly highlight some aspects of Jenkins' (1995)¹⁶ research design that have influenced some of the approaches of this study.

Jenkins' (1995) study was carried out in two phases. The first phase included a longitudinal classroom based study; and, the second, a replication and extension of the first phase. The data collection for the first phase was incorporated into a classroom that prepared six EFL learners of differing L1s (Japanese, Swiss German, Swiss French) for the Certificate in Advanced English (CAE) oral examination component.

The data for the first phase of Jenkins' (1995) study consisted mainly of interactions of the learners discussing information gap tasks in language classrooms and the interactions were audio recorded, transcribed and then annotated phonetically. The learners interacted in dyads, first with a learner of the same L1 (same L1 dyad or SLD) and then with another learner of a different L1 (different L1 dyad or DLD). For the duration of the study, the learners in the DLDs were each recorded on four separate occasions at fortnightly intervals, each session lasting 25 minutes. Then the learners were rearranged into SLDs and recorded for a fifth time to provide baseline data. There were a total of 14 recordings of all the interactions.

¹⁶ Jenkins' 1995 study is extended in her book (2000a) and article (2002a).

As the first phase closely followed the Cambridge Advanced Examination (CAE) oral examination and was meant as a practice session for the examination, the interactions in Jenkins' (1995) study were modelled on the task-based nature of the examination. The learners were required to interact in four different parts or tasks, which include:

- part A: for this social interaction part learners were required to describe each other if they knew each other well, and to ask questions about each other backgrounds, interests, ambitions etc., if they did not know each other.
- part B: involved two 'information gap tasks' (discussed in Section 3.2.5, below) among which required the participants to draw pictures, identify similarities and differences in pictures or identify the picture described by their partners. Listeners were allowed to ask questions to clarify with the speaker and confirm if they did not understand what was being said. Roles were then reversed so that the listener became the speaker and vice versa.
- part C: consisted of a problem-solving task where the two learners with the help of prompts collaborated and negotiated to reach a consensus whether to agree or disagree on a predetermined topic.
- part D: included a general discussion involving the examiners and the two learners where the topic in Part C was further developed. The data from this

part was not included in the analysis of Jenkins' study as it included interactions of the examiners.

In addition to the interactions, Jenkins (1995) also included a post-interaction listening task in this phase of her study. In the post-interaction listening task, the learners together with the examiner listened to each taped interaction. The learners were then encouraged to self-reflect on their interactions and point out any difficulties or miscommunications they encountered when interacting with their partners.

All the recordings (SLD and DLD interactions) were transcribed, then listened to once more and examined for links between miscommunications and phonological transfer, variation in phonological transfer, phonological environment, and contextual cues, and the effects of time on phonological variation (Jenkins, 1995, p.146). Both the SLD and DLD data were analyzed qualitatively first, followed by a quantitative analysis which used a chi-square test to support the qualitative analysis.

The second phase of Jenkins' (1995) study was a replication and extension of the first phase. In this phase, the learners were not being prepared for the CAE examination. This phase was a cross-sectional study and each learner was recorded only twice – once interacting in a SLD and once in a DLD. This phase focused on the effects of different task types and time on phonological convergence in DLDs and SLDs. Parts A, B and C, described above, were repeated in this phase. Eight learners from various countries (Germany, Italy, Colombia, Japan, Korea, Taiwan, Portugal) enrolled in

English for Academic Purposes and English as a Foreign Language classes were involved in this study.

The second phase interactions were followed by a post interaction questionnaire and informal interviews. The post-interaction listening task carried out in the first phase was not carried out in the second phase. Instead, an informal interview session was added at the end of each task and learners were encouraged to reflect on their performance in the interactions without listening to the taped interactions. The data analysis was similar to the first phase which included the transcription of the interactions which were then annotated phonetically. The data were analyzed first qualitatively followed by chi-square tests on selected variables.

Jenkins' (1995) study has been hailed as a ground-breaking study in terms of how it assesses intelligibility from the users' point of view, the L2 speakers using English as a lingua franca (Prodromou, 2008; Rajadurai, 2007a). One of the notions to emerge from Jenkins' work (1995) is the Lingua Franca Core¹⁷ (LFC). The research design of the present study is an extension of Jenkins (1995) study, particularly the second phase of her study. However some changes were introduced in the research design of this study to suit the different contexts with regard to the English language available to the participants, the reasons for learning and using English in Malaysia as well as the specific aims of this research. As the aim of this study is partly to assess the suitability of the selected features of the LFC introduced by Jenkins (1995, 2000a,

¹⁷ The Lingua Franca Core is expanded in Jenkins' later works (2000a, 2000b, 2002a, 2002b, 2004a, 2004b, 2006a, 2006b, 2007)

2002a) in a Malaysian context, I decided to replicate and extend Jenkins' methodology in terms of the data collection and the analysis.

However, Jenkins' work (1995, 2000a, 2002a) could not be replicated entirely, as some of the circumstances of the present study differed from Jenkins'. This is echoed by Gass and Mackey (2007, p.11) when they note that one difficulty involved in replication studies is that "a second language researcher can replicate the instruments, tasks, and general setting of a study; however, when dealing with linguistic behavior, individual characteristics such as prior linguistic background and knowledge come into play, and these are often extremely difficult to replicate for a variety of reasons". One underlying difference of my study is the assumption of the use of English by the participants in this study. The participants in this study use English regularly for intranational communication and English has an integral part in the Malaysian education system. Jenkins' (1995) participants used English in an international context for completing tasks and most of them were from Expanding Circle countries (see Section 2.2.1, on the different uses and roles of English in Outer and Expanding Circle countries). Thus, the variety of English that is available and learnt by my participants is different from the variety of English available to Jenkins' participants. All my participants share a common code, and this could have an impact on the findings that emerge from this study.

The next section discusses the research design for this study. The aspects in this study which differ from Jenkins' (1995) study will be highlighted and explained.

3.2 Research Methodology: Present Study

This section discusses the different aspects of the research design and methodology in this study. As mentioned above, the research design of this study is a replication and extension of Jenkins' (1995) second phase of her study. Some changes were introduced in the methodology due to constraints in terms of time and accessibility to the participants of this study, as well as the different context of use and status of the English language in Malaysia. These changes will be further elaborated in the sections below.

3.2.1 Elicited Speech Data

Following Jenkins' (1995) study, the spoken data in this study was elicited using information gap tasks. Each participant was required to participate twice for the data collection process, once in a SLD and once in a DLD. All the interactions were audio-taped. As this study is not concerned with the developmental processes of second language acquisition or the effects of time on linguistic structures, it was felt that the elicited spoken data based on structured tasks was sufficient to assess the specific pronunciation features that may affect intelligibility. Gass and Selinker (2008, pp.61-2) note that elicitation techniques are suitable for the collection of "actual speech sample within a specific context" and also allows for collection of language-in-use data.

There are also arguments against the use of elicited data to collect language in use data. For instance, Rajadurai (2004b, p.90) argues that elicited speech data is not

“naturally occurring” data and “produces artificial and inauthentic data, and consequently places severe limitations on the findings of the research”. Admittedly the spoken data in this study is not ‘naturally occurring’ data, but as Cruz-Ferreira (2006, p.43) states “(a)ny collection of data of course involves a set of choices, which constrain the ways of querying the data according to the purposes that the data will serve”. For this study as the focus was on investigating segmental features that affect intelligibility in instances of miscommunications, the data had to be large enough to capture instances of miscommunications. The methodology also had to allow for a certain amount of control over the context of the interactions.

Therefore, data that are elicited through structured language tasks allow for the investigation of language in use where the context of language use is known. Although the data were elicited through structured tasks, the interactions between participants were not scripted. Participants interacted freely, using the tasks as prompts. The tasks used in this study were less structured than those used in experimental studies in terms of the responses that were permissible (Duff, 1993). When completing language tasks, participants focused on completing the tasks, and thus they were not very focused on their linguistic form (Ellis & Barkhuizen, 2005). As learners, they most probably interacted using a linguistic form they normally used in their language classrooms as the tasks were similar to those carried out in their language classrooms. Thus the data here represent the language use of a group of learners in English language classrooms.

Wagner and Gardner (2004, p.2) argue that “naturally occurring data are rich in interactional detail” as opposed to elicited data that “focus on L2 speakers’ lack of competence and often make them look less competent and resourceful”. There is no one research method that can give a complete picture of a linguistic phenomenon and the users of a language. It is the onus of the researcher to treat the data and the participants with respect and fulfil his/her responsibility in reporting the findings based on the research objectives. Undoubtedly naturally occurring data without any intervention are the ideal form of linguistic data for a study of this nature, but due to the constraints of time and availability of the participants, elicited spoken data based on the information gap tasks are suitable for this study and also allow for a larger corpus of spoken data. I also felt that adopting a ‘qualitative’ orientation, where relevant excerpts from the interactions are used to illustrate intelligibility problems allows for the voices of my participants’ to be heard and the issue of intelligibility is dealt in a dynamic manner, as discussed in Section 2.3. Refer to Section 2.3.3 for a discussion of some of the methods that are usually used to investigate intelligibility in the literature.

This research is also designed to take into account the constraints in terms of access to the research site and to the participants. I was given a time period of six months by the Prime Minister’s Department of Malaysia to complete the data collection. Both the pilot studies and the main study had to be completed within this time-frame. As the main study was carried out during the university’s term time, the participants were only available in between classes and during weekends. Scheduling the sessions in

the main study as well as locating the participants proved to be one of the challenges during the data collection phase.

As time with the participants was limited, I decided that each participant would participate twice for the duration of the research. Milroy (1987, p.59) states that research of a cross-sectional nature allows for “synchronic data” which is appropriate for the observation of patterns of variation in linguistic data. Using a longitudinal approach to data collection (as in phase one in Jenkins’ (1995) study), would have provided richer data, but it would not have allowed for the involvement of a larger group of participants and would also require a longer data collection process. The approach adopted in this study allowed for collection of data from more participants and yet at the same time remained faithful to the main aim of this study. This approach also allowed for the completion of the data collection within the six-month time frame.

It should be kept in mind that the spoken data collected in this study are elicited using pre-determined information gap tasks. These tasks will be further discussed in Sections 3.2.5. One limitation of this approach is that the data are determined by the tasks and thus the data should not be equated to naturally occurring speech data. The tasks play a big part in determining the type of data that is collected. Another limitation is that the tasks also elicited responses that are not relevant to the study, as well as some participants were not able to respond to the tasks. For instance, Johnstone (2000, p.13) explains that a “researcher may be asking for a name

(‘Amazon’), for example, and getting a description (‘a big river’)...”. Although, this research is concerned with investigating intelligibility problems and pronunciation features, and not concerned with eliciting and investigating linguistic expressions and responses, this is one shortcoming of the elicitation technique used in this study. The responses may not provide enough data for the analysis, as miscommunications first need to be identified as the basis of examining intelligibility. The information gap tasks are used to collect interactional data. This was why a larger pool of participants were involved in the study, so as to provide a larger corpus of spoken data. I also decided to use more tasks for each session as it would allow for more data to be collected from the participants. The limitations of this study arising from the choices made in the research design and analytical framework are further discussed in Section 3.4.

Two of the information gap tasks were piloted before the actual study as Gass and Selinker (2008, p.62) caution that in cases where specific linguistic structures are being elicited, it is necessary to pilot or test the tasks first to assess the suitability of the tasks to the research objectives. Pilot studies help “to uncover any problems and to address them before the main study is carried out. A pilot study is therefore an important means of assessing the feasibility and usefulness of the data sampling and collection methods and revising them before they are used with the research participants” (Gass & Mackey, 2007, p.3). Two pilot studies (Pilot Study 1 and 2) were carried out to test mainly some of the information gap tasks, the language history interview as well as determine the procedure for the main study. Sections

3.2.2 and 3.2.3 below discusses some of the important findings from the two pilot studies.

3.2.2 Pilot Study I

Before elaborating on the specific components of the main study, I will briefly discuss the two pilot studies that were carried out prior to the main study. These two pilot studies have been crucial to the design of the main study. The two pilot studies were done to assess the procedures, the instruments, sampling design, and the analytical choices of the study. Piloting is essential especially when using the elicitation technique as Gass and Mackey (2007, p.7) caution that "...researchers need to ensure (through piloting) that each elicitation measure yields the kind of data that will be useful in addressing their research questions". The two pilot studies were especially important in testing and re-testing the information gap tasks and finalizing the procedure of the main study. Although the instruments and the procedure were replicated from Jenkins' (1995) work, I felt that as the context and the language background of my participants differed significantly from Jenkins' (1995) study it was important to pilot the instruments and the procedure of the study.

The first pilot study was carried out about six months before the main study. Six participants (i.e. three dyads) were involved in the first pilot study. The main purpose of the pilot was to assess the suitability of the:

- a. chosen English proficiency level of the participants i.e. Malaysian University English Test (MUET) Band 3¹⁸
- b. language background interview
- c. one of the information gap tasks, i.e. the picture sequencing task
- d. the post-listening task
- e. the overall procedure of the study, including the recording setting and the recording device.

As the details of the main study will be discussed in the following sections, I will just discuss some of the salient outcomes of the first pilot study that were incorporated into the main study. These included:

- a. the participants in the pilot study were chosen based on their ethnicity and proficiency level. Only Malay and Chinese L1 speakers were involved in the pilot study. The proficiency level of the participants in the pilot study is the same as the target sample for the main study, i.e. MUET Band 3. One difference (from the main study) that was tested in this pilot study was the sex variable, where one dyad, the Malay L1 dyad consisted of a male and female participant. For this dyad, both the participants indicated after the interaction that they were uncomfortable interacting with each other and felt self-conscious throughout the interaction. This was also evident in the audio taped interaction as there were long pauses and hesitations. In the other two dyads which had same sex participants, the interactions progressed at a more comfortable pace. Thus I decided to only have participants interact with same

¹⁸ The MUET examination is discussed in further in Section 2.7.

sex interlocutors, to control variability that could be caused by the sex of the interlocutors.

- b. the language background information of the participants were gathered through structured interviews. The interview was based on the language history questionnaire adapted from Li, Sepanski and Zhao (2006). The items were read out to the participants, instead of having them complete a questionnaire as done originally by Li et al. (2006). The reading of the questionnaire and participants having to answer the questions was to assess if the participants had any speaking or listening impediments as well as to acclimatize the participants to being audio taped. The reading aloud of the interview was time-consuming as the interview had numerous items. Some items also required the participants to refer to rating scales in the questionnaire. For instance, in item 9, participants were required to list the other languages that they knew and rate their ability in the languages based on the scale provided. See Appendix 8 for the language history questionnaire. It was found that it would be more feasible if the participants answered the questionnaire on their own so that they could reflect on their language experiences. Thus, in the second pilot study, participants had to complete the language history questionnaire in written form.
- c. only one information gap task, i.e. the picture sequencing task was piloted. At the start of the task, each participant was given a handout with three black and

white pictures. These pictures were part of a set of six pictures depicting a narrative about a hat seller and some monkeys. These pictures were taken from Heaton (1966). The procedure of this task is based on Swain and Lapkin's (2000) study. Participants were randomly assigned the role of participant 1 and 2. Participant 1 was given pictures 1, 3 and 5; whereas participant 2 was given pictures 2, 4 and 6. These pictures were numbered sequentially in the handout. The six pictures are the same as shown in Appendix 5 (the same pictures were used in the main study). The participants then took turns describing their pictures in sequence to complete the story. The interaction was audio taped and I remained in the room at a distance to monitor the recording device and to take notes for the post-interaction task. The picture sequencing task appeared to be quite easy for the participants and as a result of this not much negotiation occurred. As the pictures were numbered sequentially, the participants merely took turns describing their pictures, and did not question their partners or seek any clarifications. During the post-interaction task the participants indicated that although they had problems understanding their partners, the task did not require them to understand their partners' picture as they could just describe their own pictures to complete the task. Some participants also indicated that they found the task easy.

- d. the post-listening task was carried out immediately at the end of each interaction session. Here, each participant, together with the researcher

listened to the interaction. The recording was played by connecting the recording device to external speakers. The participants were asked to listen to the interaction carefully and to indicate instances of miscommunications during the interaction. The participants were also asked to indicate the reasons for these breakdowns. Participants were allowed to stop the recording and rewind the recording if they wanted to listen to a particular part again. I noted down the participant's answers and reactions. Once one participant was done, he/she was allowed to leave and the other participant was requested to perform the same task. I found that most of the participants did not indicate any miscommunications in the interactions. I had to stop the recording at points where I thought there were miscommunications and asked the participants to talk about what was happening or what they were thinking at that point. One of the interactions (Pilot 1: Interaction C) was very short and there were no obvious signs of any miscommunications and negotiations. This interaction seemed to progress smoothly. However, during the post interaction task, one of the participants in Interaction C pointed out that he had serious problems understanding his partner. The post-interaction listening task in the first pilot study was ineffective and time-consuming. Based on this, I decided to use a framework to detect miscommunications. The post-interaction task was not carried out in the main study.

- e. before the start of each session, the participants were required to read, understand and sign the NUS-IRB Pilot Study Version 2 consent forms (refer

to Appendix 1). The interactions were conducted at a quiet room where there was the least chance of disturbance. This location was chosen over the language laboratory as the quiet room provided a more natural setting than a language laboratory. Furthermore as each session required at least two hours to complete, it was not possible to carry out all the sessions at the language laboratory which was needed for daily teaching at the faculty. During the information gap task sessions, the participants sat facing each other with a table between them. A partial partition was placed in the middle of the table, so that they were not able to see each other's pictures. The recorder was placed in the middle and the recorder was visible to the participants. A Sony ICD-U60 recorder with a built-in microphone was used to record all the interactions as well as the interviews. A high quality recording mode was chosen for all the recordings. All the sound files were saved as digital voice files (DVF). The recording proved to be clear with very little background noise occurring in the interactions. I remained in the room for all the interactions as the recording device needed to be monitored as well as to take brief notes in preparation for the post-interaction task.

3.2.3 Pilot Study 2

A second pilot to re-test the instruments and the procedure was carried 6 weeks after the first pilot study. Using the feedback from the first pilot study, several major changes were made to the instruments and procedure. Three pairs of participants were involved in the second pilot – two pairs for the same L1 (Malay – Malay) and

one pair for different L1 (Malay – Chinese). Participants to represent the Chinese – Chinese dyad could not be located. All the participants had a MUET Band 3. Before the start of the tasks, all the participants were asked to read and sign the NUS-IRB Pilot Study Version 2 (Appendix 1) consent forms.

Some of the changes introduced in the second pilot study include:

- a. changes to the language history questionnaire, which was read aloud in its entirety in the first pilot study. In the second pilot study, the questionnaire was divided to include a short structured interview and a questionnaire which the participants themselves completed. The shorter interview provided ample opportunity to assess if the participants had any speaking (lisp, cleft-palate) or listening impediments. Both the interview questions and the language history questionnaire were adapted from the language history questionnaire used in the first pilot study which is adapted from Li et al. (2006). Both the participants in each dyad were interviewed separately and audio taped. After the interview, both the participants were asked back to the room and completed the questionnaire pertaining to a more detailed account of their language use and background. Based on the first pilot study (where the whole questionnaire was read out to the participants individually), it was felt that it would be more appropriate for the participants to complete the questionnaire themselves as some items required participants to reflect on their language use. The participants were encouraged to ask for clarifications from the researcher if they encountered any difficulties with the

questionnaire. The questionnaire used in the second pilot study is the same as the one used in the main study. The questionnaire will be described in further detail in Section 3.2.6 and is shown in Appendix 8.

- b. the picture sequencing task was changed to make it more cognitively challenging and complex. In the second pilot study, both the participants were given the same six pictures used in the first pilot study from Heaton (1966). However, this time the pictures were not numbered and not presented in sequential order as in the first pilot study. The pictures were separated into six individual pieces. The participants needed to discuss and agree on the sequence of the six pictures, and then they had to re-tell the story based on the sequence they decided on. The participants were once again seated at a table facing each other with a partial partition in the middle of the table, so that they would not be able to see each other's pictures. The participants were told that their interactions would be audio taped and the researcher would remain in the room at a distance.
- c. The next task involved interaction between the participants based on the map task (shown in Appendix 6). One participant was given the Instruction Giver's map, which showed the intended route and the other participant was given the Instruction Follower's map, which did not have the route. The assignment of the roles as the Instruction Giver and Follower was random. The two maps had several landmarks which were represented by line

drawings. All landmarks were labelled with their intended names. Both the maps were reproduced on A4 paper. Participants were told that the goal of the interaction was to enable the Giver's route to be drawn on the Follower's map, and that the Giver's and Follower's maps might be different in some respects, and that both participants were at liberty to discuss whatever that was necessary to complete the task, but neither could use gestures and they could not look at each other's maps. They were also told that their interaction would be audio taped and that the researcher would remain in the room at a distance.

Both the pilot studies contributed to the final design of the methodology and procedures adopted in the actual study. Although only two out of the four information gap tasks were tested and re-tested in the pilot studies, this was sufficient as the objective was to examine the viability and suitability of using information gap tasks on collecting data to examine intelligibility. Both the pilot studies are similar to the main study. This follows Gass and Mackey's (2007, p.3) argument that "(a) pilot study is generally considered to be a small-scale trial of the proposed procedures, materials, methods, and (sometimes) coding sheets and analytic choices of a research project". The pilot studies helped identify some of the problems that may have occurred in the actual study. For instance, the piloting of the language history interview (Pilot Study 1) showed that the interview was time consuming to conduct and not entirely suitable to elicit language background data. The language history

interview was then re-designed. In the second pilot study, the re-designed language history interview was re-tested and proved to be suitable for use in the main study.

One important note is that the data that was collected in both the pilot studies was not transcribed. The data from the pilot studies was also not combined with the data from the main study. The data from the two pilot studies were used to gauge the suitability of the instruments to elicit interaction data to meet the criteria of the main study. Only the data from the main study was transcribed and analyzed. Milroy and Gordon (2003, p.143) argue that because transcription is a selective process and reflects theoretical goals, it is not necessary during the piloting stage to transcribe any data as at this stage theoretical goals and assumptions are still being formulated. The data from the pilot studies acted as a foundation to design and finalize the methodology and research objectives of the main study.

3.2.4 Participants

3.2.4.1 Sampling and Background of Participants

The participants of the main study are 22 Malaysian undergraduates of Malay and Chinese ethnicity who were registered students in a public university, Universiti Utara Malaysia, at the time of the data collection. The participants of this study represent two major ethnolinguistic groups in Malaysia; i.e. Malay and Chinese L1 speakers. The Indians, who make up another major ethnolinguistic group in the country, were excluded as there was difficulty locating Indian students with a MUET Band 3 enrolled in English language courses in this particular university.

The participants were chosen based on their L1s and level of competence in English. Asmah (1992) notes that in Malaysia, the two languages, Malay and English are common to all communities and the other languages (Chinese languages, Tamil, *Aslian* etc.) are restricted to the respective ethnic communities. Malay is common to all Malaysians as it is the sole national language. Malay was also the only medium of instruction in national schools up to 2003. As discussed in Section 2.7, English was re-introduced at all levels of schooling in 2003 as a medium of instruction to teach science and mathematics. In national-type schools, which use the vernacular languages, Mandarin and Tamil as a medium of instruction, Malay is taught as a subject. English is taught as a subject in all schools starting at primary level. The impact of English at the tertiary level is the greatest as all university students need to take English proficiency courses as a requirement for graduation (Azlina et al., 2005). In addition to this requirement, most science, medical and technology based courses in public universities are taught using English (Gill, 2002). The details of the participants L1 and other demographic data are displayed in Table 3.

Table 3: L1 and Demographic Data of Participants

Participant	Age	Ethnicity	Gender	First Language (L1)
P1 CH	22	Chinese	Female	Mandarin
P2 CH	21	Chinese	Female	Mandarin
P3 CH	22	Chinese	Female	Cantonese
P4 CH	21	Chinese	Female	Hakka
P5 CH	20	Chinese	Female	Mandarin
P6 CH	21	Chinese	Female	Mandarin
P7 CH	22	Chinese	Male	Hokkien
P8 CH	23	Chinese	Male	Cantonese
P9 CH	21	Chinese	Male	Mandarin
P10 CH	NA*	Chinese	Male	NA
P1 ML	23	Malay	Female	Malay
P2 ML	23	Malay	Female	Malay
P3 ML	20	Malay	Female	Malay
P4 ML	20	Malay	Female	Malay
P5 ML	21	Malay	Female	Malay
P6 ML	23	Malay	Female	Malay
P7 ML	21	Malay	Female	Malay
P8 ML	21	Malay	Female	Malay
P9 ML	21	Malay	Male	Malay
P10 ML	22	Malay	Male	Malay, <i>Suluk</i>
P11 ML	21	Malay	Male	Malay
P12 ML	22	Malay	Male	Malay

*NA=Information not available as did not complete the interview

Asmah (2003) states that the L1 for most Malaysians can be determined by their ethnicity. Therefore, in this study Asmah's (2003) rationale is applied and it is assumed that the L1 of the participants is determined by their ethnicity. This is later confirmed using the language history interview and questionnaire where the participants self-reported their respective L1s (see Section 3.2.6). So for instance, the Malay participants have Malay as their L1 and English as their L2. Most Malay students do not learn other languages in schools apart from Arabic for religious purposes and English. In this study none of the Malay participants indicated Arabic as their other language. At tertiary level, some students attend foreign language classes. In the university where the data were collected, all the students have the

option of enrolling for foreign languages such as Japanese, Thai, Arabic, German and Spanish. Only two Malay participants in this study indicated knowledge of or speaking another language. P10ML indicated that he considered Malay and *Suluk* (an indigenous language of East Malaysia) as his L1 and P6ML indicated that she was also proficient in Mandarin, as she had her primary education in a Chinese national-type school.

As shown in Table 3 above, the Chinese participants indicated one of the following as their L1: Mandarin, Hakka, Hokkien, or Cantonese¹⁹, Malay as their L2 and English as L3. The Chinese participants who have undergone primary education (for six years) in national-type Chinese schools would have had instruction of most subjects in Mandarin; and Malay and English have been taught as subjects. As most Chinese households still speak their respective Chinese languages, some may have two or more spoken languages – Mandarin and another Chinese language such as Hokkien, Cantonese, Hakka, Teochew and Hainanese (Baskaran, 2004). In this study, participants self-reported their L1s. Their L1s are based on their own perceptions and experiences, and there was no way to establish their actual L1s. This was a problem for the Chinese L1 participants, as they could have misreported their L1s. The Chinese L1 participants have a larger repertoire of L1s available to them and the assumption made here was simplistic and is undoubtedly a shortcoming of this study.

¹⁹ Mandarin, Hakka, Hokkien, Teochew, and Cantonese are taken to be different languages as they are mutually unintelligible for their speakers. Most Malaysian Chinese know Mandarin and one other Chinese language which is usually the home language. There is also a growing number of Malaysian Chinese who have no knowledge of Mandarin as they attend national schools. In this study, the L1s of the participants were established through self-reports. Some participants may have misreported their L1s or their L1s could have been based on their dominant language.

It was difficult to demarcate which is the L2 or L3 for the participants, but assuming that these Chinese participants have undergone all their schooling with Malay as the medium of instruction (at least at secondary level if they attended Chinese primary schools), I assume that Malay is their L2. As English plays a more limited role than Malay in the Malaysian context, I have taken English to be the Chinese participants' L3. A more detailed discussion about the status of the different languages in Malaysia is given in Section 2.7 (Literature Review).

All the participants in this study have gone through the pre-2003 education system, where English was taught only as a subject and the medium of instruction in primary and secondary schools was either Malay or Mandarin, depending on the type of school the participants attended. Most teachers employed in Malaysian schools are local Malaysians, including teachers who teach English and Mandarin. The majority of teachers are trained in local teacher training colleges and universities and only a small number are trained overseas. Some English teachers are sent overseas to train, especially to the United Kingdom, Australia and New Zealand.

In this particular university, students are required to attend classes in English proficiency depending on their English entrance results, the MUET as well as the undergraduate programmes they are registered in. In 1993, ten years after converting the medium of instruction at all levels of schooling and tertiary education to Malay, the Malaysian government, in a move to keep abreast with global changes, allowed for the use of English as a medium of instruction in science, engineering and medical

courses in universities and colleges (Gill, 2002). Some courses in public universities, especially science and technology courses have been taught in English. However, the majority of the courses in public universities are taught in Malay.

Undergraduates are required to take about eight to sixteen credits of English proficiency modules, depending on their entrance results of the MUET (Malaysian Examinations Council, 2001). A summary of the MUET band descriptor is given in Appendix 2. Although Malay is the sole national language, due to the high dependence of the Malaysian economy on foreign trade and investment, graduates are required to have reasonable proficiency in English. Most graduates seeking employment in the private sector are required to have high competency in English, thus the universities need to ensure that their graduates remain marketable (Gill, 2002). The introduction of MUET was one way of ensuring that undergraduates had some level of competency in English and remain marketable in a globalized world.

All students in local public universities are required to take the MUET examination either before they are admitted into the universities or during the course of their study in the university. MUET is a graduation requirement in all public universities. The MUET requirement for graduation in this particular university, for most of its undergraduate programmes, is a score of Band 3. If students already meet the requirement, they get credit transfers and may take other English proficiency modules. Students who do not meet the required band, Band 3, will need to take

English proficiency modules depending on the scores they get. Most of the instructors in this particular university are local Malaysians.

3.2.4.2 Competency in English

Apart from their L1s, participants of this study were also chosen based on their competency in English. All the participants in this study were chosen based on their MUET results, i.e. all participants were required to have a MUET Band 3. This level of competency was chosen as the participants in this study would need to have a 'reasonable competence' in English. MUET Band 3 was set as the benchmark as the Band 3 descriptor represents a "modest user" of English whose communicative ability is described as being "fairly fluent, usually appropriate but with noticeable inaccuracies" (Malaysian Examinations Council, 2001). The participants in this study needed the ability to interact fairly fluently. Before determining Band 3 as the variable in this study, participants with Band 2 were also recruited. However, as discussed in Section 3.2.3 participants with MUET Band 2 could not interact fluently and had difficulties understanding the tasks compared to participants with MUET Band 3.

One difference in this study from Jenkins' work (1995, 2000a, 2002a) is the approach taken in viewing bilingual competence in English. Jenkins (2000a, p.10) uses the concept non-bilingual English speaker (NBES) to refer to "NBES of less than bilingual competence in English"; as opposed to bilingual English speakers (BES). A NBES may be bilingual in other languages but not English. Jenkins (2000, p.10)

states that being bilingual should no longer imply being “equally competent in two languages” and instead should be taken to mean that “the speaker has attained a specified degree of proficiency in both languages”. However, Jenkins does not expand further on the level of proficiency in the languages to differentiate between a bilingual and a learner of English. Jenkins (2002a) goes on to describe that her participants as being NBES, i.e. bilingual in other languages. In this study, however, it is maintained that participants with ‘reasonable competence’ (i.e. MUET Band 3) in English as being bilingual or multilingual. Furthermore, following Cruz-Ferreira (2006), bilingualism in this study is taken to mean to be synonymous with multilingualism. Being a bilingual or multilingual requires one to know and function in more than one language. Thus, it is assumed here that the use of two or more than two languages does not differ much.

For the purpose of this paper, Brisk’s (2005) notion of bilingualism and multilingualism was adopted, i.e. a person is bilingual when he/she knows and uses at least two languages. This does not imply equal competence in both the languages. For the participants in this study, it was assumed that with their ‘reasonable competence’ in English, that they were bilingual in English and at least one other language, i.e. their L1. The assumption made here was that the Malay participants are bilinguals in Malay and English; and the Chinese participants multilingual in one (or more) of the Chinese languages (see Section 3.2.4.1), Malay and English. The L1 of the participants was based on the participants self-report through the language history interview and questionnaire (see Section 3.2.6). The participants’ competence in the

languages they know and speak may vary; and how and where they use these languages will also vary, but the commonality is that these participants, like most Malaysians, are all bilinguals/multilinguals to a certain degree and they have at least two languages in common, i.e. Malay and English.

This study does not look at someone being a bilingual in Bloomfield's sense, i.e. having 'native-like control of two or more languages' or the minimalist definition where people with minimal competence in a L2 are considered bilinguals (Baker, 1996). According to Baker (1996, p.8) bilinguals will tend to be "dominant in one of the languages in all or some of the language abilities" and this dominance will vary with the context the bilinguals are in and change over time. Baskaran (2004) notes, given the liberal and pragmatic Malaysian language policies, the average Malaysian is "at least bilingual, if not conversant in three or more languages" (p.1036). Among educated Malaysians, English is usually favoured for inter-cultural communication as it is unmarked and does not 'belong' to any ethnic group and English is widely used in public as well as private domains (Asmah, 2003; David & Govindasamy, 2006; Gill, 2002). As mentioned earlier, in this study the participants L1 is determined by the participants themselves. Participants self-reported on their perceived L1s and language abilities of all the languages known to them (Section 3.2.6).

Although the participants are still learning English, they need to constantly use it to function in academia and their daily lives. English plays a vital role in tertiary education and is important for securing good jobs given the emphasis in Malaysia on

internationalization (Gill, 2002). The participants are chosen based on having upper intermediate competency in English. The MUET Band 3 is taken to represent upper intermediate competence in English for this study. The Band 3 descriptor indicates that the learner is a “modest user” who is “able to understand but with some misinterpretation” and able to communicate “fairly fluently, usually appropriate but with noticeable inaccuracies” (Malaysian Examinations Council, 2001). Thus the participants here are assumed to be reasonably fluent in their spoken form of English and would be able to interact reasonably well in the tasks.

To determine the appropriate English language competency level, a comparison was made between the MUET bands, i.e. between Band 2 and 3. In the second pilot study, participants with a MUET Band 2 were recruited to participate. MUET Band 2 speakers’ communicative ability is described as “lacks fluency and appropriacy, inaccurate use of the language resulting in frequent breakdowns in communication” (Malaysian Examinations Council, 2001). In the second pilot study, it was found that the Band 2 participants could not converse fluently in English, often resorted to the using Malay and also had frequent communication breakdowns. In comparison, Band 3 participants in the pilot studies conversed more confidently and fluently.

As the participants are still learners of English, it is assumed that when they interact in English they will be involved in interlanguage talk (ILT). ILT characterizes the speech of non-native speakers of English (NNS) from different L1s as they engage in conversation and differs from NS-NNS interaction as ILT interlocutors spend more

time negotiating and ILT is characterized by the substantial amount of L1 phonological transfer, leading to intelligibility problems (Adamson, 2009; Ellis, 1997; Jenkins, 1995, 2000a, 2002a, 2002b; Selinker, 1972). Jenkins (2000a) also stresses that pronunciation in ILT is especially problematic as it involves miscommunication at both the production and reception level. In terms of production, Jenkins (2000a) argues that learners transfer L1 phonological forms, which may lead to intelligibility problems when they interact with learners from different L1s; at the reception level, meanwhile, learners tend to favour processing information in a bottom-up manner where they rely on the acoustic signal. Thus by focusing on spoken data from 'reasonably competent learners', it is hoped that specific pronunciation features that impede intelligibility can be examined. It is assumed that the participants involved in this study are able to converse fluently but at the same time display some characteristics of learner language, which includes phonological transfer from their respective first languages when conversing in English.

3.2.4.3 Recruiting Participants

As participation in this study was voluntary, various ways were used to recruit the participants. These included sending email notifications to the university's official student email account and making announcements in the relevant classes. Initially, there was difficulty in recruiting participants to join as most were apprehensive to speak in English. There were also problems in arranging the sessions as most students had classes to attend on most days. To overcome this problem, the sessions were carried out in the evenings and weekends. Participants who volunteered were

also screened to fulfil three criteria of the study, i.e. in terms of having no speech and listening problems, ethnicity, and MUET Band 3. Participants were also told that they would have to attend two sessions for the study. Initially about 40 participants volunteered but after being briefed about the requirements of the study if they participated in the study, 16 opted out. Two other participants had to be excluded as they had cleft-palates and their speech was not clear. 22 participants participated in the SLD sessions and of this 22, 18 participated in the DLD sessions. Four opted out after completing the SLD sessions for various reasons.

3.2.4.4 Interactions in Dyads

In the first stage of the main study, the SLD stage, there were five dyads in the Chinese L1 group and six dyads in the Malay L1 group. There were two dyads of male participants in both the Chinese L1 and Malay L1 groups. In the second stage, the DLD interactions, there were nine dyads, of which three were male dyads. The participants interacted with participants of the same sex. This follows Jenkins' (1995) study where participants interacted in same sex dyads. This controls for the sex variable. In the first pilot study, where there were mixed sex dyads, the participants indicated that they felt awkward interacting with participants of a different sex, especially when they did not know each other. The breakdown of the participants according to their L1s and sex is shown in Tables 4 to 6, for both the SLDs and DLDs. The participants are referred to using codes in order to protect their privacy. For example, P1 CH refers to participant 1 of the Chinese L1 group.

Table 4: SLD: Chinese (CH) L1 Interactions

	Dyads/Code	Sex
1.	P1 CH – P2 CH	Female
2.	P3 CH – P4 CH	Female
3.	P5 CH – P6 CH	Female
4.	P7 CH – P8 CH	Male
5.	P9 CH – P10 CH (withdrew)	Male

Table 5: SLD: Malay (ML) L1 Interactions

	Dyads/Code	Sex
1.	P1 ML – P2 ML(withdrew)	Female
2.	P3 ML – P4 ML	Female
3.	P5 ML – P6 ML (withdrew)	Female
4.	P7 ML – P8 ML	Female
5.	P9 ML – P10 ML	Male
6	P11 ML – P12 ML (withdrew)	Male

Table 6: DLD Interactions

	Dyads/Code	Sex
1.	P1 ML – P1 CH	Female
2.	P3 ML – P2 CH	Female
3.	P5 ML – P5 CH	Female
4.	P4 ML – P6 CH	Female
5.	P7 ML – P3 CH	Female
6.	P8 ML – P4 CH	Female
7.	P11 ML – P7 CH	Male
8.	P9 ML – P9 CH	Male
9.	P10 ML – P8 CH	Male

3.2.5 Instrument: Information Gap Tasks

In the main study, four information gap tasks were used. The use of the information gap tasks was based on Jenkins' (1995) study; i.e. Part B of her study (see Section 3.1

above). These tasks were used to elicit spoken data. In studies done by various researchers “two-way information gap tasks” have been found to promote optimum modifications and negotiations in conversations (see Doughty & Pica, 1986; Long, 1981; Mackey & Gass, 2005; Pica & Doughty, 1985; Pica, Kanagy, & Falodun, 1993; Varonis & Gass, 1985b). According to Doughty and Pica (1986, p.307) two-way information gap tasks require the “exchange of information among all participants, each of whom possesses some piece of information not known to, but needed by, all other participants to solve the problem”. In a two-way information task, both the participants are in possession of part of the information; thus they need to request and supply information in order to get more information from their partners. Participants need to interact actively in supplying and requesting information. As a result of playing the role of information requester-supplier, both participants will need to negotiate to complete the task successfully. Moreover in a two-way information gap task the goal is convergent, i.e. there is only one answer at the end of the task and this requires the active involvement of both participants (Platt & Brooks, 2002).

Participants need to discuss with each other in order to get the necessary information required to complete the task successfully. As participants need to interact and negotiate actively in completing the tasks, the use of two-way information gap tasks can be used to gather interactional data. This then, allows us to examine how participants respond to their partners when there is a miscommunication. The rationale for using information gap tasks is based on work done by Doughty and Pica (1986), and Pica and Doughty (1985), who found that the use of two-way information

gap tasks, which are widely used in language classrooms allow for the eliciting of spoken data that is somewhat natural and interaction-based. Ellis and Barkhuizen (2005, p.36) state that “information gap tasks are ideal for examining the conversational strategies that learners and their interlocutors employ”. The information gap tasks provide an avenue for participants to interact and negotiate with each other.

In developing the two-way information gap tasks, the main guidelines from Pica, Kang and Sauro (2006) were followed, i.e. the tasks focused on the need to create conditions for modified interaction and attention, and there could only be one outcome at the end of the task. Using these guidelines from Pica et al. (2006), four sets of two-way information gap tasks were designed for use in this study. These tasks have been adapted from previous SLA studies to suit the context and objectives of this study. Some of the studies in SLA that have used information gap tasks include studies by Avery, Ehrlich and Yorio (1985), Doughty and Pica (1986, 1993), Hawkins (1985), Loschky and Bley-Vroman (1993), Mackey, Kanganas and Oliver (2007), Pica et al. (2006), Platt and Brooks (2002), Swain and Lapkin (2000). However, none of these studies have used information gap tasks to investigate the relationship between miscommunication and phonological intelligibility. As far as I know, only Jenkins’ (1995) study has used information gap tasks to gather spoken data to study phonological intelligibility. The four information gap tasks used in this study will be discussed in detail in the following sections.

3.2.5.1 Similar-Different Task

The similar-different task was adapted from a communicative classroom-based task by Klippel (1983). The similar-different task is shown in Appendix 3. This task was carried out with the SLD participants. For each dyad, both the participants received handouts with 12 small drawings, some of which were the same in both handouts and some different. Both participants took turns describing their drawings; the listener had to decide whether his/her drawings were similar or different, and mark the drawing S (for same) and D (for different) on his/her handout. Participants were advised to describe the drawings in detail as the differences were very minute. They were encouraged to ask each other questions or clarifications if they did not understand what was being said. The participants were also told they should only talk to their partners to describe their drawings and not to look at their partner's handout. This task required participants to first understand the information that they had (the drawings) and then to describe (i.e. transfer) the information to their partner. Secondly, participants needed to interact actively in order to find the solution. This encouraged information exchange between listener and speaker and entailed the use of negotiated communication (Long, 1981). This similar-different task was set as the first task of the study as it is rated at an intermediate level (Klippel, 1983); and was meant to ease the participants into the idea of conversing in English as well as to introduce them to information gap tasks. Most participants indicated at the start of the data collection sessions that it was awkward for them to converse in English. This task, although seemingly straightforward and easy, proved to be quite challenging for some of the participants.

3.2.5.2 Jigsaw Box Task

The next task in the SLDs was the jigsaw box task which is shown in Appendix 4. This task was adapted from Avery et al. (1985) and, Platt and Brooks (2002). This is a more cognitively challenging task than the similar different task. Both participants were given a handout each with a grid-box which is divided into 16 smaller squares in which pictures/objects have been drawn. Both the handouts (which differed from each other) held missing information to complete the 16 squares.

Participants had to complete the grid-box with the missing information provided by their partners. They then had to fill in the grid-box with the information; i.e. draw the object or write the word. Some squares were intentionally left empty in both the handouts; some squares needed information from both participants in order to complete a grid and some squares only needed information from one participant. Participants were advised to give clear descriptions of the information they had, so that their partner could complete his/her respective grid-box. The goal of the task required both of the participants to have similar pictures/objects in the 16 squares. Participants were not allowed to look at each other's handouts during the task and they were also advised to ask for clarifications from their partners throughout the task.

3.2.5.3 Picture Sequencing Task

The first task in the DLD interaction was based on the picture sequencing task. The picture sequencing task consisted of a set of six black and white pictures depicting a

narrative about a hat seller and five monkeys (see Appendix 5). These pictures were taken from Heaton (1966). During the first pilot study, the picture sequencing task was carried out based on the procedure done by Swain and Lapkin (2000) in their study with French immersion students in Canada that looked at the role of the L1 in the acquisition of the L2. When I first piloted this study, one participant held pictures 1, 3 and 5; and the other held pictures 2, 4 and 6. The participants took turns to narrate a story based on the sequence of pictures they held. Once they finished the narration, they were required to re-tell the story. Based on the feedback from the participants in the first pilot study, the procedure of the task was altered to make it challenging. The new procedure was then tested in the second pilot. The procedure used in the main study is based on the second pilot study.

In the main study, each participant in the dyad received the six pictures which were not numbered and were not presented in any order. The pictures were cut into six individual pieces. Participants were then asked to decide together on the sequence of the pictures so that the pictures would represent a story. Participants were not allowed to look at each other's pictures during this task. The participants were seated at a table facing each other but with a partial partition in the middle of the table, so that they would not be able to see each other's pictures. Both had to agree on the sequence, and once they reached an agreement on the sequence of the pictures, they took turns to tell a story based on the order they had decided. The participants were free to structure how they re-told the story. Most of the participants took turns in re-telling the story.

3.2.5.4 Map Task

The last task in the DLD interactions involved interaction between the participants based on a map task. The Map Task consisted of the Instruction Giver and Instruction Follower's maps. Both the maps are shown in Appendix 6. The map task was adapted from various studies by Anderson et al. (1991), Anderson, Clark and Mullin (1994), Anderson, Garrod, Clark, Boyle and Mullin (1992), and, Lindemann (2002). Map tasks allow for the elicitation of unscripted spoken data based on materials that can be manipulated to suit the objectives of a particular research, i.e. the names of the landmarks can be designed to be of phonological interest (Anderson et al., 1991). For instance in this study, the contrastive features of /k/ and /g/ could be elicited through landmarks such as 'crane lake' and 'green lake' that were placed on the maps.

Map tasks also have inherent qualities of two-way information gap tasks as participants need to negotiate with each other to complete the map task and there is one convergent goal. However, there is one notable difference between the map task and the three other tasks used in this study, i.e. the map task is more structured in terms of the type of data that is elicited as the names of the landmarks are written in both maps. Accordingly during the interactions, when participants discuss the landmarks, the pronunciations of the landmarks are directly elicited allowing for a "specific, pre-determined linguistic feature in learners' production" (Ellis & Barkhuizen, 2005, p.37). The realizations of the landmarks in this task were specifically created to elicit specific pre-determined phonological features, i.e.

consonantal features. For instance, using the landmark ‘sheep’ to elicit the use or the non-use of /ʃ/. Although the prompts are given the actual realization of a pronunciation feature depends on the speakers. Some speakers chose to ignore certain landmarks in their interactions. Thus the prompts or landmarks may be given, but the speakers and the turn of events in the individual interactions that determine the realization of the landmarks.

One participant was given the Instruction Giver’s map, which showed the intended route and the other participant was given the Instruction Follower’s map, which did not have the route. The goal of the interaction was for the Follower to draw on his/her map the route that appears on the Instruction Giver’s map. The landmarks on the map were manipulated to introduce additional differences between the maps. For instance, there were landmarks on the Follower’s map not found on the Giver’s (e.g. *desert* and *monument*); landmarks that had different names but identical forms and locations on the two maps (e.g. *marina* and *church* in the Instruction Giver’s map; and *moored boats* and *St. James* in the Follower’s map); landmarks that appeared twice on the Giver’s map, once in a position close to the route and once far away (e.g. *plastic factory*) but the Follower’s map had only one *plastic factory* landmark far away from the route; a landmark which is alien or odd to the stereotypical locations to which all the other landmarks might easily belong (e.g. *desert*); and contrastive feature landmarks where both contrastive features appear in the Giver’s map (*crane lake /k/* and *green lake /g/*) but only one occurs in the Follower’s (*crane lake /k/*).

3.2.5.5 Social Interaction Task

At the beginning of each session, participants were asked to interact with each other by asking and answering some personal questions. This task acted as an ice-breaker as most of the participants did not know each other. Some of the questions that the participants asked each other included names, where they were from, where they stayed on campus, the courses that they were enrolled in, their hobbies as well as some general topics about the university. All these questions were initiated by the participants themselves. At the beginning of the task, I gave the participants general instructions of how to introduce themselves to their partners. The participants were reminded to speak only in English, as much as possible.

3.2.6 Instrument: Language Background Interview and Questionnaire

The language background interview and questionnaire were used to gather participants' demographic data as well as their language background and language usage patterns. The interview questions and the questionnaire were adapted from the language history questionnaire by Li et al. (2006). The questionnaire by Li et al. (2006) is a generic questionnaire that has been synthesised from various published questionnaires in bilingualism and SLA research and is available online at <http://cogsci.richmond.edu/LHQ.php>. This language history questionnaire is suitable for the present study as it could be used to assess the sociolinguistic background of the participants in terms of the participants' language history, language choice, language dominance and language attitudes (Nortier, 2008).

In this study, the language background interview and questionnaire were used to gather details about the participants' language background and usage. The details of the participants' language background and usage will help in understanding the roles of the different languages in the participants' lives. This echoes Marian's (2008, p.19) suggestion that as there is a lack of uniformity in describing bilingual groups in the literature, it is best when reporting findings in bilingual research "to include any language history variables that describe the group under study". Merely glossing over the number of languages spoken or known to a participant is usually not sufficient in getting a proper understanding of the participants' language background, especially in a multilingual context where language use may be complex.

The original language history questionnaire by Li et al. (2006) was adapted to suit the objectives and the context of the study, i.e. English language use in Malaysia. Some items from the original questionnaire have been excluded as they were not suitable for the present study. Items that were excluded include items about perceived (self) accent, second language (as all the participants in this study speak at least two languages), the country of residence and country of origin. Some items were added to the questionnaire such as on the type of school attended and MUET Band.

For this study, part of the language history questionnaire was adapted into an interview and part of it into a questionnaire. The interview focused on the qualitative aspects of the participants background, which included demographic items (age, sex etc.) as well as age of L2 learning, how the L2 was learnt, ability in each language

(known to the participants) in terms of the four skills – reading, writing, speaking and listening, as well as the age and length of learning each language in the four skills.

The questions for the structured interview are shown in Appendix 7. The structured interview was conducted with each participant before the start of the interaction tasks. All the interviews were audio-taped. In addition to gather language background data, these short interviews were also used to assess if the participants had any speaking (lispings, cleft-palate etc.) or listening impediments, as well as to acclimatise the participants to being audio-taped. These interviews were not considered part of the spoken data and were not analysed for the study. The interviews have been archived in the data base.

After the interview, participants completed the questionnaire pertaining to a more detailed account of their language use and background. As a result of the first pilot study (where the whole questionnaire was read out to the participants individually), it was decided that it would be more appropriate for the participants to complete the questionnaire themselves as most items required participants to reflect on their language use. The participants were encouraged to ask for clarifications from the researcher if they encountered any difficulties. The language history questionnaire is shown in Appendix 8.

The questionnaire included more specific items related to language usage and language preferences. There were 19 items covering two major categories. The first

category (items A1- A4) consisted of items related to the language background and language history. The second category (items B1 – B15) comprised items on the language environment and language usage at home and in school (items B1 – B5); the specific use of the different languages or language choice (B6 – B9); and language dominance and language preference in different linguistic and social settings (items B10 – B15). Nortier (2008, pp.38-9) in discussing the relevance of eliciting the four categories of sociolinguistic behaviour, i.e. language history, language choice, language dominance and language attitudes, notes that these categories allow for the investigation of the proficiency of bilinguals in both the languages. In the questionnaire for this study, it is hoped that the three categories (i.e. language background/history, language choice, and language dominance) will help in identifying the proficiency and ability of the participants in the languages that are known to them. The breakdown of the items used in the language history questionnaire is shown in Figure 2 below.

Figure 2: Breakdown of Items in Language History Questionnaire

Item No.	Description	Category
A1	Name	Language background (other language apart from English and L1)
A2	Other language	
A3	Rate other language in terms of four skills	
A4	Age of learning other language	
B1	Language spoken with mother	Part B: Language environment and language usage at home and in school
B2	Language spoken with father	
B3	Parents' language background	
B4	Parents' language background	
B5	Language in school	
B6	Language use in daily activities	Part B: Language use of the different languages
B7	Language for watching television and radio	
B8	Language for reading	
B9	Language for study and work related activities	
B10	Language for specific bilingual habits	Part B: Language dominance and preference in different linguistic and social settings
B11	Language mixing	
B12	Language mixing and language preference	
B13	Language preference	
B14	Language preference	
B15	Open ended question on language background or use	

3.2.7 Instrument: Post-Interaction Questionnaire

The post-interaction questionnaire is adapted from Jenkins' (1995) study. Participants completed the semi-structured questionnaire after the DLD interaction sessions. Only participants who participated in both the SLD and DLD interactions were required to complete this questionnaire. The questionnaire consisted of 16 items and included items that specifically elicited participants' views on their perception of the pronunciation of speakers of Malaysian English as well as their interactions in the two sessions (SLD and DLD). Two items were related to the participants' perception on the spoken form of Malaysian English (items 1 and 2); one item on the participants' ability in English compared with other speakers (item 3); twelve items directly related to the interactions in the SLDs and DLDs (items 4 – 15); and one qualitative item that

required participants to explain why they found it difficult to understand other Malaysians speaking in English (item 16). All but one item (item 16) required the participants to choose from a set of pre-determined statements. The main purpose of the questionnaire was to examine the participants' experiences and thoughts during the SLD and DLD interactions; as well as to elicit the participants' general predisposition as to how they viewed their ability in English and how they viewed other speakers of English in Malaysia. The questionnaire is shown in Appendix 9.

3.2.8 Procedure

The data collection for the main study was conducted between July to August 2007. The data collection was carried out in two phases; the first phase involved all the interactions in the SLDs, i.e. the Chinese L1 and Malay L1 dyads. Once the SLD phase was over, all the participants were contacted to arrange for the DLD interaction sessions. For both the phases, participants were paired randomly based on their availability and sex (i.e. to maintain same-sex dyads).

At the start of each session of the SLD phase, I briefed both the participants on the objectives and procedures of the study. I read out and explained the NUS-IRB Ref. Code 07-704 PIS Main Study Version 2 consent form to the participants. Once the participants indicated that they understood what the study entailed and agreed to participate in the study, they were required to sign the consent forms. The consent form is shown in Appendix 10. This was followed by a brief interview with each

participant to gather basic demographic data. The other participant was asked to leave the room to give privacy to the participant being interviewed.

After the interviews, both the participants were required to complete the language history questionnaire adapted from Li et al. (2006). The questionnaire is shown in Appendix 8. This was followed by the information gap tasks central to the study. Each dyad in the SLD phase participated in a social interaction task and two information gap tasks, i.e. the similar-different task and jigsaw box tasks (Appendices 3 and 4 respectively). For the DLD phase, each session consisted of three communication tasks, i.e. social interaction task followed by the information gap tasks that included the picture sequencing and map tasks. The instruments used in the picture sequencing and map tasks are shown in Appendices 5 and 6 respectively. This was followed by the post interaction questionnaire and an informal chat if the participants were free. The informal chat session was included as some of the participants wanted to discuss their interactions further with the researcher as well as with their partners. Some participants who were free after the sessions initiated the discussions as they wanted to learn from the sessions in the hopes of improving their English. The participants also indicated that they enjoyed the sessions after overcoming their initial shyness with their partners. The chat session was kept optional as not all the participants could participate and the chats were usually initiated by the participants themselves. A summary of the procedures of all the tasks carried out in the SLD and DLD phases are shown in Tables 7 and 8.

Table 7: List of Procedures in SLD Phase

No.	Task
Task 1	Consent Form
Task 2	Language History Interview
Task 3	Language History Questionnaire
Task 4	Social Interaction
Task 5	Similar-Different Task
Task 6	Jigsaw Box Task
Task 7	Informal Chat Session (optional)

Table 8: List of Procedures in DLD Phase

No.	Task
Task 1	Social Interaction
Task 2	Picture Sequencing
Task 3	Map Task
Task 4	Post Interaction Questionnaire
Task 5	Informal Chat Session (optional)

The data collection was carried out in a quiet room which is actually the office of a lecturer teaching at the university. This room was located on the top floor of a building, far away from classrooms and at most times the area around the office was deserted. Although the room and the surrounding areas were relatively quiet, in some instances, the sound of car alarms, traffic and birds chirping can be heard in the background of some of the interactions as the recording device was rather sensitive. In each session, the participants sat at opposite sides of a desk, facing each other with a screen of about 30 centimetres high that was placed in the middle of the desk to keep them from seeing each other's handouts. However, they were still able to see each others' faces. Two external microphones were placed close to the participants.

Participants were asked to speak into the microphones naturally. The recording device was placed at the side of the participants, in full view.

During the interactions, I remained in the room, sitting away from the participants mainly to manage the recording device, introduce the tasks, read out the instructions as well as take brief notes about the sessions. At the start of each task, I read out the instructions and the participants were given a chance to ask questions if they had any doubts. Instructions for all the tasks are shown in Appendix 11. No time limit was set for any of the interactions. The total time for all the interactions (both the SLDs and DLDs) was 23 hours and 41 minutes. The duration of each interaction according to the interactions in the SLDs and DLDs and task type is shown in Appendix 12. The participants were also reminded that once the recording device was switched on they could not ask the researcher any questions or try and involve the researcher in their interactions. They were also reminded that there were no right or wrong answers to the tasks and that the objective of the study was to investigate linguistic interactions. No details about the exact objectives were disclosed as this might have influenced the behaviour of the participants.

3.2.9 Recording Device

A Sony ICD-U60 recorder with a built-in microphone was used to record all the interactions as well as the interviews. A high quality recording mode was chosen for all the recordings. To ensure clarity, external microphones were also placed a few centimetres from the participants. The external microphones also helped in recording

the individual participants' interactions. This helped in distinguishing the participants from one another during the transcription. The participants were asked to try and speak into the microphones naturally. Most of the recorded interactions were very clear and the participants could be distinguished from one another with the help of the notes I took during the interactions. However, there were a few participants who had naturally soft voices and there was also the occasional background noise. Some recordings were not audible in some instances and in the transcripts these instances were indicated as being 'inaudible'. All the sound files were saved as digital voice files (DVF) on a computer which could be played back for the transcription process.

Although the interactions were not recorded in a language laboratory, they were clear and there were very few instances where the interactions are inaudible. As each session lasted an average of two hours, the language laboratory at the university could not be utilized without disrupting regular classes scheduled in the laboratory. Recording at a setting in a quiet room also put the participants at ease and they felt more comfortable and not self-conscious at being recorded. However, the somewhat intrusive nature of the microphones and the recording device prevented the interactions from being truly informal. As Deterding (2007, p.8) states that "it is one unfortunate aspect of data collection that, in order to ensure a high-quality recording and thereby allow detailed phonetic analysis, it is necessary to use good microphones placed close to the speaker, and this inevitably interferes with the naturalness of the speech". Although this study does not deal with detailed phonetic analysis as in Deterding's (2007) study, the external microphones which were used to enhance the

clarity of the data and the recording device that is in full view of the participants were intrusive and could have affected the interactions.

The recording device was placed in full view of the participants, at the side of the table. No attempts were made to hide it. The participants were also informed before the start of the sessions that their interactions would be audio-taped. Cruz-Ferreira (2006) when discussing the issues in the recording of language development of children notes that “(i)n overt recording, it was found that one way of minimising the effect was to make the children aware of the presence of recording devices from the very beginning” (p.44). Thus, the recording device was left in full view of the participants. From my observation, the participants did not seem overly perturbed by the presence of the recording device and the external microphones once they got involved in the interactions.

3.2.10 Role of the Researcher

I opted to stay in the room for the duration of the interactions. My presence in the room throughout the interactions can be taken as being intrusive and could have affected the interactions of the participants. I opted to remain in the room at a distance from the participants for three reasons, i.e. to oversee and manage the recording equipment, to read the instructions at the beginning of each task and to take notes during the interactions. The notes that I took during the interactions were helpful during the transcription process. There were instances where participants used certain phrases that were unfamiliar to me. Thus, I had to clarify with the

participants what they meant when they used these terms. For instance, one participant used terms related to a rock band that I knew nothing about. I noted these terms while the participant was interacting, and later asked the participant to explain what he meant. Had I not been present during the interactions, this information would have been lost and may have affected the analysis.

From the two pilot studies (where I also remained in the room during the interactions), I noticed that the participants interacted rather comfortably and did not seem to be affected by my presence. Probably, the participants, being students, were used to having their instructors present during class practice; and as the tasks were cognitively challenging, the participants were focused on the tasks and my presence did not affect the interactions that much. At the beginning of each session, I also reassured the participants that my presence was only to manage the recording device and not to judge or grade their interactions.

My presence in the room and the placing of the recording device in full view of the participants affected the interactions and the participants. This was one of the most challenging decisions in designing the methodology of this study. All the participants in this study were told before the start of the interaction sessions that their interactions and interviews would be audio taped. The participants were given the option of withdrawing from the study if they were uncomfortable at being recorded or having me present during the interactions. Even if I had left the participants alone with the recording device, there would have been an effect of the recording device

and also added pressure on the participants to manage the device. This is not to say that my presence did not influence the interactions. However, it is appropriate to discuss Labov's perennial "observer's paradox" where he notes that one can never observe something without changing it (1972). The presence of the microphone changed the behaviour of the participants; informing the participants of the objectives of the study also affected the participants and the ensuing interactions. The researcher in the hope of observing and studying a phenomenon inevitably changes or affects the phenomenon being studied. There is very little that can be observed overtly without changing it. In this study, this issue was dealt by admitting that this was one shortcoming of the data and the study, and claims are never made that the spoken data here represents truly 'natural' speech. The context of the study and how the data was collected is always highlighted when making any generalisations or conclusions from the data and findings of this study in the relevant chapters and sections.

As opposed to being reticent or feeling self-conscious on being recorded, most of my participants were in fact quite excited to be recorded and requested for copies of their interactions. Immediately after the interactions, most of them would request to hear the recordings. They then proceeded to discuss the language tasks. Probably hearing themselves speaking in English was a novelty. Some participants even suggested that language exercises that included recordings be integrated in classrooms as they were exciting and they could 'listen' to themselves speaking in English, and they were amazed at how fluent they sounded. These reactions from my participants were the

opposite of what I was expecting. Initially I thought the participants would be shy and reserved due to my presence during the interactions as well as being recorded.

It should be noted that I am part of the teaching faculty at this particular university. However, for the purposes of data collection, I always introduced myself as a graduate student collecting data at the beginning of the sessions. Being a speaker of Malaysian English and having taught at the faculty for about seven years makes me part of the speech community of these participants. Thus transcribing the recorded data and understanding the recordings did not pose a problem to me. However, there were some instances where some participants used certain terms related to rock bands, football, basketball and activities in the university that were not familiar to me. I usually made notes of these instances while the participants were interacting and asked the participants for further details after the interactions.

3.2.11 Ethical Considerations

In gathering the data, I ensured that no participant was hurt or disadvantaged in any way by the procedures of the study. As this study deals with human participants, permission to carry out the study was given by the Institutional Review Board of the National University of Singapore. At the start of each session of the SLD session both the participants were briefed on the objectives and procedures of the study. I read out and explained the NUS-IRB Ref. Code 07-704 PIS Main Study Version 2 consent form to the participants. Once the participants indicated that they understood what the study entailed and agreed to participate in the study, they were asked to sign

the consent forms. The consent form is shown in Appendix 10. These personal details will not be disclosed to anyone and the names of the participants have been coded in the main study. The confidentiality of this research is highlighted in the NUS-IRB Ref. Code 07-704 PIS Main Study Version 2 Consent Form.

3.3 The Transcription Process

This section looks at the various stages and decisions that were involved in transcribing the data. The transcription took place after all the interactions were completed. The transcriptions are a defining point this research as the analysis could not be done without the transcriptions. One of the central stages in this study was transcribing the recorded data. This section highlights the decisions and steps that were taken during the transcription process. The transcription stage was designed to reflect the nature of the data and the research goals of this study. Ochs (1979, p.44) notes that for data that is based on performance “the transcriptions are the researcher’s data because transcription is a selective process reflecting theoretical goals and definitions”. As transcribing involves translating material from the spoken medium to the written, some form of selectivity and interpretation is bound to happen (Edwards, 1993; Ochs, 1979; Peppe, 1995; Perakyla, 2004; Powers, 2005; Roberts, 1997; Silverman, 1998). However during the transcription of the data of this study, there was a conscious effort to stay true to the research goals of my study as well as allow for my participants’ to ‘speak’ for themselves. I felt that in dealing with issues of intelligibility and interactional data, it was important to give a holistic picture and

the context of the interactions (context here was taken to be the tasks that the participants were involved in as well as the language background of the participants).

Transcription is a crucial process and it is not merely transferring spoken data into its written form. Roberts (1997, p.170) cautions that “(a)s transcribers, we need to manage the tension between accuracy, readability, and representation – remembering that we are transcribing people when we are transcribing talk”. Thus, in this study conscious efforts were taken in the analysis and discussion in order to interpret the interactions based on the tasks and the outcomes as well as using longer extracts of the interactions to analyze the data.

It should be noted that the recorded data, and consequently the transcriptions, represent only a sample of learner language and no attempts are made to qualify the data as representing all learners. The recorded data and the transcriptions of the interactions were products of the information gap tasks that were used to elicit the data. No attempt is made to qualify this data as representing anything other than elicited data. Cruz-Ferreira (2006) observes that a limitation of any data-based research is that the data serves to answer specific questions that guide the research. Thus, I felt that elicited data can help answer the research questions of this study.

A transcript serves as a tool “to record, to illuminate, to re-present, and to facilitate analysis” and is based on the specific research goals of a particular research (Powers, 2005, p.1). Transcription involves various choices and interpretation on the part of

the researcher. In transcribing the data for my research, various decisions were made in re-presenting and transferring the spoken data into its written form. Both the recordings and the transcripts were the primary materials of this research and were governed by the objectives of this research. In this section, I will highlight some of the important decisions that guided the transcription process.

Firstly, it was decided that all the interactions (the social interactions and the four information gap tasks) would be transcribed verbatim in their entirety. In the first stage, the transcription focused on noting an accurate word-for-word text, and this included filler words (e.g. *so, like, ok* etc.), assent and dissent sounds (e.g. *uh-huh, mm-hmm, uh-uh, uhn-uhn*) and other nonverbal sounds (e.g. *um, er, laughter*). As a framework would be used to locate the instances of miscommunications in the interactions, I felt that all the recorded interactions had to be transcribed entirely in order to locate the miscommunications. The language history interviews were not transcribed as they were not considered part of the spoken data. Each interaction was reviewed no later than twelve hours after the recording and supplemented by the brief notes taken during the recordings. The notes included the date, duration, participants, the tasks as well as some general observations and comments made by the participants after the interactions. As the recordings were made using a digital recorder, the interactions were transferred to a computer for the transcription process. There are three stages that can be clearly delineated in the transcription process. These three stages will be discussed next.

In the first stage, the data were transcribed as soon as possible after the recording. However as the database had about 23 hours of recordings, the first stage of the transcription process took about two months to complete. The first stage of transcribing the data progressed at an average rate of a minimum of three hours for every one hour of recorded speech. The digital recordings, although not recorded in a soundproof room, proved to be of high quality. The clarity of the recordings is important as Perakyla (2004) notes that it has implications for the reliability of any research based on conversational and recorded speech. Inevitably there was some background noise and participants who spoke softly. These interactions took longer to transcribe as they had to be listened to repeatedly. Most of the recorded interactions were listened to at least twice for the first stage in the transcription process. None of the interactions were discarded from the database. Headphones were used to listen to the interactions during the transcription. The recorded speech was played on Windows Media Player for the transcription process.

There were instances that remained inaudible in the interactions despite repeated listening. Rather than make arbitrary guesses, I decided to note in the transcripts the instances that were inaudible. These instances were indicated as 'inaudible' in the transcripts. The notations used in the transcription are given in Appendix 13. Some of the participants used phrases or words in the Malay language. These words are noted in the transcripts in the Malay language and a translation is provided where necessary. Several copies of the recorded speech were made and saved onto compact discs to preserve the data and there was no degradation in terms of the sound quality.

The second stage of the transcription process involved another round of transcription of the recorded data. In this second stage, only the first three to five minutes of each interaction was transcribed independently (i.e. without referring to the first transcription). These transcriptions were then re-checked against the first transcriptions for any discrepancies. The second transcription of the recorded interactions correlated closely to the initial transcriptions and very few discrepancies were noted. Most of the discrepancies involved judgments on the quality of vowels but as this study focuses on the role of consonantal segments, these discrepancies did not affect the transcription and subsequent analysis of the data.

The second stage was also helpful in deciphering speech that was inaudible in the first stage, although there are still some parts that remained inaudible and these are duly noted in the final transcripts. It was difficult to locate other skilled transcribers who were familiar with the context of the research, i.e. Malaysian English. Furthermore, as I only had limited time and access to the research site and my participants, it was impossible to train other transcribers to rate the transcriptions. Listening repeatedly to the recorded interactions helped in further understanding the participants and the data better; and this would have been lost if other transcribers were involved in the transcription process. It is hoped that the repeated independent reviews of the transcriptions increased the reliability and consistency of the transcriptions.

The second stage was followed by another cycle of re-listening to all the recorded interactions. In this third stage, the objective of the re-listening was to locate

instances of miscommunications. The transcriptions (from the second stage) were used to locate the miscommunications. The miscommunications are located based on the framework outlined in Section 4.2.1. The use of the framework increased the reliability and consistency of identifying miscommunications as it helped make principled decisions as there were times when the sheer amount of data that had to be processed was daunting. By adopting the framework, the process of locating miscommunications became clearer and consistent.

All the instances of miscommunications that were located based on the framework were then listened to repeatedly to identify the underlying pronunciation features that may have caused or contributed to the miscommunications. The pronunciation features and phonological processes that were examined are as outlined in the research questions. All the instances of miscommunications were then transcribed using the conventions of the International Phonetic Alphabet (IPA) (Handbook of the International Phonetic Association. A guide to the use of the International Phonetic Alphabet, 1999). The list of phonemic and non-phonemic symbols used in the transcription is shown in Appendix 14.

These three stages of the transcription ensured that the data were examined thoroughly in a principled manner. All decisions made in terms of the transcription conventions and locating miscommunications were noted down and followed systematically to avoid arbitrary judgments; however, there were times when decisions had to be made based on intuitive notions. For instance, decisions

involving vowel quality in the speech of some participants. Some participants were more difficult to transcribe than others and therefore their interactions needed repeated listening. For instance, participant P10CH spoke rather fast and constantly interrupted his partner throughout the interactions; and participant P12ML who mumbled and spoke very softly and was inaudible for long stretches in his interactions. Transcribing proved to be a long-drawn process. Transferring speech to its written form inevitably involved decisions that affected the data. Roach (2000, p.90) aptly states that “(t)ranscription has the unfortunate tendency to make things simpler and more clear-cut than they really are”. Although, the transcription process discussed above is described as progressing in a linear mode, the actual process was in fact iterative. Transcripts had to be re-visited and re-examined in order to report accurate information and recordings had to be listened to repeatedly. The transcription process was a complex process and required many decisions to be made at every stage. Decisions that involved the transcription process were made in a consistent manner in order to ensure the validity of the transcripts. It is hoped that the various stages of the transcription process as discussed above, lend credibility to the transcription process of this study. Samples of interactions from the main study are appended in a CD-ROM. Appendix 16 lists the dyads and the interactions that were included on the CD-ROM. The CD-ROM is appended at the end of the thesis.

3.4 Limitations of the Research Design and Methodology

This section looks at some of the limitations associated with the specific design of this study. Specific limitations that are related to the analysis of the data will be

discussed in the relevant chapters. Some of the limitations of the research design adopted in this study include:

- the spoken data here is based on elicited data from information gap tasks. Thus the data cannot be equated with naturalistic data. All the generalizations and conclusions that will be discussed in this study need to be understood in the context of elicited spoken data.
- the participants involved in this study were learners of the English language in a specific context, thus once again this must be kept in mind when analyzing the data. The participants used English for a specific purpose, to complete the information gap tasks.
- the recordings were done overtly, the participants were aware that they were being recorded and the researcher remained in the room. This could have affected the interactions.
- the recordings were carried out in a quiet room as opposed to a language or phonetics laboratory. Background noise occurred in the interactions, but the noise never compromised the transcription of the interactions.
- the transcription process did not involve other transcribers. To increase reliability and validity of the transcriptions, the interactions were transcribed in three stages.

These are just some of the limitations of the research design. Other limitations that specifically deal with the analysis as well as the research design will be discussed when reporting the analysis and discussion of the research questions in the following chapters.

3.5 Concluding Remarks

This chapter has looked at how Jenkins' (1995, 2000a, 2002a) work is extended and adapted to develop the research methodology of this study. To the best of my knowledge, only Jenkins' (1995) original study uses an approach based on information gap tasks and miscommunications to investigate intelligibility in an ELF context. This study applied some of the constructs and orientations of researching intelligibility and pronunciation proposed by Jenkins (1995, 2000a, 2002a) in order to investigate intelligibility in a context where English is widely used as an intranational as well as international language. The methodology employed in this study emphasizes the following precepts:

- intelligibility is viewed as dynamic construct that is negotiated between listener and speaker in interactions.
- the spoken data is elicited using information gap tasks that promote negotiation and interaction between the participants.
- some of the instruments and the procedures of the study were piloted before the actual data collection in order to ensure their suitability in eliciting the required data.
- individuals involved in this study are referred to as participants, rather than subjects or respondents. This mirrors the underlying principle of this study that these participants are users of a language that is their own and it is hoped that this study allows for the 'voices' of the participants to be heard.

- the sociolinguistic background of the participants is also examined in order to fully understand the participants and their language history in terms of how the different languages known to them interact in their daily lives.
- the participants are not viewed as monolingual learners who are trying to acquire another language. Although the participants here are learners of English, they have had exposure to Malaysian English for at least 10 years. These learners are all bilinguals in some form or other. All the participants have been exposed to this variety of English, which is uniquely Malaysian.
- the transcription of the interactions is considered to be an iterative process, thus the spoken data and the transcripts are constantly reviewed in order to fully understand the interactions and the participants.
- the researcher takes an active role in the design, execution and analysis of the study. The researcher can be considered as part of the speech community of the participants. This is particularly important when investigating intelligibility in interactions as an outsider to the speech community may have problems understanding the interactions, what more in locating instances miscommunication due to pronunciation problems.
- the micro aspects of speech (i.e. pronunciation features) are linked to the macro aspects (i.e. language policies) the speech situation occurs in. Thus the status and role of English in Malaysia has an impact on how the language is used by its speakers.
- the most important underlying notion throughout this study is that the English language that is used and exists in Malaysia is in no way deficient from any

other variety that exists in the world. The English used in Malaysia is uniquely Malaysian and flourishes as a language of intranational as well as international communication.

CHAPTER 4

PRONUNCIATION FEATURES THAT COMPROMISE INTELLIGIBILITY

4.1 Introduction

The previous two chapters have explained and highlighted some of the ideas that have shaped the direction, principles and the methodology adopted in this study. Chapters 4 to 6 present the analysis and discussion of the study. Chapters 4 to 6 will directly answer the research questions posited in Section 1.2. This chapter focuses on identifying and analyzing the pronunciation features that obstructed mutual intelligibility in the interactions. The pronunciation features that are investigated in this study are derived from Jenkins' (1995, 2000a, 2002a) work on the LFC. However, this study only examined part of the core features of the LFC; i.e. consonantal features, aspiration of voiceless plosives and consonant clusters.

This chapter essentially focuses on the quantitative aspects of the research. All the miscommunications identified in the recorded interactions are tabulated in terms of their distribution according to seven phonological processes in the SLDs and DLDs. The tabulations helped in organizing and summarizing the data as well as highlighting the patterns in the data. Although simple descriptive measures were used in tabulating the data in terms of the actual occurrences and percentage of occurrences, these descriptive measures helped in organizing the extensive spoken data as well as providing an avenue to include an analysis of all the spoken data. Based on these tabulations, the pronunciation features that impeded intelligibility in the interactions were identified.

Silverman (2005, p.220) when commenting on the suitability of quantitative measures, states that

(s)imple counting techniques, theoretically derived and ideally based on members' own categories, can offer a means to survey the whole corpus of data ordinarily lost in intensive, qualitative research. Instead of taking the researcher's word for it, the reader has a chance to gain a sense of the flavor of the data as a whole. In turn, researchers are able to test and to revise their generalizations, removing nagging doubts about the accuracy of their impressions about the data

The tabulations then, by themselves make very little sense in terms of representing the dynamic nature of the recorded interactions, as they are abstractions of an extensive spoken corpus. The analysis in this chapter also include a number of excerpts from the interactions to illustrate how the use (or non-use) of the selected features obstruct intelligibility in the interactions as well as how the participants react to the intelligibility problems. For the analysis of this chapter, all the interactions from the participants were analyzed.

The quantitative methods used here are what Miles and Huberman (1994, p.42) refer to as being at "the quantizing level, where qualitative information can be converted into numbers, ranks or scales". The quantitative aspects helped organize the data and the excerpts of the interactions provided a context to the patterns uncovered through quantifying the data. In addition, it is hoped that the use of the excerpts will help project the voices and identities of the participants as active users of the language; and also to portray the principle held in this study that intelligibility is not a

“monolithic” construct but is negotiated between speakers and their interlocutors in relation to a particular context (Setter & Jenkins, 2005, p.12).

The chapter begins by looking at the analytical framework for identifying miscommunications in the interactions. This is followed by a discussion on the steps taken in identifying and analyzing miscommunications. Next is the discussion of the limitations and caveats that are relevant to the discussion and analysis in this chapter. The following section presents the analysis of the data, i.e. the general trends and patterns in the data. This is followed by the analysis and discussion of the miscommunications according to the seven phonological processes, i.e. addition of consonants, substitution of consonants, deletion of consonants; aspiration of initial voiceless plosives; simplification of word initial consonant clusters, simplification of word medial consonant clusters and simplification of word final consonant clusters. The chapter ends with a summary of the chapter and a brief discussion on the pronunciation features that impede intelligibility in the interactions.

4.2 Analytical Framework for Identifying Miscommunications

In this study, in order to identify pronunciation features that obstructed intelligibility in the interactions, it was first necessary to identify miscommunications. Miscommunications formed the basis of this study as these instances of problematic discourse were then analyzed in terms of the underlying pronunciation features that may have contributed to the miscommunications. This method of using miscommunications to investigate phonological intelligibility in interactions is based

on Jenkins' work (1995, 2000a, 2002a). However, as this study differs from Jenkins' work, in terms of the methodology and the context of the study, it was necessary to develop a more detailed framework to identify miscommunications in the data. It was noted in Section 3.2.2 that due to time constraints and limited access to the participants, it was not feasible to carry out the post interaction discussion. The post interaction discussion would have enabled the participants to listen to their own interactions to indicate the miscommunications themselves. Thus this framework of identifying miscommunications was developed to overcome this limitation and it proved to be appropriate and useful in locating miscommunications in a systematic and reliable manner.

The framework adopted in this study is based on studies by Deterding and Kirkpatrick (2006), Gass and Varonis (1985, 1991), Milroy (1984), Varonis and Gass (1985a, 1985b). The framework is essentially based on Varonis and Gass's (1985b, p.73) notion of "non-understanding²⁰ routines" and its associated concept of "indicators of non-understanding" which overtly mark miscommunications. Varonis and Gass (1985b, p.73) argue that in interactions, speakers and interlocutors constantly use these "indicators of non-understanding" to seek clarifications when miscommunications occur. Thus these "indicators of non-understanding" can be used

²⁰ As discussed earlier in Section 2.8, 'non-understanding' in this study is subsumed under the term 'misunderstanding'. It should be noted that Varonis and Gass (1985b, p.73) in their study based on NNS-NNS conversations, discuss "non-understanding routines" which are caused by instances of "misunderstanding", "no understanding" or "incomplete understanding". In this study, however, as discussed in Section 2.8, 'misunderstanding' is used to represent all these different terms. Here, no categorical distinction is made between the different levels of understanding.

to detect instances of unintelligibility. The following indicators are adopted in this study to identify miscommunications:

1. explicit indication of non-understanding
e.g. *pardon?, what? I don't understand*
2. echo word or phrase from previous utterance
A: what is your name?
B: my name?
3. non-verbal response
silence or *mmm*
4. summary
e.g. *Do you mean?*
5. surprise reaction
e.g. *Really?, did she?*
6. inappropriate response
A: Are you a student in your country?
B: in my class?
A: in your country
7. overt correction.
A: They say that here is no problem for this temperature OK?
B: You say you don't have
A: I don't have
B: I don't have problem

(Varonis & Gass, 1985b, p.77, *examples from original*)

The framework also includes two other indicators used by Deterding and Kirkpatrick (2006, p.401) in their study which investigated intelligibility in a South East Asian context. The two indicators are misunderstood questions and misunderstood statements which are based on the following premises:

8. when a question is asked a response is expected and it is not possible for participants to allow for the question to pass. It is a clear indicator

of misunderstanding if the hearer does not understand the question for some reason and does not answer

9. when a participant does not understand all or part of a statement and asks for clarification.

These nine indicators were used to identify miscommunications in the recorded interactions. As discussed earlier in Section 3.2.2, it was not feasible to conduct the post interaction session which would have allowed participants to listen to their interactions and indicate problems they had understanding their partners. Furthermore the data from the two pilot studies indicated that most of the interactions progressed rather smoothly and participants rarely indicated openly any miscommunications during or after the interactions. Some participants, who commented on their interactions after the recording sessions, indicated that there were times when they had not understood their partners but they were reluctant to interrupt the interactions. Deterding and Kirkpatrick (2006) also noted that they had to rely on the two indicators (discussed above) as their participants rarely indicated overtly that they had not understood what was said and the conversations seemed to progress smoothly. Therefore, a framework to identify miscommunications allowed for an objective and a more thorough method of identifying miscommunications. Detailed discussions of miscommunications and the methodology employed in this study are provided in Sections 2.8 and 3.2 respectively.

The miscommunications, identified using the nine indicators, were then analyzed in terms of how the selected pronunciation features, i.e. consonants, aspiration of voiceless plosives and consonant cluster reductions may have contributed to the

miscommunications. Pronunciation may only be one of the causes of the miscommunications; although Jenkins (1995, 2000a, 2002a) found that pronunciation as the most likely cause of miscommunications. Focusing on miscommunications allowed for the investigation of the role of specific pronunciation features in impeding intelligibility. However, there may be other causes of miscommunications arising from other linguistic, social or cultural factors (Bremer, 1996; Deterding & Kirkpatrick, 2006; Gass & Varonis, 1991; Milroy, 1984; Varonis & Gass, 1985a, 1985b). Although these linguistic, social and cultural factors are important to fully understand intelligibility, these factors are beyond the scope of this research. This study is limited to looking at the role of consonants²¹, aspiration of voiceless plosives and consonant cluster simplifications, in the elicited interactions of a specific group of participants outlined in the methodology section above. This is one limitation of this study, as other features that are not investigated here may also contribute to intelligibility problems in this study.

4.2.1 Identifying and Analyzing Miscommunications

This section highlights the steps that were taken in the process of identifying, analyzing and categorizing the miscommunications. The framework discussed above was used to identify the miscommunications in the recorded interactions. However, before identifying the miscommunications, all the interactions were first transcribed. The transcription process was discussed in Section 3.3. First, the transcripts were

²¹ Following Gimson (2008), /j,w,r/ in this study are considered to be consonants despite their “vowel-like quality” as these phonemes occur “marginal in the syllable” like other consonants that occur at the margins of the syllable (p.51). Laterals and nasals are also categorized as consonants as they occur at the margins of the syllable (Gimson, 2008).

studied closely to locate the miscommunications. Then, the nine indicators described in Section 4.2 discussed above, were used to locate the miscommunications. All the transcripts were analyzed twice in order to identify all the miscommunications. Once the miscommunications were identified in the transcripts, I listened to all the interactions again to decide if the miscommunications were caused by the pronunciation of the speakers or by other factors.

This step of listening to the interactions to determine if the miscommunications were caused by pronunciation problems was done twice. The step involved listening of all the instances of the identified miscommunications was done after a lapse of two weeks of the first listening. As no other raters were involved, this was one way of ensuring that the analysis and identification of the miscommunications were consistent and thorough. There was very little discrepancy in terms of identifying the causes of the miscommunication between the first and second listening. The neatness and clarity of the final data presented in this chapter is far removed from the process of extracting the results. The generalization and abstraction of the spoken data offered here is far removed from the original interaction data, in terms of representing the participants, their identities and their interactions. I took all measures to be as thorough as possible in locating the miscommunications; however given the extensive data and the nature of spoken form, there may be some discrepancies that remain unavoidable.

The next step involved categorizing all the miscommunications according to the seven phonological processes identified earlier (see Section 2.9), i.e.

- a. addition of consonantal features;
- b. substitution of consonantal features;
- c. deletion of consonantal features;
- d. the absence of aspiration in voiceless plosives;
- e. simplifying word initial consonant clusters;
- f. simplifying word medial consonant clusters; and
- g. simplifying word final consonant clusters.

The miscommunications were categorized according to these seven phonological processes in order to organize the interaction data as well as to show the distribution of the causes of the miscommunications. Quantifying the data allowed for the detection of patterns and trends in the data. The results presented here are based on simple tabulations that show the occurrences of the miscommunications according to the seven phonological processes in the SLDs and DLDs. The results here are highly descriptive and no causal relationships will be discussed or attempted as the nature of the data does not allow it. The aim of the quantitative analysis was to identify pronunciation features that impede intelligibility in the interactions. Quantifying and organizing the data according to the seven phonological processes helped in extrapolating the features from the data.

Throughout the analysis and the discussion of the miscommunications, extracts of selected interactions will be presented and discussed to exemplify the miscommunications and the underlying intelligibility problems. It is hoped that this will allow for a wider understanding of how the participants, who are learners of English, react to miscommunications and how they modify aspects of their speech to meet intelligibility requirements in the interactions.

Before presenting the analysis, I discuss some of the conventions used in presenting the data and the extracts. The title of the extract includes the code of the participants (e.g.P1ML), the task (e.g. jigsaw task) as well as the time of the interaction (e.g. 240). Thus “Miscommunication 7: P3CH – P7ML (Map Task: 440) (Addition)” represents miscommunication number 7, in the interaction between P3CH and P7ML in the map task at 440 (estimated time of occurrence of miscommunication), and the phonological process is the addition of a consonant. The full list of the miscommunications and the corresponding numbering used to identify the miscommunications are shown in Appendix 15.

The complete transcription conventions used throughout this study are given in Appendix 13 and the phonemic transcription conventions are shown in Appendix 14. When discussing the miscommunications, some contextual information as well as how the participants completed the tasks (i.e. in terms of the completed task-sheets) are also discussed where necessary. Phonetic transcription, according to IPA conventions, will be given for the specific word(s) or phrase(s) that are relevant to the

argument or to explain a particular intelligibility problem. As this study only focuses on consonants, aspiration and consonant clusters, the transcription, for most parts, does not include word stress and vowels. However, there are instances where vowels and prosodic features will be discussed as these influenced the realizations of consonant segments in some of the miscommunications.

4.2.2 Caveats

I will first explain some of the limitations of the analysis in this chapter. As discussed above, the analysis is based on the instances of miscommunications caused by pronunciation problems in the recorded data. Miscommunications caused by other factors arising from linguistic, social or cultural factors are excluded from this study (Bremer, 1996; Deterding & Kirkpatrick, 2006; Gass & Varonis, 1991; Milroy, 1984; Varonis & Gass, 1985a, 1985b).

There were instances in the recorded interactions where miscommunications occurred due to other factors apart from pronunciation problems. For instance, during an exchange in the jigsaw box task between P3ML and P4ML, about six minutes into the discussion both the participants stopped the interaction. They indicated that they could not continue as they had difficulties understanding each other. I noted that while discussing the pictures, both the participants did not indicate which specific box they were discussing. Both were confused with what was being said. After the interaction, I re-listened to their interaction and this was evident from the recording. They were persuaded to carry on with the task (the instructions for the task were re-

read once more) and a second recording²² was done immediately. Although they managed to discuss all the sixteen boxes in the second recording, there were still many miscommunications. Most of the miscommunications, though, had little to do with pronunciation problems.

I found that most of the miscommunications in this particular interaction between P3ML and P4ML were caused by the tendency of both the participants to use words like “next to”, “over the square” as well as “box one one”, “box two three” etc. to indicate the grid box they were discussing. Both participants had problems keeping track of which box was being discussed and most of the time they would just move on to another box without actually verifying the information they had discussed. This was compounded by misunderstandings about prepositions. Below is an excerpt from the interaction between P3ML and P4ML in the second recorded interaction of the jigsaw task. In this instance they were discussing the second picture in the second row (see Appendix 4: Jigsaw Task).

Extract 1: P3ML – P4ML (Jigsaw Task 2: 650)

1	P4ML:	ok next to it is the sign S
2	P3ML:	where
3	P4ML:	next to the circle
4	P3ML:	yes
5	P4ML:	there is sign of money eh stroke
6	P3ML:	sign of money in what column
7	P4ML:	mmm two two

²² This was labelled as Jigsaw Task 2. Both the interactions were included in the analysis for this chapter.

8	P3ML	column two row
9	P4ML:	two
10	P3ML:	oh sign of money
11	P4ML:	aaa then next to it is A-T-S is it
12	P3ML:	over it
13	P4ML:	next to it
14	P3ML:	mmm

The miscommunication in line 11 occurs when P4ML uses “next” to discuss the location of the picture “A-T-S” (which is actually below the picture they are discussing). The confusion is compounded when P3ML says that her picture is “over it”. P4ML, however, maintains that her picture is “next to it”. The completed worksheets of both participants for the jigsaw task contained at least eight inaccurate pictures in the grid boxes, most of which were drawn in wrong grid boxes.

Some miscommunications were caused by factors associated with the participants themselves, i.e. their nervousness, lack of interest in the tasks etc. For instance, in the interaction between P11ML and P12ML, most of the miscommunications were caused by minimal uptake by one participant and also his nervousness throughout the task. The following excerpt shows how P12ML avoided explaining some of the pictures by saying that he would discuss it later (line 8 in extract 2). In fact throughout the interaction P12ML did this three times and his contribution to the completion of the task was sparse compared to P11ML’s. P12ML mostly gave one word answers and P11ML had to constantly question P12ML to get the required

information. Towards the end of the interaction, P11ML ‘forced’ P12ML to discuss the pictures he abandoned earlier. After the interaction, P12ML remarked that he was extremely nervous and could not concentrate on the task. P11ML, on the other hand, commented that he sensed P12ML’s nervousness, so he tried to supply as much information as possible. Interestingly, P12ML only had one inaccurate picture in his completed worksheet.

Extract 2: P11ML – P12ML (Jigsaw Task: 224)

1	P11ML:	mmm from the bottom to the top
2	P12ML:	ok ((clears throat))
3	P11ML:	and there’s aaa two line from the left to the right double double line double double line from left to right so can you imagine that
4	P12ML:	ok why not we go to the number four aaa number five ((clears throat))
5	P11ML:	number four is it clear
6	P12ML:	no ((clears throat))
7	P11ML:	no ((laughs))
8	P12ML:	((laughs)) we do it later

One other caveat is that this study only investigated certain pronunciation features, i.e. consonants, aspiration of voiceless plosives and consonant cluster simplification, and their effects on intelligibility. Therefore miscommunications caused by other pronunciation features such as vowels, word stress, intonation etc. were not discussed. Although, these features could also be important in investigating intelligibility problems in interactions, it was necessary to limit the investigation to these pronunciation features. The miscommunications were located using the framework discussed in Section 4.2. I tried to locate all the miscommunications caused by

pronunciation problems in the recorded data, but there may be other miscommunications that were not detected.

4.3 Analysis: Miscommunications: General Trends and Patterns

For the analysis in this chapter, the spoken database that was used for the analysis included the social interactions and the four information gap tasks of all the participants. None of the interactions were excluded. A total of 123 instances of miscommunications were identified in the recorded interactions. The 123 miscommunications were only those that involved the subset of the pronunciation features that were investigated. A detailed breakdown of the miscommunications categorized according to the seven phonological processes in the SLDs and DLDs is shown below in Figure 3.

Figure 3: Miscommunications according to interactions in SLDs and DLDs (in numbers and %)

Intelligibility compromised as a result of:	SLD		DLD		Total (%)
	Malay	Chinese	Malay	Chinese	
Addition of consonant segments	1	2	0	5	8 (6.5)
Substitution of consonant segments	9	23	7	44	83 (67)
Deletion of consonant segments	2	4	1	4	11 (9.0)
Absence of aspiration in voiceless plosives	4	0	1	1	6 (5.0)
Simplifying word initial consonant clusters	1	0	0	2	3 (2.4)
Simplifying word medial consonant clusters	0	3	0	0	3 (2.4)
Simplifying word final consonant clusters	2	3	3	1	9 (7.3)
Total (in numbers) N=123	19	35	12	57	123

Of the 123 miscommunications, 83 were caused because the participants substituted certain consonantal segments in their interactions. In fact the addition, substitution,

and deletion of consonantal segments contributed to about 85% of the miscommunications in the recorded interactions; of which the substitution of consonants contributed to 67% of the miscommunications. The remaining 15% of the miscommunications were caused by the other four processes, i.e. the absence of aspiration in voiceless plosives, simplifying word initial consonant clusters, simplifying word medial consonant clusters and simplifying word final consonant clusters. Simplifying word initial consonant clusters and word medial consonant clusters had the lowest occurrence with just three occurrences each. The Chinese L1 participants had more miscommunications in both the SLDs and DLDs compared to the Malay L1 participants. For the SLD interactions, the Chinese L1 participants had 35 miscommunications as compared to the Malay L1 participants who only had 19, although there were more Malay L1 participants in the SLD interactions (i.e. there were 12 participants for the Malay SLDs compared to 10 for the Chinese SLDs).

In the DLD interactions, again, the Malay L1 participants had fewer miscommunications than the Chinese L1 participants. The Malay L1 participants, in fact had fewer instances of miscommunications in the DLD interactions than in the SLD interactions (12 in the DLD and 19 in the SLD interactions). The Chinese L1 participants, on the other hand, had the opposite pattern compared to the Malay L1 participants. They had the most miscommunications in the DLD interactions (57 miscommunications). One explanation for this could be that there was one Chinese L1 participant (P9CH) who had an exceptionally high occurrence of miscommunications in the DLD, i.e. 30 instances of miscommunications. This is one

shortcoming of looking at the total occurrences of the miscommunications as the performance of one participant can affect the overall results. I have argued earlier that the distribution of miscommunications shown in Figure 3 is only meant to show the patterns and trends in the miscommunications. Most importantly the analysis here was meant to identify pronunciation features that obstructed intelligibility in the interactions. The data in this study should not be interpreted beyond this.

Another reason that the findings here need to be treated with caution is that there were some participants in certain dyads who have a high rate of pronunciation problems, and thus these participants were involved in numerous intelligibility problems due to the same pronunciation feature that re-occurred throughout their interactions. Each miscommunication that involved a pronunciation feature was counted as one token. For instance, P9CH substituted /r/ with [l] on eight different occasions²³ with different words in both the SLD and DLD interactions. These were counted as eight tokens of miscommunications and categorized under the substitution process. Each miscommunication, even occurring with the same word was counted as one token and categorized accordingly. The miscommunications were not analyzed according to individual participants, but analyzed according to the SLDs and DLDs to represent the Malay and Chinese L1s.

²³ P9CH substituted /r/ with [l] when using the following words: *roof*, *surprise*, *row*, *green*, and, *frog*. The substitution of /r/ with [l] in *row*, *green*, and, *frog* occurred twice in the interactions. These substitutions were spread out in all four interactions in the SLD and DLD. All these substitutions contributed to eight tokens listed under the substitution process in Figure 3.

There were some dyads that had numerous miscommunications and some dyads that had none. For instance, in the SLD interactions, the P3CH – P4CH dyad had 14 miscommunications as compared to the P8CH – P10ML dyad which only had one miscommunication. Some participants spoke more than others, and some were more enthusiastic than others; and thus all these factors need to be kept in mind when interpreting the data. The breakdown in Figure 3 is only meant to show the general patterns and dispersion of the intelligibility problems in the SLDs and DLDs. No attempts are made to analyze the miscommunications according to the demographic dimensions of the participants.

The patterns shown in Figure 3 were abstracted from the data and the figures on their own are far removed from the concept of intelligibility defined in this study. These figures by themselves cannot represent the complexity of intelligibility in the interactions. Quantification allows us to understand the patterns and extract the features that may obstruct intelligibility but it does not allow us to see the complexity of negotiating intelligibility in interactions. In its abstracted form, the analysis here seems to be simple and clear cut, but it is far removed from the interactions that took place. In order to bridge the divide between the abstracted figures, the pronunciation features and the participants, short excerpts of the interactions are discussed to further explain the intelligibility problems. The extracts will show both the reactions of the speaker and the hearer before and after the miscommunications. The full list of all the 123 miscommunications arranged according to the seven phonological processes is shown in Appendix 15.

4.4 Analysis: Miscommunications According to Phonological Processes

The following sections present the analysis and discussion of the miscommunications according to the seven phonological processes listed above in Section 4.2.1. Phonological process here is used to describe the “sound patterns” in the English language that is spoken by the participants in this study (Khan, 1985). This study is largely concerned with sound patterns or processes that were used by the participants of this study that led to intelligibility problems in the interactions. The phonological processes that were investigated in this study are limited to the seven phonological processes discussed earlier in Section 2.9.

4.4.1 Addition of Consonant Features

The first phonological process was the addition of consonants that led to miscommunications. Deterding and Poedjosoedarmo (1998) explain ‘addition’ as the insertion of a segment which is not originally present in a word. This phonological process is usually referred to as epenthesis (Collins & Mees, 2003; Deterding & Poedjosoedarmo, 1998; Gimson, 2008; Hawkins, 1984; Jenkins, 2000a; Lass, 1984). There are 8 instances of miscommunications that were caused by the addition of consonants at word level in the spoken data. One of the instances is shown in extract 3. In this miscommunication, the target word is ‘fence’. In the extract, P1ML says [frens] in response to P2ML’s [fens]. P2ML quickly clarifies this in line 3 by asking “aaa [fens] ah”, which P1ML accepts. P1ML never says the word ‘fence’ again throughout the interaction. However, P2ML uses it again twice in the course of the interaction to explain some other pictures. The picture P1ML and P2ML were

describing in this extract was a fence in front of a house (i.e. item 5 in the similar different task). The addition of [r] by P1ML in line 3 created a new word ‘friend’ that did not fit the context provided by the picture in the task that showed a fence; thus prompting P1ML to repeat the original pronunciation “[fens]” to ensure that P2ML had the same information to enable them to continue with the task.

Extract 3: Miscommunication 2²⁴ : P1ML – P2ML (Similar Different Task: 421) (Addition)

1	P1ML:	I have a gate
2	P2ML:	gate or [fens]
3	P1ML:	aaa [frens]
4	P2ML:	aaa [fens] aaaa
5	P1ML:	yup

In extract 4, P3CH says “riverview [p^hɑ:kɪt]” which P7ML found problematic, possibly due to the addition of [t] in word final position which was unexpected given the context. The target phrase was ‘riverview park’, one of the landmarks in the map. In line 2, P7ML repeated “riverview [p^hɑ:k]” without the final [t]. This was said with a falling intonation and rather hesitantly, probably to seek clarification from P3CH. In response to P7ML’s query, P3CH adjusted her pronunciation and said “riverview [p^hɑ:k]”. This was an interesting exchange as both P3CH and P7ML had the landmark “riverview park” on their maps. P7ML could have just completed the task without asking any clarifications. Again, similar to the exchange in extract 3 above,

²⁴ Refers to the miscommunications listed in Appendix 15.

the addition of [t] in word final position of “park” made it sound like ‘parked’ which did not fit the context of the task. This prompted P7ML to repeat “[p^hɑ:k]” to ensure that both P7ML and P3CH’s information was similar. In line 3, when P3CH repeated P7ML’s pronunciation, re-assured P7ML that both their landmarks were similar and they were able to continue with the task.

Extract 4: Miscommunication 7: P3CH – P7ML (Map Task: 440) (Addition)

1	P3CH:	and do you saw the riverview [p ^h ɑ:kt] on your left hand side
2	P7ML:	riverview [p ^h ɑ:k] ((falling intonation))
3	P3CH:	riverview [p ^h ɑ:k]
4	P7ML:	ok
5	P3CH:	you saw right

The two extracts (Extracts 3 and 4) exemplify instances of miscommunications when a consonant is added at word level. In both these instances the addition of a consonant created words that did not correspond to the context of the task. Three other instances of miscommunications in the interactions had a similar process where the addition of a feature created another word that did not fit the context. For example, in one instance, the addition of /g/ to /raʊn/ created [graʊn], which despite being repeated three times was not understood by the hearer (this was in the context of describing a picture of a circle). The other two instances involved the realizations [dʒets] in place of /zek/ and [krɒs] in place of /krɒs/. Three other instances of miscommunications were caused by the addition of /s/ in word final position to the word ‘plastic’ by two different Chinese L1 participants. Although the addition of /s/

did not create a new word, the hearers in all three instances immediately corrected the pronunciation by saying “[plæstɪk]”, which was then repeated by the speaker. The process involving the word ‘plastic’ was interesting because in the map task, the spelling of the ‘plastic’ was given, yet the two participants pronounced it with an additional /s/. The interlocutors in these instances could have just continued with the task without correcting the speakers but chose to correct them.

Jenkins (1995, p.71) argues that although addition of consonants or epenthesis, is “technically an error”, she found in her study that this process rarely caused intelligibility problems. She found that the addition of consonants and vowels actually contributed to enhancing intelligibility in the interactions among her EFL participants. In this study, intelligibility problems caused by the addition of consonants were relatively lower than the intelligibility problems caused by substitution and deletion of consonants. However, there were still instances of unintelligibility due to the addition of consonants. Participants had problems when the addition of consonants created words that did not fit the context of the task. There were five instances of miscommunications that were caused by addition of consonants that created words not congruent to the task being discussed. The conflict between the acoustic signal and the pictures probably made the processing of the information challenging to the participants.

As for the addition of /s/ at the end of ‘plastic’ by the two Chinese L1 participants, a closer study of their transcripts revealed that these two participants also added /s/ to

other words/phrases resulting in words such as ‘stations road’, ‘ups’, ‘others people’ etc. However, the addition of /s/ in these words did not lead to any miscommunications. One explanation for this could be that these words were not as important as ‘plastic’ in this task. ‘Plastic’ was a landmark in the map task and thus the interlocutors in the three instances of miscommunications involving “plastics” probably needed to clarify the information. Although the interlocutors had the information ‘plastic’ on their maps and the addition of /s/ did not change its meaning into another word, they probably felt the need to clarify the word. This would explain why the listeners immediately prompted with the correct realization of ‘plastic’ without the /s/. This is one difference that I noted between the participants in this study and Jenkins’ (1995) work, where Jenkins noted that her participants rarely relied on the context (i.e. the tasks) and they usually relied on the conflicting acoustic signal. The participants in this study seemed to be more adept at handling conflicting acoustic signals and were able to use the information from the tasks to help in the miscommunications and were quick to resolve the miscommunications, in one or two turns in average.

4.4.2 Substitution of Consonants

Substitution involves the use of another sound segment to replace a segment in a word. For instance, the use of /l/ in place of /r/ in ‘frog’ which results in the realization [flɒŋ]. There were 83 miscommunications caused by the substitution of consonants. In this section, I will discuss two miscommunications due to the substitution of consonants. The full list of all the miscommunications found in the

interactions is given in Appendix 15. In extract 5, both the participants are describing a picture of a woman in a photo album (item 10 in the similar different task). The participants needed to decide if both their pictures were similar or different without looking at each other's pictures. The word that caused the miscommunication was 'frame' that was pronounced as 'fren'. The miscommunication occurred when P9CH asks if there is a "[fren]" in the picture (line 4). P10CH, in turn repeated P9CH's question and says "got [fren] ah". In response, P9CH said "got [fren] is it". In line 7, P10CH sensed a problem and asked how many people were in the picture. P10CH most likely assumed [fren] to be a realization of "friend", and that P9CH's picture may be different from his picture. P9CH reiterated that he meant "[fren]" (line 8), which P10CH took to represent "[freim]" (uses information from his picture as a guide). P9CH then repeated "[frem]" (also substituted /eɪ/ with [e]), which P10CH then corrected as "[freim]" in line 13. P9CH never used this word again for the rest of the interaction in this task.

**Extract 5: Miscommunication 13: P9CH – P10CH (Similar Different Task: 1155)
(Substitution)**

1	P10CH:	is it the girl wearing the shirt the one got colour or not no colour ah
2	P9CH:	no colour
3	P10CH:	just the hair got colour is it
4	P9CH:	aaa and then got [fren] ah
5	P10CH:	got [fren] ah
6	P9CH:	got [fren] is it
7	P10CH:	how many person in the picture
8	P9CH:	no I mean got [fren]

9	P10CH:	oh [frem]
10	P9CH:	[frem]
11	P10CH:	oh [frem] is it
12	P9CH:	aaa ok
13	P10CH:	oh the [frem] look like the two lines making from two lines ah

In the following extract, P8ML reacted to P4CH's "[dɪsət]" by repeating "[dɪsət]" with a falling intonation²⁵. P8ML's map did not have the desert landmark. P8ML could not rely on the map to search for this information and had to rely on P4CH's acoustic signal. Sensing P8ML's confusion, P4CH repeats "[dɪsət]" and then spells the word (line 3). P8ML then says her pronunciation of the word as "[dɪzət]". P4CH reaction to this realization is interesting as she elaborates the meaning of desert, i.e. "the green one" but does not say the word 'desert', sensing a problem with her pronunciation of the word. However in line 8, P8ML indicates that they should just ignore the desert landmark and continue with the task. Both participants also substituted the vowel /e/ with [ɪ].

Extract 6: Miscommunication 69: P4CH – P8ML (Map Task: 205) (Substitution)

1	P4CH:	nothing ah my my here have two landmark one is for aaa [fraʊwə] garden and one more the [dɪsət]
2	P8ML:	[dɪsət] ((falling intonation))
3	P4CH:	[dɪsət] is er D-E-S-E-R-T
4	P8ML:	D-E
5	P4CH:	S-E-R-T

²⁵ Gimson (2008, p.286) notes that the usual tone for wh-interrogatives and tag-interrogatives is either a low-fall or a high fall.

6	P8ML:	[dɪzət]
7	P4CH:	aaa the green one ah have
8	P8ML:	aaa never mind <i>lah</i> you just follow my the action so ok yes have flower garden but not but not at the right side but when you must turn to where aaa turn right

The majority of miscommunications in the interactions were caused by the substitution of consonants. The substitution of consonants either created words that did not match the pictures in the task or the pronunciations turned into non-words which were unfamiliar to the hearers. For instance, in the miscommunication in extract 5, the substitution of [n] in place of /m/ results in [fren] instead of “frame”, where [fren] did not fit the context of the task. Or, in the case of substitutions that created non-words, where the miscommunication that occurred as a result of “half” realized as [hɑ:p].

Other examples of substitutions that resulted in intelligibility problems because the words that were used did not match the pictures being discussed include “goats” as [gɒds], “hat” as [hed], “lake” as [leg], “course” as [kɒd], “crane” as [greɪn] etc. However, most of the substitutions that caused the intelligibility problems were due to the creation of non-words. For example, “gate” as [ged], “leg” as [leit], “album” as [ælbən], “half” as [hɑ:p], “road” as [ləʊd], “zed” as [zek], “horizontal” as [hɒɹɪzɔntəl] etc. Figure 4 shows a summary of the substitution processes involving consonants in the miscommunications. These substitutions were categorized according to the underlying phonological processes.

Figure 4: Substitution Processes involving Consonants

	Feature	Substitution	Process	Example
1.	Plosives	/g/ → [k]	voiced → voiceless	“big” as [bɪk]
		/k/ → [g]	voiceless → voiced	“lake” as [leg]
		/t/ → [d]	voiceless → voiced	“gate” as [ged] “dot” as [dɒd]
		/g/ → [t]	change in place of articulation and voicing	“leg” as [leit]
		/d/ → [k]	change in place of articulation and voicing	“zed” as [zek]
		/k/ → [t]	change in place of articulation	“lake” as [leit]
		/t/ → [ʔ]	Glottalized	“kite” as [kaɪʔ]
		/g/ → [ʔ]	Glottalized	“frog” as [frɒʔ]
		/d/ → [ʔ]	Glottalized	“word” as [wɜʔ]
		/k/ → [ʔ]	Glottalized	“tick” as [tɪʔ]
2.	Nasals	/m/ → [n]	change in place of articulation	“frame” as [fræn]
		/n/ → [m]	change in place of articulation	“crane” as [kremə]
3.	Fricatives			
a.	Dental fricative	/θ/ → [t̪]	change in manner of articulation	“thicker” as [t̪ɪkə]
b.	Labiodental fricative	/f/ → [p]	change in manner of articulation	“half” as [hɑ:p]
		/v/ → [p]	change in manner of articulation	“curve” as [kʌf]
c.	Alveolar fricative	/z/ → [dʒ]	change in manner of articulation	“zek” as [dʒəts]
		/z/ → [s]	voiced → voiceless	“zek” as [sɪ]
		/s/ → [d]	change in manner of articulation	“course” as [kɔ:d]
d.	Palato alveolar fricative	/ʃ/ → [s]	change in place of articulation	“attraction” as [ətɹæksən]
4.	Approximants	/l/ → [r]	change in place of articulation	“play” as [preɪ]
		/r/ → [l]	change in place of articulation	“green” as [ɡri:n]
		/j/ → [dʒ]	change in manner of articulation	“yet” as [dʒət]
5.	Affricates	/tʃ/ → [d]	change in manner of articulation and voicing	“church” as [tʃɜ:d]

The miscommunications in this study involved the substitutions of 17 different consonants. Jenkins (1995) argues that phonological errors involving substitutions are usually caused by certain kinds of phonemic and articulatory difficulties, mostly linked with the L1 of the speaker. The data in this study generally supports Jenkins' (1995, 2000a, 2002a) assertions in the LFC that all consonant features, except for /θ/, /ð/ and /ʃ/ are important in maintaining intelligibility among L2 users. However, it has to be noted that there was one miscommunication that was caused by the substitution of [t] in place of /θ/. In fact, in this interaction, [tɪkə] was repeated three times and the hearer never understood it. This was one of the more serious miscommunications, where [tɪkə] was abandoned. The miscommunication was not resolved as the context [tɪkə] occurs in did not help in deciphering it. Here, the target word was most probably 'thicker' and [tɪkə] which was being used to describe the thickness of the line drawing. It should be noted that most of the time, the participants in this study never used /θ/ in the interactions, as /θ/ was mostly substituted with [t]. This corresponds to Baskaran (2004, 2005b) and Rajadurai's (2004b) observation that in Malaysian English dental fricatives are often substituted by dental stops in initial, medial and final positions. There were also instances where some participants substituted dental fricatives with /f/ and /v/ in word final position in words such as "with", "both" etc. However, these substitutions never caused miscommunications in the interactions.

The substitutions of plosives with glottals, though, were a little perplexing. Baskaran (2004, 2005b) notes that glottalization of plosives in final position is a common feature in ME. Thus these substitutions should not contribute to miscommunications as frequently as in this study. But there were 8 instances of miscommunications caused by substitutions with glottals in word final position. Four plosives /t,d,k,g/ were substituted by [ʔ] in word final position. Glottal plosives feature prominently in the Malay language which all the participants are exposed to, as it is the medium of instruction in schools and universities (see Section 2.7). Substituting plosives with glottals could be the influence of Malay. Yunus (1980, p.59) states that [ʔ] is a phoneme in Malay and that in post vocalic position, both word final or not, it is represented orthographically by ‘k’²⁶. This could explain the high rate of substitution of plosives with the glottal. Most of the time, the miscommunications occurred because the substitution of plosives with glottals created non-words which were difficult for the hearers to process and they had to search for alternatives for the non-words in their lexicon. Another factor related with the over-use of glottals in any position as noted by Brown (1991) and Rajadurai (2004b) is that its overall effect on speech is that of jerkiness and disconnectedness.

²⁶ For example, the Malay word *tidak* will be realized as [tɪdʌʔ]. The letter ‘k’ is also used for the voiceless velar plosive consonant, [k]. However, Yunus (1980) states that since in Malay, the velar plosive consonant does not occur in word final position, except in loan words, the letter ‘k’ is used to represent the glottal plosive.

Substitutions involving /f/ and /r/ were examined as /f/ is considered to be a marker for the Malay ME speaker²⁷ and /r/ was said to be a marker for the Chinese ME speaker. These phonemes are considered to be relatively new to speakers from these two L1s as these phonemes do not occur in their respective L1s, Baskaran (2004, 2005b) notes that the speakers will approximate these with sounds from their own L1s. Thus the Malay ME speaker will approximate /p/ for /f/ and the Chinese ME speaker will approximate /l/ for /r/. Although Mandarin has the /r/, the influence of other Chinese languages in the participants lives cannot be excluded as most of them listed the influence of these languages in their friends and family domains (see Appendix 19). The Mandarin that exists in Malaysia could also be influenced by the other Chinese languages such as Hakka, Teochew, Hokkien etc. This influence could not be determined as the L1 of the participants was based on self-report data. The Malay L1 participants in this study never approximated /p/ for /f/ in all the interactions (not only in the instances of the miscommunications). However, interestingly one Chinese L1 participant substituted [p] for /f/ twice and on both occasions this caused a miscommunication. The substitution produced a non-word [ha:p].

²⁷ Teoh (1994) states that in the primary consonant inventory of Standard Malay, the fricative /f/ does not exist. /f/ is classified as a “loan consonant” that occurs with borrowed words in Malay, especially from Arabic. Although most authors agree that there are 19 consonants that are categorized as primary consonants of the Malay sound system the lists of secondary consonants (i.e. loan consonants), that came about as a result of influences of Arabic and English on the Malay sound system, seem to debatable (see Asmah, 2008; Indirawati & Mardian, 2006; Teoh, 1994; Yunus, 1980). The phonemic inventory of consonants (primary and secondary) is shown in Appendix 17.

There were 11 miscommunications caused by the Chinese L1 participants when they substituted /r/ with [l]. It should be noted though that there was one Malay L1 participant who on several occasions used [l] in place of /r/, although this did not lead to any miscommunications. Most of the miscommunications involving the substitution of /r/ with [l] occurred with content words and the substitutions resulted in non-words. However, the miscommunications were resolved quickly as the participants used the pictures well to help in their interactions.

The substitutions of consonants, in this study, proved to be the most significant process in contributing to intelligibility problems. Most of the core segments of the LFC are relevant in the context of maintaining intelligibility among Malaysian learners of English. Even the dental fricative /θ/, which is excluded as a core feature in the LFC, contributed to one miscommunication. The substitution of glottals in place of plosives and [l] in place of /r/ were some features that proved to be problematic for these participants. In resolving miscommunications involving substitutions of consonants, the participants in this study, unlike Jenkins' (1995) participants, seemed to rely on the pictures in the tasks and less on the acoustic signals, and thus the miscommunications were resolved within one or two turns. Although the participants in this study resolved intelligibility problems involving substitutions fairly quickly, learners with lower proficiency in English may require more effort in resolving and negotiating the intelligibility problems.

4.4.3 Deletion of Consonants

Deletion involves the omission of a segment altogether in a word (Collins & Mees, 2003; Gimson, 2008; Hawkins, 1984; Jenkins, 2000a; Khan, 1985; Lass, 1984). In this study, deletion is taken to represent the omission of a single consonant segment in words. Deletion here does not involve the deletion of segments that occur in consonant clusters. Any deletion of consonant segments that occur in clusters of two, three or four consecutive consonants in word initial, medial and final position is not analyzed in this section. For example, the deletion of /t/ in ‘goat’ is categorized as the deletion of a single segment; whereas the omission of /t/ in ‘point’ is categorized as simplification of word final consonant clusters and discussed in Section 4.4.7 below. In this study the deletion of consonants contributed to 11 instances of miscommunications.

The following extracts exemplify two of the miscommunications caused by the deletion of consonants. In extract 7, P4CH says “[bəʊ]”, which is repeated three times. The target word here was ‘bowl’. P3CH, using the picture as a guide (item 12 in the similar different task), asks for confirmation whether it is a “[bəʊl]” or “[bəʊt]”. P3CH clearly emphasizes the final segments [l] and [t] to mark the difference between [bəʊl] and [bəʊt]. P4CH then says “[bəʊl]”, to which P3CH repeats “[bəʊl]” twice, although her picture is the same as P4CH (line 7).

Extract 7: Miscommunication 93: P3CH – P4CH (Similar Different Task: 655) (Deletion)

1	P4CH:	ok that one how to say a [bəʊ] like a [bəʊ] [bəʊ][bəʊ]
2	P3CH:	[bəʊl] or [bəʊt]
3	P4CH:	[bəʊl]
4	P3CH:	[bəʊl] a [bəʊl]
5	P4CH:	not [bəʊl] <i>lah</i> put put the [ʃu:p] ah the [su:p] the [su:p] one ah
6	P3CH:	the cooking pans ah cooking pans cooking
7	P4CH:	[bəʊl] [bəʊl]
8	P3CH:	cooking pans no
9	P4CH:	cooking pan cannot

In the extract below, P6CH says “[mɔ:] boats” in line 1. P4ML does not understand, as the moored boats landmark is called ‘marina’ in her map (P4ML’s map). P6CH then spells out “moored boats” in line 4 and P4ML indicates that her map does not have this landmark. P6CH uses “[mɔ:]” twice again in the interaction, but P4ML never uses the word “moored” again.

Extract 8: Miscommunication 99: P6CH – P4ML (Map Task: 910) (Deletion)

1	P4ML:	crane lake is a lake then in the lake got marina ship
2	P6CH:	marina ship there there got write the [mɔ:] boats ah
3	P4ML:	what
4	P6CH:	M-O-O-R-E-D boats
5	P4ML:	I don’t have it

Most of the deletions involved word final segments; i.e. eight instances altogether. For instance, the final segments in the following words were deleted resulting in

“bowl” being pronounced as [bəʊ], “down side” as [daʊsaɪ], “desert” as [dɪzə] etc. There was only one instance where the word initial feature was dropped resulting in “woman” being pronounced as “[ʊmən]”, and one instance where a word medial segment was elided causing “angry” to be realized as “[əgri:]”. The full list of miscommunications caused by the deletion process is given in Appendix 15.

10 instances of the deletions of consonants resulted in non-words. Only one deletion resulted in another word, i.e. “angry” realized as [əgri:] that did not fit the context. There were three instances where the deletions involved a phrase “straight line”, “down side” and “green lake”. The rest of the deletions were at word level, most involving deletions of final consonant features. The rate of miscommunications caused by deletions of consonants was the second highest after substitutions. Jenkins (1995) notes that in her data when deletion occurs in word final position it has a less serious effect. In my data most of the miscommunications were caused by deletions of word final consonants. The deletion of word final consonant features may be related to the participants’ L1, for instance Mandarin speakers preferring the open syllable and are said to employ a strategy of consonant deletion (Jenkins, 1995). However, in this study there were instances when the Chinese L1 participants (as hearers) find word final single segment deletions problematic. This was probably because the deletion of word final consonants made the words ambiguous. For instance, in the miscommunication discussed in extract 8 above, the deletion of /l/ in [bəʊl] made the word ambiguous and this was noted by the hearer when she clarified

by asking “[bəʊl] or [bəʊt]”. Moreover, in daily interactions such miscommunications may resolve themselves as the interaction progresses or the miscommunications are ignored; however, for the tasks in this study the participants needed the precise information to solve the tasks and to move on to the next item. The tasks ‘forced’ the participants to be more attentive to what was said as well as how it was said, ambiguity in terms of the meaning and the mispronunciations were not helpful for effective communication in these situations.

Jenkins (1995) argues that deletion in word initial position has a more serious effect on intelligibility than in word final position. In my data I found only one miscommunication involving deletion in word initial position. This could be due to the limited interactions in this study compared to Jenkins’ (1995) data that was collected over a period of time as well as the shared English available to the participants. More research should be done to compare the deletions in word initial and final position and the effects on intelligibility. In the case of the only instance of word initial consonant deletion in this data, the problem was resolved in the following turn, as the listener used the picture as a guide to decipher what was said. Compared to the word initial deletion, the deletion of medial /ŋ/ in “[æŋgrɪ]” was more serious as the hearer could not understand it despite several attempts by the speaker to explain the word. “[ægrɪ]” did not fit the context and the pictures did not help resolve the problem. Deletions within single words were easier to negotiate and resolve, and were mostly resolved within two or three turns. There were three instances involving deletions within phrases, i.e. “down-side”, “green lake” and

“straight line”, where all three were left unresolved as participants abandoned the phrases and used other words. This section has shown that deletions of consonants also contributed to miscommunications but to a lesser degree than substitutions. In some instances, the deletions of consonants resulted in ambiguous words and non-words that the participants found difficult to decipher as the acoustic signals did not support the contextual cues, i.e. the pictures of the tasks.

4.4.4 Absence of Aspiration

Gimson (2008) states that aspiration in word initial position is an important cue for listeners. Aspiration in English is a distinguishing feature for initial voiceless plosives in a stressed syllable (Collins & Mees, 2003; Deterding & Poedjosoedarmo, 1998; Gimson, 2008; Lass, 1984). The absence of aspiration of voiceless plosives results in 6 instances of miscommunications in the interactions. In extract 9 below, P1ML and P2ML are discussing a picture of a circle with the number eight in the middle of the circle in the jigsaw box task. P2ML has the complete picture, and P1ML has a partial picture of only the number eight. In line 1, after P2ML finishes explaining her picture, P1ML adds that it is “just like a [pʊlkju:]” which probably is the realization for “pool cue”. P2ML gives a non-verbal response “hmmm”. In P1ML’s realization of “pool cue”, the [p] is unaspirated and /u:/ also seems to be reduced to [ʊ] (line 2). P2ML does not use the contextual information (the picture) that she has to help her understand [pʊlkju:]. Sensing P2ML’s problem in understanding [pʊlkju:], P1ML offers “[pʊlbɔ:]” in line 4, which again has the

unaspirated [p] and reduced [ʊ]. In response to this, P2ML repeats “[pʊlbɔl]” with a falling intonation in line 5. Realizing that P2ML still does not understand, P1ML offers another word, i.e. “snooker ball” in line 6 which P2ML immediately understands.

Extract 9: Miscommunication 106: P1ML – P2ML (Jigsaw Box Task: 3027) (Aspiration)

1	P2ML:	number eight
2	P1ML:	number eight oh just like a [pʊlkju:]
3	P2ML:	hmmm
4	P1ML:	[pʊlbɔl]
5	P2ML:	[pʊlbɔl]
6	P1ML:	snooker snooker ball
7	P2ML:	hmmm yup

In the following excerpt, the participants are discussing a picture of a clock showing three o'clock in the jigsaw box task. P9ML has a problem comprehending “[kɔ:təkiʔ]”; which P10ML uses to explain the position of the clock. The initial [k] in “quarter” and “kick” are not aspirated. In response to P9ML’s indication of not understanding “[kɔ:təkiʔ]” in line 2, P10ML uses the phrase [k^hɔ:nək^hɪʔ], where both the instances of [k] are clearly aspirated. P9ML seems to understand this better than “[kɔ:təkiʔ]” and continues with the interaction. The use of aspiration in [k] in line 3 suggests that P10ML probably found the lack of aspiration in [kɔ:təkiʔ] as unintelligible. This could also be as a result of the unfamiliar or inappropriate vocabulary that [kɔ:təkiʔ] entails in this context.

**Extract 10: Miscommunication 108: P9ML – P10ML (Jigsaw Box Task: 853)
(Aspiration)**

1	P10ML:	have it just like you remember when we take a [kɔ:təkɪʔ] when we playing football you remember the the that will be the aaa
2	P9ML:	what
3	P10ML:	what I'm trying to say aaa you remember the the [kʰɔ:nəkʰɪʔ] <i>dari tadi</i> that
4	P9ML:	at the side
5	P10ML:	yaa at the side that is aaa something like aaa a [kwɑ:tə] of circle like [kwɑ:tə] of circle
6	P9ML:	aaa

The six instances of miscommunications that occurred because of lack of aspiration involve the following words/phrases: “take” realized as [tæk], “point” as [pɔɪn]²⁸, “ten” as [ten], “pool cue” as [pʊlkju:], “pool ball” as [pʊlbɔl], and “quarter kick” as [kɔ:təkɪʔ]. Aspiration of voiceless plosives is listed as one of the core features in Jenkins’ LFC (1995, 2000a, 2002a) and is considered as essential in maintaining intelligibility. Although the rate of miscommunications caused by lack of aspiration was relatively low in this study, the two extracts above exemplify that the miscommunications in this two instances were not resolved as quickly as miscommunications caused by substitutions, additions or deletions. In fact, in extract 10, P10ML uses aspiration to overcome the miscommunication he had caused initially by not aspirating [k]. Five of the miscommunications (due to the lack of aspiration) were by the Malay L1 participants. In the Malay sound system all voiceless plosives in initial position are always unaspirated. In fact, Rajadurai

²⁸ Also involves the simplification of word final consonant clusters. The miscommunication could have occurred as a result of a combination of both the processes or just one of the processes. Thus, in such cases, in this study the word is accounted for in both the processes.

(2004b) in her research on ME found that her participants (of Malay, Chinese and Indian ethnicity) rarely aspirated voiceless plosives in an informal context. Rajadurai (2004b, p.149) goes on to argue that in ME the use of aspiration of voiceless plosives is a marked choice and that in some instances pronounced aspiration is considered to convey the impression of a “posh put-on” speech. Deterding and Kirkpatrick (2005) also found, based on spoken data from their participants from the ASEAN region, that aspiration of voiceless plosives in initial position was somewhat reduced without disrupting communication. Lack of aspiration could be a shared feature between all the participants here as it is a feature of ME. This could explain the small number of miscommunications that occurred due to the lack of aspiration.

Although, the literature on ME and English in the ASEAN region suggests that lack of aspiration is a feature that does not disrupt intelligibility, based on the data here, in some instances the lack of aspiration of voiceless plosives obstructs intelligibility. In this study, the lack of aspiration in words and phrases that were important in the tasks seemed to have contributed to intelligibility problems. Brown (1991, p.87) argues that the lack of aspiration may make voiceless plosives sound like their voiced counterparts /b,d,g/ as aspiration rather than voicing distinguishes initial voiceless plosives from voiced plosives. Lack of aspiration of initial voiceless plosives is said to be a feature of ME, however, care needs to be taken as the lack of aspiration may cause miscommunications as shown here, especially when the words are important to the interaction.

4.4.5 Simplifying Word Initial Consonant Clusters

Collin and Mees (2003, p.258) note that “in any language there are constraints on the possible combinations of sounds which occur in consonant clusters.” The following sections (4.4.3, 4.4.4 and 4.4.5 respectively) look at how the constraints of sound sequences of English consonants (the phonotactics) led to intelligibility problems in this study. The first process involves the simplification of word initial consonant clusters where initial consonant segments (onsets) in a word were simplified or reduced by inserting a segment or deleting a segment (Collins & Mees, 2003; Deterding & Poedjosoedarmo, 1998; Gimson, 2008; Lass, 1984). Deterding and Poedjosoedarmo (1998, p.87) note that in English, the structure of the syllable is more complex compared to Mandarin Chinese or Malay as English has both initial and final consonant clusters, and not all sequence of consonants are possible. In English, there can be up to three consonants in initial position (Collins & Mees, 2003).

In this study, the simplification of word initial consonant clusters contributed to the least occurrences of intelligibility problems. There were only 3 instances of miscommunications caused by simplifying word initial consonant clusters. In extract 11 below, P9ML and P10ML are discussing the picture ‘\$71.24’, where P9ML has the picture ‘71.24’ and P10ML has ‘\$’ in the jigsaw box task. When P9ML says “[tentɪ] four cents” in line 3, P10ML repeats it as “[tɜti] four”. In line 5, P10ML says “[twenti] four”, which P10ML then repeats twice. The simplification of the

initial consonant cluster by deleting /w/ in ‘twenty’ leads P10ML to assume that P9ML is referring to “[tʰɪti]” (line 4), which P9ML corrects in line 5 as “[twenti]”.

**Extract 11: Miscommunication 109: P9ML – P10ML (Jigsaw Box Task: 1122)
(Word Initial Consonant Clusters)**

1	P9ML:	seventy hmm seventy one point two four
2	P10ML:	oh that is that must be seventy one dollar
3	P9ML:	aaa and [tɛntɪ] four cents
4	P10ML:	seventy one point [tʰɪti] four
5	P9ML:	point [twenti] four
6	P10ML:	point [twenti] four seventy one point [twenti] four ok
7	P9ML:	so just add a sign of dollar

In the following extract, P9CH is describing the landmark ‘flower garden’ and says “[faʊə]” in line 1. In line 2, P9ML reacts to this by saying “[flaʊə] garden”. In the following turn, P9CH uses “[faʊə]” again, however P9ML does not comment on it and starts discussing another landmark. The simplification of the initial cluster by deleting /l/ in ‘flower’ creates a non-word. P9ML is able to immediately correct P9CH as his map also has the landmark ‘flower garden’. Thus the miscommunication caused by the simplification of the initial consonant cluster in ‘flower’ was resolved within one turn as P9ML used the contextual cue to resolve the miscommunication. However, P9CH maintains his realization of ‘flower’ with the simplified initial consonant cluster in line 3.

Extract 12: Miscommunication 110: P9ML – P9CH (Map Task: 039) (Word Initial Consonant Cluster)

1	P9CH:	three o'clock ok three o'clock a little bit <i>lah</i> a little bit only and then above above line got the landmark that is the [faʊə] garden got or not
2	P9ML:	[flaʊə] garden
3	P9CH:	aaa you you didn't got the [faʊə] garden
4	P9ML:	I have a desert desert

The three instances of miscommunication caused by simplifying word initial consonant clusters were when “twenty” is realized as [tenti], “flower” as [faʊə] and “cross” as [k^hɒs]. Two of the miscommunications involving the simplification of word initial consonant clusters in ‘twenty’ and ‘flower’ were resolved fairly quickly within one or two turns as the hearers had contextual cues (i.e. the pictures) to help them overcome the ambiguity posed by the non-words. In fact, [tenti] was perceived as ‘thirty’ but this was corrected and the miscommunication was resolved fairly quickly.

However, the miscommunication involving ‘cross’ was never resolved and the word was abandoned by the hearer as he could not understand it. There was no direct contextual cue to help overcome the ambiguity surrounding [k^hɒs] as the speaker was actually describing “a symbol of [k^hɒs] of a church”. Word initial consonant clusters are a core feature in the LFC as the simplification of initial consonant clusters is considered to be detrimental to intelligibility (Jenkins, 1995, 2000a, 2002a). Jenkins (2002a) cautions that simplification of word initial consonant clusters is not

permissible if the goal is mutual intelligibility in interactions, especially simplifications via consonant deletions.

Gimson (2008, p.331), in his suggestion for priorities and tolerances for international intelligibility, suggests that as word initial consonant clusters are usually simplified by learners, it is preferable to use an intrusive vowel than to drop a consonant and a medial intrusive vowel is preferable to an initial intrusive vowel. In my data, there were several instances where word initial consonant clusters were simplified via epenthesis or insertion of a segment and these instances did not lead to any miscommunications. For instance, ‘plastic’ realized as [pələ:stɪk], ‘frame’ as [fəreɪm], ‘straight’ as [sətəreɪt] etc. The miscommunications involving word initial consonant clusters only occurred when simplification occurs via consonant deletion. Jenkins (2002a, p.142) notes that epenthesis is not likely to compromise intelligibility as the “underlying form is more easily recoverable”; and that consonant deletion is more of a threat to intelligibility. This can also be applied to word initial consonant clusters as deletions of segments create non-words or ambiguous words that are more difficult for the hearer to process and contextual cues may not be helpful in some instances to resolve the intelligibility problems. This can be seen as in the example of [k^hɒs] in the data above.

4.4.6 Simplifying Word Medial Consonant Clusters

Consonant clusters at word medial position can also be simplified via epenthesis or deletion of a segment (Gimson, 2008; Jenkins, 2000a). Gimson (2008, p.259) states

that word-medial consonant sequences are longer as “they combine syllable-coda and syllable-onset positions.” Following Gimson (2008), in this study, medial consonant clusters are taken to be a combination of syllable-coda and syllable onset in polysyllabic words. The simplification of word medial consonant clusters also contributed to the least miscommunications. There were only three instances of miscommunications that resulted from simplifying word medial consonant clusters. All three simplifications of word medial consonant clusters were of the same word, “umbrella” by two different participants.

In the following exchange, P3CH and P4CH need to synthesize the information to complete the picture of an umbrella in the jigsaw task. After discussing the information they both had, P3CH exclaims that the picture is an “[ʌmbrelə]”. P4CH first gives a non-verbal reaction, “mmm” followed by “[ʌmbelə]”, said very softly. In line 3, P3CH once again says that it is an “[ʌmbrelə]” and also adds “semi circle” (which represents the picture in P4CH’s box). In the following line, P4CH says “semi circle” not “umbrella”. In line 5, P3CH once again says “[ʌmbrelə]” followed by “semi circle”.

**Extract 13: Miscommunication 112: P3CH – P4CH (Jigsaw Box Task: 720)
(Word Medial Consonant Cluster)**

1	P3CH:	ok semi circle bolded oh I know its an [ʌmbrelə]
2	P4CH:	mmm [ʌmbelə] ((very softly))
3	P3CH:	its an [ʌmbrelə] semi circle
4	P4CH:	so semi circle so that means your box is combines two box
5	P3CH:	combine with the below box with an [ʌmbrelə] and then the one with an mmm

with the semi semi circle right

Simplification of word medial consonant clusters only occurred in the pronunciation of “umbrella” where /r/ was dropped in three instances by two different Chinese L1 participants. Another word that was simplified in terms of the medial consonant cluster was “picture”; where on many instances it was simplified to [pɪtʃə] by both the Malay and Chinese L1 participants. However, the simplification of “picture” never led to any intelligibility problems among the participants. Most participants varied between saying [pɪtʃə] and [pɪktʃə], sometimes even within a few seconds of each pronunciation.

The miscommunications caused by simplification of word medial consonant clusters do not seem as serious as those caused by simplification of word initial consonant clusters discussed in Section 4.4.3. The simplification here involved the deletion of [r]. The simplification only occurred among two Chinese L1 participants, who also encountered intelligibility problems as they substituted /r/ with [l] (see Section 4.4.2). This could be an indication that these two participants had problems of approximating /r/ and thus simplified the medial cluster by deleting the [r]. Jenkins (2002a) states that in the LFC, word medial clusters are not important in maintaining intelligibility and the simplification of medial clusters is permissible as long as it follows English L1 rules of deletion. In some instances, medial cluster reduction is a normal process in English, especially in fast speech (Gimson, 2008). Medial cluster reduction is characteristic of ME where clusters of three consonants may be reduced to two

(Baskaran, 2004, 2005a, 2005b). An example, give by Baskaran (2004, p.1040) is the reduction of the medial cluster in ‘umbrage’ [ʌmbrɪdʒ] to [ʌmɪdʒ]. However, in the miscommunications that occurred in this study, the reduction in the consonant cluster was by the deletion of the third feature in the cluster /r/ and not the medial feature /b/ which would normally be deleted as noted by Baskaran (2004, 2005a, 2005b).

4.4.7 Simplifying Word Final Consonant Clusters

In English, consonant clusters also occur at the end of a word (also known as coda at the level of the syllable). There may be two, three or four consonant clusters at the end of a word, but final clusters with four consonants are usually reduced to three by deleting the third element of the cluster (Collins & Mees, 2003; Gimson, 2008). The following miscommunication occurred when P1CH and P2CH were discussing if both their pictures of a cooking pot with handles were similar or different (item 12 in the similar different task). In this interaction, the miscommunication occurs over the word “strange”. P1CH described the handle as being “like the shape our ear”. In line 2, P2CH responded by asking if “anything that look [streɪn] of the shape ear”. P1CH did not understand and asks “look what”. In line 4, P2CH avoided using [streɪn] and tried to explain the shape of the “hanger” which she compared to the shape of an ear. P3CH indicates to P2CH to continue with the explanation and in line 6, P2CH asked if there “is there anything else”. P2CH avoided using [streɪn] again. In line 8, P2CH attempted to explain the phrase once again by adding “anything special” which P1CH still does not comprehend. The simplification of the final cluster in ‘strange’ created a word ‘strain’ that did not fit the context and as P2CH

sensed that the realization [streɪn] was problematic, she avoids using it again. This compounded the intelligibility problem as the P1CH was not exposed to [streɪn] again, and thus was unable to decipher it using the picture.

Extract 14: Miscommunication 115: P1CH – P2CH (Similar Different Task: 1010) (Word Final Consonant Clusters)

1	P1CH:	is a like the shape like our ear
2	P2CH:	is there any mmm anything that look [streɪn] of the shape ear
3	P1CH:	look what
4	P2CH:	the ear you say the hanger just like our ear
5	P1CH:	yes
6	P2CH:	and then is there anything else
7	P1CH:	anything else
8	P2CH:	anything special
9	P1CH:	special
10	P2CH:	aha

In extract 15, P9ML is trying to explain his landmark, ‘desert’ to P9CH, whose map does not have the landmark. The miscommunication occurs over the word “field of sand”. First P9ML says “[sæn]” twice, followed by “[fɪlɒfsæn]”, where the /i:/ is reduced to [ɪ], the consonant cluster in “field” is simplified to [l] and the cluster in “sand” simplified to [n]. The final consonant clusters in both the words, ‘field’ and ‘sand’ are reduced by the deletion of the final plosives. In line 2, P9CH repeats “[fɪl]” with a falling intonation, signaling a miscommunication. P9ML then says “[fɪlɒfsæn]” once again, which P9CH repeats in line 4. In line 5, sensing P9CH’s

confusion, P9ML then says “desert” (P9ML initially had used [fɪlɒfsæn] to explain desert). In line 6, P9CH is still unsure of “desert” and asks if it is a “beach”. The final cluster reduction in the phrase ‘field of sand’ as well as the landmark ‘desert’ which is missing from P9CH’s map, makes it difficult for P9CH to understand the phrase. P9CH associates “sand” with “beach” in line 6. Although both the final cluster reductions in ‘sand’ and ‘field’ follow the rules of cluster reduction of ME (Baskaran, 2004, 2005a, 2005b), the simplifications cause an intelligibility problem as the context does not help the hearer decipher the acoustic signal. ‘Desert’ is an unfamiliar word and an ‘alien or odd landmark’ (see Section 3.2.5.4) that does not fit with the rest of the landmarks in the map. The context of the ‘desert’ landmark and the word final consonant cluster simplification of ‘sand’ and ‘field’ obstruct intelligibility for P9CH and in line 10, P9CH indicates his desire to abandon the discussion related to ‘desert’.

Extract 15: Miscommunication 120: P9CH – P9ML (Map Task: 220) (Word Final Consonant Clusters)

1	P9ML:	desert desert is a [sæn] you know [sæn] the [fɪlɒfsæn]
2	P9CH:	[fɪl] ((falling intonation))
3	P9ML:	[fɪlɒfsæn]
4	P9CH:	[fɪlɒfsæn] ((falling intonation))
5	P9ML:	desert
6	P9CH:	beach ah
7	P9ML:	eh no
8	P9CH:	no no
9	P9ML:	like the <i>padang</i> ²⁹ Sahara you know Sahara

²⁹ **padang* is a Malay word that means ‘field’ in this context, i.e. in Malay a desert is referred to as a ‘field of sand’ (i.e. *padang pasir*) or ‘field of Sahara’ (i.e. *padang pasir Sahara*) as used in line 9.

10	P9CH:	ok never mind aaa
11	P9ML:	in a Arabic you know

Of the three consonant cluster simplification processes, simplifying word final consonant clusters had the most miscommunications. There were 7 instances of miscommunications that were caused by the simplification of word final consonant clusters. The simplifications include the following words/phrases, i.e. “strange” pronounced as [streɪn], “round” as [raʊ], “mount” as [maʊn], “X” as [es], “go box” as [gəʊbɒk], “field of sand” as [fɪlðfsæn] and “end point” as [ɛnp^hɔɪn]. The 7 instances of final cluster simplification caused intelligibility problems as the simplifications created new words that did not fit the context (e.g. [streɪn] and [es]), and non-words or approximations of the words and phrases (e.g. [raʊ], [maʊn], [gəʊbɒk], [fɪlðfsæn] and [ɛnp^hɔɪn]).

Jenkins (2002a) states that in the LFC, final consonant cluster simplifications are permissible (as long as the simplifications follow English L1 rules) as final clusters are quite difficult to articulate smoothly except in slow, careful speech. In ME, final consonant clusters are usually simplified via consonant deletion, usually middle and final plosive deletion, and very rarely via epenthesis (Baskaran, 2004, 2005b; Rajadurai, 2004b). Although the word final consonant clusters in [es], [maʊn], [fɪlðfsæn] and [ɛnp^hɔɪn] were simplified according to ME rules, these pronunciations still caused intelligibility problems. The final cluster simplification in

[streɪn], [gəʊbɒk] and [raʊ] did not follow permissible final cluster simplification rules of L1 English and ME simplification rules. Rajadurai (2004b) notes that in ME, final fricatives and affricates are never deleted in final consonant clusters. However, there were instances in the interactions where most participants varied the use of [bɒk] and [bɒks] for 'box', and there were no intelligibility problems related to these two pronunciations of 'box'. There was only one instance of [gəʊbɒk] where the final cluster reduction of [s] caused a problem. This problem could also be due to the combination of the two words 'go' and 'box' (which is an awkward construction, but the grid box that was being discussed actually had the letters 'GO'). As for [raʊ], the final cluster was deleted altogether.

The miscommunications that occurred in this data due to final cluster simplification were caused both by simplifications that did not adhere to ME and L1 English coda simplification rules. Although Rajadurai (2004b) states that the final word cluster simplifications in ME are redundant as the context the word occurs in is usually sufficient to aid in comprehending the message, for the participants here at least, the full consonant clusters may have been helpful in aiding intelligibility. Final consonant cluster simplification may be a feature of naturalistic speech in L1 English as well as ME; however, there are occasions, as the results here have shown, where the simplification of final consonant clusters contributed to intelligibility problems.

4.5 Summary and Concluding Remarks

This chapter investigated consonant features, aspiration and consonant cluster simplification that obstructed intelligibility in the interactions of a group of Malaysian learners of English. The investigation here was an extension of Jenkins' (1995, 2000a, 2002a) work on the LFC. The analysis was based on miscommunications that occurred in the interactions when speakers and hearers were not in sync in terms of relaying meaning and interpreting the message (Ellis, 1994; Gass & Varonis, 1991; Milroy, 1984; Varonis & Gass, 1985a, 1985b). The miscommunications in the interactions were then investigated in terms of the underlying pronunciation features that may have contributed to the miscommunications. The miscommunications were categorized according to seven phonological processes which included the addition of consonants, substitution of consonants, deletion of consonants, absence of aspiration in voiceless plosives, simplifying word initial consonant clusters, simplifying word medial consonant clusters and simplifying word final consonant clusters. These processes were derived from Jenkins's (1995, 2000a, 2002a) work on the LFC, specifically processes that dealt with core features that were important in maintaining intelligibility in interactions. The following were some of the important findings in this chapter:

- the findings in this study corroborated the findings of the LFC in terms of the two consonant features that were considered non-core in the LFC to maintain intelligibility. In the LFC, the non-use of the phonemes /θ,ð/ did not impede intelligibility (Jenkins, 1995, 2000a, 2002a). The findings of this study corroborated Jenkins' findings regarding /θ,ð/. In this study, there were only

three instances of miscommunications when [t̚] was used instead of /θ/ (refer Appendix 15). Most of the participants, throughout the interactions substituted dental plosives, [t̚] and [d̚] for the dental fricatives, /θ/ and /ð/ without any loss of intelligibility apart from the 3 miscommunications. The use of dental plosives in place of dental fricatives is considered to be a feature of ME (Baskaran, 2004, 2005a, 2005b; Rajadurai, 2004a, 2004b, 2006).

- all the seven phonological processes contributed to the miscommunications, but to varying degrees. The majority of the intelligibility problems occurred due to the substitution of certain consonants. This was followed by deletion of consonants. The two processes with the least miscommunications were simplifying word initial consonant clusters and simplifying word medial consonant clusters. The analysis has shown that most consonant features and certain phonological features were crucial in maintaining intelligibility in the interactions of this group of learners. The findings in this chapter corroborate the pronunciation features identified in Jenkins' (1995, 2000a, 2002a) LFC: the consonant inventory, the aspiration requirement of voiceless plosives and consonant clusters. It was important to retain the core consonants of the LFC to maintain intelligibility among the participants of this study. However, as the analysis here is confined to Malaysian learners of Malay and Chinese L1s, the features are more specific to the context of this study. For example, in this study, some instances of final consonant cluster simplifications, although following permissible rules in L1 English and ME, were found to be problematic to some participants. Another example was the substitution of

final plosives with glottals. This again is considered a natural process in L1 English as well as ME, and is not considered a core feature in maintaining intelligibility in the LFC (Jenkins 1995, 2000a, 2002a; Baskaran, 2004, 2005b). However, there were several instances in this study where the substitution of final plosives with glottals caused intelligibility problems. Despite these differences, which can be taken to account for regional differences of English in Malaysia, the results in this study on the whole supported the findings of Jenkins' LFC.

- there were however some differences between this study and Jenkins' work that should be noted. First, the fluency and proficiency in the English language of the participants in this study were probably different than that of Jenkins' participants. Most of the participants in this study interacted fairly fluently and confidently during the interactions. Most miscommunications were resolved fairly quickly. The participants in this study were efficient in using contextual cues to overcome the miscommunications. Jenkins (1995, 2000a, 2002a) noted that her participants preferred to rely on acoustic signals rather than on the pictures in the task. It was the opposite in this study. My participants were quite adept at using the pictures to finish the tasks and at various times were able to overcome intelligibility problems by relying on the pictures. One other difference from Jenkins' (1995) study is that most of the miscommunications in this study were resolved fairly quickly, with the hearer providing the 'correct' pronunciation and the speaker imitating the 'correct' pronunciation. In some miscommunications, the participants abandoned the

problematic pronunciation altogether and relied on an alternative. One reason for this could be the use of communicative strategies. The use of communicative strategies during miscommunications will be discussed in the following chapter. Another difference from Jenkins' (1995, 2000a, 2002a) work, is the role of English in Malaysia (see Section 2.7). The use of English in Malaysia is widespread. English has existed and evolved in Malaysia in various domains and is used widely with varying proficiency levels. The participants in this study have been exposed to learning English fairly extensively, although the 'English' that they are exposed to is of a L2 variety. Jenkins' (1995, 2000a, 2002a) participants most probably had a more limited exposure to English in their home countries as they are from Expanding Circle countries. The participants of this study also have a common shared cultural background and they have been exposed to a variety of English that is uniquely Malaysian. Jenkins' (1995, 2000a, 2002a) came from different backgrounds and thus the variety of English that they were exposed to and use may be a variable that is not available to my participants. This could be one way to explain the differences between this study and Jenkins' study (1995, 2000a, 2002a).

- most of the consonants and the phonetic features related to the core segmental features in the LFC were found to be important in maintaining intelligibility in this study. One phenomenon that must be highlighted here was that the effect of the variation in the pronunciation of certain features and the interactions. There were instances in the data when the mispronunciation of a segment led

to a miscommunication and there were also times when the same pronunciation did not have any effect on the interaction. This could be traced to the importance of the mispronunciation of the particular segment to the interaction as well as the existence of contextual cues. If the segment that was mispronounced occurred in a word that was pivotal for a task, it led to an intelligibility problem. If the pronunciation created another word that did not fit the context (i.e. the pictures), this also led to an intelligibility problem. Thus, this supports the argument that intelligibility is not a static construct, i.e. the context, the speaker and the hearer as well as the importance of the word or message to the goal of the interaction, are all important factors in determining intelligibility. The data here shows that very rarely variation lead to a complete breakdown in communication. Contextual cues, i.e. the pictures in the tasks, were also utilised actively by the participants in the interactions to overcome intelligibility problems. The participants were adept in using the pictures in negotiating intelligibility problems and most of the miscommunications were resolved fairly quickly and successfully.

The next chapter looks at various communicative strategies that were used to overcome intelligibility problems, i.e. how participants used pronunciation as communicative strategies when they encountered problems understanding each other.

CHAPTER 5

COMMUNICATIVE STRATEGIES AND NEGOTIATING INTELLIGIBILITY

5.1 Introduction

The previous chapter described pronunciation features that obstructed intelligibility in the interactions. This chapter looks at how the participants used and varied phonological features in negotiating and resolving intelligibility problems, i.e. in terms of how they used communicative strategies to resolve intelligibility problems. The discussion in this chapter focuses specifically on the various communicative strategies the participants employed in negotiating and managing intelligibility problems that occurred in the interactions. This chapter offers an interpretive view of how the participants use phonological variation to negotiate intelligibility when there was a miscommunication.

The chapter begins with a brief discussion on the relationship between communicative strategies and intelligibility. This is followed by a description of the framework which was used to locate the communicative strategies in the interactions as well as the different communicative strategies that were examined in this study. Next is the discussion of the limitations and caveats that are relevant to the discussion and analysis in this chapter. The following section presents the analysis and the discussion of the communicative strategies used for negotiating intelligibility and managing miscommunications. The discussion and analysis section includes a

section that looks at the notational conventions employed, an overview of how phonological variation is used to ensure successful communication in the interaction, and the seven communicative strategies identified in this study. The strategies are “let it pass”, speaker explicitly asks if listener understands, listener explicitly indicates non-understanding, participants echo/repeat problematic word, phonological anticipation, phonological adjustments, and use of spelling. The chapter ends with a summary of the chapter and a discussion on the use of the communicative strategies and negotiating intelligibility in the interactions.

5.1.1 Intelligibility and Communicative Strategies

Describing pronunciation features that impede intelligibility is only one facet of intelligibility. In this study, as intelligibility is taken to be a construct that is negotiated between speaker and listener at the locutionary and illocutionary level which requires both the speaker and listener to negotiate what is intelligible to them (Jenkins, 1995, 2000a, 2002a), intelligibility is seen as a ‘dynamic construct’. Intelligibility is constantly being negotiated. Chapter 4 looked at specific pronunciation features that impeded intelligibility in the interactions. Thus it is also essential to study how participants negotiate intelligibility in the interactions, i.e. how the participants resolve the miscommunications. This can be done by examining how the participants use communicative strategies to resolve problems during miscommunications (Watterson, 2008). Here, I will focus only on communicative strategies that involve variation of pronunciation features.

In SLA research, communicative strategies³⁰ are described as planned attempts by learners to express meaning when these learners have problems in the L2 (Bialystok, 1990; Ellis, 1994; Ellis & Barkhuizen, 2005; Gass & Selinker, 2008). Furthermore in SLA, communicative strategies are seen as strategies that compensate for the lack of L2 knowledge and are usually identified as being related to lexis (see Ellis & Barkhuizen, 2005; Gass & Selinker, 2008).

In ELF research, communicative strategies are used by speakers to ensure successful communication and to preserve the “face of participants” (Firth, 1996; Kirkpatrick, 2007a; Meierkord, 2000)³¹. This notion of “preserving the face of participants” is one aspect that distinguishes ELF research from SLA research in the area of communicative strategies (Meierkord, 2000). In ELF, one of the assumptions is that communicative strategies are used for collaborative communication; whereas in SLA, communicative strategies are used for expressing meaning. In this chapter, the analysis adopts the ELF notion that communicative strategies are used to ensure successful communication and for mutual understanding. As intelligibility is one important pre-requisite to ensure successful communication, examining how participants utilize communicative strategies allows us to investigate how participants vary specific pronunciation features that they think may prove problematic to the interaction. In this study, as the focus is on pronunciation, I will look at how

³⁰ Gass and Selinker (2008) distinguish between communicative strategies and learning strategies; where learning strategies are associated with strategies used by individuals learning a L2 and communicative strategies are associated with expressing meaning when there is a difficulty in the L2. Following Gass and Selinker (2008), this study also distinguishes between communicative and learning strategies.

³¹ These are only two of the various communicative strategies discussed in ELF research. There are other strategies that are not discussed here. These two strategies are the most relevant to investigating miscommunications and intelligibility in this context.

participants vary phonological features to ensure successful communication. Communicative strategies are important as Kirkpatrick (2007a) in his study of ELF speakers from the ASEAN³² region found that idiosyncratic pronunciation and a lack of explicitness as the most likely causes to obstruct communication and that the use of non-standard syntactic forms never hindered communication. Investigating communicative strategies can allow us to better understand how L2 users of English use pronunciation features to negotiate intelligibility.

5.2 A Qualitative Perspective of Phonological Intelligibility

The analysis in this chapter presents a qualitative perspective of the interactions. Excerpts of the interactions are used to highlight how the participants use different communicative strategies to negotiate intelligibility in the interactions. Miles and Huberman (1994, p.10) discuss the role of qualitative data as being

...not so much about ‘behavior’ as they are about *actions* (which carry with them intentions and meanings and lead to consequences). Some actions are relatively straightforward; others involve ‘impression management’ – how people want others, including the researcher, to see them. Furthermore, those actions always occur in specific situations within a social and historical context, which deeply influences how they are interpreted by both insiders and the researcher as outsider (*italics in original*).

In relation to this study, analyzing the interactions in a qualitative manner along with the participants’ backgrounds and the context of the interactions (i.e. the tasks) offers a deeper understanding of intelligibility. Looking at intelligibility in this manner,

³² ASEAN stands for the ‘Association of Southeast Nations’ which comprises ten nations, i.e. Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam. The de facto lingua franca is English (Kirkpatrick, 2007a).

offers an insight into the ‘what’ (the features important for maintaining intelligibility) as well as the ‘how’ (how participants vary phonological features when there is an intelligibility problem) aspects related to intelligibility and miscommunications.

A qualitative approach to investigating intelligibility problems also helps in understanding the participants who are important actors in this study. The focus should be on how these participants use and appropriate the language as Widdowson (1994) argues these are the actual “users” of the language. A qualitative approach based on analyzing excerpts of interactions allows us to look at how language is used in a specific context by a specific group of users for a specific reason. In this study, the interactions are representations of how the participants use linguistic resources available to them to complete the tasks. Any linguistic analysis should not lose sight of the participants and the macro-linguistic context that the speech takes place in; and it should also give readers an understanding of who the participants are and not merely present them as numbers and data abstracted from interactions. Having said this, however, during the analysis stage of this study, it was sometimes a struggle to maintain this balance. Analyzing speech data was a time-consuming task and it was very easy to lose track of the participants, their voices and their concerns. One way this problem was reduced was by listening and analyzing the interactions repeatedly. This helped me stay connected to the participants and their interactions. I hope that this chapter allows for the ‘voices’ of the participants to be heard and it showcases their ability in negotiating intelligibility and communicating adeptly in a language that they are still ‘learning’.

Another reason for looking at intelligibility in a qualitative manner is the gap in the literature in terms of examples of interaction based studies on L2 varieties of English, especially in a Malaysian context. As far as I know, till now there has only been one study that looks at intelligibility based on naturalistic data in a Malaysian context i.e. an investigation carried out by Rajadurai (2004b) focusing on proficient speakers of Malaysian English. There is a need of empirical data in contexts where English is used as an intra-national language amongst people who are mostly bilinguals and multilinguals. The English that is used by the participants here is of a L2 variety, and is a shared code among the participants. The participants also share a common cultural background. The cultural and language backgrounds of the participants here are quite dissimilar from participants in ELF and ESL setting. Sridhar and Sridhar (1986, p.12) note that research done on the acquisition of English in countries where English plays an institutionalized role (Malaysia being one), “have remained descriptive and atheoretical, rather than based on rigorous and systematic empirical research”. It is hoped that this study, contributes in a small way to enriching research on intelligibility based on empirical data. It is also hoped that a combination of descriptive and interpretive approaches allow for a deeper understanding of intelligibility.

5.2.1 Framework of Analysis

In the analysis here, short selected excerpts of the interactions are used to exemplify how the participants used various communicative strategies involving pronunciation features to resolve the miscommunications in the interactions. The excerpts are

discussed together with the participants' language backgrounds and the contextual cues (i.e. the tasks and the outcome of the tasks that they were discussing) where possible. It is hoped that the excerpts discussed in this chapter will help illustrate how the participants used and varied pronunciation features to negotiate intelligibility in order to ensure the completion of the tasks.

The strategies discussed here are extrapolated from the miscommunications database (the 123 miscommunications listed in Appendix 15) which were identified and discussed in Chapter 4. The complete list of the miscommunications is shown in Appendix 15. The miscommunications are analysed and categorised in terms of recurrent communicative strategies, i.e. how the participants used various strategies in order to resolve intelligibility problems. These strategies are based on how the participants reacted and co-acted when there were miscommunications. This approach is based on Kirkpatrick's (2007b, p.120) premise that speakers and listeners who speak a range of varieties of English and at different levels of proficiency "will need to adopt specific strategies in order to ensure that communication takes place as freely and smoothly as possible and these strategies are likely to be common to all successful ELF speakers." Most communicative strategies are aimed at collaborative communication and "preserving the face of fellow participants" (Meierkord, 2000; Watterson, 2008). Although Kirkpatrick (2007a), Meierkord (2000), and Watterson (2008) discuss communicative strategies in ELF contexts, I hoped to investigate if the participants in my study who have a shared background of ME also use communication strategies for similar reasons.

The strategies discussed in this chapter mostly originated from general language communicative strategies in ELF contexts (Firth, 1990, 1995, 1996; Kirkpatrick, 2007a; Meierkord, 2000). However, the strategies discussed here are specifically related to the use and variation of pronunciation features to resolve intelligibility problems as opposed to the more general communicative strategies (see Section 5.1.1 of this chapter). Some of the strategies discussed here are similar to the ones discussed by Firth (1990, 1996), Kirkpatrick (2007a) and Meierkord (2000). The strategies examined in this current study were:

- a. “let it pass” (Firth, 1990, 1996)
- b. speaker explicitly asks if listener understands
- c. listener explicitly indicates non-understanding
- d. listener and speaker echo or repeat problematic feature
- e. phonological anticipation
- f. phonological adjustments
- g. use of spelling.

5.2.2 Caveats

One of the limitations of the analysis in this chapter was that not all the miscommunications could be analysed in terms of the strategies due to the constraints of this study. I focused on these seven strategies that I found most recurrent in the data. The strategies identified in this study are not exhaustive. The analysis also has to be interpreted in the context of this study as the interactions here were based on elicited data based on specific information gap tasks. The analysis was based on the

turns that occur in the interactions and the participants' reactions to each other in terms of what was said as the interaction unfolds. The analysis is based on the notion that the turns and contexts of the interactions can provide us with an understanding of the communicative strategies used to overcome intelligibility problems (see Firth, 1990, 1996). No attempts were made to elicit the participants' thoughts on what was happening during the interactions; i.e. participants were not asked to listen to the interactions and comment on what they were doing during the interactions. As discussed in Section 3.2.3, the post-interaction discussion could not be carried out due to time constraints.

5.3 Analysis: Strategies for Negotiating Intelligibility and Managing Miscommunications

This section looks at the analysis and discussion of the seven communicative strategies that were examined in this study. First, a brief description of the transcription conventions used in the analysis is given. This is followed by the discussion of the seven communicative strategies which will be explained using extracts from the interactions.

5.3.1 Notational Conventions

Throughout the analysis and the discussion, extracts of selected interactions will be presented and discussed to exemplify the strategies and the underlying pronunciation features. The title of the extract contains the code that refers to the participants (e.g. P1ML), the task (e.g. jigsaw task) as well as the time of the interaction (e.g. 240). Thus "Extract 1: P3CH – P7ML (Map Task: 440)" represents an extract of an

interaction between P3CH and P7ML in the map task at 440. Each turn is represented with a line number, indicated at the left hand side of the participant code. The line numbers will be used in the discussion to refer to the turns. The complete transcription conventions used throughout this study are shown in Appendix 13.

In discussing the communicative strategies, some contextual information as to how the participants completed the tasks (the end product) as well as the participants' language backgrounds will also be discussed, where necessary. Phonetic transcription will be given for the specific word(s) or phrase(s) relevant to the argument or to explain a particular pronunciation or realization of a word. As this study primarily focuses on consonantal segments, consonant clusters and aspiration, the transcription does not include word stress and vowels.

5.3.2 Phonological Variation for Successful Communication

Before discussing the seven communicative strategies, I will first discuss part of an interaction between P7CH and P11ML to exemplify how these two participants varied pronunciation features to ensure successful communication.

Extract 16: P7CH – P11ML (Picture Description Task: 230)

1	P7CH:	mmm and he never think that what will be done by the monkeys and so he will having a rest and sleep for a while under the tree since when he sleep sleeping under the trees the monkeys is coming down and take his [hed] (pause 3 seconds)
2	P11ML:	his [hæt]
3	P7CH:	[hæt] and then after that the [hæt] sellers will realise the monkeys the five monkeys is taking his [hæt] and wearing the [hæts] aaa on the tree
4	P11ML:	so he is in shock and he is scolding the monkey
5	P7CH:	mmm

6	P11ML:	and the monkeys is following him
7	P7CH:	haa so he thinks a ways to get the monkeys to throw the [hæt] down so he try to scratch his [hed] and then the monkeys will will also be following the [hæt] sellers to scratch their [hæds] and then after that the [hæt] seller will be throw away his
8	P11ML:	[hæt]
9	P7CH:	[hæt] and then all the monkeys will also follow the actions of the [hæt] seller and they throw aways their [hæts]
10	P11ML:	so the [hed] seller er [hæt] seller is getting back the his [hæt] so this is the end ok thanks

Extract 16, highlights how the participants' varied the pronunciation of 'hat' in order to ensure the smooth flow of their conversation and to complete the task. The different variations of 'hat' are in bold throughout the extract. In line 1, P7CH pronounces 'hat' as "[hed]" and there is a pause of 3 seconds and in the next line, P11ML says "his [hæt]" in response to P7CH's sentence. In line 3, P7CH says P11ML's pronunciation of 'hat', i.e. "[hæt]" four times when describing the next picture in the task. After 3 turns, in line 7, P7CH successfully makes a distinction between [hæt] and [hed]. In line 8, P11ML completes P7CH's sentence and says "[hæt]" in anticipation. P7CH continues describing the picture (line 9) without any hesitation or pause. P7CH never displays any irritation or uncertainty when P11ML says "[hæt]" throughout the interaction; in fact, P7CH adopts it and uses it successfully once it is introduced by P11ML (line 9). This short extract exemplifies the cooperation and mutual understanding between the two participants who are focused on completing the task. One participant subtly corrected the other participant's pronunciation of 'hat'. The correction was accepted and used in the

ensuing turns. There seemed to be no underlying tension or uncertainty that disrupted the interaction.

Extract 17: P9CH – P9ML (Map Task: 2031)

1	P9CH:	and then and then after that you didn't got the green [grɪnle?] is it
2	P9ML:	aha
3	P9CH:	Ok
4	P9ML:	[grɪnleɪk]
5	P9CH:	[grɪnle?] aaa actually I tell you riverview park from the riverview park
6	P9ML:	Hmmm
7	P9CH:	around one o'clock
8	P9ML:	aaa one o'clock
9	P9CH:	one o'clock around one o'clock got the [grɪnle?]
10	P9ML:	[grɪ:nleɪk]
11	P9CH:	aaa got [grɪnle?]
12	P9ML:	G-R-E-E-N [grɪ:n]
13	P9CH:	[grɪn]
14	P9ML:	aha
15	P9CH:	the colour of [grɪn] and then [leɪg]
16	P9ML:	ok
17	P9CH:	maybe my [prənaʊ] is not
18	P9ML:	ok ok
19	P9CH:	ok
20	P9ML:	so

The interaction in the extract above is slightly different from the interaction in Extract 16. In extract 17, there is tension between the participants due to P9CH

pronunciation of ‘green lake’. The turn of events leads to P9CH explicitly apologizing for his pronunciation; which P9CH refers to as [prənaũ], after his partner, P9ML tries various communicative strategies to explain the ‘green lake’ landmark (line 17). The two participants in this extract employed various communicative strategies that included the “let it pass” strategy (line 2), echoing the phrase (line 5), explicit correction (line 10) and spelling the word (line 12). Finally, in line 17, P9CH declares that his pronunciation may be the cause of the problem, but P9ML glosses over P9CH’s admission by saying “okay okay” and they continue with the interaction. There are no uneasy moments or a breakdown in communication. There was a high level of cooperation and understanding among the two participants.

In the following sections, I look at specific communicative strategies employed by the participants. The strategies are grouped according to the categories listed in Section 5.2.1. Each section starts with a general description of a particular communicative strategy and how the strategy is interpreted in this study. This is followed by a discussion on how the participants use the particular communicative strategy when there is a miscommunication in the interaction. Extracts of the interactions are used to exemplify the strategies that are used. In some extracts the participants employed more than one of the communicative strategies (as shown in extract 18 above), the focus of a particular section will only be the strategy being discussed. This is to foreground the particular strategy being discussed.

5.3.3 Strategy 1: “Let it pass”

The “let it pass” strategy was first introduced by Firth (1996, p.243) to describe a strategy that a hearer adopts when facing problems in understanding a speaker’s utterance and “lets the unknown or unclear action, word or utterance ‘pass’ on the (common-sense) assumption that it will either become clear or redundant as talk progresses.” Firth (1996, p.244), further adds that there is no way of being sure if these problems are genuinely missed by the hearer or whether they were heard by the hearer and allowed to pass but argues that as the interaction unfolds it is possible to analyse the participants’ orientations and reactions “to identify both the ‘let it pass’ procedure in operation, and its interactional consequence”. The effect of a “let it pass” strategy can lead to the speakers ignoring the problematic utterance/word altogether and to abandon the topic or point being discussed. However, sometimes if the information is important, speakers may need to discuss the problematic utterance/word once again. Detailed transcripts and recordings of interactions allow for the analysis of interactions as they unfold and thus enable the detection of the “let it pass” strategy. In most face-to-face communication the “let it pass” strategy is usually not detected given the dynamic nature of speech.

Firth (1990, 1996) discusses the “let it pass” strategy as a general communicative strategy used in ELF contexts. Kirkpatrick (2007a) also notes instances in his data where the pronunciation of “taught” is realized as “[tɔtʃ]”, and this was allowed to pass and did not hinder communication. In this study, there were also instances where the participants used the “let it pass” strategy when they had problems

understanding certain pronunciations. In the analysis here I have extended the “let it pass” strategy to investigate how speakers and listeners allow certain pronunciations to ‘pass’. I will discuss three instances that occurred where the participants employed the “let it pass” strategy when they came across a pronunciation of an utterance that was problematic. In these three instances, although, it seemed that a particular pronunciation was problematic to the communication, the interlocutors did not indicate openly that the pronunciations of certain words or phrases were problematic. Rather, the participants used the ensuing turns to try and decipher the pronunciation.

5.3.3.1 P9ML – P10ML (Similar Different Task)

Extract 18: P9ML – P10ML (Similar Different Task: 519)

1	P10ML:	so it same so number six I have an [ɪləfən] here [elɪfən]
2	P9ML:	yes
3	P10ML:	mmm this [elɪfən] or a small elephant which have a [tel]
4	P9ML:	mmm
5	P10ML:	do your elephant has any [tel]
6	P9ML:	no
7	P10ML:	aaa
8	P9ML:	how about its ear the elephant ear go down or go up
9	P10ML:	go down
10	P9ML:	ok the same
11	P10ML:	how about the <i>belalai</i> ³³
12	P9ML:	mine the <i>belalai</i> 's go up
13	P10ML:	oh it the same same
14	P9ML:	same
15	P10ML:	yes

³³ *belalai* is a Malay word that means ‘trunk’ (of an elephant) in this context.

16	P9ML:	and you have same water
17	P10ML:	no
18	P9ML:	no
19	P10ML:	because my elephant don't don't have any water here so
20	P9ML:	no
21	P10ML:	oh so different

In extract 18, P10ML uses “[tel]” when describing the picture of an elephant. The target word here is “tail” which is realized instead as [tel]. The first time P10ML uses [tel], P9ML responds with a non-verbal answer, “mmm” (line 5), which acts as a back-channel. P10ML continues with the description. In line 3, P10ML explicitly asks if P9ML’s elephant has a [tel]. P9ML replies that his elephant does not have a [tel], although in P9ML’s picture the elephant has a ‘tail’. Instead of declaring that the pictures are different as required by the tasks and moving on to the following picture, in the following turn (line 8), P9ML continues asking questions. The participants even code-switch to Malay (the L1 of both the participants) using the Malay word “belalai” which stands for the ‘trunk’ (of an elephant) (line 11).

Another observation about this exchange is that both the participants co-operated with each other in taking turns to ask and answer questions and they were focused on the task as they did not stop until they discussed all aspects related to the elephant. When P10ML said [tel], even though P9ML replied that his elephant had no [tel], both the participants instead of declaring that their pictures were different, continued discussing other aspects related to the elephant. The participants were probably

unsure of that particular detail which stemmed from P10ML's pronunciation of [tel]. P9ML used the "let it pass" strategy and even gave a wrong response to P10ML's question regarding [tel], but P9ML never asked P10ML to clarify [tel]. Unlike their earlier exchanges, this exchange centred on [tel] stands out as even though both participants said that their elephants had no [tel], they did not stop the discussion. In their earlier exchanges as soon as they found one difference in the pictures they moved on with another item. For this item, these two participants continued describing the elephant despite P10ML's statement in line 10 that his elephant did not have a [tel]. They both got the correct answers at the end of the task, i.e. both their pictures were different. A sample of the similar different task that these participants discussed is shown in Appendix 3.

5.3.3.2 P7ML – P8ML (Jigsaw Box Task)

Extract 19: P7ML – P8ML (Jigsaw Box Task: 725)

1	P8ML:	look like house have triangle aaa have circle eh circle have a square
2	P7ML:	square
3	P8ML:	er triangle and a small square in the big square have three square
4	P7ML:	three square
5	P8ML:	aaa three small square like look like a [nu:də]
6	P7ML:	ok
7	P8ML:	ok have one door
8	P7ML:	one door
9	P8ML:	aaa and
10	P7ML:	three window
11	P8ML:	three window
12	P7ML:	aaa

13	P8ML:	and one door
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In the extract above, P8ML is describing her picture of a house to P7ML for the jigsaw box task. P7ML has an incomplete picture of the house, whereas P8ML has the full version of this particular item – the house. In line 3, P8ML uses “[nu:də]” to describe the three small squares of the house (i.e. the two windows and door). The target word for this interaction cannot be ascertained. However, unlike the turns before where P7ML repeats most of the information that P8ML offers, for [nu:də], P7ML merely responds with an “ok” and the exchange continues with P8ML going on to describe the other features of the house. P7ML continues repeating the information that P8ML offers. P7ML’s response to [nu:də] in line 6 indicates that she does not understand it, but instead of clarifying [nu:də] with P8ML, P7ML adopts the “let it pass” strategy in the hope that P8ML will supply more information and [nu:də] gets clarified in the ensuing turns. P7ML completes the picture of the house successfully and [nu:də] is never mentioned again by P7ML and P8ML.

5.3.3.3 P1ML – P2ML (Similar Different Task)

Extract 20: P1ML – P2ML (Similar Different Task: 1116)

1	P2ML:	I have like a pot
2	P1ML:	oh
3	P2ML:	and have a [ledəd]
4	P1ML:	ok
5	P2ML:	[ledəd] on the right hand side and pot have mmm

6	P1ML:	curry
7	P2ML:	no no like a water on it in it
8	P1ML:	aha
9	P2ML:	and have what you call it <i>apa</i> ³⁴ the handle
10	P1ML:	yes
11	P2ML:	ear handle two
12	P1ML:	ok and
13	P2ML:	and you same
14	P1ML:	yup it goes same to me
15	P2ML:	your [ledəd] on
16	P1ML:	on the right side

In extract 20, P1ML and P2ML are discussing item number 12 in the similar different task, i.e. a picture of a pot with a ladle in it. The word that causes the miscommunication in this interaction is ‘ladle’. In line 3, P2ML introduces “[ledəd]”, to which P1ML responds with an “ok” (line 4). There is no indication if P1ML understands [ledəd]. Both their pictures show the pot with the ladle in it. In the next line, P2ML says “on the right hand side”; and this provides P1ML the information to decipher [ledəd]. In line 15, P2ML directly asks P1ML about the position of her [ledəd], and only then P1ML responds directly to [ledəd]. However, P1ML never mentions [ledəd] aloud. P1ML adopts the “let it pass” strategy to allow P2ML to continue explaining her picture in the hope that [ledəd] gets clarified in the exchange.

³⁴ *apa* is a Malay word that means ‘what’ in this context.

The picture also helps as it allows P1ML to guess the meaning of [ledəd], especially when P2ML mentions its position on the right side of the pot.

5.3.4 Strategy 2: Speaker Explicitly Asks If Listener Understands

Another strategy that emerged from the interactions is when the speaker explicitly asks if the listener understands. Kirkpatrick (2007a) does not discuss this communicative strategy specifically, but instead looks at speakers being explicit about the topic and paraphrasing the question. However, there were several instances in the interactions here where instead of letting intelligibility problems pass as in the “let it pass” strategy above, the speakers actively monitored the listeners’ understanding of what was said. These instances were evident when the speaker(s) used some pronunciation features that interfered with intelligibility. This could indicate that speakers monitored their own speech and may be aware of certain features of their speech that may impede or affect intelligibility.

5.3.4.1 P9CH – P9ML (Map Task)

Extract 21: P9CH – P9ML (Map Task: 1612)

1	P9CH:	you know you know also in the [krenəleg] place after that beside the [krenəleg] got the [flɒʔ] [sæŋtuəli]
2	P9ML:	aaa
3	P9CH:	aaa so you draw the [laɪ] above the above the [flɒʔ] [klɒʔ] [sæŋtuəli] not under the the [flɒʔsæŋtuəli] above the [flɒʔsæŋtuəli] you know you got it
4	P9ML:	ok
5	P9CH:	above for the
6	P9ML:	[frɒŋ] [sæŋtʃuəri]
7	P9CH:	ok and then after that you straight down go straight down go straight down go

straight down do you see the golf course
--

Extract 21, above, exemplifies how P9CH is describing the route from the ‘crane lake’ landmark to the ‘frog sanctuary’ landmark in the map task to P9ML. Based on P9CH’s description, P9ML needs to draw the route on his map. In response to P9CH’s description in line 1, P9ML gives a non-verbal response, “aaa” and P9CH continues with his description. But sensing that P9ML may not have understood what he has said as P9CH³⁵ directly asks P9ML if he understands his explanation. P9ML responds by saying “ok”. Not satisfied with this, P9CH then checks P9ML’s understanding by asking P9ML to give the location of the “line” to which P9ML replies with “[frɒg] [sæŋtʃʊəri]”. Once P9ML replies, the interaction continues smoothly.

P9CH may have felt that his pronunciation of some words could be problematic for P9ML and immediately checked by asking if P9ML understood. In the example above, the intelligibility problem arose due to P9CH’s speech which at stretches was not intelligible. P9CH realised this and knew that it was important for his listener to understand the information in order to complete the task, thus P9CH explicitly asked his partner if he understood what was said. P9CH later on in this same interaction (see Section 5.3.2) apologizes for his pronunciation as he felt that it contributed to some of the problems in the interaction. In the post-interaction questionnaire (Appendix 9), P9ML indicated that he found interacting with a partner in the SLD session easier than interacting with his partner in the DLD session (i.e. P9CH).

³⁵ At 2053 of this same task, P9CH actually acknowledges that his pronunciation may be a problem.

P9CH, on the other hand, indicated in the post-interaction questionnaire that it was easier for him to interact with P9ML than his other partner in the SLD. P9CH and P9ML responses to the post-interaction questionnaire are shown in Appendix 18.

5.3.4.2 P9ML – P10ML (Similar Different Task)

Extract 22: P9ML – P10ML (Similar Different Task: 1130)

1	P10ML:	so number ten I have a book book which
2	P9ML:	picture
3	P10ML:	the left side got the picture aaa picture of a woman and at the right side words Mary nineteen eighty five
4	P9ML:	aaa same like me and how about the picture is it the hair of the picture is short or long
5	P10ML:	of course short aaa of course long because it is aaa
6	P9ML:	it is
7	P10ML:	aaa it is like this ((gestures length of hair))
8	P9ML:	okay it's the same same same same like me
9	P10ML:	aaa does the picture have any [frem] [frem] [frem] you know what I mean
10	P9ML:	aaa yes yes I think ((inaudible))
11	P10ML:	ok
12	P9ML:	I think the same
13	P10ML:	same ok number

Extract 22 above exemplifies another instance where the speaker (P10ML) explicitly asks if the interlocutor comprehends what has been said. In this extract, the participants are describing a picture depicting a page from an album that has a drawing of a woman (similar different task, picture number 10). In line 1, P10ML describes the picture as a “book” to which P9ML supplies “picture”. P10ML accepts P9ML’s suggestion and in line 3 onwards starts using “picture” and elaborates on the

details of the picture. The interaction progresses smoothly until P10ML says “[frem]” which he says three times (line 9). Here the target word is actually “frame”. Immediately after saying [frem] for the third consecutive time, P10ML checks if P9ML has understood by asking “you know what I mean”. This can be an indication that P10ML felt that there was something amiss with what he was saying, and checked by asking P9ML explicitly if he understood. As the task involved interpreting information based on pictures, both the participants had to rely on the acoustic signals as well as the pictures to help them decipher what was said. P10ML monitored his speech and realised that certain aspects of his speech were problematic. Thus P10ML checked if P9ML understood by using a communicative strategy of explicitly asking if the message has been understood.

5.3.4.3 P1ML – P2ML (Jigsaw Box Task)

Extract 23: P1ML – P2ML (Jigsaw Box Task: 400)

1	P1ML:	ok you just draw a line straight
2	P2ML:	horizontal or vertical
3	P1ML:	vertical
4	P2ML:	vertical up and down ah
5	P1ML:	yaa up and down but at the end of the straight line you should draw just like an arrow
6	P2ML:	arrow arrow
7	P1ML:	but don't have a side mmm arrow should not have its what do you call that
8	P2ML:	I don't know ((laughs)) arrow coloured or just line
9	P1ML:	you should make it [tɪkə] [tɪkə] just like er do you get it
10	P2ML:	no
11	P1ML:	ok just draw draw a line ok
12	P2ML:	down right

- | | | |
|----|-------|--|
| 13 | P1ML: | ok vertically |
| 14 | P2ML: | mmm |
| 15 | P1ML: | ok |
| 16 | P2ML: | you want me to draw or just do it a line arrow |
| 17 | P1ML: | in this picture its the line is [tɪkə] |
| 18 | P2ML: | [tɪkə] ok line <i>ni</i> ³⁶ |
| 19 | P1ML: | you may double it and colour it |
| 20 | P2ML: | double and colour it |
| 21 | P1ML: | mmm just like ok you draw a line right |
| 22 | P2ML: | aha |
| 23 | P1ML: | and you make it [tɪkə] |
| 24 | P2ML: | the thing like |
| 25 | P1ML: | an antenna |
| 26 | P2ML: | an antenna |
| 27 | P1ML: | ok it ok you just draw a line |

In extracts 21 and 22, the speakers used the communicative strategy of checking to see if their listeners understood the message and the intelligibility problems were resolved fairly quickly. However, in extract 23, the intelligibility problem was not resolved and the participants gave up and moved on to the next item. The word that caused the problem was the mispronunciation of “thicker”. In the exchange in extract 23, P1ML and P2ML were discussing a mathematical symbol of ‘unequal’ (i.e. \neq) and the vertical line was shaped like an arrow at the bottom. For this picture, P1ML had

³⁶ *ni* is a Malay abbreviation of *ini* which means “this”.

all the information and P2ML had an empty box. P1ML needed to relay the information she had so that P2ML could draw the symbol of unequal in her box.

The problem starts in line 9 when P1ML uses “[t̪ikə]” (repeated twice) to describe the vertical line and then immediately asks P2ML “do you get it”. Instances of [t̪ikə] are in bold in the extract. P2ML indicates that she does not understand (line 10). [t̪ikə] is not mentioned again until line 17 when P1ML once again says that the “the line is [t̪ikə]”. P2ML says “[t̪ikə]” with a falling intonation, an indication that she still does not understand it. In line 19, P1ML rephrases and says “you may double it and colour it”, which P2ML repeats. In line 19, P1ML meant to say that P2ML should make the line thick. In lines 21 and 23, P1ML once again rephrases the message and asks P2ML to “draw a line” and then “and you make it [t̪ikə]”. P2ML still does not understand and tries to describe the picture in terms of its similarity with an antenna, to which P1ML finally states “ok it ok you just draw a line” and abandons [t̪ikə]. P2ML drew this picture wrongly in the end. Both the participants tried various strategies in trying to get the information across and the intelligibility problem started with the use of [t̪ikə].

P1ML uses the communicative strategy of explicitly asking P2ML if she understands (line 9), but it does not work. As discussed in Chapter 4, this was the only incident in the recorded data where the substitution of [t̪] in place of /θ/ caused a problem for the participants. Despite various strategies used like asking explicitly, rephrasing,

repeating the word, P2ML could not understand [tɪkə]. After several attempts, both the participants moved on to another item, and this item was abandoned. This could have been caused by the importance of the word [tɪkə] in this context and also P2ML does not have any contextual clue about the box being discussed. P2ML has an empty box, and P1ML has all the information. Thus here the substitution of [t] in place of /θ/ and the unavailability of any contextual clue compounds the problem.

5.3.5 Strategy 3: Listener Explicitly Indicates Non-understanding

Another communicative strategy used is when the listener explicitly indicates non-understanding or indicates that there is a problem and asks for clarifications by repeating the problematic pronunciation to indicate an intelligibility problem. Kirkpatrick (2007a, pp. 125 - 128) lists signalling “a request for repetition”, “requesting for clarification” and “direct indication of non-understanding” as separate communicative strategies. Kirkpatrick (2007a) discusses these strategies as either being initiated by the listener or speaker. However, in my data I found that it was usually the listener who indicated non-understanding through an explicit indication of non-understanding (5.3.5.1; 5.3.5.2), and requesting for a repetition (5.3.5.3).

5.3.5.1 P9CH – P9ML (Social Interaction)

Extract 24: P9CH – P9ML (Social Interaction: 139)

1	P9CH:	oh ok how about any [ətreksən] [ples] in at the <i>Ipoh</i> ³⁷
2	P9ML:	what
3	P9CH:	[ətreksən] [pleis] the interesting [pleis]

³⁷ *Ipoh* is a name of a town in Malaysia

4	P9ML:	interesting place aaa
5	P9CH:	something like
6	P9ML:	there is a waterfall in <i>Tambun</i> ³⁸

In extract 24 above, the miscommunication occurs when P9CH asks about “any [ətɹeksən] [ples]”. P9ML immediately reacts and asks “what”, indicating a problem in understanding what is said by P9CH (line 2). Here, P9ML cannot use the “let it pass” strategy as the phrase is important for the continuation of the interaction. P9CH still retains [ətɹeksən] but changes [ples] to “[pleɪs]” (line 3). P9CH probably realizes that [ətɹeksən] may be problematic for P9ML and thus adds “interesting” and says “interesting [pleɪs]”. P9ML continues with the interaction once P9CH provides “interesting place” and manages to answer P9CH’s question.

5.3.5.2 P9CH – P9ML (Map Task)

Extract 25: P9CH – P9ML (Map Task: 052)

1	P9ML:	I have a [dɪʒət] [deʒət]
2	P9CH:	what what is it
3	P9ML:	[deʒət]
4	P9CH:	[dɪʒət]
5	P9ML:	aaa
6	P9CH:	oh ok
7	P9ML:	you got or not
8	P9CH:	under under your railway station what the landmark you are
9	P9ML:	I have under after the [deʒət] and aaa on the right is flower garden

³⁸ *Tambun* is also a name of a town in Malaysia.

10	P9CH:	ok my my picture here didn't got the	[[dɪzət]
11	P9ML:		[[dezət]
12	P9CH:	ok so we we ignore the	[[dɪzət]
13	P9ML:		[[dezət]
14	P9CH:	we ignore the	
15	P9ML:	so	

Extract 25 exemplifies another instance of the listener indicating that there is a problem in the interaction. The interaction above involves P9CH and P9ML discussing the landmark “desert” in the map task. At first, P9ML gives two different pronunciations of ‘desert’ as “[dɪzət]” followed by “[dezət]” (line 1). In line 2, P9CH indicates that he does not understand as this landmark does not appear in his map and asks “what what is it”. P9ML repeats “[dezət]” which P9CH repeats as “[dɪzət]”. In line 6, P9CH gives a vague response as to whether he understands by saying “oh ok”, and P9ML tries to confirm by asking “you got or not”. In line 8, P9CH once again tries to elicit ‘desert’; which leads to P9ML trying to describe the position of the ‘desert’ landmark. P9CH then indicates that his map does not have ‘desert’. When P9CH says “[dɪzət]”, P9ML simultaneously says “[dezət]” in lines 12 and 13. In line 14, P9CH suggests that they ignore ‘desert’. P9ML agrees and they start discussing the next landmark.

5.3.5.3 P1CH – P2CH (Similar Different Task)

Extract 26: P1CH – P2CH (Similar Different Task: 958)

1	P1CH:	I think the the teapot
2	P2CH:	aha
3	P1CH:	the hanger
4	P2CH:	aha
5	P1CH:	is a like the shape like our ear
6	P2CH:	is there any mmm anything that look [strein] of the shape ear
7	P1CH:	look what
8	P2CH:	the ear you say the hanger just like our ear
9	P1CH:	yes
10	P2CH:	and then is there anything else
11	P1CH:	anything else
12	P2CH:	anything special
13	P1CH:	special
14	P2CH:	aha
15	P1CH:	the design got mm the design I think is got some different
16	P2CH:	what different
17	P1CH:	what different I don't know how to talk about it
18	P2CH:	so you mean the curve there is not a perfect curve is there is something else is it

In extract 26, P1CH asks for clarification in reaction to P2CH's question "is there any mmm anything that look [strein] of the shape ear". [strein] is a mispronunciation of 'strange'. As P1CH is unable to answer the question, she immediately seeks clarification and says "look what" with a falling intonation. In line 8, P2CH tries to clarify P1CH's question. The next few turns exemplify an exchange where P2CH actively avoids saying "[strein]", as she realizes that it is a problematic

pronunciation. In fact, in line 10, P2CH re-phrases “look [strem]” as “anything else” (which P1CH also does not understand) and in line 12, P2CH asks if there is “anything special” about the teapot. P1CH finally understands that P2CH is trying to explain the “design” of the teapot. They both get the answer right for this picture which is different in both their sets of tasks.

5.3.6 Strategy 4: Participants Echo/Repeat Problematic Word

Kirkpatrick (2007a) reports one other communicative strategy that some his participants used which involves repeating unknown words with a questioning tone. The examples that Kirkpatrick (2007a) cites involve lexical items. Similarly, in my data, I found that the participants frequently repeated or echoed problematic words. In all three examples that I discuss below, the participants echoed or repeated the words that had ‘idiosyncratic’ pronunciation that seemed to be problematic to them.

5.3.6.1 P2CH – P3ML (Picture Description Task)

Extract 27: P2CH – P3ML (Picture Description Task: 157)

1	P2CH:	from the monkey which one first ah
2	P3ML:	don't you think he [əgrɪ] with monkey first
3	P2CH:	[əgrɪ] with monkey ((falling intonation))
4	P3ML:	[æŋgrɪ] [æŋgrɪ]
5	P2CH:	[æŋgrɪ] [æŋgrɪ] first ah you think
6	P3ML:	I think [əgrɪ] [æŋgrɪ] first and then he what you call touch his head and laugh
7	P2CH:	I don't understand you so the first picture is aaa a man is sitting under the tree and then the second one is he is sleeping there
8	P3ML:	mmm

In extract 27, P2CH and P3ML are discussing the picture description task. The miscommunication occurs in line 2 when P3ML says “[əgrɪ] with monkey first”. Here the target word is ‘agree’. P2CH immediately seeks clarification by repeating the phrase “[əgrɪ] with monkey” with a falling tone, signalling the need for clarification. This prompts P3ML to re-check her pronunciation and she self-corrects in line 4 and says “[æŋgrɪ] [æŋgrɪ]”. P2CH accepts this and repeats “[æŋgrɪ] [æŋgrɪ] first ah you think” (line 5), as this seems to correspond to one of the pictures that she has. In line 6, P3ML again says “[əgrɪ]”, which she quickly self-corrects to “[æŋgrɪ]”. P2CH indicates that she still does not understand the sequence suggested by P3ML and the exchange continues (this part is not discussed here). In this excerpt both the participants manage to resolve the miscommunication that centred on “[əgrɪ]” by promptly repeating the word “[əgrɪ]” which did not fit in the context of the picture description.

5.3.6.2 P7CH – P8CH (Jigsaw Box Task)

Extract 28: P7CH – P8CH (Jigsaw Box Task: 720)

1	P8CH:	ok for the third third box
2	P7CH:	third box yes
3	P8CH:	third box is a
4	P7CH:	[kɜf]
5	P8CH:	[kɜf] ((falling intonation))
6	P7CH:	[kɜf] aaa only the [kɜf] I mean like [en]
7	P8CH:	[en] ((falling tone))
8	P7CH:	[en] a bit [kɜf] just only a [en]
9	P8CH:	ok your [kɜf] is about what shape of the [kɜf]

10	P7CH:	aaa it looks like a circle
11	P8CH:	ok
12	P7CH:	but only a half of a circle

In extract 28 above, the participants are discussing the top half picture of an umbrella in the jigsaw box task. Both the participants have partial information of this particular picture, i.e. P7CH has a horizontal line and P8CH has a curved line in their respective boxes. They both need to combine their information to complete the picture. In line 4, P7CH says that his third box is a “[kɜf]”, which P8CH promptly repeats with falling intonation (line 5). ‘[kɜf]’ is probably a mispronunciation of ‘curve’. All the instances of [kɜf] are shown in bold. Sensing that P8CH may not have understood [kɜf], P7CH responds by elaborating and explaining [kɜf], by saying “[kɜf] aaa only the [kɜf] I mean like [en]” (line 6). P8CH again repeats “[en]” with a falling tone (line 7). In line 8, P7CH tries once more to explain [kɜf] and its similarity to [en]. P8CH still does not understand and finally asks “ok your [kɜf] is about what shape of the [kɜf]”, indicating that P7CH’s explanation of the similarity between [kɜf] and [en] did not help clarify [kɜf]. The mispronunciation [kɜf] creates a non-word which is then mapped onto the ‘the shape of the letter [en]’. This probably confused P8CH, who could not comprehend the shape that P7CH explained. P7CH realizes at this point that [kɜf] may be problematic, so in line 10, he uses “half circle” to explain his picture which P8CH understands. Both the participants manage to draw the picture of the umbrella to complete the task.

5.3.6.3 P1ML – P2ML (Jigsaw Box Task)

Extract 29: P1ML – P2ML (Jigsaw Box Task: 3025)

1	P1ML:	number eight oh just like a [pʊlkju:]
2	P2ML:	hmmm
3	P1ML:	[pʊlbɔl]
4	P2ML:	[pʊlbɔl] ((falling intonation))
5	P1ML:	snooker snooker ball
6	P2ML:	hmmm yup

In the extract above, P1ML and P2ML are discussing a picture of the number eight in a circle in the jigsaw box task. P1ML (who has the complete picture – number eight in a circle) describes her picture as a “[pʊlkju:]” (line 1). Here, the intended word that is mispronounced could be “pool cue”, which became problematic as it is a non-word; it was probably intended as a word associated with snooker or pool. P2ML (who only has the number eight in her task sheet) gives a non-verbal response, “hmmm”, an indication that [pʊlkju:] may be problematic for her. P1ML immediately reacts and provides another phrase similar to [pʊlkju:], i.e. “[pʊlbɔl]” in line 4. In all three instances of miscommunications P1ML uses vocabulary associated with snooker hoping to associate the picture with snooker balls. P2ML echoes “[pʊlbɔl]” in a falling intonation, again indicating that this is still problematic to her, and P1ML once again provides another explanation and says “snooker snooker ball” in line 5. Here P1ML uses an alternative to “pool cue” as P1ML realizes that “pool cue” is problematic. Upon the use of “snooker snooker ball”, P2ML gives a positive response to this and gets the answer right in the task sheet. The use of “pool cue” is

problematic as it is a non-word, and in this instance the miscommunication is solved by echoing and repeating the specific word that is problematic by both the participants.

5.3.7 Strategy 5: Phonological Anticipation

This strategy is adapted from Kirkpatrick's (2007a, p.122) communicative strategy which he calls "lexical anticipation". For this strategy, Kirkpatrick (2007a) notes that his participants anticipated each others' lexical choices and supplied the appropriate lexical items. Kirkpatrick (2007a) further adds that the use of this communicative strategy ensured that the interaction flowed smoothly and participants took turns to help each other out. I expanded this strategy to look at how participants anticipate each other's pronunciation of certain words. There are several instances in the interactions where participants anticipate that their partner would have problems with certain words and they provide the words either by saying them simultaneously with their partners or suggesting the word to their partners.

For the phonological anticipation strategy, it was essential to look at how participants started anticipating each other's pronunciation of certain words that they thought will cause intelligibility problems. Therefore the extracts for this strategy are slightly longer than those used to exemplify previous strategies.

5.3.7.1 P1CH – P1ML (Picture Description Task)

Extract 30: P1CH – P1ML (Picture Description Task: 000 – 157)

1	P1ML:	let us look at all the pictures
2	P1CH:	yes
3	P1ML:	mmm I think my picture is aaa which the man was sitting under the tree I think he was selling the [hæt]
4	P1CH:	okay aaa I think the first picture is got one two three four five got five monkeys on the tree
5	P1ML:	aaa
6	P1CH:	and then the man is sitting under the tree
7	P1ML:	and just look upstairs at the
8	P1CH:	yes I think she he also sell the [her]
9	P1ML:	[hæt]
10	P1CH:	aaa
11	P1ML:	I think we get the answer for number one aaa
12	P1CH:	mmm this is number one picture what do you think the number two picture
13	P1ML:	mmm number two I think the picture mmm where the man was sleeping while the monkeys mmm stealing its [hæts]
14	P1CH:	ok the man is sitting under the tree and sleep right
15	P1ML:	yup
16	P1CH:	and then the aaa
17	P1ML:	the monkeys taking
18	P1CH:	taking the [hed]
19	P1ML:	yup
20	P1CH:	ok one two three four five mmm and then I think this is
21	P1ML:	number two
22	P1CH:	the second picture
23	P1ML:	number two
24	P1CH:	ok ok I think the third picture is the man is aaa

25	P1ML:	[ʃɒk] right
26	P1CH:	aaa [ʃɒk] she know the monkey is
27	P1ML:	taking his
28	P1CH:	her
29	P1ML:	[hæt]
30	P1CH:	ok mmm so what do you think
31	P1ML:	same do I I also taking the picture where the man was shock while er looking at the monkeys wearing his [hæt]
32	P1CH:	mmm okay this is the third
33	P1ML:	third
34	P1CH:	picture
35	P1ML:	and the fourth
36	P1CH:	what do you think about the fourth
37	P1ML:	the man was angry looking at the monkey she's she's shows his hand just like want to punch them
38	P1CH:	oh the monkey on the on the tree is very look like happy can take [hed] the
39	P1ML:	[hæt] and this like copying what the man done ok
40	P1CH:	aha ok this is the
41	P1ML:	the fourth picture

Extract 30, is the first half of the interaction of the picture description task between P1CH and P1ML. This extract highlights how P1ML anticipates P1CH's pronunciation of 'hat'. P1ML is the first to say "[hæt]" in line 1. Half a minute into the interaction, P1CH says "[heɪ]" (line 2) and simultaneously P1ML says "[hæt]" (line 3). P1CH merely gives a non-verbal answer, "aaa", to this and P1ML continues describing the second picture. In line 18, P1CH completes P1ML sentence and uses

“[hed]” to describe ‘hat’ for the first time. P1ML accepts the pronunciation “[hed]” and the interaction continues.

In line 25, P1ML completes P1CH’s sentence from line 24 by supplying “[ʃɒk]”. In line 26, P1CH uses “[ʃɒk]” in the sentence. In line 26, P1CH also uses the pronoun “she” to refer to the man in the picture. P1ML immediately corrects P1CH in line 27 by saying “taking his”. In line 28, once again P1CH uses “her” to refer to the man in the picture. Immediately after P1CH says “her”, P1ML supplies “[hæt]” in line 29. P1CH agrees with P1ML and signals to P1ML to continue with the description by saying “ok mmm so what do you think”. In line 31, P1ML says “[hæt]”, which P1CH accepts in line 32 (but P1CH never says “hat”). In line 39, P1ML uses the phonological anticipation strategy when in response to P1CH’s “[hed]”, P1ML says “[hæt]” simultaneously with P1CH. P1ML, based on P1CH’s earlier pronunciations of “hat”, anticipates that P1CH will use [hed] and supplies “[hæt]”. P1CH did not seem to mind and carried on with the interaction. In this extract, P1CH seemed to be avoiding saying “hat” although there were several instances where the use of “hat” could have made the interaction smoother. P1CH said “[hed]” three times as opposed to P1ML using “[hæt]” six times in this extract.

5.3.7.2 P5ML – P5CH (Picture Description Task)

Extract 31: P5ML – P5CH (Picture Description Task: 115)

1	P5CH:	old man is very shock and the five monkey is put the [[hed]
2	P5ML:	[[hæt]
3	P5CH:	on them
4	P5ML:	Aaa

Extract 32: P5ML – P5CH (Picture Description Task: 200)

5	P5CH:	and the last picture throw away the [[hed]
6	P5ML:	[[hæt]
7	P5CH:	ok I start the story first
8	P5ML:	Ok

Extracts 31 and 32, are both from the same interaction where the phonological anticipation strategy occurs twice. In the interaction between P5ML and P5CH in the picture description task, P5CH pronounces “hat” as [hed] and P5ML pronounces it as [hæt]. Both participants use different pronunciations of the word “hat” without any problems. In line 1, when P5CH says “[hed]”, P5ML simultaneously says “[hæt]”. P5ML anticipates P5CH’s pronunciation of ‘hat’ and provides her own pronunciation of the word. There are no awkward moments and P5CH carries on and completes her sentence. Later in the interaction, in line 5, once again when P5CH says “[hed]”, and P5ML again simultaneously says “[hæt]”. Here, P5ML anticipates that P5CH will say “[hed]” and thus supplies “[hæt]”. And again, there is no awkwardness and both continue with their interactions. P5CH goes on to retell the story and keeps using

“[hed]” throughout the interaction. Interestingly, P5ML starts using “[hed]” alternately with “[hæt]” later on in the interaction (not discussed here).

5.3.8 Strategy 6: Phonological Adjustments

This strategy is based on Kirkpatrick’s (2007a) communicative strategies of lexical suggestion and lexical correction. These are listed as two different but related strategies by Kirkpatrick (2007a) and both are meant to ensure successful communication rather than correcting speakers. Although Kirkpatrick (2007a) distinguishes between lexical suggestion and lexical correction, I found that for my data it was quite difficult to distinguish between correcting and suggesting as the participants used both these strategies, sometimes at the same time, in the interactions. For instance, in some of the interactions some participants corrected and then suggested other words in the following turns. Thus I decided to look at how participants adjusted their speech phonologically and these adjustments involved suggesting alternative pronunciations of certain words as well as correcting their partners’ speech.

5.3.8.1 P9CH – P9ML (Picture Description Task)

Extract 33: P9CH – P9ML (Picture Description Task: 120)

1	P9CH:	the third picture is when the man old man is wake up aaa suddenly wake up and then he he
2	P9ML:	he [səpraɪs]
3	P9CH:	he alert aaa [səplɑɪs]
4	P9ML:	aaa [səpraɪs]
5	P9CH:	because he alert that the [hed] already [tæk]

- | | | |
|---|-------|---------------------------------|
| 6 | P9ML: | aaa [teɪkən] by the monkeys |
| 7 | P9CH: | aaa [teɪk] by the monkey aaa so |

The extract above is an interaction between P9CH and P9ML discussing the picture description task. In line 2, P9ML suggests “[səpraɪs]” and helps complete P9CH’s sentence. P9CH accepts the suggestion and in line 3 he uses P9ML’s suggestion but uses his own pronunciation of it and says “he alert aaa [səplaɪs]”. However P9CH’s “[səplaɪs]” in line 3 is not accepted by P9ML who corrects it and repeats “[səpraɪs]”. Here, P9ML uses the phonological correction strategy to correct P9CH’s pronunciation of “surprise”.

In response to P9CH’s “[tæk]” in line 5, P9ML completes P9CH’s sentence once again and at the same time suggests his pronunciation of “take” when he says “aaa [teɪkən] by the monkeys”. P9CH again accepts P9ML’s suggestion and changes his pronunciation of “take” to “[teɪk]” and repeats the phrase in line 7. Throughout the interaction, P9ML plays the role of correcting and suggesting the pronunciation of certain words and P9CH accepts P9ML’s corrections and suggestions and uses them in his speech. These corrections and suggestions never hinder the communication and P9CH does not seem to mind the corrections. The corrections and suggestions seem to be part of the gambits of communication.

5.3.8.2 P7CH – P11ML (Picture Description Task)

Extract 34: P7CH – P11ML (Picture Description Task: 130)

1	P7CH:	and the monkeys come down to take the the his [hed]
2	P11ML:	yes
3	P7CH:	and then the third one is he [ʃəʊʔ]
4	P11ML:	[ʃɒkt]
5	P7CH:	[ʃɒkt]
6	P11ML:	when he see
7	P7CH:	when he seeing the monkey wearing his
8	P11ML:	[hæt]
9	P7CH:	[hæt] and then after that the fourth one is the old people is lecturing the monkeys

In extract 34, the interaction shows the participants correcting and suggesting pronunciations of two words (hat and shocked) in order to maintain the flow of the interaction. In line 3, P7CH says “[ʃəʊʔ]”, and P11ML immediately corrects it to “[ʃɒkt]” in line 4. P7CH accepts the correction and repeats “[ʃɒkt]”. P11ML and P7CH continue with describing the pictures, but in line 8 P11ML suggests “[hæt]” to complete P7CH’s sentence in line 7. P11ML probably anticipates, based on line 1, that P7CH will use “[hed]” and thus suggests “[hæt]”.

In line 9, P7CH uses “[hæt]” as suggested by P11ML and continues with his description without displaying any irritation at the interruption and suggestion. P11ML seems to be subtle in his correction of P7CH’s “[hed]”, as in line 2, P11ML

accepts it with a “yes” but in line 8, P11ML suggests “[hæt]” instead, before P7CH says it, which seems to be a suggestion rather than a correction of P7CH’s pronunciation. In fact, the whole interaction flows smoothly and the participants seem to be helping each other. There are no signs of discomfort or irritation throughout the interaction.

5.3.8.3 P3CH – P7ML (Map Task)

Extract 35: P3CH – P7ML (Map Task: 050)

1	P3CH:	and the right hand side of the flower garden is the [plæstiks] factory
2	P7ML:	[plæstɪk] ((rising intonation))
3	P3CH:	mmm but then the routes are not follow the [plæstɪk] factory

Extract 36: P3CH – P7ML (Map Task: 208)

4	P3CH:	James right ok after the church go directly and you will saw the another [plæstiks] factories
5	P7ML:	[plæstɪk]

Extract 37: P3CH – P7ML (Map Task: 218)

6	P3CH:	you will saw the [plæstiks] factory
7	P7ML:	[plæstɪk] factory
8	P3CH:	yaa [plæstɪk] factory

Extracts 35, 36 and 37 are from the same interaction (but at different time intervals) between P7ML and P3CH in the map task. In extract 35, P7ML corrects P3CH’s pronunciation of “[plæstiks]” (line 1) with “[plæstɪk]” in line 2. In line 2, P7ML says “[plæstɪk]” with a rising intonation which may be an indication of a correction of P3CH’s pronunciation of “plastic” as well as to confirm that they are both

discussing the same “plastic factory”. In line 3, P3CH accepts P7ML’s pronunciation of “plastic” when she uses “[plæstɪk]” without any hesitation.

However, a little later on in the interaction (extract 36), P3CH again says “[plæstɪks]” in line 4, to which P7ML corrects with “[plæstɪk]” in line 5. They then discuss another landmark and 10 seconds later, P3CH repeats “[plæstɪks]” (line 6) (extract 37). P7ML corrects it to “[plæstɪk]”. In line 8, P3CH repeats and says “[plæstɪk]”. All these exchanges happen without any trace of irritation and unease, except for the rising intonation used by P7ML in line 2 (extract 35), which can be seen as a checking mechanism that they are discussing the same landmark. This strategy of correcting and suggesting the pronunciation of certain important words ensure that the interaction progresses smoothly in a collaborative manner.

5.3.8.4 P4ML – P6CH (Picture Description Task)

Extract 38: P4ML – P6CH (Picture Description Task: 230)

1	P4ML:	mmm an old man want to sell his mm what should I call
2	P6CH:	[hæʔ]
3	P4ML:	a [hæt] a [hæt] want to sell his [hæts] aaa he wait in under a tree with many monkeys er then after waiting for a long time he fall asleep when his get up he found out that the monkeys took his [hæt] you
4	P6CH:	yaa then he right the old man is very angry with the monkeys because the monkeys aaa wear is wearing the er
5	P4ML:	his [hæt]
6	P6CH:	his [hæt] then the old man tried to like scolded the monkeys then after that the he the old man actually er try to think er come out one one way to how how to the monkeys er return back his [hed]
7	P4ML:	his [hæt]

8	P6CH:	then she think then she just
9	P4ML:	he he
10	P6CH:	aaa ok the old man an old man wearing a [hæt] then she try to take out the his [hæt] then the monkey all follow his acting right then at the end the old man try to try to throw his [hæt] the monkey also follow to throwing his [hæt] then so that the old man can the monkeys can return all his [hæt]
11	P4ML:	ok

In extract 38, P4ML and P6CH are discussing the picture description task. In line 2, P6CH suggests “[hæʔ]” in response to P4ML’s request for assistance, “what should I call”, in line 1. In line 3, in response to P6CH’s “[hæʔ]”, P4ML then corrects the pronunciation by using “[hæt]”. In fact in line 3, P4ML uses “[hæt]” four times when describing the picture. In line 4, P6CH hesitates in saying ‘hat’ which P4ML probably realizes and in line 5, helps out P6CH by suggesting “his [hæt]” to help P6CH complete her sentence. P6CH accepts P4ML suggestion of “his [hæt]” and in line 6 uses “[hæt]” but at the end of the sentence also adds “[hed]”. P4ML immediately corrects this and says “his [hæt]” in line 7. In line 9, P4ML corrects P6CH’s pronoun use in line 8.

There seems to be no indication that P6CH is irritated or annoyed because in line 10, P6CH continues with the description and in line 10 manages to use “[hæt]” five times with no interruption or correction from P4ML. In fact, the turn in line 10 appears to be one of the longest turns by P6CH. In this extract, P4ML seems to be suggesting and correcting P6CH to ensure that the communication is successful. P6CH accepts

all of the suggestions and corrections and manages to adjust her pronunciation accordingly. The interaction progressed smoothly and there were no signs of annoyance or irritation to the suggestions and corrections.

5.3.9 Strategy 7: Use of Spelling

Kirkpatrick (2007a) discusses the “spell out the word” strategy which was occasionally used by his participants whenever they encountered a problem with the pronunciation of a word. In my data the “spell out the word” strategy is commonly used in the recorded interactions when there was a problem with the pronunciation of certain words. The participants in my study relied heavily on spelling as in one of the tasks, the map task, the spellings of the landmarks were provided on the task sheets that the participants used during the tasks. All the three examples discussed under this strategy were used during the map task.

5.3.9.1 P2CH – P3ML (Map Task)

Extract 39: P2CH – P3ML (Map Task: 1900)

1	P3ML:	aaa north of the plastic factory there a draw of [leɪk] [kreɪn] [kreɪn] [leɪk]
2	P2CH:	what [leɪk]
3	P3ML:	[kreɪn] [kreɪn] C-R-A-N-E ³⁹
4	P2CH:	C-R
5	P3ML:	A-N-E
6	P2CH:	oh

³⁹ Capital letters indicate that the participant was spelling the word.

In the extract above, P2CH and P3ML are discussing the ‘crane lake’ landmark in the map task. In line 1, P3ML describes the landmark as “[leɪk] [kreɪn] [kreɪn] [leɪk]”. P2CH clarifies by asking “what [lek]”. In line 3, P3ML says “[kreɪn]” twice and then spells it out. The landmarks were illustrated with pictures as well as their spellings in the maps. The ‘crane lake’ landmark is indicated in P2CH’s map, but she has a problem locating it. In line 4, P2CH spells the first two letters in ‘crane’. In line 5, P3ML completes the rest of the spelling. P2CH managed to locate the landmark on her map using the spelling strategy and drew the route that involved the ‘crane lake’ landmark correctly on the map. The use of spelling made it easier for the P4CH to locate the landmark. If the participants had relied only on the acoustic signal, it would have taken them longer to work out the route involving this landmark.

5.3.9.2 P4ML – P6CH (Map Task)

Extract 40: P4ML – P6CH (Map Task: 910)

1	P6CH:	marina ship there there got write the [mɔ:] boats ah
2	P4ML:	what
3	P6CH:	M-O-O-R-E-D boats
4	P4ML:	I don’t have it
5	P6CH:	you got the got ah routes marina I don’t have

In the extract above, when discussing the ‘moored boats landmark’ P6CH says “[mɔ:] boats” which P4ML does not understand. This landmark is called ‘marina’ in P4ML’s map. This is the ‘different name same landmark’ (see Section 3.2.5.4). In response to P4ML’s request for clarification in line 2, P6CH spells ‘moored’ in line 3. In line

4, P4ML checks her map and indicates that she does not have the landmark but never attempts to say ‘moored boats’. P4ML had earlier discussed her ‘marina landmark’ but does not mention it in this extract. P4ML is the information giver in this task and P6CH has to draw the route based on P4ML’s information. P6CH’s completed task sheet showed that P6CH did not manage to draw the route passing the ‘moored boats/marina’ landmark.

5.3.9.3 P4CH – P8ML (Map Task)

Extract 41: P4CH – P8ML (Map Task: 1119)

1	P4CH:	aaa I don't have plastic factory oh I just have what is it ah riverview park and [mɒnʊmən] ah what is it
2	P8ML:	what
3	P4CH:	M-O-N-U-M-E-N-T M-O
4	P8ML:	M-O
5	P4CH:	N-U
6	P8ML:	N-U
7	P4CH:	M-E-N-T
8	P8ML:	M-E-N-T
9	P4CH:	M-E-N-T what is it
10	P8ML:	[mɒnjʊmən]
11	P4CH:	[mɒnʊmən] what is it I don't know and then
12	P8ML:	aaa ok you er ok you must you must find your plastic factory

In extract 41, the participants have problems with the ‘monument’ landmark in the map task. This landmark only appears in P4CH’s map. P4CH is the instruction follower in this task. P8ML, who is the instruction giver, does not have the landmark

‘monument’ in her map. In line 1, P4CH says “[mɒnʊmən]” but appears to be unsure of the pronunciation and actually asks P8ML “what is it”. P8ML immediately asks for clarification by saying “what” (line 2). In line 4, P4CH spells ‘monument’ once and starts to spell it again. From lines 3 to 9, P8ML repeats each syllable of “monument” spelt by P4CH. P8ML notes the ‘monument’ landmark on her map but places it wrongly. In line 9, after spelling the last syllable “M-E-N-T”, P4CH once again asks “what is it”. In line 10, P8ML says “[mɒnjʊmən]”. P4CH repeats “[mɒnʊmən]” in line 11, and then exclaims once more that she does not know what a ‘monument’ is. In line 12, P8ML starts discussing another landmark and abandons ‘monument’. This was one instance where the spelling strategy did not work as the landmark only appeared in one of the participants’ map and this probably made it a bit more difficult for the participants as the listener had to depend only on the acoustic signal.

5.4 Summary and Concluding Remarks

The analysis in this chapter investigated how the participants used communicative strategies when there was a problem related to the intelligibility of a word or utterance. The communicative strategies were adapted from previous research done in ELF contexts by Firth (1990, 1996), Kirkpatrick (2007a) and Meierkord (2000). Communicative strategies in ELF contexts are mainly concerned with lexical choices (Firth, 1990, 1996; Kirkpatrick, 2007a; Meierkord, 2000). However, in this study, the focus was on strategies that involved phonological variation and looked at how pronunciation was used as a strategy to negotiate intelligibility. The strategies

examined in this study were “let it pass”; the speaker explicitly asks if the listener understands; the listener explicitly indicates non-understanding; listener and speaker echo or repeat problematic pronunciation; phonological anticipation, phonological adjustments and use of spelling.

As intelligibility in this study is defined as a ‘dynamic construct’ that is negotiated between speaker and listener at the word or utterance level (see Section 2.3.2), excerpts of the interactions were used to highlight how the participants utilized various communicative strategies when they had problems understanding each other, in terms of the pronunciation of certain words or utterances. This approach complements Chapter 4, where the analysis described the specific features that impeded intelligibility in the interactions. The results and analysis from Chapters 4 and 5, offer us an insight into the what (the features that obstruct intelligibility) as well as the how (how participants vary pronunciation features) aspects related to intelligibility problems. The following is a summary of the main findings of this chapter:

- the participants used various communicative strategies when they had problems understanding each other. The strategies were mainly used to ensure that the interactions progressed smoothly and to complete the tasks. As I have emphasized earlier, the interactions in this study are task-based, thus the participants displayed a high degree of engagement with each other to complete

the tasks. The participants managed to complete all the tasks⁴⁰. The instructions given before the tasks emphasized that the main aim of the study was to examine the linguistic resources used by the participants when there was a communication breakdown (see Appendix 10: NUS-IRB Ref. Code 07-704 PIS Main Study Version 2); thus this did not pre-empt the participants on the actual objective of the study which could have affected the interactions. A close investigation of all the interactions showed that the participants were focused on completing the tasks and getting the right answers. In fact, in some dyads there were often shouts of delight at the end of the task when the participants completed the task successfully or when they were able to describe a particularly difficult item. The participants used communicative strategies to encourage their interlocutors to continue interacting, clarify information, repeat information, rephrase information etc. This corresponds with Kirkpatrick's (2007a) findings in his data, i.e. that participants display a high level of cooperation and mutual understanding in terms of encouraging each other when exchanging information. This was also evident in my study as all the participants showed a high level of cooperation with each other and dedication in completing the tasks.

- communicative strategies in this study were used to 'preserve the face' of co-participants as reported in ELF research (Firth, 1990, 1996; Kirkpatrick, 2007a; Meierkord, 2000). Some of the strategies used in this study such as patiently

⁴⁰It should be noted that there was one dyad, P3ML and P4ML, who during the jigsaw task, stopped their interaction about 6 minutes into the interaction. After explaining the task once more to them, the participants agreed to continue with the interaction. This dyad is discussed in detail in Section 4.2.2.

paraphrasing utterances and words and completing partners' turns were seamlessly incorporated into the interactions to ensure successful communication. These strategies were mostly used when the information was important for the completion of the task. The participants were adept at recognizing which information was important and were able to use the relevant strategies to help their co-participants continue with the information exchange. The high tolerance of infelicities in the interactions, and the patient and selective use of the strategies indicated that the participants were 'preserving the face' of their co-participants. The strategies were never used in a condescending or antagonistic manner. Some participants laughed at their own mistakes. The co-participants also responded to the use of the strategies in a mutually appreciative manner. Most suggestions and help offered were used to help complete the tasks. There were never any awkward or tense moments when a strategy was used.

- the analysis here has shown that to a certain extent pronunciation features were also employed as part of communicative strategies. Most work in ELF has focused at describing the features of ELF in terms of its syntax, phonology, lexical choices, pragmatic features etc. (Firth, 1990, 1996; Jenkins, 1995, 2000a; Mauranen, 2003; Meierkord, 2000; Seidlhofer, 2004). ELF studies usually focus on interactions outside L1 contexts, and most participants involved are users of English from a non L1 English context. There are also some researchers who have examined the features of English when it is used as a lingua franca in

ASEAN countries (Deterding & Kirkpatrick, 2005, 2006; Kirkpatrick, 2006, 2007b). Kirkpatrick's (2007a) work specifically looked at communicative strategies among speakers of English from the ASEAN region, specifically strategies that focused on lexical choices. Thus my study contributes to research in ELF and ASEAN contexts, in terms of the kind of participants that were involve. My study, which looked at learners of English in a Malaysian context, has shown that to a certain extent, pronunciation features are also employed as communicative strategies to negotiate intelligibility in the interactions. The participants were able to vary pronunciation features that they felt problematic to the interaction in order to complete the tasks. Thus it is also important to investigate further how pronunciation features affect interactions. As McKay and Bokhorst-Heng (2008, p.161) observe when discussing ELF interaction that "...frequently it is the grammatical and phonological features of ELF that trigger specific pragmatic features of ELF interactions." This is also true to a certain extend in a language learning situation like Malaysia, as shown by the results and discussion in this chapter.

- the analysis here indicates that communicative strategies were extensively used by the participants. Some of the strategies discussed in this study were general communicative strategies discussed in most SLA work (see Bialystok, 1990; Ellis, 1994; Ellis & Barkhuizen, 2005; Gass & Selinker, 2008). However, as Kirkpatrick (2007a) states that some of these communicative strategies, especially those that require patient paraphrasing, helping co-participants and to

preserve face, seem to be characteristic of ELF. The analysis and findings in this chapter showed that some of these strategies (which involve phonological variation in particular) found in SLA studies and ELF research were quite often used by the participants in this study. In some instances, the success and the outcome of the interactions in this study depended on the use of these strategies. A closer look at the communicative strategies revealed that, although, the participants here were 'learners' of English, they were able to use the strategies in order to negotiate problems they had in the interactions.

- there was very little code-switching that occurred among the participants in this study. Although it was anticipated that the participants would resort to use Malay (as it is one of the common languages common to all the participants, apart from English) as a strategy to negotiate whenever they had problems, this rarely happened in the data. Code-switching is typical in ELF interactions (Jenkins 2000a, 2002a). In my study, the participants used various means using English such as circumlocution, extensive paraphrasing and negotiating with each other in order to get their interlocutors to understand a certain point. Most of the code-switching was only confined to the odd word that some of the participants found difficult to express. These Malay words were quite easily translated into English. This seemed to indicate that Malay was only used for lexical borrowing at word level. The lack of code-switching here could be a result of the presence of the researcher in the room while the interactions took place as well as the procedure of the data collection. The data was not based on

naturalistic speech and the setting of the data collection could have influenced the participants' behavior in terms of code-switching. The participants also used idiomatic terms that were common amongst themselves to negotiate some communication problems. The use of the idiomatic terms proved problematic for me as a researcher to interpret. I had to confirm the meanings of these idiomatic expressions with the participants after the interactions. The participants, all being students at a public university, shared a common background and social network. I have worked at the same university the participants were enrolled in for several years, but this still was not enough for me to fully understand my participants. This is echoed by Firth (1990, p.276) who notes that a researcher using the interactional approach in a lingua franca setting that "...should also attempt to familiarize himself or herself with the (organizational) setting to be analyzed. Such information may relate to case-histories, existing markets, specialized terminology, and so on. Ideally, such ethnographic *familiarization* should take place with the assistance of the persons in the actual recorded negotiations". This is also applicable to studies that look at interactions that are elicited in language learning situations like Malaysia. The context, the setting and the participants are an important and integral part of the study and the researcher needs to fully understand these constructs in order to understand the data.

This chapter looked at how the participants used various communicative strategies related to pronunciation and phonological variation when they had problems

understanding each other at certain times. The communicative strategies were seamlessly integrated into the interactions and some were so subtle that in everyday conversation they would not be detected. The participants interacted in a manner that was full of understanding and there was a high cooperation, in terms of completing the tasks. There were rarely any signs of irritation or anger at being corrected by their partners. After looking at how participants used communicative strategies when dealing with intelligibility problems, the next chapter looks at how and if the participants varied certain pronunciation features when the L1 of their interlocutors changed.

CHAPTER 6

PHONOLOGICAL VARIATION AND ACCOMMODATION PATTERNS

6.1 Introduction

Chapter 4 investigated the pronunciation features that obstructed intelligibility in the recorded interactions. Then, Chapter 5 focused on how the participants used various communicative strategies that involved varying phonological features to negotiate intelligibility. In this chapter the focus shifts to identify if and how, the participants varied specific phonological features according to the L1 of their interlocutor. This will highlight if the participants vary the use of certain phonological features to ‘accommodate’ to interlocutors of the same and different L1s (Beebe & Giles, 1984; Coupland, 1984, 2007; Giles & Coupland, 1991; Giles, Coupland, & Coupland, 1991; Jenkins, 1995, 2000a, 2002a) as well as highlight the phonological variation is used to resolve miscommunications. The analysis in this chapter was largely based on quantitative analysis of the data, with some support of qualitative data in the form of extracts of relevant interactions, where necessary.

The framework for examining accommodation patterns in this chapter was based on Jenkins’ (1995, 2000a, 2002a) work and the Communication Accommodation Theory (Beebe & Giles, 1984; Coupland, 1984; Giles et al., 1991; Thakerar, Giles, & Cheshire, 1982). Some of the basic assumptions underlying the analysis and the interpretations in this chapter were discussed in Section 2.9. In the analysis here, ‘accommodation patterns’ are taken to mean the variation in the use of certain

phonological features (Coupland, 1984; Giles et al., 1991; Jenkins 1995, 2000a, 2002a); and one of the motivation in varying phonological features is to achieve communication efficiency (Beebe & Giles, 1984; Coupland, 1984, 2007; Giles et al., 1991). Although Jenkins (1995, 2000a, 2002a) studied accommodation patterns of EFL learners of same-L1 and different-L1 in the context of English as an international language, this notion of ‘accommodation’ is equally important in L2 situations where English plays a wider and different purpose from that of EFL. Thus this study seeks to examine accommodation patterns of six participants when they interact with interlocutors of same-L1 and different- L1 in a Malaysian context where English is often used for intercultural and intranational communication.

In this chapter, the main focus is identifying if there is a difference, in terms of the patterns and rate of occurrences of phonological features according to the L1 of the interlocutor. The next section begins with a discussion of the analytic framework that is adopted for analyzing and interpreting the data. The framework includes a discussion on the selection of the participants and the interactions for the analysis, the identification and selection of the eight features, the measurement of the usage of the features in the interactions as well as some of caveats relevant to the analysis in this chapter. The following section looks at analysis and the discussion of the findings of this chapter that is divided into three sections; i.e. a general comparison of the usage of the features, comparison of the usage of the features according to the L1 of the participants and the results of the chi-square tests that compare the frequency of

occurrences of the eight features in the SLD and DLD interactions. This is followed by the concluding remarks for this chapter.

6.2 Framework of Analysis

The main focus in this chapter was the quantification of selected phonological features to discern the accommodation patterns according to the L1 of the interlocutor. The analysis was based on standard variationist terms; i.e. the use of relative frequency of actual over potential occurrences of selected features. The analytic procedures adopted in this study were based on the steps for investigating phonological variation outlined by Milroy and Gordon (2003). The steps are:

- a. identifying specific phonological features to investigate the accommodation patterns. The phonological features used in the analysis here were based on findings from Chapter 4 as well as previous published work on Malaysian English (see Alias, 1995; Baskaran, 2004, 2005a, 2005b; Rajadurai, 2004b; Wang, 1987; Zuraidah, 2000). Eight features were chosen for the analysis here. These features are discussed in detail in Section 6.2.2 below.
- b. measuring the usage of the selected phonological features. This step involved counting the number of times each participant used the selected phonological features in the interactions. In this study this was done auditorily through repeated listenings to the recordings. No acoustic analysis was carried out to measure the features. The occurrences (or non-occurrences) of the features were then expressed in terms of frequencies (percentages) which were calculated using the following formula by Rajadurai (2004):

$$\text{frequency of occurrence (\%)} = \frac{\text{number of actual occurrences}}{\text{total number of possible occurrences}} \times 100$$

- c. searching for patterns based on the usage of the features in terms of the frequency of occurrences . The usage of each of the feature was compared for each participant in both the SLD and DLD interactions. The difference in the usage of a certain feature in the SLD and DLD interaction represented the variation of use of a particular feature.
- d. interpreting the results, i.e. whether there were any patterns in the variation of the features in the SLD and DLD interactions as well as how the usage of the features varied in the SLD and DLD interactions. A chi-square test on the frequency of occurrence of each feature was also done (where possible) as Hatch and Lazaraton (1991, p.415) note that the chi-square “gives us a useful way of dealing with frequency data in a systematic way. It allows us to talk about frequencies not just in terms of percentage, proportion, or ratio, but in terms of whether or not the frequencies reflect a relationship between variables”. Therefore, in this study, the chi-square test was used to investigate if the frequency patterns of the selected features were significant in the SLD and DLD interactions. However, the chi-square test was done for each of the eight features and not on the total occurrences of the features as done by Jenkins (1995) as the focus in this study was to examine the patterns of phonological variation of the individual features in the SLD and the DLD interactions. Examining the patterns of phonological variation can indicate a relationship between the occurrence of a particular phonological feature and

the L1 of the interlocutor. Other correlation tests such as correlation between the features and the demographics of the participants were not done as the aim of this study was to essentially look at accommodation patterns according to the L1 of the interlocutor.

6.2.1 Selecting Participants and Interactions

In order to allow for a more extensive analysis, the analysis in this chapter was limited to investigating the interactions of six participants; i.e. three participants with Malay as a L1 and three with Mandarin as a L1⁴¹. This is also meant to give more depth to the analysis as focusing on a smaller set of participants allows for a more detailed investigation of the selected phonological features. Apart from limiting the participants, the interactions chosen for the analysis are also limited in terms of length of the interactions and number of interactions. The decision to limit the participants and the length of the interactions analysed in this section follows Miles and Huberman's (1994, p.27) suggestion that sampling in qualitative research operates at two levels, i.e. the need to set "boundaries" that help define aspects of cases that can be studied within the limits of time and means, as well as the need to create a "frame" to help uncover, confirm and qualify the basic processes that underlie the analysis in the present study

In the SLD interactions, only the social interactions and the jigsaw task interactions were analysed. The jigsaw task was chosen over the similar different task as the

⁴¹ The L1s of the participants are determined by the participants themselves. Participants were required to indicate their L1s in the language history questionnaire and interview (Section 3.2.6).

participants seemed to be involved in more negotiations and exchanges when completing the jigsaw task. In the DLD interactions, only the social interactions and the map tasks were chosen for the final analysis. The map task was chosen as the duration of the interactions is greater than in the picture sequencing tasks. Most of the interactions based on the picture sequencing task averaged about five minutes. The social interactions, although rather short, were chosen as these represented interactions that were different from the task based interactions as the participants interacted freely without any prompts. For both the jigsaw and the map tasks, only the first 10 to 15 minutes of the interactions were analysed. Table 9 below shows the breakdown of the selected recordings according to the six participants selected for the analysis. In total, the analysis in this chapter was based on about three hours of interactions. For each participant the length of the interaction was about 30 minutes. One criterion used in order to select the six participants was the duration of the interactions. An additional criterion for the Chinese L1 participants was that the three participants should have, at least a primary education in a Chinese medium school. Based on these two criteria, the following six participants were chosen, i.e. P8ML, P9ML, P11ML, P2CH, P4CH and P9CH.

Table 9: Interactions used for Phonological Variation Analysis (in minutes)

Participant	Interactions in SLD		Interactions in DLD		Duration of Interactions Analysed (in mins)
	Social Interaction	Jigsaw Task	Social Interaction	Map Task	
P8ML	3.21	11.41 (19.12)*	5.31	10.41 (27.56)	30.34
P9ML	3.35	11.35 (28.15)	2.35	11.10 (34.37)	28.12
P11ML	3.18	11.10 (36.44)	2.33	12.29 (17.39)	29.3
P2CH	3.19	12.38 (31.58)	**	13.3 (26.10)	29.27
P4CH	4.24	10.19 (17.54)	5.13	10.41 (27.56)	30.37
P9CH	5.43	11.37 (28.17)	2.35	11.10 (34.37)	30.25
Total (mins)	23.0	68.2 (161)	18.31	69.31 (67.35)	178.05

**the actual time of the interaction is given in brackets beside the actual length of interaction that was analysed.*

***not analysed as too short.*

Before presenting the findings of the analysis, a brief language background history of each of the six participants is given below.

6.2.1.1 P8ML

P8ML is a Malay female of 21 years of age. She was educated in national schools throughout her schooling years and lists Malay as her L1, English as her L2, and speaks or knows no other language. She started learning English at home and school at seven years of age. P8ML also indicates that her interactions with her family and friends outside school and the university are primarily in Malay. Most of her instruction in schools has been in Malay. However, in the university she is instructed in both Malay and English. P8ML never mixes English and Malay when speaking to her family, friends and classmates. P8ML also points out that she is only comfortable using English in the university, whereas with family members and socially she prefers using Malay. The other details of P8ML's language background which are gathered

through the language history interview and language history questionnaire are shown in Appendix 19.

6.2.1.2 P9ML

P9ML is a Malay male of 21 years of age. P9ML was educated in national schools and lists Malay as his L1 and English as his L2. He started learning English at home at the age of six and seven at school. P9ML knows no other language, apart from Malay and English. P9ML indicates that he learned English through formal classroom instruction and interacting with others. Most of P9ML's instruction in school has been in Malay. However, he points out that the language of instruction in the university is in Malay and English. P9ML mixes English and Malay when interacting with his family, friends and classmates. Although Malay is his preferred language at home, he uses English at the university and socially with friends. The other details of P9ML's language background which were gathered through the language history interview and language history questionnaire are shown in Appendix 19.

6.2.1.3 P11ML

P11ML is a Malay male of 21 years of age. P11ML indicates that his education has been in national schools and states Malay as his L1 and English as his L2. He started learning English at home at the age of six and seven at school. Just like P4ML and P8ML, P11ML knows no other language apart from Malay and English. P11ML mostly learned English through formal classroom instruction. Most of P11ML's

instruction in school has been in Malay. However, he indicates that in the university the language of instruction is in Malay and English. P11ML sometimes mixes English and Malay when interacting with his family, friends and classmates. P11ML also states that he only uses English in the university and the rest of the time, at home and socially, he prefers using Malay. The other details of P11ML's language background which were gathered through the language history interview and language history questionnaire are shown in Appendix 19.

6.2.1.4 P2CH

P2CH is a Chinese female of 21 years of age. P2CH was educated in a national type school and lists Mandarin as her L1. P2CH states that she never learnt English at home and only started learning English in school at the age of six. She also indicates that she learnt English mainly through formal classroom instruction. Malay and Cantonese are listed as P2CH's other languages. P2CH has a varied schooling background, i.e. she attended a Chinese medium primary school, a Malay medium secondary school and in the university she indicates that the language of instruction is mainly English. P2CH mixes languages only when conversing with friends and classmates, and never with family members. P2CH mixes all the languages that she knows, i.e. Mandarin, English, Malay and Cantonese when with friends but only uses Mandarin and Malay with her classmates. P2CH also indicates that she prefers using Mandarin at home, at the university and at social events. The other details of P2CH's language background which were gathered through the language history interview and language history questionnaire are shown in Appendix 19.

6.2.1.5 P4CH

P4CH is a Chinese female of 21 years of age. P4CH indicates that she was educated in a national type school and lists Hakka as L1. P4CH started learning English at home at the age of four and at school at the age of seven. She learnt English mainly through formal classroom instruction. P4CH lists Malay and Mandarin as her other languages. Like P2CH, P4CH also has a varied schooling background, i.e. she attended a Chinese medium primary school, a Malay medium secondary school and in the university she indicates that the languages of instruction are English and Malay. P4CH mixes different languages when conversing with friends, classmates and family members. With family, she always mixes Hakka and Mandarin; and with her friends and classmates, P4CH sometimes mixes most of the languages she knows, i.e. Mandarin, English, and Malay. As for language preferences, P4CH prefers to use Hakka at home, and English at the university and at social events. The other details of P2CH's language background which were gathered through the language history interview and language history questionnaire are shown in Appendix 19.

6.2.1.6 P9CH

P9CH is a Chinese male of 21 years of age. P9CH, like the other two Chinese participants, attended a Chinese medium primary school, a Malay medium secondary school and indicates that in the university the medium of instruction is Malay and English. P9CH's L1 is Mandarin and he indicates that he never learnt English at home. He started learning English at age seven at school. P9CH lists Malay as his other language. P9CH indicates that he mostly learned English through formal

classroom instruction. Only Mandarin is used in his home environment. P9CH mixes Malay and Mandarin with his family members occasionally. P9CH also indicates that he sometimes mixes English, Malay and Mandarin when interacting with his friends and classmates. P9ML points out that he only uses English in the university; and at home and socially he prefers using Mandarin. The other details of P11ML's language background which were gathered through the language history interview and language history questionnaire are shown in Appendix 19.

6.2.2 Identifying and Selecting Phonological Features

As outlined in Section 6.2 above, the first step in the analysis involved selecting the phonological features that would be investigated in terms of their frequencies of occurrences in the SLD and DLD interactions. Eight features were selected based on the findings and discussion in Chapter 4, previous published works on Malaysian English (Alias, 1995; Baskaran, 2004, 2005a, 2005b; Rajadurai, 2004a, 2004b; Wang, 1987) as well as the pronunciation features described in Jenkins' LFC (1995, 2000a, 2002a). The decision to include features discussed in the literature was made based on Milroy and Gordon's suggestion that "researchers investigating well-studied languages and varieties or regions and speech communities may draw on previous work by sociolinguists or dialectologists" (2003, p.139). Although Malaysian English is not a well-studied language in terms of its phonological features⁴², using published research helped make the selection encompassing, especially in terms of the

⁴² To the best of my knowledge, the following are the empirical works on the phonology of Malaysian English, i.e Alias (1995), Rajadurai, (2004b), Wang (1987), and Zuraidah (2000). Baskaran (2004, 2005a, 2005b) presents an extensive overview of the phonological features of Malaysian English; however, no references are made as to the source(s) of data for her work.

pronunciation features that are considered to be markers of the different ethnicities in ME (Baskaran, 2004, 2005a, 2005b; Rajadurai, 2004b). The eight phonological features chosen were substitution of dental fricatives, aspiration of voiceless plosives, devoicing of fricatives and affricates, use of glottal stops, the substitution of /r/ with [l], the substitution of /z/ with [dʒ], the simplification of word medial consonant clusters and the simplification of word final consonant clusters. By analysing the occurrences (or non-occurrence) of these eight features, I hoped to identify if the six participants varied the use of these features according to the L1 of their interlocutors. The eight phonological features are explained in detail below.

6.2.2.1 Substitution of Dental Fricatives /ð/ and /θ/

All possible occurrences of the two dental fricatives /ð/ and /θ/ were identified and analysed in terms of whether dental fricatives were realized or substituted with other features. The focus here was to identify if the participants varied the frequency of the substitutions of dental fricatives according to the L1 of their interlocutors. Most research in ME on dental fricatives suggest that dental fricatives are rarely realized and are usually substituted with dentalized stops [t̪] and [d̪] (Alias, 1995; Baskaran, 2004, 2005a, 2005b; Rajadurai, 2004b; Wang, 1987). In the LFC, Jenkins (2000a, 2002a) lists dental fricatives as non-core features, i.e. they are not crucial in maintaining intelligibility. Jenkins (1995, 2000a, 2002a, 2006b) found that her EFL participants consistently substituted dental fricatives with other features and this did not affect the intelligibility of the interactions. Although most work on ME shows that Malaysian speakers of English consistently substitute dental fricatives with other

features, I decided to analyse if the frequency of the occurrence of these features (i.e. the substitutions) beared any relationship with the L1 of the interlocutor. The substitutions of dental fricatives were analysed both in function words (e.g. *this, the, that*) as well as content words (e.g. *brother, father, think*); as an initial analysis of the occurrences in only content words yielded very few tokens. Therefore I decided to look at both content and function words. It should be noted that Rajadurai (2004b) found in her research that dental fricatives are rarely used in ME. Rajadurai (2004b) suggests that when dental fricatives are used by ME speakers, the dental fricatives are deemed to be a marked choice.

In Chapter 4, I reported one instance where the substitution of the dental fricative, /θ/ caused an intelligibility problem in the interaction (Section 4.4.2). Dental fricatives occurred in the speech of the participants and in some instances as shown in Chapter 4, the substitution of dental fricatives caused intelligibility problems. Therefore here I investigate if the participants varied the substitutions of the dental fricatives according to the L1 of their interlocutor. Extract 42 below exemplifies how the possible occurrences of the dental fricatives were first identified in the transcripts of the interactions. The possible occurrences of dental fricatives are shown in bold in the extract.

Extract 42: P4CH⁴³ (Social Interaction SLD)

P3CH:	XXX
P4CH:	my family ah I have a father mother two brothers and two sisters I my other sister already married <i>lah</i> and got one son and you how about you
P3CH:	XXX
P4CH:	((inaudible)) okay you come and visit me <i>lah</i> I can er take er eat some interesting food and go somewhere to visit and when I go to your place how about you
P3CH:	XXX
P4CH:	I want to go to the Cameron Highlands
P3CH:	XXX
P4CH:	UUM ah honestly I don't like this place so boring <i>lah</i> here
P3CH:	XXX
P4CH:	I think ((inaudible)) complain you speak <i>lah</i>
P3CH:	XXX
P4CH:	you think your choice to take the finance is good or not er best choice

6.2.2.2 Aspiration of Voiceless Plosives

The focus here was to identify if the participants varied the frequency of the aspiration of voiceless plosives according to the L1 of their interlocutors. Similar to the analysis for dental fricatives discussed above, the possible occurrences of the voiceless plosives were first identified and then analysed in terms of absence of aspiration. In Chapter 4, it was shown that the non-aspiration of voiceless plosives in some cases contributed to intelligibility problems in the interactions (see Figure 3). Jenkins (1995, 2000a, 2002a) argues that aspiration of voiceless plosives is a core feature to maintain intelligibility among her participants. However, there is very little

⁴³ In identifying the possible occurrences of the specific feature only the speech of the chosen participant was analysed, i.e. in this case only the dental fricatives that may occur in P4CH's speech were identified. The words containing the features are shown in bold. The other participant's speech is blanked out and marked as "XXX" in the extracts.

research on ME centring on aspiration of voiceless plosives, the exception being Rajadurai (2004b). Rajadurai (2004b, p.218) notes that “the presence of clear aspiration in CME (Colloquial Malaysian English) could be considered marked” as she found that aspiration was often used intentionally to convey a particular message and/or to project a certain identity. However, as Rajadurai’s (2004b) participants were highly proficient speakers of English, these findings need to be explored further in the Malaysian context with participants of varying proficiencies.

Deterding and Poedjosoedarmo (1998, p.157) also note the lack of aspiration of voiceless plosives in syllable-initial position in Singapore English and argue that this could be due to the influence of Malay. Similarly, Deterding and Kirkpatrick (2005) also found marked differences in the rate of aspiration of voiceless plosives in their spoken data of speakers from ASEAN countries as the Voice Onset Time of the initial voiceless plosives of these speakers have a reduced aspiration. However, Deterding and Kirkpatrick (2005) add that the reduced rate of aspiration although occurring regularly, rarely disrupted communication. Based on the literature above, aspiration of voiceless plosives was chosen as one of the features to be examined in terms of its use when the L1 of the interlocutor changes.

Extract 43 below illustrates how the possible occurrences of aspiration of voiceless plosives were first identified (shown in bold) in the transcripts of the interactions.

Extract 43: P9CH (Social Interaction DLD)

P9CH:	Hello I am XXX ⁴⁴ aaa XXX you can call me XXX and then I come from Sarawak I take I take the BIBM course stay in the Bukit Kachi one aaa I got how many member family ah one two three four two parents and then five five sibling include me there is my elder sister younger two younger sister and then younger brother and then my father is a businessman my my mother is a wife and then but sometimes my wife will going out to help my father in business <i>lah</i> ok and then just that all for me no thing to talk about how about you
P9ML:	XXX
P9CH:	yaa
P9ML:	XXX
P9CH:	pardon
P9ML:	XXX
P9CH:	oh

6.2.2.3 Devoicing of Fricatives and Affricates in Final Position

The occurrences of fricatives and affricates in final position in the interactions were identified and analyzed in terms of voicing. The purpose here was to identify if the participants varied the frequency of the devoicing of the fricatives and affricates according to the L1 of their interlocutors. In ME, fricatives and affricates are usually devoiced in final position (Baskaran, 2004, 2005a, 2005b; Rajadurai, 2004b). Rajadurai (2004b) also notes that voiceless fricatives and affricates are the more common realization as compared to the voiced counterpart. Voiced fricatives and affricates are realized to a lesser degree; and Rajadurai (2004b) argues that even the *-s* suffix is devoiced in final position. Thus the analysis in this chapter, the frequency of occurrences of fricatives and affricates were analyzed to see if there was any pattern in the devoicing of these features when the L1 of the interlocutor changes.

⁴⁴ Name of participant blanked out for confidentiality.

Extract 44 below illustrates how the possible occurrences of the devoicing of fricatives and affricates in final position were first located (in bold) in the transcripts of the interactions.

Extract 44: P4CH (Social Interaction SLD)

P4CH:	why I never see you watch er watching the movies er German
P3CH:	XXX
P4CH:	so how you get to know about the German types
P3CH:	XXX
P4CH:	just three months only you learning German right
P3CH:	XXX
P4CH:	so
P3CH:	XXX
P4CH:	back to you
P3CH:	XXX
P4CH:	ok good and friendly always smiles and er can talk well with each others er okay that's all that is good <i>lah</i> for me I think its good
P3CH:	XXX

6.2.2.4 Use of Glottal Stops in Place of/Before Final Stops

The use of glottal stops in place of or before final stops was another feature analysed in this chapter, in order to see if the participants varied the frequency of the use of glottal stops according to the L1 of their interlocutors. Baskaran (2004, 2005a, 2005b) states that one common feature in ME is the use of glottal stops in place of stops, especially in final position. Baskaran (2004, 2005a, 2005b) adds that this feature is often used by speakers in the lower sociolects. Rajadurai (2004b), on the other hand, argues that the use of glottal stops is a marker of the Malay ethnolect, i.e.

used more by speakers who have Malay as a L1. The glottal stop either replaces the final stop altogether (as in [bɪʔ]) or is co-articulated with the final stop (as in [bɪʔt]). Rajadurai (2004b) reports that her three participants more often co-articulated the glottal with the final stop rather than replacing the final stop altogether. However, here the analysis will focus on both these environments that the glottal may occur in, i.e. co-articulation as well as replacing stops.

Extract 45 illustrates how the possible occurrences of glottal stops in final position were identified (shown in bold) in the transcripts of the interactions.

Extract 45: P11ML (Map Task DLD)

P11ML:	ok from the start you have to aaa make a big U a U a big U
P7CH:	XXX
P11ML:	yes U
P7CH:	XXX
P11ML:	yes from the start point do you have flower garden
P7CH:	XXX
P11ML:	yes ok you what you have to do is aaa draw U until aaa beside aaa the flower and railway station from the start point
P7CH:	XXX
P11ML:	yes
P7CH:	XXX
P11ML:	flower gardens ok but do not mmm before flower gardens do not mmm draw any U line because you have to pass mmm at the top of the flower garden so
P7CH:	XXX
P11ML:	yes
P7CH:	XXX

P11ML:	ok you have to make big U
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6.2.2.5 Substitution of /r/ with [l]

The substitution of /r/ with [l] is another feature that was analysed in terms of the frequencies of occurrences in the SLD and DLD interactions of the six participants. The focus here was to identify if the participants varied the frequency of the substitutions of /r/ with [l] according to the L1 of their interlocutors. This feature was chosen as it has been noted to be a marker of Chinese speakers of English in Malaysia (Baskaran, 2004, 2005a, 2005b; Brown, 1991; Rajadurai, 2004b). Chinese L1 speakers of Malaysia are said to have difficulty with the use of /r/ in English and Malay. Baskaran (2005b, p.30) notes that for some speakers of ME, some of the English phonemes are new, “especially to the speaker from the lowest educational and socio-economic levels” and thus some phonemes are borrowed from their first language as in the case of [l] which is usually used in place of /r/.

It would be interesting to investigate if the Chinese L1 participants varied the substitution of the /r/ feature when interacting with interlocutors of the same-L1 and different-L1. In Chapter 4, we saw that there were some instances where the substitution of /r/ with [l] caused intelligibility problems (see Section 4.4.2). Although, the literature shows that the substitution of /r/ with [l] is a marker of Chinese speakers, in this study I decided to also investigate the interactions of the Malay L1 speakers in order to see if this feature is also varied by Malay L1 speakers

according to the L1 of their interlocutors. The following extract highlights how the possible occurrences of /r/ were first located (shown in bold) in the transcripts.

Extract 46: P11ML (Social Interaction SLD)

P11ML:	ok my name is XXX ⁴⁵ I live in Ipoh Perak and I'm doing INTAF International Affairs mmm I am twenty one years old and I stay in Tradewinds College and what about you
P12ML:	XXX
P11ML:	what is your interest interested in for example I like to play football drawing singing what about you
P12ML:	XXX
P11ML:	ok ok mmm in the future I'd like to be ambassador
P12ML:	XXX

6.2.2.6 Substitution of /z/ with [dʒ]

Another feature analysed in terms of its variation of occurrence in the SLD and DLD interactions was the substitution of /z/ with [dʒ]; i.e. if the substitution varied according to the L1 of the interlocutors. According to Baskaran (2004, p.1042), /z/ is sometimes pronounced as [dʒ] by both Malay and Chinese L1 speakers of ME because of the influence of their respective substrate languages. This was one of the more difficult features to investigate as the occurrences of words with /z/ were sparse in the interactions. However, as there is very little empirical research of this feature in ME, it would be fruitful to investigate /z/ as it may provide an avenue of looking at how or if the participants varied this feature according to the L1 of their interlocutor.

⁴⁵ Name of participant blanked out for confidentiality.

The following extract highlights how the possible occurrences of /z/ were first located (shown in bold) in the transcripts. For this particular extract, the interactions of both the participants were analysed as both the participants were included in the analysis for this chapter. Thus the possible occurrences of the use of /z/ for both the participants were highlighted. In this interaction, only the word “desert” had the possible occurrence of /z/.

Extract 47: P9ML – P9CH (Map Task DLD)

P9ML:	I have a desert desert
P9CH:	what what is it
P9ML:	desert
P9CH:	desert
P9ML:	aaa
P9CH:	oh ok
P9ML:	you got or not
P9CH:	under under your railway station what the landmark you are
P9ML:	I have under after the desert and aaa on the right is flower garden
P9CH:	ok my my picture here didn't got the [desert
P9ML:	[desert
P9CH:	ok so we we ignore the [desert
P9ML:	[desert

6.2.2.7 Simplification of Word Medial Consonant Clusters

Another feature examined to investigate the relationship between the variation of the feature and the L1 of the interlocutor is the simplification of word medial consonant clusters. Simplification of word medial consonant clusters is a common feature in

ME (Baskaran, 2004, 2005a, 2005b; Rajadurai, 2004b). Baskaran (2004, p.1040) notes that clusters of three consonants are usually reduced medially to two and two consonants to one. In the LFC, Jenkins (1995, 2000a, 2002a) argues that word medial consonant clusters are important in maintaining intelligibility and are considered to be a core feature of the LFC. In Chapter 4, it was shown that the simplification of word medial consonant clusters led to some intelligibility problems (see Section 4.4.2). Thus the focus here was to determine if the participants varied the simplification of word medial consonant clusters according to the L1 of their interlocutors.

Extracts 48 and 49 highlight how the possible occurrences of word medial consonant clusters were first located (shown in bold) in the transcripts.

Extract 48: P11ML (Map Task DLD)

P11ML:	do you have any plastic factory beside the church at the left hand side
P7CH:	XXX
P11ML:	plastic factory
P7CH:	XXX
P11ML:	only
P7CH:	XXX
P11ML:	ok
P7CH:	XXX
P11ML:	plastic factory

Extract 49: P8ML (Jigsaw Task SLD)

P8ML:	symbol of money
P7ML:	XXX
P8ML:	the next picture is like a mountain
P7ML:	XXX
P8ML:	hmm
P7ML:	XXX
P8ML:	one only
P7ML:	XXX
P8ML:	only one big mountain

6.2.2.8 Simplification of Word Final Consonant Clusters

The last feature was the simplification of word final consonant clusters, i.e. if participants varied the frequency of the simplification of word final consonant clusters according to the L1 of their interlocutors. Baskaran (2004, 2005a, 2005b), and Rajadurai (2004b) state that the simplification of word final consonant clusters is a common feature in ME. Deterding and Kirkpatrick (2005, p.4) also found many instances of word final consonant cluster simplification in their data of ASEAN speakers. As noted in the literature on ME, final consonant cluster simplification is mostly done via consonant deletion and very rarely takes place via epenthesis or schwa paragoge (Baskaran, 2004, 2005a, 2005b; Rajadurai, 2004b). Deterding and Kirkpatrick (2005) echo a similar find as they note that their participants mostly simplified word final consonant clusters by regularly omitting the final /t/ and /d/ and sometimes omitting the final /s/ (or /z/). (Baskaran, 2004, 2005a, 2005b) and Rajadurai (2004b) also note that in ME, it is usually the alveolar plosives that are

deleted. But Rajadurai (2004b) maintains that in ME, final fricatives and affricates like /s/ and /tʃ/ are normally retained. In counting the tokens for the simplification of word final consonant clusters, the occurrences of the word *and* were excluded as the occurrences of *and* throughout the interactions are very high. This follows Milroy and Gordon's (2003) suggestion to exclude frequently occurring words from the final analysis as these occurrences may skew the analysis. Thus for the analysis of word final consonant simplification, the word *and* was excluded. Extract 50 shows how the possible occurrences of word final consonant clusters were first located (shown in bold) in the transcripts.

Extract 50: P2CH (Jigsaw Task SLD)

P2CH:	second picture
P1CH:	XXX
P2CH:	first column ah
P1CH:	XXX
P2CH:	first column ah I have just like a ninety degree ninety degree
P1CH:	XXX
P2CH:	yes

6.2.3 Measuring the Usage of Selected Phonological Features

The next step, after identifying the participants, the interactions, and the phonological features, involved measuring the usage of the selected phonological features in the interactions. This involved counting the actual occurrences as well as the possible occurrences of the eight phonological features discussed above in all the selected interactions. All the possible occurrences of each feature were first identified in the transcripts. Next, while listening to the selected interactions and using the transcript

as a guide, I identified if the feature was present (or absent, depending on the feature) in the interaction. All the features identified here were treated as “discrete variants” i.e. they “involve the presence versus the absence of a sound” (Milroy and Gordon, 2003, p.144). Any uncertain feature (i.e. where it was not clear if a feature is realized or if it is inaudible) was not taken into account in the final tabulation, both for the actual as well as possible occurrence count.

After measuring the usage of the features (in terms of identifying the possible occurrences and actual occurrences of the eight features), a simple frequency count was then carried out to measure the frequency of occurrences (percentage) of the selected features. The frequency of occurrence was calculated using the formula given by Rajadurai (2004b), i.e.:

$$\text{frequency of occurrence (\%)} = \frac{\text{number of actual occurrences}}{\text{total number of possible occurrences}} \times 100$$

This step was repeated for both the SLD and DLD interactions of the six participants for all the eight phonological features described in Section 6.2.2. The results of the analysis are reported in Section 6.3.

6.2.4 Caveats

A few provisos need to be mentioned with regard to the analysis and the assumptions underlying this chapter. The analysis in this chapter is limited to analyzing the eight features outlined in Section 6.2.2, which mainly consisted of consonantal segments. Although vowels and suprasegmental features may also be relevant to the discussion

of phonological variation and accommodation patterns (and the study, in general), it is beyond the scope of this study to look into these areas. Another proviso is that in this study phonological variation is considered to be separate from morphological and syntactic variation (Milroy & Gordon, 2003).

One other limitation is that the analysis in this chapter is only based on six participants selected from the 22 participants. The participants were selected based on the criteria discussed in Section 6.2.1. The interactions selected for the analysis in this chapter were also limited in terms of the number and length of the interactions that were analyzed. Selective analysis had to be done as the analysis for all the participants would not be feasible given the various features that were analyzed. The focus of this chapter is more on the depth of the analysis than on the breadth of the analysis. However, in selecting the participants and interactions, steps were taken to maintain the consistency and objectivity in the decision making process. For instance, when analyzing interactions involving the jigsaw and map tasks, the first 10 to 15 minutes of the tasks were analyzed for all the six participants. The participants were chosen based on having participated in both the SLD and DLD interactions, as comparisons needed to be made in terms of accommodation patterns according to the L1 of the interlocutor. Three participants were chosen to represent each of the L1s; i.e. three with Malay as a L1 and three with Chinese as a L1. Excerpts of two tasks each for the SLD and DLD interactions were analyzed for each participant.

For participants with Chinese as a L1⁴⁶, a further criterion was that they were schooled in a Chinese vernacular school, at least at primary level. This ensures that Mandarin is one of their dominant languages. One other important proviso which is the underlying assumption of this chapter, i.e. speakers accommodate their interlocutors by adjusting their pronunciation in order to remain intelligible to their interlocutors and to complete the tasks successfully. This assumption is based on the CAT framework that one of the motivations for participants to adjust or to accommodate their speech styles is to achieve communicational efficiency (see Beebe & Giles, 1984; Coupland, 1984, 2007; Giles et al., 1991; Thakerar et al., 1982). Although there are other motivations⁴⁷ or reasons for participants in adjusting their speech, in this study the motivation is assumed to be negotiating intelligibility and achieving communication efficiency in exchanging information in order to complete the tasks. The focus of this chapter, then, is to investigate, if and how, the participants 'adjust' their pronunciations (i.e. through the selected phonological features) when the L1 of their interlocutors is varied.

One further limitation of this chapter is that the interactions that are used in this analysis are not based on naturally occurring talk. The interactions were elicited using task based interactions, thus the conclusions drawn from the data need to be interpreted cautiously as some of the findings and conclusions may not be

⁴⁶ As discussed in Section 2.7, there are a variety of Chinese languages that are used in Malaysia. All three Chinese participants chosen in the analysis here indicated that their L1 was Mandarin; however, one participant, P4CH also listed Hakka as her L1, in addition to Mandarin; and P2CH listed Cantonese as her 'other language'. Although, the Chinese L1 participants may be exposed to other Chinese languages, all of them have attended a Chinese vernacular primary school where the medium of instruction is Mandarin.

⁴⁷ The other motivations mentioned in the CAT framework include eliciting listeners' social approval and maintaining positive identities (Beebe & Giles, 1984; Thakerar et al., 1982).

representative of naturally occurring talk. Furthermore, the interactions only involve dyads and thus the accommodation patterns may not be generalisable to interactions involving different types of interactions.

6.3 Analysis and Discussion: Comparing Usage of Features and Patterns of Variation

The analysis in this section is presented in three parts. This first part presents the analysis of the usage of the eight features in the selected interactions. This is followed by the examination of the patterns of variations in the usage of the features according to the Malay and Chinese L1 participants. Lastly the frequency of occurrences of the features are compared (SLD compared with DLD) using chi-square tests done on each feature to test if the frequency of occurrences occur purely by chance or if there is a relationship between the occurrences of the features and the L1 of the interlocutor.

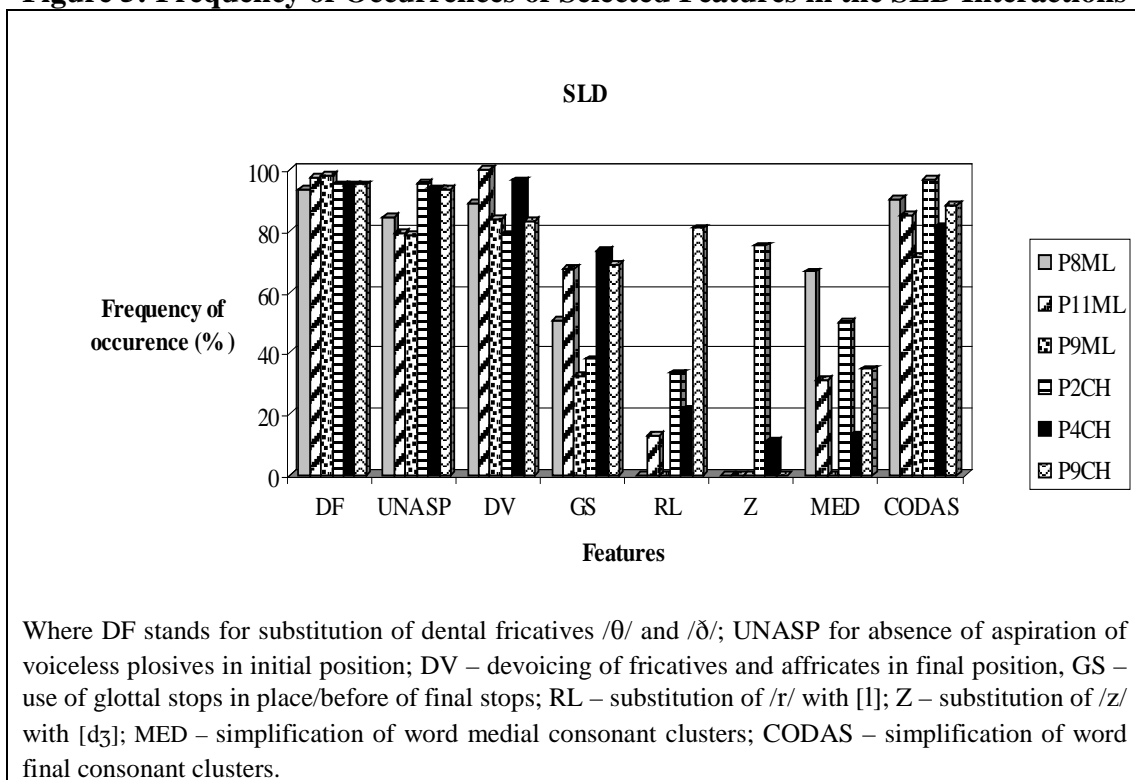
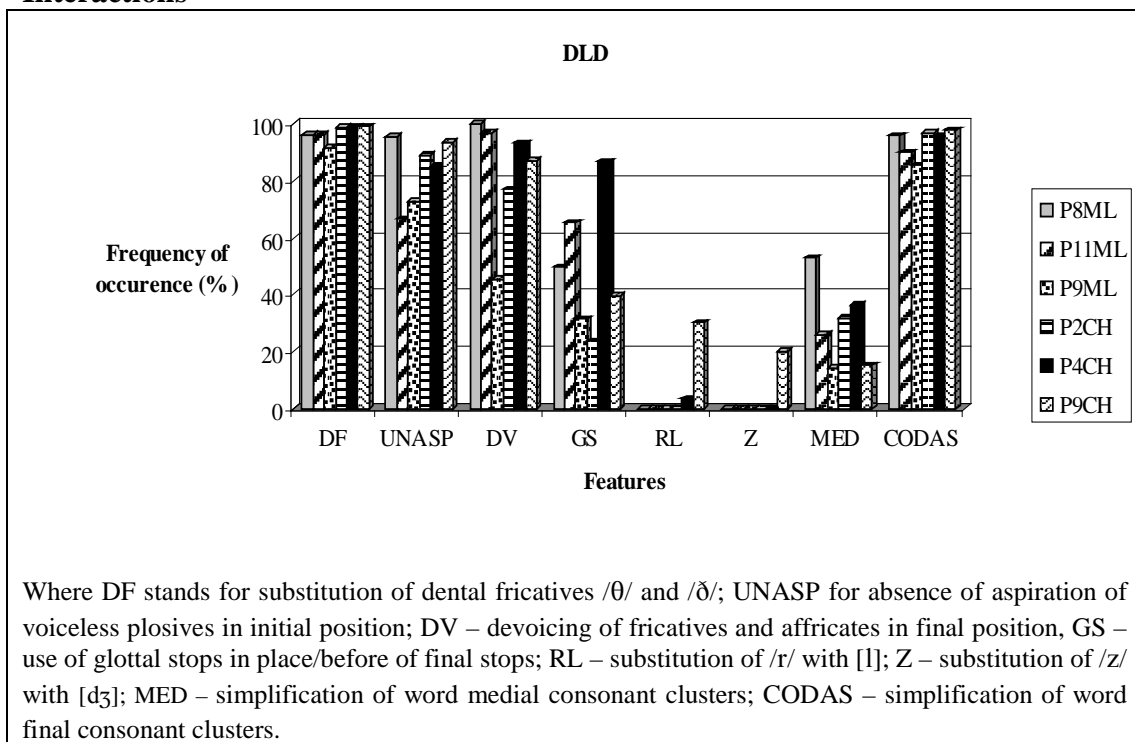
6.3.1 Usage of Features

Firstly, the analysis looked at the usage of the eight phonological features discussed in Section 6.2.2 of all the six participants. The usage of each feature is expressed as percentages based on the frequency of occurrence of each feature in the SLD and DLD interactions. The variation of each feature is calculated as the difference between the occurrence (or non-occurrence, depending on the feature) of the feature in the SLD and the DLD. The results of the frequency of occurrences of the eight

features for the selected interactions of the six participants in the SLD and DLD interactions are illustrated graphically in Figures 5 and 6.

The detailed results in terms of the actual number of occurrences and the possible occurrences of the eight features of each participant in the selected interactions in the SLD and DLD are shown in Appendix 20. A comparison of the frequency of occurrences of each feature in the SLD and DLD interactions is one way to examine if these participants ‘adjust’ their pronunciation (here, measured through the eight features) according to the L1 of their interlocutors. The focus in the analysis was to examine if there was any variation in terms of the occurrences of the features according to the L1 of the interlocutor. A higher rate of variation⁴⁸ in the frequency of occurrences between the SLD and DLD interactions can be an indication of the participants ‘adjusting’ the usage of certain features according to the L1 of the interlocutor.

⁴⁸ ‘Variation’ is taken to mean the differences of the frequency of occurrences of the features in the SLD and DLD. ‘A higher rate of variation’ is presumed to be a difference in the frequency of occurrences between the SLD and DLD interactions of 15% or more.

Figure 5: Frequency of Occurrences of Selected Features in the SLD Interactions**Figure 6: Frequency of Occurrences of Selected Features in the DLD Interactions**

6.3.1.1 Substitution of Dental Fricatives /ð/ and /θ/

All the participants from the two L1s tended to substitute the dental fricatives /ð/ and /θ/ in both the SLD and DLD interactions. The substitution rates in the SLD and DLD interaction were equally high, with all six participants substituting dental fricatives most of the time. There were no significant differences in the substitution rates of the dental fricatives according to the L1 of the interlocutors. The frequencies of occurrences of the substitution of the dental fricatives for all the six participants ranged from 91.4% to 99% in both the SLD and DLD interactions. The substitution rates of the dental fricatives for all the six participants are shown in Table 10.

6.3.1.2 Absence of Aspiration of Voiceless Plosives

Similar to the substitution of dental fricatives, the rate of not aspirating voiceless plosives was also not varied according to the L1 of the interlocutors. All the participants did not aspirate voiceless plosives most of the time in both the SLD and DLD interactions. However, the frequency of occurrences of the absence of aspiration seemed to be slightly lower than the occurrences of the substitution of dental fricatives discussed in 6.3.1.1. The frequency of participants not aspirating voiceless plosives ranged from 66.7% to 95.5% in both the SLD and DLD interactions. Most of the participants, except for P8ML, had a slightly higher use of aspiration in the DLD interactions than in the SLD interactions. P8ML was the only participant who aspirated more with her partner of the same L1. However, the differences of the frequency of occurrences between the SLD and DLD for all the participants were rather small, about 10%. The detailed breakdown of the frequency

of occurrences for the absence of aspiration of voiceless plosives by all the participants according to the SLD and DLD interactions are shown in Table 10.

6.3.1.3 Devoicing of Fricatives and Affricates in Final Position

Five of the participants did not devoice fricatives and affricates in final position according to the L1 of their interlocutors. Only one participant, P9ML, seemed to vary the devoicing of fricatives and affricates in final position according to the L1 of his interlocutor. P9ML devoiced fricatives and affricates in final position less frequently with his interlocutor of Chinese L1. The difference in the frequency of devoicing by P9ML between the SLD and DLD interactions was rather high, i.e. about 40%. The rest of the participants seemed to have a similar rate of devoicing in both the SLD and DLD interactions, i.e. between 2% to 11% in the SLD and DLD interactions. The breakdown of the frequency of occurrences for the devoicing of fricatives and affricates in final position in the interactions according to the SLD and DLD interactions are shown in Table 10.

6.3.1.4 Use of Glottal Stops in Place of/Before Final Stops

Two participants, P2CH and P9CH, used glottal stops in place of/before final stops more often with their interlocutors of the same L1 and less with interlocutors with Malay as a L1. P2CH used glottal stops about 15% less in the DLD than in the SLD, whereas P9CH used glottal stops about 30% less in the DLD than in the SLD. The other participants did not vary their use of glottal stops much according to the L1 of their interlocutors. The differences of the use of glottal stops between the SLD and

DLD interactions for the rest of the participants (apart from P2CH and P9CH) were between 2% to 10%. The breakdown of the frequency of occurrences for the use of glottal stops by all the participants according to the SLD and DLD interactions are shown in Table 10.

6.3.1.5 Substitution of /r/ with [l]

The substitution of /r/ with [l] had the most variation in terms of the frequency of occurrences in the SLD and DLD, especially among the Chinese L1 participants. All three Chinese L1 participants substituted /r/ with [l] more often when interacting with interlocutors of the same L1; however all the three Chinese L1 participants had varying frequencies of occurrences. P2CH substituted /r/ with [l] at a rate of 33% in the interaction with her partner of the same L1; but, P2CH never once substituted /r/ with [l] when she interacted with her partner in the DLD interaction. P4CH, on the other hand, exhibited a slight variation. P4CH substituted /r/ with [l] in both the SLD and DLD interactions; with only a slight variation, i.e. only 5% between the SLD and DLD interactions. P9CH substituted /r/ with [l] with a frequency of 80% with the interlocutor of the same L1 and only 30% with the Malay L1 participant.

Two of the Malay L1 participants, P8ML and P9ML, never substituted /r/ with [l] in either the SLD or DLD interactions. But P11ML, substituted /r/ with [l] at a rate of 12% with an interlocutor of the same L1, and never substituted /r/ with [l] with his Chinese L1 interlocutor. The breakdown of the frequency of occurrences for the

substitution of /r/ with [l] by all the participants according to the SLD and DLD interactions are shown in Table 10.

6.3.1.6 Substitution of /z/ with [dʒ]

The substitution of /z/ with [dʒ] feature proved to be the most difficult feature to analyse as the possible occurrences of words with /z/ in the selected interactions were very few. Only three words where /z/ occurs were used by the participants in the selected interactions, i.e. ‘zed’, ‘desert’ and ‘horizontal’. The maximum possible occurrence of /z/ in the data is 11 times in P9ML’s interaction. Only the Chinese L1 participants showed variation in their substitution of /z/ with [dʒ] according to their interlocutors’ L1. In contrast, all three Malay L1 participants never substituted /z/ with [dʒ] in either the SLD or DLD interactions. Given that the tokens of the occurrences (possible as well as actual occurrences) of this feature were sparse for all the participants, I decided to disregard this feature in the final discussion⁴⁹. This feature is considered to be a marker for both Malay L1 and Chinese L1 speakers of ME, further research needs to be done to see if its use is related to the L1 of the interlocutor. The detailed breakdown of the frequency of occurrences for the substitution of /z/ with [dʒ] by all the participants according to the SLD and DLD interactions are shown in Table 10.

⁴⁹ This is based on Milroy and Gordon’s (2003) review of studies that are based on the counting of occurrences of phonological variants. Milroy and Gordon (2003) suggest that 10 tokens per variable are the minimal requirement if there are any statistical tests involved but 30 tokens per variable is the ideal number.

6.3.1.7 Simplification of Word Medial Consonant Clusters

Most of the participants simplified word medial consonant clusters with varying rates in the SLD and DLD interactions. The range of variation in the frequency of occurrence of this feature was between 5% to about 25%. Four participants, P2CH, P9CH, P8ML, and P11ML simplified word medial consonant clusters more often with interlocutors of the same L1; meanwhile P4CH and P9ML simplified word medial consonant clusters in a higher frequency with interlocutors of different L1s. P9ML never simplified any word medial consonant clusters when interacting with his interlocutor of the same L1. It should also be noted that P11ML's variation in the SLD and DLD was rather small, only about 5%. The frequency of occurrences for the simplification of word medial consonant clusters by all the participants according to the SLD and DLD interactions are shown in Table 10.

6.3.1.8 Simplification of Word Final Consonant Clusters

Only three participants showed a significant variation in simplifying word final consonant clusters according to the L1 of their interlocutors. The range of variation was about 15% for all these three participants. P4CH tended to simplify word final consonant clusters more often with her interlocutor of the same L1; whereas P9ML and P11ML simplified word final consonant clusters more often with interlocutors of different L1. The rest of the participants, i.e. P2CH, P9CH and P8ML did not have a high rate of simplifying word final consonant clusters in the SLD and DLD interactions. The simplification of word final consonant clusters for all participants was rather high, i.e. all the participants consistently simplified word final consonant

clusters. The breakdown of the frequency of occurrences for the simplification of word final consonant clusters by all the participants according to the SLD and DLD interactions is shown in Table 10.

Table 10: Frequency of Occurrences of Phonological Features in SLD and DLD Interactions (%)

Feature	P2CH (%)		P4CH (%)		P9CH (%)		P8ML (%)		P9ML (%)		P11ML (%)	
	SLD	DLD	SLD	DLD	SLD	DLD	SLD	DLD	SLD	DLD	SLD	DLD
Substitution of dental fricatives /θ/ and /ð/	95.2	98.8	95.0	98.9	95.2	99.0	93.7	96.3	98	91.4	97.2	96.1
Absence of aspiration of voiceless plosives in initial position	95.5	88.9	93.9	85.1	93.6	93.5	84.6	95.5	78.6	72.7	79.4	66.7
Devoicing of fricatives and affricates in final position	78.9	76.9	96.4	93.3	83.3	87.2	88.9	100	84	45.5	100	100
Use of glottal stops in place/before of final stops	38.0	23.7	73.4	68.9	69	39.5	50.7	49.6	32.4	31.5	67.4	65.3
Substitution of /r/ with [l]	33.3	0	21.4	17.9	80.7	30.1	0	0	0	0	12.8	0
Substitution of /z/ with [dʒ]	75.0	0	11.1	0	0	20.0	0	0	0	0	0	0
Simplification of word medial consonant clusters	50.0	32.0	13.3	36.7	34.7	15.3	66.7	52.9	0	14.3	31.3	26.1
Simplification of word final consonant clusters	96.7	96.8	81.4	95.8	88.2	97.9	90.3	95.8	71.4	85.4	85.0	90.0

**Actual occurrence/possible occurrence x 100*

6.3.1.9 Summary

The discussion above highlights some of the patterns in the use of the features in the SLD and DLD interactions. The following is a summary of the patterns discussed above:

- there were no significant variation in the substitution of the dental fricatives /ð/ and /θ/, non-aspiration of voiceless plosives, devoicing of fricatives and affricates in final position and the simplification of word final consonant clusters, in the SLD and DLD interactions. These four features (in comparison with the other three⁵⁰ features) had relatively high occurrences in both the SLD and DLD interactions of all the participants.
- the use of glottal stops in place of/before final stops, substitution of /r/ with [l], and the simplification of word medial consonant clusters had some visible patterns in terms of the variation of their usage according to the L1 of the interlocutor.
- the substitution of /r/ with [l] had the most significant variation according to the L1 of the interlocutor. All three Chinese L1 participants substituted /r/ with [l] more when interacting with their interlocutors of the same L1; in fact one Chinese L1 participant, P2CH, never substituted /r/ with [l] with her interlocutor of Malay L1. The substitution rates for all three Chinese L1 participants in the SLD interactions were also quite high, ranging from 18% to 80%. In contrast, only one Malay L1 participant, P11ML substituted /r/ with

⁵⁰ As mentioned in Section 6.3.1.6, the substitution of /z/ with [dʒ] is not discussed here.

[l] with his interlocutor of the same L1, but never with his interlocutor of different L1. The other two Malay L1 participants never substituted /r/ with [l] in any of their interactions.

- there was also some significant variation in the simplification of word medial consonant clusters according to the L1 of the interlocutor. Four participants, i.e. P2CH, P9CH, P8ML and P11ML, simplified word medial consonant clusters more often with interlocutors of the same L1s; whereas P4CH and P9ML simplified word medial consonant clusters more often with interlocutors of different L1s.
- for the use of glottal stops in place of/before final stops, only two participants P2CH and P9CH showed some variation, where both these participants used glottal stops in place of final stops more often with their interlocutors of the same L1. The rest of the participants used glottal stops in place of/before final stops with very little variation according to their interlocutors.

6.3.2 Patterns of variation according to Malay L1 and Chinese L1 participants

This section discusses the patterns of variation of the usage of the eight features according to Malay L1 and Chinese L1 participants. As the variation and the frequency of occurrences of the eight features have been discussed in depth above, this section presents a brief overview of the frequency of occurrences according to the L1 of the speakers. Figures 7 and 8, exemplify graphically the usage of the eight

features in the SLD and DLD interactions according to the Chinese L1 and Malay L1 participants.

For both the Chinese L1 and Malay L1 participants, there were very little variations in the frequency of occurrences of the following four features: substitution of dental fricatives, absence of aspiration of voiceless plosives in initial position, devoicing of fricatives and affricates in final position and simplification of complex final clusters. All the Chinese and Malay L1 participants substituted dental fricatives most of the time, regardless of the L1 of their interlocutors. All the participants also did not aspirate voiceless plosives in initial position consistently in both the SLD and DLD interactions. However, two Malay L1 participants, i.e. P9ML and P11ML, had a much lower rate of not aspirating than the other participants in both the SLD and DLD interactions.

As for devoicing of fricatives and affricates in final position, almost all the participants did not significantly vary the devoicing of fricatives according to the L1 of their interlocutors. Only P9ML varies the devoicing of fricatives according to the L1 of her interlocutor. P9ML devoices fricatives and affricates 40% more with a Malay L1 interlocutor than a Chinese L1 interlocutor. For the simplification of word final consonant clusters, only two participants, P4CH and P9ML, significantly vary the use of this feature according to the L1 of their interlocutor. Both P4CH and P9ML had a lower simplification rate, of about 15%, with their interlocutors of the same L1. All the other participants did not vary this feature according to their

interlocutors and the frequency of simplifying word final consonant clusters was quite high in both SLD and DLD interactions.

Two of the Chinese L1 participants, P2CH and P9CH, showed significant variation in their use of glottal stops in place of/before final stops according to the L1 of their interlocutors. P2CH and P9CH both used more glottal stops with their interlocutors of the same L1. The other Chinese L1 participant and the three Malay L1 participants did not vary the use of the glottal stops according to the L1 of their interlocutors.

Another feature that showed a significant difference in its usage, especially among the Chinese L1 participants was the substitution of /r/ with [l]. All three Chinese L1 participants substituted /r/ with [l] more often when they interacted with interlocutors of the same L1. P2CH substituted /r/ with [l] about 30% when interacting in the SLD and never substituted /r/ with [l] when interacting in the DLD. P4CH had nearly a similar pattern, i.e. 20% in the SLD and about 5% in the DLD. P9CH had the highest rate of substituting /r/ with [l] among all three Chinese L1 participants. P9CH substituted /r/ with [l] at a rate of 80% when interacting with an interlocutor of the same L1 and only about 30% with an interlocutor with Malay as a L1. As for the Malay L1 participants, two participants, P8ML and P9ML, never substituted /r/ with [l] with either interlocutor. This is an expected result as the substitution of /r/ with [l] is considered to be a marker of Chinese L1 speakers of English. However, P11ML substituted /r/ with [l] six times (about 12%) while interacting with a partner of the

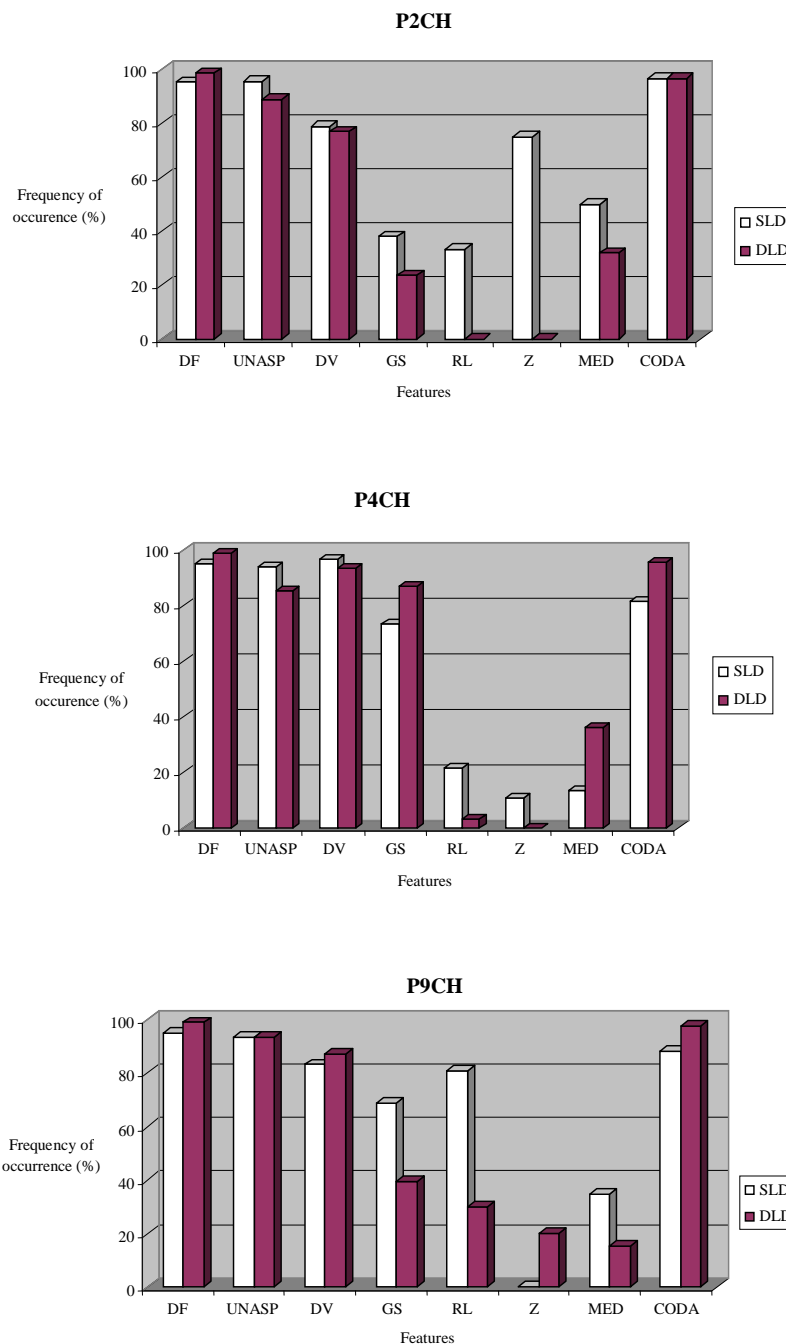
same L1. P11ML never substituted /r/ with [l] while interacting with his partner of Chinese L1.

As for the substitution of /z/ with [dʒ], as discussed in Section 6.3.1.6, the occurrences of words with /z/ in the interactions were limited. This is one limitation arising from the design of this research which is based on information gap tasks as well as the decision to limit the analysis of the interactions in terms of the length. Although I discuss the variation of this feature, it would not be fair to make any conclusions or generalizations based on the limited occurrences of /z/ in the data. All three Malay L1 participants never substituted /z/ with [dʒ] in either the SLD or DLD interactions, although the participants used words which had this feature. P2CH and P4CH only substituted /z/ with [dʒ] in the SLD interactions and never in the DLD interactions. The rates of occurrence of this feature for P2CH and P4CH in the SLD interactions were at 75% and 11% respectively. In comparison, P9CH only used this feature in the DLD interactions at a rate of 20%.

One other feature that had a high range of variability in terms of its usage in the SLDs and DLDs was the simplification of word medial consonant clusters. The average variation of usage for this feature for each of the three Chinese participants was about 20%. Two Chinese L1 participants (P2CH and P9CH) simplified word medial consonant clusters more when interacting with interlocutors of the same L1. However, P4CH simplified word medial consonant clusters more when interacting

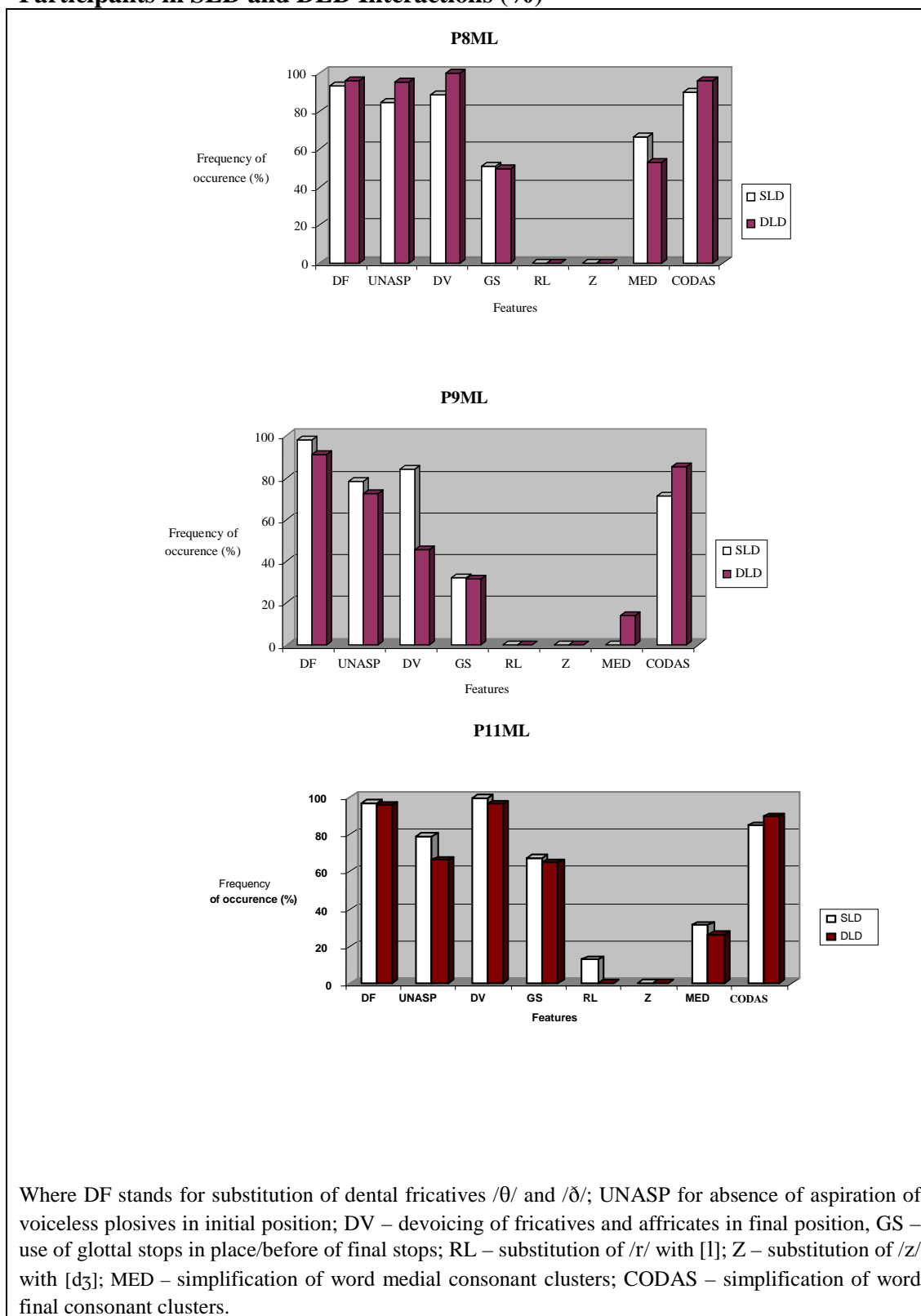
with her interlocutor of different L1. Incidentally, P4CH also used more glottal stops in place/before final stops with her interlocutor of different L1 (about 15%). Compared to P2CH and P9CH, P4CH exhibited a different pattern in the variation of two features, i.e. simplification of word medial consonant clusters and the use of glottal stops in place/before final stops. She varied these two features more with her interlocutor of Malay as a L1. However, for the Malay L1 participants, there was not much difference in terms of simplifying word medial consonant clusters in the SLD and DLD interactions. The only slight significant variation was by P9ML, who did not simplify word medial consonant clusters at all in the SLD interactions and had a low rate of simplification of this feature in the DLD interaction (10%). The frequency of occurrence of the eight features according to the L1 of the speakers is shown in Figures 7 and 8.

Figure 7: Frequency of Occurrence of Phonological Features of Chinese L1 Participants in SLD and DLD Interactions (%)



Where DF stands for substitution of dental fricatives /θ/ and /ð/; UNASP for absence of aspiration of voiceless plosives in initial position; DV – devoicing of fricatives and affricates in final position, GS – use of glottal stops in place/before of final stops; RL – substitution of /r/ with [l]; Z – substitution of /z/ with [dʒ]; MED – simplification of word medial consonant clusters; CODAS – simplification of word final consonant clusters.

Figure 8: Frequency of Occurrence of Phonological Features of Malay L1 Participants in SLD and DLD Interactions (%)



6.3.2.1 Summary

From the discussion above, it can be seen that the Chinese L1 participants show more variation in the use of some of the features compared to the Malay L1 participants. The following is a summary of some of the patterns of variation according to the six speakers discussed above:

- P2CH and P9CH had a similar pattern of variation in the use of glottal stops in place/before final stops, substitution of /r/ with [l] and simplification of word medial consonant clusters; where both participants used these three features more with interlocutors of the same L1.
- P4CH showed a slightly different pattern from the other two Chinese L1 participants, i.e. P4CH used glottal stops in place/before final stops and simplified word medial consonant clusters more with her interlocutor of different L1. However, in the substitution of /r/ with [l], P4CH showed a similar variation pattern as P2CH and P9CH, where P4CH also substituted /r/ with [l] more with her interlocutor of the same L1.
- P11ML is the only Malay L1 participant who substituted /r/ with [l] with his interlocutor of the same L1.
- P9ML and P11ML had a lower rate (in both the SLD and DLD interactions) than all the other participants for not aspirating voiceless plosives in initial position. There was a significant difference in the rate of P9ML and P11ML's use of aspiration compared to the other participants, although there was no variation of the use of aspiration according to the L1 of the interlocutor.

- P9ML was the only participant who devoiced fricatives and affricates in final position significantly with his interlocutor of the same L1.
- P4CH and P9ML both simplified word final consonant clusters rather significantly when interacting with interlocutors of the same L1.
- there were visible patterns of variation in the use of glottal stops in place of final stops and the substitution of /r/ with [l] according to the L1 of the interlocutors among all the three Chinese L1 participants.
- overall, patterns were unclear for the other six features among the Chinese L1 participants as some of the differences between the SLD and DLD interactions were quite small and also because the direction of the variation was different between the Chinese L1 participants.
- for the three Malay L1 participants there were no visible patterns of variation for any of the features according to the L1 of their interlocutors. For most of the features, the differences between the SLD and the DLD interactions of the Malay L1 participants were quite small. Only for some of the features, there were variations in the use of the features, but these variations did not seem to be related to the L1 of the interlocutor. The Malay L1 participants used some of the features less frequently than the Chinese L1 participants in both the SLD and the DLD interactions.

6.3.3 Comparing Frequency of Occurrences of Eight Features in the SLD and DLD Interactions: Chi-Square Tests

This section further explores if the variations of the frequency of occurrences discussed in 6.3.1 and 6.3.2 are significant in terms of their usage according to the L1 of the interlocutor. The frequencies of occurrences of the eight features were tested using the chi-square test in order to examine if there was a relationship between the occurrences of the features and the L1 of the interlocutor. Each feature was tested using the chi-square test. The chi-square test was chosen as it is appropriate for data that was nominal, independent and measured in terms of frequencies (Hatch & Lazaraton, 1991). Hatch and Lazaraton (1991, p.415) also add that the chi-square test allows for the discussion of frequency data in terms of percentage, proportion, ratio and whether or not the frequencies reflect a relationship between variables. Therefore applied to the data of the six participants in their use of the eight phonological features in the SLD and DLD interactions, the chi-square test can reveal if there is a relationship between the occurrence of a particular feature and the L1 of the interlocutor. The following null hypothesis was formulated to test the relationship:

H_0 : There is no relationship between the occurrence of a particular feature and the L1 of the interlocutor in the selected interactions.

If the null hypothesis is rejected, we can conclude that a relationship probably exists between the occurrence of a particular phonological feature and the L1 of the interlocutor; if the null hypothesis is accepted then the occurrence of the particular

feature has no relationship with the L1 of the interlocutor. However, the chi-square is limited in its measurements as it can only show a relationship between variables but not the strength of the relationship (Hatch & Lazaraton, 1991; Perry, 2005; Sirkin, 2006). The alpha for the chi-square test was set at the $< .01$ level. A summary of the results of the chi-square test are shown in Table 11. The contingency tables for each of the eight features for all the participants in the SLD and DLD interactions are shown in Appendix 21. For some of the features, i.e. involving the substitution of dental fricatives, devoicing of fricatives and affricates and substitution of /z/ with [dʒ], the chi square could not be done as the tokens in the cells were below the required minimum of 5.

Table 11: Summary of Chi-Square Tests Comparing Frequency of Occurrences of the Eight Features (Comparing SLD with DLD)

Feature	P2CH	P4CH	P9CH	P8ML	P9ML	P11ML
Substitution of dental fricatives	*	*	*	*	*	*
Absence of aspiration of voiceless plosives	*	*	not significant ($p \leq 0.9903$)	*	*	not significant ($p \leq 0.3390$)
Devoicing of fricatives and affricates in final position	*	*	*	*	*	*
Use of glottal stops in place/before of final stops	not significant ($p \leq 0.1532$)	not significant ($p \leq 0.5008$)	significant ($p \leq 0.0001$)	not significant ($p \leq 0.8797$)	not significant ($p \leq 0.2513$)	not significant ($p \leq 0.7652$)
Substitution of /r/ with [l]	*	not significant ($p \leq 0.6581$)	significant ($p \leq 0.0001$)	*	*	*
Substitution of /z/ with [dʒ]	*	*	*	*	*	*
Simplification of word medial consonant clusters	*	*	significant ($p \leq 0.0322$)	not significant ($p \leq 0.4302$)	*	not significant ($p \leq 0.7245$)
Simplification of word final consonant clusters	*	*	*	*	not significant ($p \leq 0.1575$)	not significant ($p \leq 0.2693$)

* Chi squared could not be calculated as expected frequencies were less than 5; $df=1$

.As shown in the summary of the results for the chi-square in Table 11, most of the results of the chi-square tests were not significant and thus the null hypothesis can be accepted; i.e. that there was no relationship between the use of the features and the L1 of the interlocutor for nearly all the participants, except for P9CH. P9CH was the only participant who had significant results in his use of glottal stops, substitution of /r/ with [l] and the simplification of word medial consonant clusters. Thus in P9CH's case the null hypothesis was rejected, i.e. there was a relationship between P9CH's use of glottal stops, substitution of /r/ with [l] and the simplification of word medial consonant clusters and his interlocutors' L1. P9CH used glottal stops in place of final stops, substituted /r/ with [l] and simplified word medial consonant clusters according to the L1 of his interlocutors. P9CH used these three features more with his interlocutor of the same L1 and less with his interlocutor of Malay L1.

P9CH displayed a pattern of accommodating to his interlocutors by varying his use of three features, i.e. use of glottal stops, substitution of /r/ with [l] and simplification of word medial consonant clusters. He varied the use of these features more with his interlocutor of the same L1 and less with his interlocutor of different L1. This supports Jenkins' (1995, p.185) findings where most of her participants displayed "convergence by means of the suppression of L1 phonological transfer to promote communicational efficiency". Jenkins (1995) notes that her participants seemed to monitor and adapt the features in their speech that they thought would be problematic for their interlocutors. Coupland (1984) in discussing the viability of using the CAT in explaining phonological variation states that most often speakers adapt their speech

in order to gain their interlocutors' approval and/or make their speech more efficient. P9CH suppressed the use of the features that he thought will be problematic for his interlocutors, especially his interlocutor in the DLD. One reason for P9CH's variation of these three features could be the need of efficiency in communicating the information to complete the tasks and increasing intelligibility in the interactions. P9CH was the only participant, who in one of the tasks apologized to his interlocutor of different L1 for his pronunciation. P9CH was conscious that he had problems with his pronunciation and thus this made him monitor his speech more closely. None of the other participants made any overt comments about their pronunciations like P9CH in the interactions. The extract below highlights the incident where P9CH apologised to P9ML for his pronunciation.

Extract 51: P9CH – P9ML (Map Task: 2035)

1	P9CH:	[grɪnle?] aaa actually I tell you riverview park from the riverview park
2	P9ML:	hmmm
3	P9CH:	around one o'clock
4	P9ML:	aaa one o'clock
5	P9CH:	one o'clock around one o'clock got the [grɪnle?]
6	P9ML:	[grɪ:nleɪk]
7	P9CH:	aaa got [grɪnle?]
8	P9ML:	G-R-E-E-N [grɪ:n]
9	P9CH:	[grɪn]
10	P9ML:	aha
11	P9CH:	the colour of [grɪn] and then [le?]
12	P9ML:	ok

13	P9CH:	maybe my [prənaũ] is not
14	P9ML:	ok ok
15	P9CH:	ok

In extract 51⁵¹, P9CH and P9ML were discussing the landmark “green lake” (which is indicated on P9CH’s map but not on P9ML’s). P9CH tried to explain the name of the landmark and the discussion continued for over two minutes. Initially in an exchange two minutes earlier (not shown here), P9CH had said “[glɪnle?” when describing the landmark. However, once he realized that P9ML did not have the landmark and the landmark was important in terms of its position to the finishing point, P9CH never again substituted /ɪ/ with [l] in ‘greenlake’ as he did earlier. But P9CH still had problems distinguishing between /i:/ and /ɪ/ and also substituted the final stop with a glottal. This confused P9ML. In line 8, P9ML spelt ‘green’ to confirm the word and P9CH responded by saying “[grɪn]”. In line 11, P9CH once again tried to describe the landmark, despite P9ML having spelt ‘green’ in line 8. In line 13, P9CH apologized for his “[prənaũ]”, but before he finished his sentence, P9ML interjected and said “okay okay”. The interaction continued and this incident was never referred to or repeated. This incident highlights that P9CH was conscious that something was amiss with his pronunciation and overtly indicated it to his partner.

⁵¹ Part of this extract was also discussed in Chapter 5, where it was used to look at the communicative strategy involved in the interaction (Section 5.3.2).

In the post interaction questionnaire (Appendix 18), P9CH was the only participant who in response to item 1 (when you speak English with other Malaysian speakers of English who do not speak your first language, do you do any of these things?) chose the statement that he would “try to speak English in a more standard way than you do with people who share your first language”. P9CH was also the only participant who described his English competency as being “less normal” than other speakers of English who have different first languages than him (item 3 in the post interaction questionnaire, Appendix 18). Interestingly, P9CH indicated that it was easier for him to communicate with his interlocutor of different L1 (i.e. P9ML) than his interlocutor of the same L1. However, P9ML’s response to the same item (item 14) was that he found it easier to interact with his interlocutor of the same L1. All these factors, i.e. P9CH’s perception of his language competence, his admission that he varied the way he speaks English as well as the goal of the interaction that required communication efficiency in order to complete the task, may have contributed to the variation of the three features by P9CH. The responses to the post interaction questionnaire by all the six participants are shown in Appendix 18. Lack of space does not allow the discussion of all the responses.

In the case of the other five participants, there were no significant results in the chi-square test to indicate that they varied the features according to the L1 of their interlocutors. In Section 6.3.2, we saw that there were systematic variations of certain features by some of the participants; however, there were no significant results in the chi-square test (i.e. for features that could be tested using the chi-square). These five

participants did not vary the use of the features (which could be tested) according to the L1 of their interlocutors. Rajadurai (2004b) found that her three Malaysian participants of varying L1s displayed similarities with respect to phonology. Rajadurai (2004b) attributes the similarities, firstly, to the shared national language, the Malay language, which all Malaysians acquire at a young age (if it is not one's L1) and, secondly, to the nativized variety of ME, a variety of English that most Malaysians are exposed to. This explains some of the similar patterns of variations by the participants in this study, especially the use of glottal stops and simplification of word final consonant clusters which are considered to be features of ME (Baskaran, 2004, 2005a, 2005b; Rajadurai, 2004b). The findings here differ from the Jenkins' (1995, 2000a) findings. Jenkins' reported that her participants significantly varied certain features according to the L1 of their interlocutors. The participants in this study share a linguistic background in the form of Malay and use a certain variety of English that is available to them in school and home. Jenkins' participants have various cultural and linguistic backgrounds, in terms of the Englishes that they are exposed to. In this study, the context of English language also differs from most ELF interactions. In Malaysia, English is widely used as an intranational language, whereas for Jenkins' (1995, 2000a) participants and participants of ELF studies, English is used for international communication, primarily in Expanding Circle contexts.

Clearly, larger samples of interactions are required to gather more tokens of the features; as well as ideally, a larger number of participants in order to make detailed

comparisons. For most of the features the chi-square test could not be done as there were not enough tokens in the cells. This is one limitation of this study as the data for the analysis is limited and the frequency of occurrences of the features could not be predicted beforehand when designing the tasks.

6.3.3.1 Summary

The chi-square test highlights that:

- all the participants, except for P9CH, did not vary the use of the features (i.e. only the features that could be tested) according to the L1 of their interlocutors. These participants varied some of the features but the variations between the SLD and DLD interactions were not significant as shown by the chi-square test.
- only P9CH varied the use of three of the phonological features, i.e. use of glottal stops, substitution of /r/ with [l] and simplification of word medial consonant clusters according to the L1 of his interlocutors. P9CH used these features more with his interlocutor of the same L1 and less with his interlocutor of different L1.
- P9CH's variation of the use of the three features corresponded to Jenkins' (1995, 2000a) findings. Jenkins (1995, 2000a) notes that her participants, learners of varying L1s, tend to make considerable efforts to suppress L1 phonological transfer when interacting in English with speakers from different L1s compared to speakers from the same L1. This, according to Jenkins (1995, 2000a, 2002a) is an accommodation strategy by the participants to

ensure communication efficiency and increase intelligibility. P9CH was the only participant in this analysis who showed a similar accommodation strategy of varying phonological features according to the L1 of his interlocutors. However, it should be noted that Jenkins' (1995) looked at the total frequency of occurrences of the features as opposed to this study, where I examined the frequency of occurrences of individual phonological features.

- The lack of significant findings in this study can also be attributed to the shared code among the participants of this study as opposed to Jenkins' (1995, 2000a) participants. The participants in this study have all been exposed to and learnt a nativised variety of English that is commonly used as an intranational language among people of different L1s in Malaysia. Jenkins' (1995, 2000a) participants, on the other hand, may have had limited exposure to English and the English they are exposed to may be of various types. ELF interactions and interaction where English is used widely as an intranational code have different patterns of variation as shown here.

6.4 Concluding Remarks

This chapter examined if and how, the participants varied specific phonological features according to the L1 of their interlocutor. The focus of this chapter was on examining the frequency of occurrences of eight features in the selected interactions of six participants. The eight features were substitution of dental fricatives, aspiration of voiceless plosives, devoicing of fricatives and affricates, use of glottal stops, substitution of /r/ with [l], substitution of /z/ with [dʒ], simplification of word medial

consonant clusters and simplification of word final consonant clusters. The analysis in this chapter has demonstrated the following:

- firstly, in terms of variation according to the use of features, the substitution of /r/ with [l] had the most significant variation according to the L1 of the interlocutor. All three Chinese L1 participants substituted /r/ with [l] more when interacting with their interlocutors of the same L1. In contrast, only one Malay L1 participant, P11ML substituted /r/ with [l] with his interlocutor of the same L1, but never with his interlocutor of different L1. The other two Malay L1 participants never substituted /r/ with [l] in any of their interactions.
- secondly, in terms of variation of the features by the participants, the Chinese L1 participants showed more variation in the use of some of the features compared to the Malay L1 participants. There were visible patterns of variation in the use of glottal stops in place of final stops and the substitution of /r/ with [l] according to the L1 of the interlocutors among all the three Chinese L1 participants. For the three Malay L1 participants there are no visible patterns of variation for any of the features according to the L1 of the interlocutors. The substitution of /r/ with [l] can be taken to be a marker of the Chinese L1 ethnolect, for these participants.
- lastly, the chi-square test showed that only one participant (P9CH) varied significantly the use of three features, i.e. use of glottal stops, substitution of /r/ with [l] and simplification of word medial consonant clusters according to the L1 of his interlocutors.

- overall, the analysis shows that most of the participants did not seem to vary the use of the features according to the L1 of their interlocutors. The patterns of variations in most of the features seem to be similar for nearly all the participants. This indicates that the participants, despite their differing L1s, have striking similarities with respect to their phonology. This can be explained using Rajadurai's (2004) argument that these participants share similar codes, i.e. a nativised or L2 variety of English as well as the national language, the Malay language. Thus in situations like this phonological variation may be used differently to accommodate to interlocutors of differing L1s.

CHAPTER 7

CONCLUSION AND IMPLICATIONS

7.1 Introduction

This chapter draws together the various discussions and findings of this thesis. The first part of this chapter begins with a brief summary of the aims and the limitations of this study. This is followed by a discussion of the key findings according to the research questions posited in Section 1.2. Next is a discussion on the implications of the findings of this study on methodological, pedagogical as well as theoretical perspectives in L2 English studies and contexts. This chapter ends with proposals for future research.

7.2 Aims of the Study

This study originated as a response to the changes in the role and status of the English language in a Malaysian context. For the past 50 years or so, since gaining independence, the English language in Malaysia has undergone various changes in terms of the language policies surrounding its existence. Given Malaysia's multicultural society, English continues to play a role of a language that is often favoured for intranational communication, as it does not belong to any one ethnic group in Malaysia. English is also an important language for international communication given Malaysia's economic rise and pragmatic international outlook. There are often references to ME in terms of describing its syntax, phonology and lexis (see Alias, 1995; Baskaran, 2004, 2005a, 2005b; Platt & Weber, 1980;

Rajadurai, 2004b, 2007b; Wang, 1987; Wong, 1983; Zuraidah, 2000), however, the English syllabus and curriculum in Malaysian schools are still based on external models from Inner Circle countries (Rajadurai, 2004a).

Thus, in terms of English language teaching in Malaysia, there is a conundrum as the Inner Circle model that is upheld is far removed from the English language that is widely used by most Malaysians. The English language teaching goals have not been changed to reflect the changes surrounding the roles and status of the English language in Malaysia. Therefore, we need to re-examine the goals of English language teaching in Malaysia so that they are in sync with current times and reflect the reality of the language-in-use in a Malaysian context. This is necessary if the learners and the users' rights and interests are to be upheld.

This study extended the LFC and related concepts of intelligibility, L2 phonology and the CAT in order to examine pronunciation features that obstructed intelligibility, communicative strategies that were used to negotiate intelligibility as well as phonological variation and accommodation patterns (see Chapter 2). In this study, intelligibility in ME was examined from the point of the view of its users, who use English for international as well as intranational communication, predominantly with other ME users. Thus, one of the aims of this study was to show that the goals in pronunciation teaching should emerge from the users and the context of language use; and these goals should be based on the concept of intelligibility, i.e. what is intelligible to the actual users of the language.

This study is a partial replication and extension of Jenkins' LFC (1995, 2000a, 2002a). The LFC emphasises features of General American (GA) and RP that are important in promoting intelligible pronunciation among ELF speakers (Jenkins, 2006b). The LFC is one attempt that re-focuses language research and English language teaching goals. Thus the present study's main aim was to assess the suitability of some notions of the LFC in a Malaysian context. Firstly, this study examined specific pronunciation features that impeded intelligibility in interactions. The pronunciation features were based on phonological processes extracted from Jenkins' LFC (1995, 2000a, 2002a). After examining the features that affected intelligibility, this study looked at how the participants used pronunciation as part of their communicative strategies when they encountered intelligibility problems in the interactions. These two aims were extrapolated and extended from the LFC, and they provided us a greater understanding of intelligibility in a Malaysian context and the pronunciation features that were important in maintaining intelligibility in the interactions.

The third aim of this study is also adapted from the LFC as well the CAT. The study also looked at if, and how the participants varied their pronunciation (of selected features) when the L1 of their interlocutors changed. These three aims of the thesis have their roots in the LFC. This thesis has shown that the LFC is a viable approach to studying intelligibility and phonological variation in a Malaysian context. The LFC focuses on the users and the language that is used by these users, and thus patterns that emerge from the data guide us in determining appropriate English

language teaching and research goals. Teaching goals that are based on the users of the language and not exonormative norms allows for the development of goals that are realistic and this enriches the language learning process.

7.3 Limitations and Scope of the Study

It must be acknowledged that the findings and implications discussed in this thesis are, without doubt, limited by the research design of the study in terms of the nature and the size of the data that is analyzed, the participants, the number of participants that were involved, the proficiency of the participants, their ethnicity, assumptions regarding the participants' L1, the context of the research setting, as well as time constraints under which the research was undertaken.

The participants in this study were learners of English in a public university. No attempts were made on generalizing the findings of this study to other L2 users of the language. This study is concerned with the language used by a particular group of students in a particular context. The data in this study was elicited using information gap tasks; and throughout the analysis and discussion of the findings this has been highlighted. No attempts were made at equating the spoken data in this study with naturally occurring data or any other type of spoken discourse. The study was designed to answer the specific research questions as outlined in Section 1.2.

Notwithstanding the limitations of this study, some salient findings have emerged from the study. The findings, when interpreted, keeping in mind the limitations and

the scope of this study, can help in re-examining and changing some of the notions and practices in the research and teaching of pronunciation in Malaysia and other L2 English contexts. This study, despite being limited to looking at interactions of a group of learners, does represent the reality of English language use and its users in a Malaysian context.

7.4 Overview of Findings

The following section summarizes the findings of this study according to the research questions outlined in Section 1.2.

7.4.1 Research Question 1 : In the recorded interactions, in the event of a miscommunication is intelligibility compromised as a result of addition, substitution, and deletion of consonant segments; the absence of aspiration in voiceless plosives; simplifying word initial consonant clusters; simplifying word medial consonant clusters; and, simplifying word ending consonant clusters?

This question was discussed in Chapter 4. All the phonological processes listed above contributed, in varying degrees, to intelligibility problems in the interactions. The substitution of consonant segments contributed to the most number of intelligibility problems. This was followed by deletion of consonant segments, addition of consonant segments and simplifying word final consonant clusters. The substitution of consonant segments contributed to about two thirds of all the intelligibility problems. However, the quantification of the miscommunications

according to the processes was not meant to rank the importance of the processes. The quantification was only used to organize the data and structure the analysis.

All the processes that were listed above contributed to intelligibility problems to some degree. Most of the intelligibility problems were due to the phonological processes that created different words that did not fit the context of the interactions as well as the use of non-words that were difficult for the participants to process. The information gap tasks proved to be central in determining intelligibility problems. There were instances where, although, the phonological processes created different words or non-words, there were no intelligibility problems. Most of the times only if the mispronunciations occurred in words that were central to the task it led to intelligibility problems. This lends support to the argument that intelligibility is not a static construct, i.e. the context, the speaker and the hearer as well as the importance of the word or message to the goal of the interaction, are all important factors in determining intelligibility. Variation in pronunciation is permissible as hearers and speakers constantly negotiate intelligibility. The data here shows that rarely did variation in pronunciation lead to a complete breakdown in communication. Intelligibility problems may have occurred due to certain phonological processes but the contextual cues, i.e. the pictures in the tasks, were actively utilised by the participants in the interactions to overcome intelligibility problems. The participants were quite skilful in using the pictures in negotiating intelligibility problems and most of the miscommunications were resolved fairly quickly and successfully.

7.4.2 Research Question 2: Which pronunciation features are important in maintaining intelligibility in these interactions?

There is no specific chapter or section that addresses this question. This question was analyzed and discussed in Chapter 4 along with the first research question. Generally the findings here corroborated Jenkins' (1995, 2000a, 2002a) findings, in terms of the core features in the LFC that are important for maintaining intelligibility. However, it should be noted that in this study not all the core features of the LFC were investigated (see Section 2.9.1). Based on the interactions in this study, the following features proved to be important in maintaining intelligibility:

- most of the consonant features, with the exception of /θ,ð/. The use of dental plosives [t̪] and [d̪] for the dental fricatives /θ/ and /ð/ rarely obstructed intelligibility.
- aspiration of voiceless plosives.
- word initial consonant clusters.
- word medial consonant clusters.

In this study, there were a few instances where the following pronunciation features, although listed as non-core in the LFC, were found to obstruct intelligibility:

- word final consonant cluster simplifications.
- substitution of final plosives with glottals.

However, all the findings here have to be viewed within the confines of the interactions. As intelligibility in this study is a construct that is viewed as dynamic

and constantly negotiated between the speaker and the hearer, the pronunciation features above serve as a general guideline. There were instances where, for instance, a substitution of a consonant led to an intelligibility problem and at a different occasion the same substitution did not lead to an intelligibility problem. As highlighted above (7.4.1), most intelligibility problems depended on how crucial the particular word was to the task. Context plays a crucial role in determining the importance of pronunciation of features. Therefore, the findings here show that it is not necessary for these L2 speakers of English to adhere to Inner Circle norms. Inner Circle pronunciation features that are still retained in the Malaysian syllabus for pronunciation teaching may be redundant and even impede intelligibility on some occasions.

7.4.3 Research Question 3: How do participants negotiate intelligibility in these interactions when there is a miscommunication?

This question was addressed in Chapter 5 and was analyzed in terms of how the participants used communicative strategies to resolve intelligibility problems. In this study, the focus was on communicative strategies that involved phonological variation to negotiate intelligibility. The communicative strategies that were extrapolated from the data include:

- “let it pass” strategy.
- the speaker explicitly asks if the listener understands.
- the listener explicitly indicates non-understanding.
- listener and speaker echo or repeat problematic pronunciation.

- phonological anticipation.
- phonological adjustments.
- use of spelling.

The findings highlight that the participants mainly used these communicative strategies to ensure that the interactions progressed smoothly as well as to complete the tasks. The participants used communicative strategies to encourage their interlocutors to continue interacting, clarify information, repeat information, rephrase information etc. The participants displayed a high degree of mutual cooperation and tolerance of each other. The communicative strategies were used to ‘preserve the face’ of co-participants and used to ensure collaborative communication as reported in ELF research.

The participants were highly tolerant of infelicities in the interactions, and the patient and selective use of the strategies indicated that the participants were ‘preserving the face’ of their co-participants. The strategies were never used in a condescending or antagonistic manner. Thus, these findings indicate that in order to facilitate successful communication, the participants here adeptly used accommodative strategies. The participants were able to select and use appropriate communicative strategies to overcome intelligibility problems. Negotiating intelligibility involves more than using ‘correct’ or appropriate pronunciation features; it also involves the use of communicative strategies that encourages information flow in a manner that is highly recursive and accommodative.

7.4.4 Research Question 4: In negotiating intelligibility, do participants vary phonological features in same L1 dyads (SL1) and different L1 dyads (DL1) interactions to accommodate their interlocutors? If so, how?

This question was addressed in Chapter 6. This question sought to identify, if and how, the participants varied specific phonological features according to the L1 of their interlocutor. Eight pronunciation features were selected for the analysis. The database was based on selected interactions of six participants. There were three important findings related to this question.

Firstly, the Chinese L1 participants displayed some variation in the use of two features according to the L1 of their interlocutors. The Chinese L1 participants showed visible patterns of variation in the use of glottal stops in place of final stops and the substitution of /r/ with [l] according to the L1 of the interlocutors. The Chinese L1 participants had a higher rate of occurrences of these two features when interacting with interlocutors of the same L1. The patterns for the two features by the Chinese participants seemed to support Jenkins' (1995, 2000a, 2002a) findings that participants varied phonological transfer less with their partners of different L1s, and more transfer with interlocutors of the same L1. For the Malay L1 participants there were no visible patterns of variation for any of the features according to the L1 of their interlocutors.

Secondly, the chi-square tests revealed that almost all the participants, except for P9CH, did not vary significantly the use of the features (i.e. the features that could be

tested) according to the L1 of their interlocutors. These participants varied some of the features but the variations between the SLD and DLD interactions were not significant as shown by the chi-square test. The chi-square test showed that only one participant (P9CH) varied the use of three features, i.e. use of glottal stops, substitution of /r/ with [l] and simplification of word medial consonant clusters according to the L1 of his interlocutors.

Thirdly, most of the participants did not seem to vary the use of the features according to the L1 of their interlocutors. The patterns of variations in most of the features seemed to be similar for nearly all the participants. This indicates that the participants, despite their differing L1s, had striking similarities with respect to their phonology. This can be explained using Rajadurai's (2004) argument that these participants share similar codes, i.e. a nativized or L2 variety of English as well as the national language, the Malay language.

7.5 Implications

This section looks at the methodological, pedagogical and theoretical implications that can be drawn from this study.

7.5.1 Methodological Implications

The research design for this study was discussed in Chapter 3. The research design of this study is a blend of various methods. Essentially the research design of this study is to some extent a replication of Jenkins' (1995) study. As in Jenkins' (1995) study,

information gap tasks were also used to elicit the spoken data. In addition, language history questionnaires and interviews were used to gather demographic and language history background of the participants. The analysis of the spoken data was also a blend of descriptive and interpretive approaches. Extracts of the interactions were used to illustrate intelligibility problems. These various methods and approaches raised important questions and concerns regarding the collection, description and interpretation of spoken data for intelligibility studies in L2 English contexts.

Firstly, the use of information gap tasks offers a way of gathering spoken corpus that is an “actual speech sample within a specific context” and language-in-use data (Gass & Selinker, 2008, pp.61-2). Information gap tasks used in this study proved to be useful as the tasks allowed for a certain control over the context of the speech, yet the interactions of the participants were not controlled. The tasks used were less structured than those used in experimental studies in terms of the responses that are permissible (Duff, 1993). When completing the information gap tasks, participants focused on completing the tasks, and thus they were not completely focused on the linguistic forms and could not constantly monitor their speech (Ellis & Barkhuizen, 2005). The context of the language use was also available in terms of the completed task sheets. Together with the spoken data, the completed task sheets allowed for a deeper understanding of the interactions. Information gap tasks are suitable in gathering spoken data where the context is known, yet the speech is not structured as the participants are wholly responsible in structuring the interactions based on the tasks.

One other important aspect related to the information gap tasks is that the tasks encouraged negotiations between the participants. The participants needed to engage with each other actively in order to complete the tasks successfully. As observed by Ellis and Barkhuizen that “information gap tasks are ideal for examining the conversational strategies that learners and their interlocutors employ” (2005, p.36). The information gap tasks provided an avenue for participants to interact and negotiate with each other. The tasks were structured such that the complexity of the tasks could be controlled to suit the level of proficiency of the participants. Tasks like the map tasks are also unique in the sense that pre-determined pronunciation features can be elicited through the tasks. Furthermore, as the analysis in this study was based on miscommunications, the tasks proved to be invaluable as in most of the interactions the participants had to pay particular attention to what was being said and how it was said to complete the tasks. In this process, miscommunications and intelligibility problems had to be negotiated and solved. In short, the information gap tasks used in this study proved to be suitable in eliciting spoken data that occur within a specific context yet is largely unstructured. The data here were not ‘naturally occurring data’, however, the data were unscripted and were only controlled by means of the tasks.

The analysis of the spoken data in this study used a blend of descriptive and interpretive measures. In order, to represent intelligibility as dynamic construct that was negotiated between listener and speaker, individual pronunciation features were discerned and tabulated, and the tabulations were supported by excerpts of the

interactions. The tabulations helped in organizing, summarizing and highlighting patterns in the data. Merely describing the individual pronunciation features could not represent the dynamic nature of the interactions, as the features were abstractions of an extensive spoken corpus. Thus interpretive measures, in the form of excerpts of the interactions, were used to show how the participants used phonological variation to negotiate intelligibility. Interweaving descriptive and interpretive approaches in this study allowed for the investigation of intelligibility as a dynamic construct. Utilizing both these approaches allowed for the emergence of the ‘what’ (i.e. the specific pronunciation features) that obstructed intelligibility as well as ‘how’ intelligibility was negotiated and maintained when there was a miscommunication. The language used and its users were better understood and represented when viewed through both these approaches. Individuals were not reduced to mere numbers, and their voices were allowed to be heard.

7.5.2 Theoretical Implications

The spoken corpus supports Setter and Jenkins’ (2005, p.12) assertion that intelligibility in L2 phonology is “not a monolithic construct, but that it requires constant negotiation and adjustment in relation to speaker-listener factors specific to the particular context of the interaction”. The interactions showed that the participants constantly engaged with each other whenever there was a miscommunication in order to resolve it. The interactions revealed that the participants were conscious that certain phonological features affected intelligibility in the interactions and they varied the use of these features in order to ensure

communication efficiency and to finish the tasks. Thus the findings in this study revealed that the notions of intelligibility as being negotiated and phonological variation as a means of accommodating to interlocutors were relevant to understand L2 language use and its users.

One other implication that emerged from the study here was that phonology of L2 varieties of English is a rich area for research and it offers a way to further understand L2 users and L2 varieties of English. With the changing roles of English around the world and the existence and emergence of L2 varieties, there is a need to re-assess the models and norms that are used in pronunciation teaching. It is the prerogative of the respective countries where English is used to determine their own standards. Pronunciation that is 'different' from Inner Circle norms should no longer be referred to 'error' or 'deviation'. Pronunciation goals should be based on the effect of certain features on intelligibility. Intelligibility offers a way of setting pronunciation goals that are achievable and realistic for the actual users of the language as well as allowing for the preservation of local identities (Jenkins, 2000a).

7.4.3 Pedagogical Implications

One of the major revelations of this thesis is in terms of setting of pronunciation goals as discussed above. Pronunciation teaching and learning goals should emerge from the users of the language and be based on the language that is in use in a speech community. Imposing external norms does not benefit the users. For instance, in Malaysia there is a constant debate about the teaching of English in schools. English

is constantly perceived as a threat to the national language. However, rarely is there any discussion on the L2 variety of English that exists in Malaysia. Pedagogical norms should take into account the sociolinguistic reality of its users.

The spoken corpus also revealed that the participants consciously varied certain pronunciation features that they thought were problematic for the interlocutors. Phonological variation was used to accommodate interlocutors. Communicative strategies involving pronunciation features were also used to resolve miscommunications. Certain pronunciation features that were influenced by the L1 of the speakers also affected the interactions. The findings here highlight that pronunciation teaching needs to be more than just an introduction or a list of phonological features that must to be acquired as outlined in most pronunciation syllabus. It was argued that the model that forms the pronunciation model should at least take into account local norms, as well as emphasizing particular features that are important to focus on communication skills that will allow learners to adapt to their interlocutors. Learners should also be exposed to the various L1-accented English that exists in Malaysia. Pronunciation features that are markers of certain ethnic groups should be highlighted if these features impede intelligibility. Currently, there is no such exposure in the Malaysian syllabus.

Apart from exposing learners to the L2 sound system; it would also be beneficial to teach communication and accommodation skills that include clear speech, use of communicative strategies as well as ways of accommodating to interlocutors. In the

Malaysian classroom, there is a need to expose learners to different English accents that exist as a result of the different L1s of Malaysians. This would allow learners to develop tolerance to the different accents as well as sensitize Malaysians to the different pronunciation features due to the influence of L1. Pedagogical norms ought to reflect the sociolinguistic reality of the speech community and equip learners to deal with the changing times and the demands of a global English language as well as L2 variety of English that exists in the community.

7.6 Future Research

It is hoped that the underlying themes and arguments, the research design, analysis and findings of this study have contributed to a greater understanding of L2 phonology and intelligibility in a Malaysian context. However, the study is limited in many ways and the following are some areas that should be further explored and studied in future research. These areas include:

1. In dealing with spoken data, the transcription process is a crucial, before the data can be analyzed. A second transcriber could have lent more credibility to the transcription process; however identifying transcribers with the same background was rather difficult. Acoustic analysis can also help in transcribing sounds that are sometimes rather difficult to distinguish and transcribe. Acoustic analysis in some situations can act to corroborate certain results and also provide objective results. Thus it is hoped that future research takes these factors into account when designing the research methodology.

2. Research into phonological features of ME based on language-in-use data needs to be increased. ME has existed in Malaysia for a long time. As English is the language of globalization as well as a widely used intranational language, the uses and roles that English plays in Malaysia will not diminish or lessen in the near future. However, there is a void in terms of empirical research that is available on ME, especially its phonology. Furthermore, phonology of ME can prove to be an area worthy of intensive research given that most Malaysians have their own L1s as well as receive instruction in the national language, Malay.

3. Related to the idea above, there is the need for research into ethnic group variation of English. Phonological ethnic markers can provide a rich source of research in terms of how speakers use ethnic markers to accommodate to their interlocutors or to diverge from them. The research here seems to suggest that there is very little phonological variation among the participants, even of differing L1s, thus speakers in L2 English contexts could have different accommodation patterns than those highlighted in ELF contexts. This is one area that is sadly neglected in Malaysia. Given the multiracial breakdown in Malaysia as well as the existence of vernacular based medium of instruction schools in Malaysia, L1 influenced English could prove to be insightful to research. This could also be extended to look at attitudes towards the L1 influenced English as well as how the different ethnolects contribute to the phonology of ME.

4. Phonological variation and accommodation patterns can also prove to be insightful in a Malaysian context, given the multiracial society as well as the differing proficiency levels of ME speakers that can range from highly proficient to low proficiency. Phonological variation in a Malaysian context has received very little attention. Investigating accommodation patterns via linguistic variation can help us better understand Malaysian speakers of English. Using the CAT to investigate L2 varieties of English can help us understand language use and its users better.

5. There is a need for empirical research that focuses on the use of English in Malaysia, and the different users of English in Malaysia. This research focused on the use of English among a group of proficient learners. Other levels of society should also contribute to investigating the features that contribute to intelligibility in Malaysian context. Other contexts of language use should also be investigated. For instance, research among proficient speakers or even the use of English in an international context, or the use of English with speakers from other regions neighboring Malaysia.

7.7 Concluding Remarks

In researching for this thesis, I found that many of the basic assumptions in language studies and linguistics are multi-faceted and in many instances contradictory and vague. This thesis, although is an extension of Jenkins' LFC (1995, 2000a, 2002a), had to be adapted in terms of the research design and analysis. There were no easy answers to the research questions that were raised as research in areas related to this

study such as SLA, L2 phonology, intelligibility, phonological variation etc. are sadly lacking in terms of addressing the linguistic realities of L2 varieties of English and their users. SLA is deeply rooted in monolingual contexts; intelligibility is usually addressed from the point of view of the listener, mostly native speakers; L2 phonology is often based on anecdotal data or even equated with first language acquisition etc.

Thus, this study relies on the LFC in terms of how users of English are viewed as well as how intelligibility is used to determine the needs of the users of the language. It is hoped that my study has shown that the participants in this study, despite being learners of a L2 variety of English, were adept at resolving intelligibility problems as well as determining some of the essential pronunciation features that are important in maintaining intelligibility. The data in this study were analyzed using descriptive as well as interpretive approaches. These two approaches have highlighted that intelligibility is a dynamic construct that is constantly negotiated between speaker and listener and does not exist in a vacuum.

This study also highlighted pronunciation features that were important in maintaining intelligibility as well as features that obstructed intelligibility. This study also showed how the participants used pronunciation as part of their communicative strategy to resolve intelligibility problems. The communicative strategies highlighted that the participants constantly helped each other and the strategies were usually used to 'preserve the face' of their interlocutors. The CAT was also used to investigate if and

how, the participants varied certain phonological features according to the L1 of their interlocutors. The results here showed that although the participants varied phonological features, most of the participants did not vary the features according to the L1 of their interlocutors as in Jenkins' (1995) study. It is hoped that this study has contributed to Kachru's (1992) call for a paradigm shift in the research and teaching of English as well as our understanding of the sociolinguistic reality of English use. It is also hoped that the spoken corpus in this study contributes to the research into the phonology of ME.

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Appendix 1: NUS-IRB Pilot Study Version 2**= Participant Information Sheet =****PI (Academic Supervisor)**

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What is the purpose of this research?

You are invited to participate in a research. The purpose of this research is to identify factors which may cause breakdown in linguistic interactions. This information sheet provides you with information about the research. The Principal Investigator (the person in charge of this research) or his/her representative will also describe this research to you and answer all of your questions. Read the information below and ask questions about anything you don't understand before deciding whether or not to take part.

Who can participate in the research? What is the expected duration of my participation? What is the duration of this research?

The participants in this study will be 32 Malaysian undergraduates of Malay and Chinese ethnicity currently registered in Universiti Utara Malaysia, aged between 20 to 35 years of age. The study will involve both male and female participants.

Your participation is expected to take three hours altogether.

Completion of the study is provisionally expected in 2008.

What is the approximate number of participants involved?

This study will involve 32 participants altogether. However, each participant will only be required to interact with one other participant.

What will be done if I take part in this research?

If you agree to participate in this research you will be required to:

1. interact with one other student in a language-based activity where you will need to discuss some pictures with the other student to complete the activity.
2. your interaction will be recorded.
3. participate in an interview and complete a brief questionnaire to elicit your language background. This interview will also be recorded.
4. participate in another interview where you will be required to listen to your recorded interaction and indicate the difficulties you may have encountered during your interaction.

To protect your confidentiality, your data will be coded. All identifiable information (e.g. names, IC nos.) will be kept separate from the data. The link between your identifiable information and the code number will be kept confidential by the principal investigator or a trusted third party.

How will my privacy and the confidentiality of my research records be protected?

Only the principal investigator has your identifiable information (e.g. names, IC nos.) and this will not be released to any other person, including members of the research team. Identifiable information will never be used in a publication or presentation. All your identifiable information and research data will be coded (i.e. only identified with a code number) at the earliest possible stage of the research.

Will there be reimbursement for participation?

There will be no reimbursement for participation. Your participation in this study is entirely voluntary.

What are the possible benefits to me and to others?

There is no direct benefit to you by participating in this research. The knowledge gained will benefit the public in the future, through understanding of features which may cause breakdown in communication.

Can I refuse to participate in this research?

Yes, you can. Your decision to participate in this research is voluntary and completely up to you. You can also withdraw from the research at any time without giving any reasons, by informing the principal investigator and all your data collected will be discarded.

Whom should I call if I have any questions or problems?

Please contact the Principal Investigator (Attn: Madalena Cruz-Ferreira at telephone +65-65163932 or email ellmcf@nus.edu.sg) for all research-related matters.

For an independent opinion regarding the research and the rights of research participants, you may contact a staff member of the National University of Singapore Institutional Review Board (Attn: Mr Chan Tuck Wai, at telephone +65-6516 1234 or email at irb@nus.edu.sg).

= Consent Form =

I hereby acknowledge that:

1. My signature is my acknowledgement that I have agreed to take part in the above research.
2. I have received a copy of this information sheet that explains the use of my data in this research. I understand its contents and agree to donate my data for the use of this research.
3. I can withdraw from the research at any point of time by informing the Principal Investigator and all my data will be discarded.
4. I will not have any rights to any commercial benefits that result from this research. I also agree that I will not derive any monetary or other benefits from this research.

Name and Signature (Participant)

NRIC of participant

Date

Name and Signature (Consent Taker)

NRIC of consent taker

Date

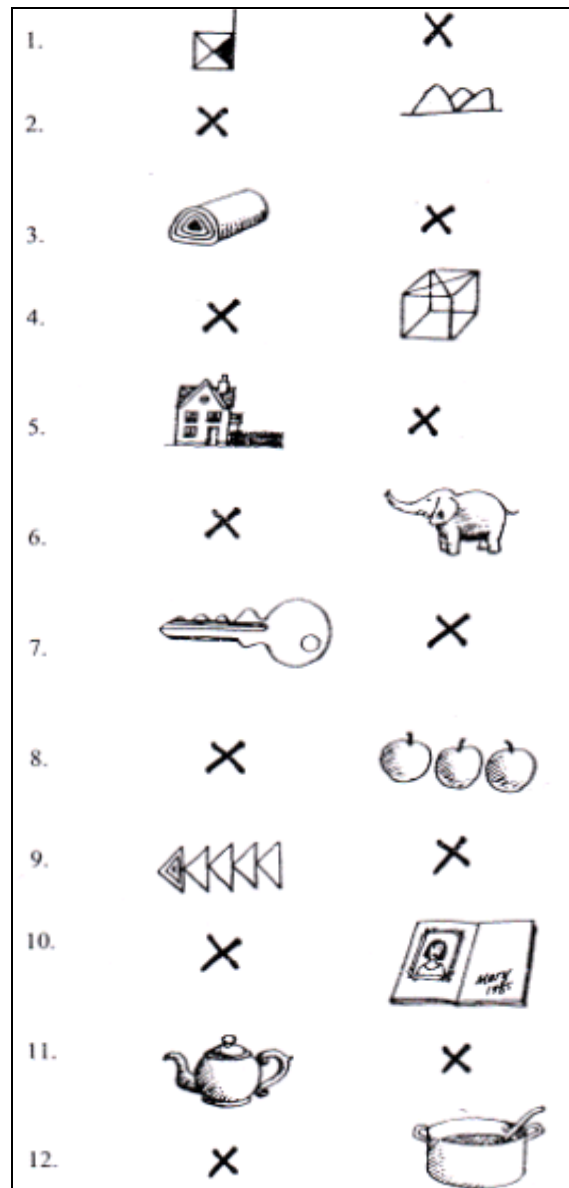
Appendix 2: MUET Band Descriptor

MUET: Description of Aggregated Score

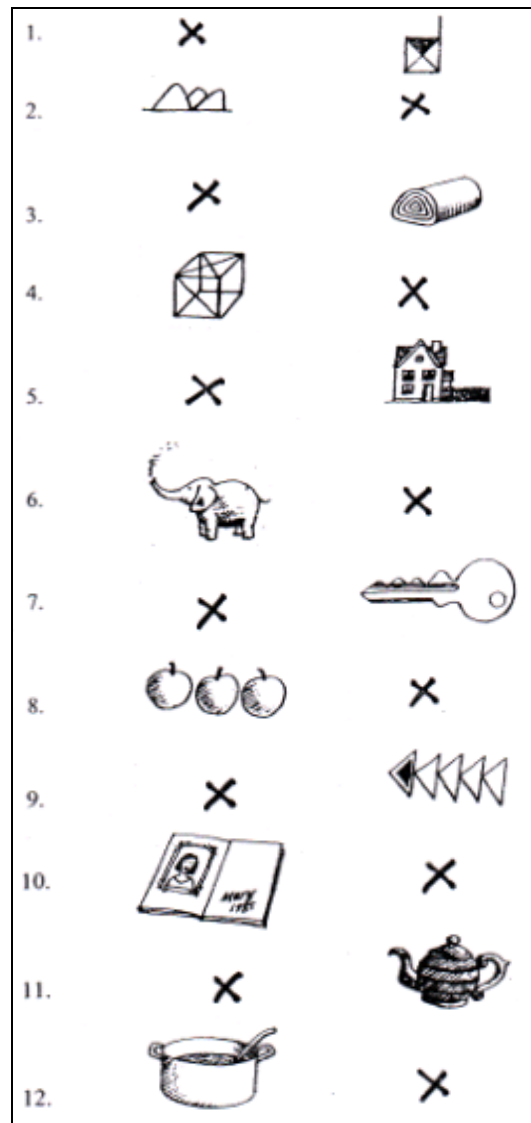
Aggregated Score	Band	User	Command of Language	Communicative Ability	Understanding	Task Performance
260 – 300	6	Very good user	Very good command of the language	Very fluent, accurate and appropriate; hardly any inaccuracies	High level of understanding of the language	Functions extremely well in the language
220 – 259	5	Good user	Good command of the language	Fluent, appropriate but minor inaccuracies	Good level of understanding of the language	Functions extremely well in the language
180 – 219	4	Competent user	Satisfactory command of the language	Generally fluent, appropriate but with occasional inaccuracies	Satisfactory level of understanding of the language	Functions reasonably well in the language
140 – 179	3	Modest user	Fair command of the language	Fairly fluent, usually appropriate but with noticeable inaccuracies	Able to understand but with some misinterpretation	Able to function in the language but with some effort
100 – 139	2	Limited user	Limited command of the language	Lacks fluency and appropriacy; inaccurate use of the language resulting in frequent breakdowns in communication	Limited understanding of the language	Limited ability to function in the language
Below 100	1	Extremely limited user	Poor command of the language	Inappropriate and inaccurate use of language resulting in very frequent breakdowns in communication	Poor understanding of the language	Hardly able to function in the language

Source: Malaysian Examinations Council (2001)





Appendix 3: Similar Different Task: Participant A



Appendix 3: Similar Different Task: Participant B



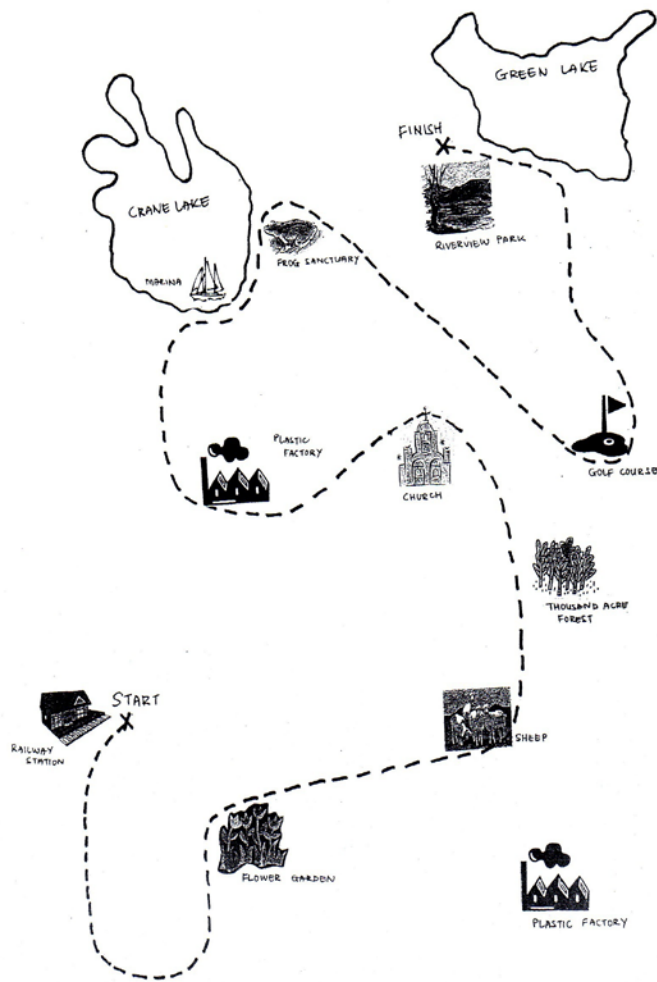
Appendix 4: Jigsaw Task Box A

#	N		
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Appendix 5: Picture Sequencing Task

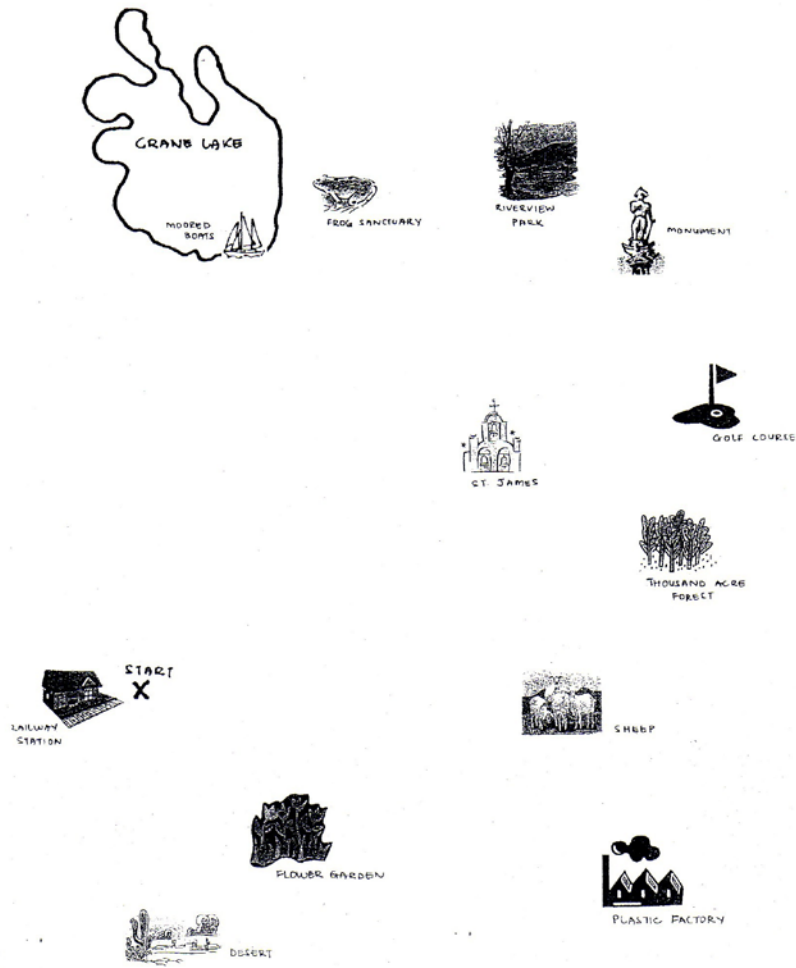


Appendix 6: Map Task: Information Giver



Instruction Giver's Map

Appendix 6: Map Task: Information Follower



Instruction Follower's Map

Appendix 7: Questions for Structured Interview



Language History Interview

This is a brief interview to gather some information your language history and language use. Please answer as honestly as possible. The information you provide in this interview is only for research purposes and will be kept confidential.

Contact Information:

Name: _____ Email: _____

Telephone: _____

Please answer the following questions to the best of your knowledge:

1. Age: _____

2. Sex: _____

3. Education (Highest): _____

4. Type of School: National/National Type

5. MUET Band: _____

6. What is your native language/ mother tongue?
(If you grew up speaking more than one language, please specify) _____

7. Please specify the age at which you started to learn English in the following situations:

At home _____

In school _____

8. How have you learnt English up to this point? Tick (✓) all that apply to you.

Mainly through formal classroom instruction _____

Mainly through interacting with people _____

A mixture of both _____

Other (specify) _____

9. How would you rate your ability on the following aspects in English? Please rate according to the following scale. Tick (✓) the appropriate number.

	Very poor	Poor	Fair	Good	Very good
Reading	1	2	3	4	5
Writing	1	2	3	4	5
Speaking	1	2	3	4	5
Listening	1	2	3	4	5
Overall proficiency in English	1	2	3	4	5

Appendix 8: Language History Questionnaire



Language History Questionnaire

Dear students,

This is a questionnaire to gather information about your language history and language use. This questionnaire is related to the interview you had earlier. If there is anything you are unsure of, you may ask for clarifications from the researcher. The information that you provide in this questionnaire will only be used for research purposes and will be kept confidential. Please answer the following questions to the best of your knowledge and as honestly as possible.

PART A:

A1. Name: _____

A2. Do you speak any other language apart from your native language and English? Place a (✓) in the appropriate box. **(If no, proceed to Part B).**

Yes Specify the language(s): _____

No

A3. List any **OTHER LANGUAGE(S)** (apart from your native language and English) you know in order of most proficient to least proficient. Rate your ability on the following aspects in any other language(s) that you know. Please rate according to the following scale. Write the number in the space provided.

Scale:

1 = Very poor

2 = Poor

3 = Fair

4 = Good

5 = Very good

N/A = If not applicable for any reason

Other Language(s)	Reading	Writing	Speaking	Listening	Overall Proficiency

- A4. Provide the age at which you were first exposed to any other language(s) (apart from your native language and English) that you know in terms of speaking, reading and writing and the number of years you have spent on learning each language in school.

Other Language (s)	Age first exposed to the language			Number of years learning (in school)
	Speaking	Reading	Writing	

PART B

- B1. What language do you usually speak to your mother at home? (If not applicable for any reason write N/A).

- B2. What language do you usually speak to your father at home? (If not applicable for any reason write N/A).

- B3. What language(s) can your parents speak fluently? (If not applicable for any reason write N/A).

Mother:

Father:

- B4. What language(s) do your **parents** usually speak to **each other** at home? (If not applicable for any reason write N/A).
-

- B5. Name the language in which you received most of your instruction in school, for each schooling level:

Primary:

Secondary:

University

- B6. How often do you use your native language, English and other languages (that you know) in a day (i.e. in all your daily activities combined)? Rate your daily usage of these languages using the scale provided. Tick (✓) the appropriate box.

	Always	Sometimes	Seldom	Never	Not Applicable
Native language	4	3	2	1	N/A
English	4	3	2	1	N/A
Other language(s)	4	3	2	1	N/A

- B7. How often do you watch TV or listen to the radio in your native language, English and other languages (that you know) in a day? Use the scale provided below. Tick (✓) the appropriate box.

	Always	Sometimes	Seldom	Never	Not Applicable
Native language	4	3	2	1	N/A
English	4	3	2	1	N/A
Other language(s)	4	3	2	1	N/A

- B8. How often do you read newspapers, magazines, and other reading materials in your native language, English and other languages (that you know) in a day? Use the scale provided below. Tick (✓) the appropriate box.

	Always	Sometimes	Seldom	Never	Not Applicable
Native language	4	3	2	1	N/A
English	4	3	2	1	N/A
Other language(s)	4	3	2	1	N/A

- B9. How often do you use your native language, English and other languages (that you know) in a day for work and/or study related activities (e.g., going to classes, writing papers, talking to classmates and peers)? Use the scale provided below. Tick (✓) the appropriate box.

	Always	Sometimes	Seldom	Never	Not Applicable
Native language	4	3	2	1	N/A
English	4	3	2	1	N/A
Other languages	4	3	2	1	N/A

- B10. In which languages do you usually :
- Add, multiply, and do simple arithmetic? _____
- Dream? _____
- Express anger or affection? _____

- B11. When you are speaking, do you ever mix words or sentences from the two or more languages you know? Place a (✓) in the appropriate box. (If no, proceed to question B13).

Yes

No

- B12. List the languages that you mix and rate the frequency of mixing in normal conversation with the following people, using the scale provided below. Place a (✓) in the appropriate box.

Relationship	Languages mixed	Frequency of mixing			
		Always	Sometimes	Seldom	Never
Family members		4	3	2	1
Friends		4	3	2	1
Classmates		4	3	2	1

- B13. In which language, between your native language and English, do you feel you usually do better in the following aspects? Write your preferred language (native language **OR** English) under each condition.

	At home	At university
Reading	_____	_____
Writing	_____	_____
Speaking	_____	_____
Understanding	_____	_____

- B14. Between your native language and English, which would you prefer to use in the following situations?

At home	_____
At university	_____
At a party	_____
In general	_____

Appendix 9: Post Interaction Questionnaire**Post Interaction Questionnaire**

Dear students,

This is a questionnaire to gather information about the interactions that you have been involved in as well as your general language use in everyday situations. You will need to reflect on both the sessions you were involved in. If there is anything you are unsure of, you may ask for clarifications from the researcher. The information that you provide in this questionnaire will only be used for research purposes and will be kept confidential. Please answer the following questions to the best of your knowledge and as honestly as possible.

1. When you speak English with other Malaysian speakers of English who do not speak your first language, do you do any of these things? Place a (✓) in the appropriate box.

try to alter how you speak depending on the first language of the person you are speaking to.

have in your mind an ideal way to speak English.

try to speak English in a more standard way than you do with people who share your first language.

try to imitate your teacher.

try to speak very good English in order to impress the person you are speaking to.

2. Do you think miscommunication between Malaysian speakers of English who have different first languages is caused by any of these things?

poor communication skills.

different ways of speaking English.

unwillingness to communicate with other Malaysian speakers of English who have different first languages.

cultural differences.

3. How would you describe your English compared to other Malaysian speakers of English who have different first languages from yours?

your English is as normal as theirs.

your English is more normal than theirs.

your English is less normal than theirs.

4. In the interactions, how easy was it for you to understand your partner's English? Please mark a place on the scale with a **X**.

1
2
3
4
5
 very easy very difficult

5. If it was not always the same, was it easier to understand your partner (choose only one)

when you were exchanging personal information.

OR

when s/he was describing a picture.

6. When you spoke to your partner, did you try to alter your usual English speech in anyway?

Yes (If yes, answer Questions 7 and 8).

No.

7. If yes, what did you alter? e.g. sounds, stress, speed, pauses, other things – please specify _____

8. If yes, why did you alter your usual way of speaking English? (Choose **ONE** of the reasons below)

because you were being recorded and wanted to sound good on the tape.

because you thought your partner would understand you more easily.

because you were nervous.

because you wanted to speak more like your partner.

for another reason (please specify) _____

9. Did you find it difficult to understand what your partner said at any point (s) in the talk?

Yes (if, yes answer Question 10)

No

10. If yes, what was the cause?

your partner's speaking ability: grammar/pronunciation/vocabulary/all these things/other things – please specify: _____

your listening ability.

you were nervous.

(an)other reason(s) – please specify: _____

11. If you did not understand your partner at any point(s), did you admit this to him/her?

Yes

No (Please answer Question 12)

12. If not, what was the reason?

to prevent your embarrassment.

to prevent your partner's embarrassment.

something else.(Please specify: _____)

13. What was more important to you during the talk?

to speak good English.

to cooperate with your partner.

both the reasons above were equally important.

14. You have interacted with two different partners. Which partner was easier for you to communicate with?

Partner from first session. (Name: _____)

Partner from second session. (Name: _____)

15. Can you think of any point in both the sessions where you could not understand what your partner was saying due to his/her pronunciation?

Yes

No

16. Think of an occasion when you found it difficult to understand a fellow Malaysian speaking to you in English. Why was it difficult for you to understand that person?

Thank you.

Appendix 10: NUS-IRB Ref. Code 07-704 PIS Main Study Version 2**Phonological Intelligibility in Interlanguage Talk****= Participant Information Sheet =****PI (Academic Supervisor)**

Madalena Cruz-Ferreira
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Co-investigator (PhD Research Student)

Paramjit Kaur A/P Karpal Singh
Department of English Language and Literature
National University of Singapore
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7 Arts Link
Singapore 117570
Tel. 98931280, +60165140053 (Malaysia)

What is the purpose of this research?

You are invited to participate in a research. The purpose of this research is to identify factors which may cause breakdown in linguistic interactions. This information sheet provides you with information about the research. The Principal Investigator (the person in charge of this research) or his/her representative will also describe this research to you and answer all of your questions. Read the information below and ask

questions about anything you don't understand before deciding whether or not to take part.

Who can participate in the research? What is the expected duration of my participation? What is the duration of this research?

The participants in this study will be 32 Malaysian undergraduates of Malay and Chinese ethnicity currently registered in Universiti Utara Malaysia, aged between 20 to 35 years of age. The study will involve both male and female participants.

Your participation is expected to take three hours altogether.

Completion of the study is provisionally expected in 2008.

What is the approximate number of participants involved?

This study will involve 32 participants altogether. However, each participant will only be required to interact with one other participant.

What will be done if I take part in this research?

If you agree to participate in this research you will be required to:

5. interact with one other student in a language-based activity where you will need to discuss some pictures with the other student to complete the activity.
6. your interaction will be recorded.
7. participate in an interview to elicit your language background. This interview will also be recorded.
8. complete a questionnaire regarding your language background and language use.
9. participate in another interview where you will be required to listen to your recorded interaction and indicate the difficulties you may have encountered during your interaction.

To protect your confidentiality, your data will be coded. All identifiable information (e.g. names, IC nos.) will be kept separate from the data. The link between your identifiable information and the code number will be kept confidential by the principal investigator or a trusted third party.

How will my privacy and the confidentiality of my research records be protected?

Only the principal investigator has your identifiable information (e.g. names, IC nos.) and this will not be released to any other person, including members of the research team. Identifiable information will never be used in a publication or presentation. All your identifiable information and research data will be coded (i.e. only identified with a code number) at the earliest possible stage of the research.

Will there be reimbursement for participation?

There will be no reimbursement for participation. Your participation in this study is entirely voluntary.

What are the possible benefits to me and to others?

There is no direct benefit to you by participating in this research. The knowledge gained will benefit the public in the future, through understanding of features which may cause breakdown in communication.

Can I refuse to participate in this research?

Yes, you can. Your decision to participate in this research is voluntary and completely up to you. You can also withdraw from the research at any time without giving any reasons, by informing the principal investigator and all your data collected will be discarded.

Whom should I call if I have any questions or problems?

Please contact the Principal Investigator (Attn: Madalena Cruz-Ferreira at telephone +65-65163932 or email ellmcf@nus.edu.sg) for all research-related matters.

For an independent opinion regarding the research and the rights of research participants, you may contact a staff member of the National University of Singapore Institutional Review Board (Attn: Mr Chan Tuck Wai, at telephone +65-6516 1234 or email at irb@nus.edu.sg).

Phonological Intelligibility in Interlanguage Talk

= Consent Form =

I hereby acknowledge that:

5. My signature is my acknowledgement that I have agreed to take part in the above research.
6. I have received a copy of this information sheet that explains the use of my data in this research. I understand its contents and agree to donate my data for the use of this research.
7. I can withdraw from the research at any point of time by informing the Principal Investigator and all my data will be discarded.
8. I will not have any rights to any commercial benefits that result from this research. I also agree that I will not derive any monetary or other benefits from this research.

Name and Signature (Participant)

NRIC of participant

Date

Name and Signature (Consent Taker)

NRIC of consent taker

Date

Appendix 11: Instructions for the Information and Social Interaction Tasks

Instructions for Social Interaction Task:

Do you know each other well? If you do know each other, can you take turns to describe each other briefly?

If you don't know each other well, can you please talk to each other and find out about your partner's homes, families, interests, future plans etc. Speak only in English. Do you understand what you are supposed to do?

Instructions for Similar – Different Task ¹:

One of you has hand-out A and the other one hand-out B. Both hand-outs have 12 small drawings; some are the same in A and B, and some are different. Both of you have to work together and describe the drawings to each other in order to decide whether the drawings are the same or different, and mark it S (for same) and D (for different). The person who has a cross next to the number of the drawing begins by describing the picture to his/her partner. You may need to describe your drawing in detail as some of the differences are very slight. If you do not understand what your partner says, please ask for clarifications.

Make sure your partner does not look at your pictures and you do not look at your partner's pictures. Do not use any gestures. Do you understand what you are supposed to do? Your interaction will be audio-taped for research purposes. Speak only English. I will not participate in your interaction. It is up to both of you to structure your interaction and complete the task. Once you have started on the task, please do not ask me any questions or for help.

If you have any questions ask your partner for clarifications and help. Remember you need to describe the drawing in order to elicit whether the drawings in hand-out A and B are the same or different. I would like to remind you that there is no right or wrong answer and you are not being graded on this task. This is purely for research purposes and your identities will not be disclosed to anyone.

Instructions for Jigsaw Box Task²:

Both of you have a hand-out with a grid-box which is divided into 16 smaller squares. Most of the squares have pictures/diagrams, however, some may be empty. Both the hand-outs hold missing information to complete the 16 squares. There are some details missing from both of your hand-outs. Therefore, to complete each

¹ Adapted from Klippel (1984).

² Adapted from Platt and Brooks (2002) and, Avery, Ehrlich and Yorio (1985).

square both of you will need to ask each other questions and clarifications in order to find out the missing information needed to complete the 16 boxes. It is up to both of you to structure your information-exchange in order to complete the task. You will need to give clear description of the information you have on your hand-out so that your partner can complete his/her grid-box; and vice-versa. At the end of this task, both of you should have similar pictures in the 16 squares. As you complete the task, draw what is being described to you by your partner. If you do not understand what your partner says, please ask for clarifications. Make sure your partner does not look at your pictures and you do not look at your partner's pictures. Do not use any gestures. Do you understand what you are supposed to?

Speak in English the whole time. I will not participate in your interaction. It is up to both of you to complete the task. Once you have started on the task, please do not ask me any questions or for help. It is up to both of you to structure your interaction. I would like to remind you that there is no right or wrong answer and you are not being graded on this task. This is purely for research purposes and your identities will not be disclosed to anyone.

Instructions for Picture Sequencing Task

You and your partner have both got six pictures that illustrate a story. The pictures both of you have are the same but they are jumbled up and not numbered. Both of you have to decide the sequence of the pictures so that the pictures will be able to represent a story that both of you agree on. Discuss and negotiate with each other on what you think the sequence of the pictures is without looking at each other's pictures. Both of you have to agree on the same sequence and come to an agreement on the sequence. After both of you have decided the sequence, take turns to tell the story based on what you have decided.

You and your partner should work together to come up with the story, using the pictures to guide you as you have sequenced them. Provide as much description of your pictures as possible to come up with a rich description of the story. Take turns to tell the story and you may interrupt your partner to add to what is being said or if you disagree with what is said. Ask for clarifications from each other if you do not understand what is being said. There are no right or wrong answers in this task.

I am interested in studying how you interact and negotiate with each other to complete the task. Make sure your partner does not look at your pictures and you do not look at your partner's pictures and do not use any gestures. Do you understand what you are supposed to do? Your interaction will be audio-taped for research purposes. Speak only in English. I will not participate in your interaction. It is up to both of you to come up with the story. Once you have started on the task, please do not ask me any questions or for help. It is up to both of you to structure your interaction.

If you have any questions ask your partner for clarifications and help. Remember you need to arrange the pictures so that they represent a story and again I would like to remind you that there is no right or wrong answer and you are not being graded on this task. This is purely for research purposes and your identities will not be disclosed to anyone.

Instructions for Map Task:

To the Instruction Giver

You and your partner have both got a map of the same place. Your map has got a route on it. Your partner hasn't got a route on her/his map. Your task is to describe the route to your partner so that she/he can draw it on her/his map. You need to guide your partner to the finish point and you need to give clear instructions so that your partner's route is similar to yours. The maps both of you have may be different, you may have some landmarks and your partner may have other landmarks. Some landmarks may be missing in your map but appear in your partner's map, some may even be called differently in your partner's map and some may even occur more than once. You need to give clear directions and use the landmarks to guide your partner. Try and guide your partner as best as you can. Use only English in your interaction.

To the Instruction Follower

You and your partner have both got a map of the same place. Your partner's map has got a route on it. Your partner will describe the route on her/his map to you. Your job is to draw the route on your map. Listen carefully to what your partner says, and ask questions if there's anything you're not sure about. You must draw the route exactly like your partner's. The maps both of you have are not the same; there may be differences between the two maps that you have. It is essential that both of you communicate clearly in order to complete the task, and ask questions if you don't understand what your partner is saying. Do not use gestures and speak only in English. I will not be involved in this interaction. Do you understand what you need to do? Your interaction will be audio-taped.

Appendix 12: Total Time Breakdown according to Tasks and Type of Interactions

DLD Total Time Breakdown according to Tasks

	DLD	Social Interaction	Picture Sequencing Task	Map Task	Total Time (in minutes)
1	P1 ML – P1 CH	1.36	3.24 +2.03	9.14	16.07
2	P3 ML – P2 CH	0.44	8.16	26.10	35.10
3	P5 ML – P5 CH	1.13	4.01	12.43	17.57
4	P4 ML – P6 CH	0.46	4.25	16.06	21.17
5	P7 ML – P3 CH	0.39	5.41	6.53	12.33
6	P8 ML – P4 CH	5.31	5.13	27.56	38.00
7	P11 ML – P7 CH	2.33	4.07	17.39	24.19
8	P9 ML – P9 CH	2.35	4.28	34.37	41.0
9	P10 ML – P8 CH	1.06	3.35	14.08	18.49
	Total (in minutes)	15.33	44.33	164.06	224.32

SLD (Malay L1) Total Time Breakdown according to Tasks

	SLD (Malay)	Social Interaction	Similar-Different Task	Jig -Saw Box Task	Total Time (in minutes)
1	P1 ML – P2 ML (withdrew)	3.34	12.10	33.22	49.06
2	P3 ML – P4 ML	1.37	4.38	14.50+7.27	27.52
3	P5 ML – P6 ML (withdrew)	1.37	8.29	15.05	25.11
4	P7 ML – P8 ML	3.21	14.36	19.12	37.09
5	P9 ML – P10 ML	3.35	15.10	28.15	47.0
6	P11 ML – P12 ML (withdrew)	3.18	11.25	36.44	51.27
	Total (in minutes)	16.22	65.48	154.15	237.05

SLD (Chinese L1) Total Time Breakdown according to Tasks

	SLD (Chinese)	Social Interaction	Similar-Different Task	Jig-Saw Task	Total Time (in minutes)
1	P1 CH – P2 CH	3.19	14.02	31.58	49.16
2	P3 CH – P4 CH	4.24	10.01	17.54	32.19
3	P5 CH – P6 CH	2.33	45.45	27.40	75.18
4	P7 CH – P8 CH	3.01	12.33	21.25	36.59
5	P9 CH – P10 CH (withdrew)	5.43	15.36	28.17	49.36
	Total (in minutes)	18.2	97.17	126.34	242.48

**Total time for all interactions (SLD and DLD): 1405.13 minutes or 23.41 hours

Appendix 13: Transcription Conventions

- P1ML : P1 refers to the coding of the participant as in the coding sheets, and ML refers to the participant's L1, thus P1ML refers to participant 1 of Malay L1 and so on.
- P2CH : Participant 2 of Chinese L1 and so on
- [
[: overlapping speech from the two participants
- ((inaudible)) : words/speech is unclear or inaudible
- ((coughs)),
((laughs)) : comments about actions noted in the transcript, including non-verbal action
- L1 words* : L1 words (Malay) are italicized in the transcriptions/extracts and a translation provided wherever necessary. E.g. *apa, dadu* etc.

:

Appendix 14: Transcription: List of Phonemic Symbols and Non-Phonemic Symbols

1. Phonemic Symbols			
p	pill	b	Boy
t	take	d	Dog
k	kite	g	Green
f	flan	v	Vase
θ	throw	ð	This
s	snake	z	Zoo
ʃ	sheep	ʒ	Leisure
h	head	l	Lamb
m	milk	n	Nail
ŋ	fl <u>ing</u>	r	Read
j	yield	w	Wagon
tʃ	church	dʒ	Judge
ɪ	pin	i:	Peel
e	pen	ɑ:	Part
æ	pan	ɔ:	Port
ʌ	putt	u:	Pool
ɒ	pot	ɜ:	as in 'girl'
ʊ	put		
ə	potato		
eɪ	play	əʊ	Crow
aɪ	pry	aʊ	Powder
ɔɪ	buoy		
ɪə	fear		
eə	pair		
ʊə	poor		

2. Non-Phonemic Symbols	
i	Reality
u	to each
ʔ	glottal stop as in [hæʔt] <i>hat</i> or [gʊʔ] <i>got</i>
h	Aspiration
~	Nasalization
.	Dentalized

(Source: Roach, 2000)

Appendix 15: Miscommunications According to Phonological Processes

A. Miscommunications caused by the addition of consonants

Nu.	(Task)/Participant/ (Time)	Miscommunication
1.	(SD)P1CH: (504)	round pronounced as [graʊn] (repeats [graʊn] three times, P2CH does not respond, and then P1CH uses the word circle . Both the participants do not use [graʊn] or round again for the rest of the task)
2.	(SD) P1ML (421)	fence as [frens] (this is in response to P2ML's [fens] in the utterance before, when P1ML says "[frens]", P2ML repeats "[fens]")
3.	(JB)P7CH: (806)	letter Z as [dʒets] which P8CH says as "[zek]" twice, and P7CH says "[dʒek]" (ADDITION & SUBSTITUTION ³)
4.	(MAP)P3CH (050)	plastic as [plæstiks] (P7ML corrects and says "[plæstik]" and in the following turn P3CH follows)
5.	(MAP)P5CH (208)	plastic as [plæstiks] (P7ML in turn says "[plæstik]")
6.	(MAP)P5CH (218)	plastic as [plæstiks] (P7ML says "[plæstik]" and in the following turn P5CH follows P7ML and says "[plæstik]")
7.	(MAP)P3CH (440)	park as [p ^h ɑ:kt] (P7ML immediately says "[p ^h ɑ:k]" and P3CH repeats "[p ^h ɑ:k]")
8.	(MAP)P9CH (1847)	course as [krɒs] (P9ML in turn says "[kɒs]")

³This incidence of miscommunication is also caused by the substitution process and thus is also listed as "Miscommunication 25" below. All other instances where there are more than one processes involved are indicated at the right hand side of the example in brackets with the processes in bold.

B. Miscommunications caused by substitution of consonants

9.	(SD)P5CH: (803)	gate pronounced as [ged] (P6CH repeats “[geɪt]” twice, but asks for confirmation and P5CH spells the word and repeats it as “[geɪt]”)
10.	(SD)P5CH: (1420)	leg pronounced as [leɪt] (P6CH asks “you mean [leg]”, P5CH replies “yeah [leɪt]”, to which P6CH again says “[leg]”, but P5CH once more says “[leɪt]”)
11.	(SD)P5CH (1508)	leg pronounced as [leɪt] (P6CH asks “the [leg]”, P5CH replies “yeah”, but unlike before never says the word again)
12.	(SD)P9CH: (1055)	album as [ælbən] (twice) (P10CH who first says [ælbəm], reiterates [ælbəm], to which P9Ch replies [ælbən])
13.	(SD)P9CH: (1155)	frame as [fren] (to which P10CH then asks how many people are in the picture)
14.	(JB)P6CH: (2222)	says “my [pleɪ] is on the top” which P5CH hears as “your [preɪ] is on the top”. Both continue with what is written on their worksheets – P5CH repeats [preɪ] again and P6CH uses [pleɪ] twice. Neither corrects each other and both filled out their worksheets with wrong answers. The target words (missing words in the worksheets) for P5CH is “play” and for P6CH is “pray”. Both used the words which appear in their respective worksheets; P5CH uses “pray” and P6CH uses “play”.
15.	(JB)P4CH: (055)	half as [hɑ:p] (P3CH responds by saying “[hɑ:f]”, which in the next turn P4CH agrees to and says “aaa [hɑ:f]”).
16.	(JB)P4CH: (127)	half as [hɑ:p] (this time P3CH uses the expression “semi round” to describe the picture. Both do not use “half” again after this)
17.	(JB)P4CH: (238)	road as [ləʊd] (P3CH in turn says “[rəʊd]”, and P4CH agrees but avoids using “road” again)
18.	(JB)P4CH: (806)	the letter zed as [zek] (P3CH in turn says “[zed]”, P4CH then starts using “[zed]” given by P3CH)

19.	(JB)P4CH: (918)	horizontal as [hɒlɪdʒəntəl] (P3CH says “[hɒrɪdʒəntəl]”, and P4CH says “aha”)
20.	(JB)P4CH: (952)	England flag as [ɪŋgrən] [fræg][ɪŋgrən] [fræg] [fræg] (P3CH does not comment on [ɪŋgrən] but only says “[flæg]”)
21.	(JB)P4CH: (1014)	horizontal as [hɒlɪdʒəntəl] (repeated twice) (P3CH in turn says “[hɒrɪdʒəntəl]”, but P3CH continues using “[hɒlɪdʒəntəl]”)
22.	(JB)P4CH: (1438)	pray as [pleɪ], (P3CH corrects it by spelling the word “pray”, and then P4CH repeats “[preɪ]”)
23.	(JB)P4CH: (1503)	in response to P3CH’s [preɪ], P4CH says [pleɪ] once again (P3CH responds by spelling the word “pray” and then P4CH repeats [preɪ])
24.	(JB)P7CH: (720)	curve as [kɜːf] (P8CH repeats “[kɜːf]”, to which P7CH repeats “[kɜːf]” twice and then provides another explanation, using the letter N as an example “I mean like [en]”)
25.	(JB)P7CH: (806)	letter Z as [dʒets] (P8CH then says “[zek]” twice, and P7CH responds by saying “[dʒek]”) (SUBSTITUTION & ADDITION)
26.	(JB)P9CH: (255)	row as [laʊ] (P10CH then says “[raʊ]”)
27.	(JB)P9CH: (407)	row as [laʊ] (P10CH again says “[raʊ]”)
28.	(JB)P10CH: (1406)	big as [bɪʔ] (P9CH does not seem to understand and repeats the phrase “[bɪʔ][en]” to which then P10CH says “[en]”)
29.	(JB)P10CH: (1417)	letter Z as [zek] (P9CH in turn says “[zed][zed] for zebra”)
30.	(JB)P9CH: (1818)	roof as [lʊf] (P10CH then says “[rʊf]”, P9CH never says the word again)
31.	(JB)P11ML: (642)	letter Z as [sɪ] (P12ML then says “[zek]”) (SUBSTITUTION & DELETION)

32.	(JB)P8ML: (354)	dot as [dɒd] (P8ML repeats [dɒd] four times and P7ML never responds to this)
33.	(JB)P8ML: (1552)	goats as [gɒds] (P7ML responds by saying “[gəʊts]”)
34.	(JB)P1ML: (405)	thicker as [tɪkə] (P1ML immediately asks P2ML if she understands)
35.	(JB)P1ML: (446)	thicker as [tɪkə] (P2ML repeats “[tɪkə]”, but still does not appear to understand it)
36.	(JB)P1ML: (502)	thicker as [tɪkə] (P2ML still does not understand, P1ML finally abandons [tɪkə])
37.	(JB)P9CH: (2307)	kite as [kaɪ?] (P10CH says “the [kart]” to which P9CH says “you know [kaɪ?]”)
38.	(JB)P11ML (1212)	word as [wɜː?] (P12ML does not understand, then P11ML says “[wɜːd]”)
39.	(JB)P8ML (352)	tick as [tɪ?] (P7ML asks for a repetition and offers the word “one” (with a falling intonation), which P8ML replies with “one [tɪ?]”)
40.	(JB2)P3ML: (212)	kite as [kaɪ?] (twice) (P4ML repeats “[kaɪ?]” and indicates that she does not understand. P3ML says it again and then uses “diamond” to explain it)
41.	(SI)P9CH (DLD) (138)	attraction as [ətɹæksən] (P9ML does not understand, P9CH repeats “[ətɹæksən]” once more, then adds “interesting”)
42.	(PIX)P9CH (040)	yet as [dʒet] (P9CH corrects himself by saying “[jet]”, P9ML repeats “[jet]”)
43.	(PIX)P9CH (126)	surprise as [səpraɪz] (although in the turn before P9ML says [səpraɪz], P9CH repeats it as “[səpraɪz]” but adds another word before “alert”)
44.	(PIX)P9CH (316)	hat as [hed] (in turn P9ML says [hæt], P9CH avoids using hat in the next few turns, although P9ML still uses “[hæt]”)
45.	(PIX)P7CH (132)	shocked as [ʃɒkt] (P11ML in turn provides “[ʃɒkt]”)

46.	(PIX)P7CH (230)	hat as [hed] (P11ML responds by saying “[hæt]”, P7CH then says “[hæt]” in his next turn)
47.	(PIX)P5CH (115)	hat as [hed] (P11ML simultaneously says “[hæt]” with P5CH. This is the first time both express the word “hat” simultaneously)
48.	(PIX)P5CH (210)	hat as [hed] (P11ML simultaneously says “[hæt]” with P5CH, does it for the second time)
49.	(PIX)P2CH (038)	hat as [hed] (P3ML says “[hæt]” in her next turn, and P2CH continues using “[hed]”, and this is followed by P3ML saying “[hæt]”)
50.	(PIX)P6CH (307)	hat as [hed] (P4ML simultaneously says “[hæt]” with P6CH)
51.	(PIX)P8ML (330)	hat as [hed] (P4ML does not understand, and says “mmm” then next P4ML says “[hed]” to which P8ML says “mmm”)
52.	(MAP)P9CH (1014)	lake as [leg] (P9ML repeats [leg], but does not seem to understand)
53.	(MAP)P9CH (1125)	lake as [leg] (P9ML says “[leɪk]” in response)
54.	(MAP)P9CH (1221)	lake as [leg] (P9ML does not respond)
55.	(MAP)P9CH (1450)	lake as [leg] (twice) (P9ML says “[leɪk]” in response)
56.	(MAP)P9ML (838)	saint as [sed] (P9CH responds to this by saying “[sen]” and P9ML also follows and says “[sen]”) (SUBSTITUTION & SIMPLIFYING WORD FINAL CONSONANT CLUSTERS)
57.	(MAP)P9CH (1116)	crane as [kremə] (P9ML says “[krenə]”, and says the letter C – indicating to P9CH to spell the word as requested earlier, and P9CH then spells it as C-R-A-M-E, then P9ML says “[krem]”, and P9ML agrees, later P9ML uses [kreɪn] but P9CH does not respond)
58.	(MAP)P9CH (1142)	crane as [k ^h əremə] (P9ML requests clarification)

		whether its [k ^h ərəmə] (twice) or “[krenə]”, and finally spells it for clarification)
59.	(MAP)P9CH (2108)	green as [ɡlɪn] (this is said in response to P9ML’s “[ɡrɪ:n]”)
60.	(MAP)P5CH (348)	plastic as [præstɪk] twice (When P5CH says it for the first time P5ML does not react, but after the second time P5ML says “[plæstɪk]”)
61.	(MAP)P5CH (407)	lake as [leɪt] (says it three times, after which P5ML says “[leɪk]”)
62.	(MAP)P5CH (413)	lake as [leɪt] (P5ML says “[leɪk]” twice in response)
63.	(MAP)P5CH (448)	lake as [reɪt] (P5ML does not understand, P5CH just abandons it and uses “road” instead)
64.	(MAP)P5CH (700)	lake as [leɪt] (P5ML does not understand and indicates to P5CH to repeat the word)
65.	(MAP)P5CH (735)	church as [tʃəd] (P5ML does not understand and P5CH repeats “[tʃəʃ]”)
66.	(MAP)P5CH (1050)	church as [tʃəd] (P5ML repeats “[tʃəʃ]” and P5CH repeats “[tʃəd]”)
67.	(MAP)P2CH (2458)	lake as [leɪt] (P2CH says it three times, and then P3ML says “[leɪk]”)
68.	(MAP)P6CH (523)	plastic as [præstɪk] (P4ML says “[plæstɪk]” but P6CH continues using “[præstɪk]”)
69.	(MAP)P4CH (205)	desert as [dɪsət] (P8ML does not understand and repeats “[dɪsət]”, P4CH says “[dɪsət]” again and then spells it, to which P8ML says “[dɪzət]”)
70.	(MAP)P8ML (910)	church as [tʃəs] (P4CH does not understand and says “[tʃəd]”)
71.	(MAP)P4CH (920)	course as [kɒd] (P8ML does not understand, P4CH does not repeat the word, both move on to another landmark)

72.	(MAP)P8ML (930)	church as [tʃəs] (in turn P4CH says “[tʃəd]”)
73.	(MAP) P4CH (1725)	lake as [leit] (at first P8ML does not respond, even after P4CH says it five times, but after the fifth time P8ML says “[leɪk]” three times)
74.	(MAP)P4CH (1748)	lake as [leit] (P4CH continues saying “[leit]”, and P8ML keeps using “[leɪk]”)
75.	(MAP)P4CH (1801)	lake as [leit] (P8ML in turn says “[leɪk]”)
76.	(MAP)P4CH (2357)	course as [kɔd] (uses this in response to P8ML’s [kɔs], P8ML does not comment)
77.	(MAP)P4CH (2448)	course as [kɔd] (uses this in response to P8ML’s [kɔs] in an earlier turn, P8ML this time says “[kɔs]” in reply)
78.	(MAP)P9CH (1825)	green lake as [grɪleg] and [glɪnleg] (Upon hearing [grɪleg], P9ML clarifies if its “[grɪn]”, to which P9CH replies [glɪnleg], then both abandon the word) (SUBSTITUTION & DELETION)
79.	(MAP)P9CH (1510)	lake as [leg] (P9ML says “[leɪk] in response, twice)
80.	(MAP)P9CH (2044)	lake as [leg] (P9ML says “[leɪk] in response)
81.	(MAP)P9CH (2108)	lake as [leg] (this is said in response to P9ML’s “[leɪk]”, P9ML does not respond anymore to this as he had done earlier)
82.	(MAP)P9CH (3230)	lake as [leg] (at first P9ML does not respond, but after P9CH says it twice, P9ML says “[leɪk]”)
83.	(MAP)P9CH (3245)	frog as [klɒʔ] (in turn P9ML says “[frɒg]”, but P9CH replies with “[klɒʔ]” again)
84.	(MAP)P9CH (3415)	lake as [leg] (P9ML says “[leɪk] in response)
85.	(MAP)P11ML (017)	big as [bɪk] (twice) (P7CH says “[bɪg]” in response to P11ML)

86.	(MAP)P11ML (118)	big as [bɪk] (P7CH also says “[bɪg]” in response)
87.	(MAP)P11ML (239)	big as [bɪk] (P7CH again says “[bɪg]” in response)
88.	(MAP)P1CH (625)	lake as [leg] (P1CH is repeating P1ML’s phrase [grɪnleɪk] from the turn before and says “[leg]”. In response P1ML says “[leɪk]”. P1CH says “[leɪk]” once but later reverts back to “[leg]” and P1ML continues saying “[leɪk]” each time P1CH says “[leg]”)
89.	(MAP)P2CH (2458)	crane as [greɪn] (repeats it twice before P3ML says “[kreɪn]”)
90.	(MAP)P6CH (523)	crane as [greɪn] (P4ML immediately corrects it to “[kreɪn]”)
91.	(MAP)P9CH (1410)	frog as [klɒʔ] (P9ML in turn repeats “[frɒg]” twice in response)

C. Miscommunications caused by deletion of consonants

92.	(SD)P5CH: (3421)	woman pronounced as [ʊmən] (P6CH immediately says “[wʊmən]”, P5CH never says the word again)
93.	(SD)P4CH (655)	bowl as [bəʊ], repeated 4 times (P3CH does not understand and asks “[bəʊl] or [bəʊt]”, the picture in the task provides the context)
94.	(JB)P2CH: (130)	white pronounced as [hwaɪ] (P1CH does not understand until P2CH repeats “[hwaɪt]”)
95.	(JB)P11ML: (642)	letter Z as [sɪ] (P12ML then says “[zɛk]”) (SUBSTITUTION & DELETION)
96.	(PIX)P3ML (157)	angry as [ægrɪ:] (P2CH does not understand – indicates by repeating the whole phrase “[ægrɪ:] with monkey”, to which P3ML says “[æŋgrɪ]” twice)
97.	(PIX)P4CH (240)	smile as [səmaɪ] (P8ML checks and asks “[smaɪl]” and P4CH replies “[səmaɪl]”)

98.	(MAP)P9CH (1825)	green lake as [grɪleg] and [glɪnleg] (Upon hearing [grɪleg], P9ML clarifies if its “[grɪn]”, to which P9CH replies “[glɪnleg]”, then both abandon the word) (SUBSTITUTION & DELETION)
99.	(MAP)P6CH (910)	moored as [mɔ:] (P4ML does not understand, and P6CH spells it in the next turn, later P6CH says “[mɔ:]” again, but P4ML still does not understand it as it does not appear in her map)
100.	(MAP)P8CH (120)	down side as [daʊsaɪ] (P10ML indicates that he does not understand, and in the next turn P8CH only says “[daʊ]”)
101.	(MAP)P8CH (139)	desert as [dɪzə] (P10ML in turn says “[dɪzəl]”, P8CH then says “[dɪzət]” and spells the word and then repeats “[dɪzət]”; P10ML in response says “[dɪzət]”)
102.	(JB2)P4ML (1410)	straight line as [streɪlɑɪ] (P3ML does not understand and asks for more information of the “[streɪlɑɪ]”, P4ML does not offer any other information and repeats “[streɪlɑɪ]” which P3ML says twice; P3ML manages to get the answer for this particular item)

D. Miscommunications caused by the absence of aspiration in voiceless plosives

103.	(PIX) P9CH (130)	take as [tæk](P9ML responds by aspirating “[t ^h eɪkən]” to which P9CH responds “[t ^h æk]” twice)
104.	(MAP) P9ML (630)	point as [pɔɪn] (P9CH does not understand, and then P9ML offers another word to help and says “[mɑ:ʔ]”) (ASPIRATION &/OR SIMPLIFYING WORD FINAL CONSONANT CLUSTERS)
105.	(JB) P2ML (1840)	ten as [ten] (P1ML clarifies by saying “[t ^h en]”, to which P2ML checks her answer and says “nine”)
106.	(JB) P1ML (3025)	pool cue as [pʊlkju:] (P2ML gives a non verbal response)
107.	(JB) P1ML (3027)	pool ball as [pʊlbɔl] (P2ML repeats “[pʊlbɔl]”, and P1ML sensing P2ML’s confusion offers “snooker ball”)
108.	(JB) P10ML	quarter kick as [kɔ:təkiʔ] (to which P9ML responds

	(853)	“what”, P10ML then says “[k ^h ɔ:nək ^h ɪʔ]”)
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E. Miscommunications caused by simplifying word initial consonant clusters

109.	(JB)P9ML (1122)	twenty as [tentɪ] (P10ML says “[tɛtɪ]”, P9ML then repeats “[twenty]”)
110.	(MAP)P9CH (039)	flower as [faʊə] (P9ML immediately corrects with “[flaʊə]”, but in next turn P9CH continues using “[faʊə]”)
111.	(MAP)P9CH (625)	cross as [k ^h ɔs] (P9ML asks for clarification by saying “[sɪmbəl]”, and P9CH replies “[sɪmbou] of [k ^h ɔs]” P9ML still does not understand and offers “point” and “mark” as substitutes)

F. Miscommunications caused simplifying word medial consonant clusters

112.	(JB)P4CH (720)	umbrella as [ʌmbelə] (to which P3CH says “[ʌmbrelə]”, and P4CH avoids using the word umbrella again)
113.	(JB)P4CH (1233)	umbrella as [ʌmbelə] (both simultaneously say the word, P3CH says “[ʌmbrelə]” and P4CH says “[ʌmbelə]” – which she had used earlier in 720. Both abandon the word and move on to another topic)
114.	(JB)P9CH (1348)	umbrella as [ʌmbelə] (P10CH says “[ʌmbrelə]” twice and then also uses “[ʌmbelə]”)

G. Miscommunications caused by simplifying word final consonant clusters

115.	(SD)P2CH: (1010)	strange pronounced as [streɪn] (P1CH does not understand, but P2CH avoids using the word again, and asks if “there is anything else that is special”. “strange” is never used again in the task.)
116.	(SD)P10CH: (746)	round as [raʊ] (P9CH does not understand, P10CH repeats [raʊ], to which P9CH repeats “[raʊ]”, P10CH then provides another explanation “look like a zero”)
117.	(SD)P2ML: (1111)	mount as [maʊn] (P1ML does not understand, to which P2ML repeats [maʊn] twice more and then says “hills”, which P1ML understands)

118.	(JB)P4CH: (1407)	the letter X as [es], which P3CH says as “[eks]”, which in turn confuses P4CH who clarifies by asking “[es] or [eks]”
119.	(JB2)P4ML: (515)	go box as [gəʊbɒk] (P3ML does not understand, and P4ML repeats the phrase, then P3ML repeats it but still does not understand)
120.	(MAP)P9ML (220)	field of sand as [fildʊfsæn] (uses it to explain desert, which P9CH does not understand, however [fildʊfsæn] is equally unintelligible)
121.	(MAP)P4CH (1822)	end point as [ɛnp ^h ɔɪn] (P8ML does not understand, in response P4CH uses “finish”)
122.	(MAP)P9ML (838)	saint as [sed] (P9CH responds to this by saying “[sen]” and P9ML also follows and says “[sen]”) (SUBSTITUTION & SIMPLIFYING WORD FINAL CONSONANT CLUSTERS)
123.	(MAP) P9ML (630)	point as [pɔɪn] (P9CH does not understand, and then P9ML offers another word to help and says “[mɑ:ʔ]”) (ASPIRATION AND/OR SIMPLIFYING WORD FINAL CONSONANT CLUSTERS)

Appendix 16: Selected Sample Interactions on CD-ROM

List of Interactions on CD-ROM*

Nu.	Dyad	Tasks
1.	P1ML – P1CH	Social Interaction
		Picture Sequencing
		Picture Sequencing Retelling
		Map Task
2.	P9ML – P9CH	Social Interaction
		Picture Sequencing
		Map Task
3.	P3CH – P4CH	Social Interaction
		Similar-Different
		Jigsaw
4.	P7CH – P8CH	Social Interaction
		Similar-Different
		Jigsaw
5.	P5ML – P6ML	Social Interaction
		Similar-Different
		Jigsaw
6.	P9ML – P10ML	Social Interaction
		Similar-Different
		Jigsaw

**The CD-ROMs containing the selected interactions listed here are appended at the end of this thesis*

Appendix 17: The Consonant Inventory of Standard Malay (Primary and Secondary Consonants)

The Consonant Inventory of Standard Malay (Primary Consonants)⁴

Manner of Articulation	Place of Articulation					
	Bilabial	Alveolar	Palato-Alveolar	Palatal	Velar	Glottal
Plosive	p b	t d			k g	ʔ
Fricative		s				h ⁵
Affricate			tʃ dʒ			
Rolled (trill)		r				
Lateral		l				
Nasal	m	n	ɲ		ŋ	
Approximant	w			j		

The Consonant Inventory of Standard Malay (Secondary Consonants)

Manner of Articulation	Place of Articulation				
	Labio-Dental	Dental	Alveolar	Palato-Alveolar	Velar
Fricative	f v	(θ ð) ⁶	z		x R ⁷
Affricate				ʃ ⁸	

(Source: Asmah, 2008; Indirawati and Mardian (2006); Teoh, 1994; Yunus, 1980)

⁴ Asmah (2008), Teoh (1994) and Yunus (1980) all state that there are 19 primary consonants in the Malay sound system. These three authors only differ in describing the manner and place of articulation of certain features.

⁵ Although discussed by Yunus (1980), the glottal fricative /h/ is not shown in his chart of consonant sounds (p.52).

⁶ The dental fricatives are listed by Yunus (1980) and Teoh (1994), but Asmah (2008) excludes these features.

⁷ Yunus (1980) and Teoh (1994) use /ɣ/ to represent the voiced uvular fricative /R/. However, Asmah (2008) uses /R/.

⁸ Yunus (1980) Teoh (1994) classify /ʃ/ as a fricative, although Teoh (1994, p.52) lists it as /s/.

Appendix 18: Analysis of Post Interaction Questionnaire of Six Participants

	Item	P2CH	P4CH	P9CH	P8ML	P9ML	P11ML
1.	When you speak English with other Malaysian speakers of English who do not speak your first language, do you do any of these things?	have in your mind an ideal way to speak English.	have in your mind an ideal way to speak English.	try to speak English in a more standard way than you do with people who share your first language.	have in your mind an ideal way to speak English.	try to speak very good English in order to impress the person you are speaking to.	have in your mind an ideal way to speak English.
2.	Do you think miscommunication between Malaysian speakers of English who have different first languages is caused by any of these things?	cultural differences.	different ways of speaking English.	unwillingness to communicate with other Malaysian speakers of English who have different first languages.	different ways of speaking English.	different ways of speaking English.	different ways of speaking English.
3.	How would you describe your English compared to other Malaysian speakers of English who have different first languages from yours?	your English is as normal as theirs.	your English is as normal as theirs.	your English is less normal than theirs.	your English is as normal as theirs.	your English is as normal as theirs.	your English is as normal as theirs.
4.	In the interactions, how easy was it for you to understand your partner's English? (scale: 1=very easy to 5=very difficult)	3	3	2	3	3	3
5.	If it was not always the same, was it easier to understand your partner (choose only one)	when you were exchanging personal information.	when you were exchanging personal information.	when you were exchanging personal information.	when you were exchanging personal information.	when you were exchanging personal information.	when you were exchanging personal information.
6.	When you spoke to your partner, did you try to alter your usual English speech in anyway?	No	No	Yes	No	No	Yes
7.	If yes, what did you alter? e.g. sounds, stress, speed, pauses, other things – please specify	-	-	Sound	-	-	Sound

Appendix 18: Analysis of Post Interaction Questionnaire of Six Participants

	Item	P2CH	P4CH	P9CH	P8ML	P9ML	P11ML
8.	If yes, why did you alter your usual way of speaking English			because you were nervous.			because you thought your partner would understand you more easily.
9.	Did you find it difficult to understand what your partner said at any point (s) in the talk?	Yes	No	Yes	Yes	Yes	No
10.	If yes, what was the cause?	your partner's speaking ability	-	your listening ability.	your partner's speaking ability	your partner's speaking ability	-
11.	If you did not understand your partner at any point(s), did you admit this to him/her?	Yes	Yes	No	Yes	Yes	Yes
12.	If not, what was the reason?	-	-	to prevent your embarrassment.	-	-	-
13.	What was more important to you during the talk?	to cooperate with your partner.	both the reasons above were equally important.	both the reasons above were equally important.	to cooperate with your partner.	both the reasons above were equally important.	both the reasons above were equally important.
14.	You have interacted with two different partners. Which partner was easier for you to communicate with?	Partner from first session (SLD)	Partner from second session (DLD)	Partner from second session (DLD)	Partner from second session (DLD)	Partner from first session (SLD)	Partner from second session (DLD)
15.	Can you think of any point in both the sessions where you could not understand what your partner was saying due to his/her pronunciation?	Yes	No	No	No	Yes	Yes
16.	Think of an occasion when you found it difficult to understand a fellow Malaysian speaking to you in English. Why was it difficult for you to understand that person?	different culture	lack of vocabulary	-	don't understand and lack of vocabulary	lack of culture and pronunciation	-

Appendix 19: Language Background of Six Participants

Participant	Age	Gender	Ethnicity	Type of School+	Native Lang.	Age of Eng. Acq		Method of Eng. Acq.*	Ability in English**				
						Home	School		Read	Write	Speak	Listening	Overall
P2CH	21	Female	Chinese	1 + 2	Mandarin	Never	6	1	4	3	3	3	3
P4CH	21	Female	Chinese	1 + 2	Hakka	4	7	1	2	2	3	3	3
P9CH	21	Male	Chinese	1 + 2	Mandarin	Never	7	1	3	2	2	2	3
P8ML	21	Female	Malay	1	Malay	7	7	1	3	3	2	3	2
P9ML	21	Male	Malay	1	Malay	6	7	3	4	3	3	4	3
P11ML	21	Male	Malay	1	Malay	6	7	1	4	4	3	3	4

+Type of school:

1=National

2=National type

***Method of English Acquisition:**

1=Mainly through formal classroom instruction

2=Mainly through interacting with people

3=A mixture of both

4=Other

****Ability in English:**

1=Very poor

2=Poor

3=Fair

4=Good

5=Very good

Appendix 19 : Language Background of Six Participants

Participant	Other Lang(s)	Other Lang(s)	Proficiency in Other Lang(s)*					Age of Learning Other Lang(s) (years)			No. of years in school
			Reading	Writing	Speaking	Listening	Overall	Speaking	Reading	Writing	
P2CH	Yes	Cantonese	4	4	4	5	4	9	6	6	15
		Malay	4	4	4	4	4	13	NA	NA	NA
P4CH	Yes	Mandarin	4	3	4	4	3	NA	NA	NA	NA
		Malay	4	2	3	4	3	NA	NA	NA	14
		Hakka	NA	NA	4	4	3	NA	NA	NA	NA
P9CH	Yes	Malay	3	3	3	3	3	7	7	7	13
P8ML	No	-	-	-	-	-	-	-	-	-	-
P9ML	No	-	-	-	-	-	-	-	-	-	-
P11ML	No	-	-	-	-	-	-	-	-	-	-

*** Proficiency in other lang(s)**

1=Very poor

2=Poor

3=Fair

4=Good

5=Very good

N/A=if not applicable for any reason

Appendix 19: Language Background of Six Participants

Partici- pant	Language used with mother	Language used with father	Language(s) spoken by		Language(s) used by parents	Language instruction		
			Mother	Father		Pri	Sec	Uni
P2CH	Mandarin	Mandarin	Mandarin Hokkien	Mandarin Hokkien English Malay	Mandarin Hokkien	Mandarin	Malay	English
P4CH	Hakka	Hakka	Mandarin Hakka	Mandarin Hakka	Hakka	Mandarin	Malay	Malay Eng
P9CH	Mandarin	Mandarin	Mandarin	Mandarin	Mandarin	Mandarin	Malay	Malay English
P8ML	Malay	Malay	Malay	Malay	Malay	Malay	Malay	Malay English
P9ML	Malay	Malay	Malay English	Malay English	Malay	Malay	Malay	English
P11ML	Malay	Malay	Malay English	Malay English	Malay	Malay	Malay	English

Appendix 19 : Language Background of Six Participants

Name	Language choice			Language mixing	Languages Mixed			Frequency of Mixing*		
	Arithmetic	Dream	Anger/Affection	Yes/No	Family members	Friends	Classmates	Family members	Friends	Classmates
P2CH	Mandarin	Mandarin	Mandarin	Yes	No	Mandarin + Eng + Malay + Cant	Malay+ Mandarin	1	3	3
P4CH	Mandarin	Mandarin	Mandarin	Yes	Hakka + Mandarin	Mandarin + Malay + Eng	Mandarin + Malay + Eng	4	3	3
P9CH	Mandarin	Mandarin	Mandarin	Yes	Malay + Mandarin	Malay + Eng	Malay + Eng	2	3	3
P8ML	Malay	Malay	Malay	No	-	-	-	-	-	-
P9ML	Malay	Malay	Malay Eng	Yes	Malay + Eng	Malay + Eng	Malay + Eng	2	4	4
P11ML	Malay	Malay	Malay	Yes	Malay + Eng	Malay + Eng	Malay + Eng	3	3	3

*** Frequency of Mixing**

4=Always

3=Sometimes

2=Seldom

1=Never

Appendix 19 : Language Background of Six Participants

Participant	2 Best Languages (At Home)				2 Best Languages (At University)				Language preference			
	Reading	Writing	Speaking	Under- standing	Reading	Writing	Speaking	Under- standing	At home	At university	At a party	In general
P2CH	Manda- rin	NA	Manda- rin	Manda- rin	English	English	Manda- rin	Manda- rin	Manda- rin	Mand	Manda- rin	Manda- rin
P4CH	Manda- rin	Manda- rin	Hakka	Manda- rin	English	English	English	English	Hakka	English	English	English
P9CH	Manda- rin	Manda- rin	Manda- rin	Manda- rin	English	English	Manda- rin	Manda- rin	Manda- rin	English	Manda- rin	Manda- rin
P8ML	English	Malay	Malay	Malay	English	Malay	Malay	Malay	Malay	English	Malay	Malay
P9ML	Malay	English	Malay	English	English	English	English	English	Malay	English	English	English
P11ML	English	Malay	Malay	Malay	English	English	English	Malay	Malay	English	Malay	Malay

Appendix 20: Frequency of Occurrence (%) Of Features According in SLD and DLD Interactions

P2CH: Frequency of Occurrence of Features in SLD Interactions

	Feature	Actual occurrence	Possible occurrence	Frequency of occurrence* (%)
1.	Substitution of dental fricatives /θ/ and /ð/	80	84	95.2
2.	Absence of aspiration of voiceless plosives in initial position	43	45	95.5
3.	Devoicing of fricatives and affricates in final position	15	19	78.9
4.	Use of glottal stops in place/before of final stops	19	50	38
5.	Substitution of /r/ with [l]	5	15	33.3
6.	Substitution of /z/ with [dʒ]	3	4	75
7.	Simplification of word medial consonant clusters	4	8	50
8.	Simplification of final consonant clusters	29	30	96.7
	Total	198	255	77.6

**Actual occurrence/possible occurrence x 100*

P2CH: Frequency of Occurrence of Features in DLD Interactions

	Feature	Actual occurrence	Possible occurrence	Frequency of occurrence* (%)
1.	Substitution of dental fricatives /θ/ and /ð/	81	82	98.8
2.	Absence of aspiration of voiceless plosives in initial position	8	9	88.9
3.	Devoicing of fricatives and affricates in final position	10	13	76.9
4.	Use of glottal stops in place/before of final stops	9	38	23.7
5.	Substitution of /r/ with [l]	0	36	0
6.	Substitution of /z/ with [dʒ]	0	1	0
7.	Simplification of word medial consonant clusters	8	25	32
8.	Simplification of final consonant clusters	30	31	96.8
	Total	146	235	62.1

**Actual occurrence/possible occurrence x 100*

P4CH: Frequency of Occurrence of Features in SLD Interactions

	Feature	Actual occurrence	Possible occurrence	Frequency of occurrence* (%)
1.	Substitution of dental fricatives /θ/ and /ð/	57	60	95
2.	Absence of aspiration of voiceless plosives in initial position	31	33	93.9
3.	Devoicing of fricatives and affricates in final position	27	28	96.4
4.	Use of glottal stops in place/before of final stops	58	79	73.4
5.	Substitution of /r/ with [l]	9	42	21.4
6.	Substitution of /z/ with [dʒ]	1	9	11.1
7.	Simplification of word medial consonant clusters	4	30	13.3
8.	Simplification of final consonant clusters	35	43	81.4
	Total	222	324	68.5

**Actual occurrence/possible occurrence x 100*

P4CH: Frequency of Occurrence of Features in DLD Interactions

	Feature	Actual occurrence	Possible occurrence	Frequency of occurrence* (%)
1.	Substitution of dental fricatives /θ/ and /ð/	92	93	98.9
2.	Absence of aspiration of voiceless plosives in initial position	23	27	85.1
3.	Devoicing of fricatives and affricates in final position	14	15	93.3
4.	Use of glottal stops in place/before of final stops	73	106	68.9
5.	Substitution of /r/ with [l]	10	56	17.9
6.	Substitution of /z/ with [dʒ]	0	2	0
7.	Simplification of word medial consonant clusters	4	11	36.7
8.	Simplification of final consonant clusters	46	48	95.8
	Total	273	358	76.2

**Actual occurrence/possible occurrence x 100*

P9CH: Frequency of Occurrence of Features in SLD Interactions

	Feature	Actual occurrence	Possible occurrence	Frequency of occurrence* (%)
1.	Substitution of dental fricatives /θ/ and /ð/	100	105	95.2
2.	Absence of aspiration of voiceless plosives in initial position	44	47	93.6
3.	Devoicing of fricatives and affricates in final position	10	12	83.3
4.	Use of glottal stops in place/before of final stops	58	84	69
5.	Substitution of /r/ with [l]	21	26	80.7
6.	Substitution of /z/ with [dʒ]	0	1	0
7.	Simplification of word medial consonant clusters	8	23	34.7
8.	Simplification of final consonant clusters	30	34	88.2
	Total	271	332	81.6

**Actual occurrence/possible occurrence x 100*

P9CH: Frequency of Occurrence of Features in DLD Interactions

	Feature	Actual occurrence	Possible occurrence	Frequency of occurrence* (%)
1.	Substitution of dental fricatives /θ/ and /ð/	205	207	99.0
2.	Absence of aspiration of voiceless plosives in initial position	29	31	93.5
3.	Devoicing of fricatives and affricates in final position	41	47	87.2
4.	Use of glottal stops in place/before of final stops	70	177	39.5
5.	Substitution of /r/ with [l]	31	103	30.1
6.	Substitution of /z/ with [dʒ]	2	10	20.0
7.	Simplification of word medial consonant clusters	15	98	15.3
8.	Simplification of final consonant clusters	46	47	97.9
	Total	439	720	61.0

**Actual occurrence/possible occurrence x 100*

P8ML: Frequency of Occurrence of Features in SLD Interactions

	Feature	Actual occurrence	Possible occurrence	Frequency of occurrence* (%)
1.	Substitution of dental fricatives /θ/ and /ð/	59	63	93.7
2.	Absence of aspiration of voiceless plosives in initial position	22	26	84.6
3.	Devoicing of fricatives and affricates in final position	16	18	88.9
4.	Use of glottal stops in place/before of final stops	34	67	50.7
5.	Substitution of /r/ with [l]	0	45	0
6.	Substitution of /z/ with [dʒ]	0	7	0
7.	Simplification of word medial consonant clusters	10	15	66.7
8.	Simplification of final consonant clusters	28	31	90.3
	Total	169	272	62.1

**Actual occurrence/possible occurrence x 100*

P8ML: Frequency of Occurrence of Features in DLD Interactions

	Feature	Actual occurrence	Possible occurrence	Frequency of occurrence* (%)
1.	Substitution of dental fricatives /θ/ and /ð/	105	109	96.3
2.	Absence of aspiration of voiceless plosives in initial position	21	22	95.5
3.	Devoicing of fricatives and affricates in final position	8	8	100
4.	Use of glottal stops in place/before of final stops	62	125	49.6
5.	Substitution of /r/ with [l]	0	88	0
6.	Substitution of /z/ with [dʒ]	0	2	0
7.	Simplification of word medial consonant clusters	9	17	52.9
8.	Simplification of final consonant clusters	68	71	95.8
	Total	273	442	61.8

**Actual occurrence/possible occurrence x 100*

P9ML: Frequency of Occurrence of Features in SLD Interactions

	Feature	Actual occurrence	Possible occurrence	Frequency of occurrence* (%)
1.	Substitution of dental fricatives /θ/ and /ð/	98	100	98
2.	Absence of aspiration of voiceless plosives in initial position	21	14	78.6
3.	Devoicing of fricatives and affricates in final position	21	25	84
4.	Use of glottal stops in place/before of final stops	12	37	32.4
5.	Substitution of /r/ with [l]	0	23	0
6.	Substitution of /z/ with [dʒ]	0	1	0
7.	Simplification of word medial consonant clusters	0	10	0
8.	Simplification of final consonant clusters	20	28	71.4
	Total	162	238	68.1

**Actual occurrence/possible occurrence x 100*

P9ML: Frequency of Occurrence of Features in DLD Interactions

	Feature	Actual occurrence	Possible occurrence	Frequency of occurrence* (%)
1.	Substitution of dental fricatives /θ/ and /ð/	32	35	91.4
2.	Absence of aspiration of voiceless plosives in initial position	8	11	72.7
3.	Devoicing of fricatives and affricates in final position	10	22	45.5
4.	Use of glottal stops in place/before of final stops	17	54	31.5
5.	Substitution of /r/ with [l]	0	35	0
6.	Substitution of /z/ with [dʒ]	0	11	0
7.	Simplification of word medial consonant clusters	2	14	14.3
8.	Simplification of final consonant clusters	35	41	85.4
	Total	104	223	46.6

**Actual occurrence/possible occurrence x 100*

P11ML: Frequency of Occurrence of Features in SLD Interactions

	Feature	Actual occurrence	Possible occurrence	Frequency of occurrence* (%)
1.	Substitution of dental fricatives /θ/ and /ð/	106	109	97.2
2.	Absence of aspiration of voiceless plosives in initial position	27	34	79.4
3.	Devoicing of fricatives and affricates in final position	33	33	100
4.	Use of glottal stops in place/before of final stops	58	86	67.4
5.	Substitution of /r/ with [l]	6	47	12.8
6.	Substitution of /z/ with [dʒ]	0	5	0
7.	Simplification of word medial consonant clusters	5	16	31.3
8.	Simplification of final consonant clusters	51	60	85
	Total	286	390	73.3

**Actual occurrence/possible occurrence x 100*

P11ML: Frequency of Occurrence of Features in DLD Interactions

	Feature	Actual occurrence	Possible occurrence	Frequency of occurrence* (%)
1.	Substitution of dental fricatives /θ/ and /ð/	99	103	96.1
2.	Absence of aspiration of voiceless plosives in initial position	10	15	66.7
3.	Devoicing of fricatives and affricates in final position	31	32	96.9
4.	Use of glottal stops in place/before of final stops	68	104	65.3
5.	Substitution of /r/ with [l]	0	80	0
6.	Substitution of /z/ with [dʒ]	0	0	0
7.	Simplification of word medial consonant clusters	6	23	26.1
8.	Simplification of final consonant clusters	54	60	90.0
	Total	217	333	65.2

**Actual occurrence/possible occurrence x 100*

Appendix 21: Chi-Square Analysis: Contingency Tables

P2CH: Substitution of dental fricatives

	SLD	DLD	Total
Substituted	80	81	161
Not substituted	4*	1*	5
Total	84	82	166

Chi squared cannot be calculated as *expected frequencies are less than 5.

P2CH: Non aspiration of voiceless plosives

	SLD	DLD	Total
Not aspirated	43	8	51
Aspirated	2*	1*	3
Total	45	9	54

Chi squared cannot be calculated as *expected frequencies are less than 5.

P2CH: Devoicing of fricatives and affricates in final position

	SLD	DLD	Total
Devoiced	15	10	25
Not devoiced	4*	3*	7
Total	19	13	32

Chi squared cannot be calculated as *expected frequencies are less than 5.

P2CH: Use of glottal stops

	SLD	DLD	Total
Used	19	9	28
Not used	31	29	60
Total	50	38	88

Chi squared = 2.040; Degrees of freedom = 1

The two-tailed P value equals 0.1532.

The association between rows (groups) and columns (outcomes) is considered to be not statistically significant.

P2CH: Substitution of /r/ with [l]

	SLD	DLD	Total
Substituted	5	0*	5
Not substituted	10	36	46
Total	15	36	51

Chi squared cannot be calculated as *expected frequencies are less than 5.

P2CH: Substitution of /z/ with [dʒ]

	SLD	DLD	Total
Substituted	3*	0*	3
Not substituted	1*	1*	1
Total	4	1	5

Chi squared cannot be calculated as *expected frequencies are less than 5.

P2CH: Simplification of word medial consonant clusters

	SLD	DLD	Total
Simplified	4*	8	12
Not simplified	4*	17	21
Total	8	25	33

Chi squared cannot be calculated as *expected frequencies are less than 5.

P2CH: Simplification of final consonant clusters

	SLD	DLD	Total
Simplified	29	30	59
Not simplified	1*	1*	2
Total	30	31	61

Chi squared cannot be calculated as *expected frequencies are less than 5.

P4CH: Substitution of dental fricatives

	SLD	DLD	Total
Substituted	57	92	149
Not substituted	3*	1	4
Total	60	93	153

Chi squared cannot be calculated as *expected frequencies are less than 5.

P4CH: Non aspiration of voiceless plosives

	SLD	DLD	Total
Not aspirated	23	31	6
Aspirated	4*	2*	54
Total	27	33	60

Chi squared cannot be calculated as *expected frequencies are less than 5.

P4CH: Devoicing of fricatives and affricates in final position

	SLD	DLD	Total
Devoiced	27	14	41
Not devoiced	1	1	2
Total	28	15	43

Chi squared cannot be calculated as *expected frequencies are less than 5.

P4CH: Use of glottal stops

	SLD	DLD	Total
Used	58	73	131
Not used	21	33	54
Total	79	106	185

Chi squared = 0.453; Degrees of freedom = 1.

The two-tailed P value equals 0.5008.

The association between rows (groups) and columns (outcomes) is considered to be not statistically significant.

P4CH: Substitution of /r/ with [l]

	SLD	DLD	Total
Substituted	9	10	19
Not substituted	33	46	79
Total	42	56	98

Chi squared = 0.196; Degrees of freedom = 1.

The two-tailed P value equals 0.6581.

The association between rows (groups) and columns (outcomes) is considered to be not statistically significant.

P4CH: Substitution of /z/ with [dʒ]

	SLD	DLD	Total
Substituted	1*	4*	5
Not substituted	8	7	15
Total	9	11	20

Chi squared cannot be calculated as *expected frequencies are less than 5.

P4CH: Simplification of word medial consonant clusters

	SLD	DLD	Total
Simplified	4*	4*	8
Not simplified	26	7	33
Total	30	11	41

Chi squared cannot be calculated as *expected frequencies are less than 5.

P4CH: Simplification of final consonant clusters

	SLD	DLD	Total
Simplified	35	46	81
Not simplified	8	1*	9
Total	43	47	90

Chi squared cannot be calculated as *expected frequencies are less than 5.

P9CH: Substitution of dental fricatives

	SLD	DLD	Total
Substituted	100	205	305
Not substituted	5	2*	7
Total	105	207	312

Chi squared cannot be calculated as *expected frequencies are less than 5.

P9CH: Non aspiration of voiceless plosives

	SLD	DLD	Total
Not aspirated	44	29	73
Aspirated	3*	2*	5
Total	47	31	78

Chi squared cannot be calculated as *expected frequencies are less than 5.

P9CH: Devoicing of fricatives and affricates in final position

	SLD	DLD	Total
Devoiced	10	41	51
Not devoiced	2*	6	8
Total	12	47	59

Chi squared cannot be calculated as *expected frequencies are less than 5.

P9CH: Use of glottal stops

	SLD	DLD	Total
Used	58	70	128
Not used	26	107	133
Total	84	177	261

Chi squared = 19.836; Degrees of freedom = 1

The two-tailed P value is less than 0.0001

The association between rows (groups) and columns (outcomes) is considered to be extremely statistically significant.

P9CH: Substitution of /r/ with [l]

	SLD	DLD	Total
Substituted	21	31	52
Not substituted	5	72	77
Total	26	103	129

Chi squared = 22.154; Degrees of freedom = 1

The two-tailed P value is less than 0.0001.

The association between rows (groups) and columns (outcomes) is considered to be extremely statistically significant.

P9CH: Substitution of /z/ with [dʒ]

	SLD	DLD	Total
Substituted	0	2	2
Not substituted	1*	8	9
Total	1	10	11

Chi squared cannot be calculated as *expected frequencies are less than 5.

P9CH: Simplification of word medial consonant clusters

	SLD	DLD	Total
Simplified	8	15	23
Not simplified	15	83	98
Total	23	98	121

Chi squared = 4.590; Degrees of freedom = 1

The two-tailed P value equals 0.0322.

The association between rows (groups) and columns (outcomes) is considered to be statistically significant.

P9CH: Simplification of final consonant clusters

	SLD	DLD	Total
Simplified	30	46	76
Not simplified	4*	1*	5
Total	34	47	81

Chi squared cannot be calculated as *expected frequencies are less than 5.

P8ML: Substitution of dental fricatives

	SLD	DLD	Total
Substituted	59	105	164
Not substituted	4*	4*	8
Total	63	109	172

Chi squared cannot be calculated as *expected frequencies are less than 5.

P8ML: Non aspiration of voiceless plosives

	SLD	DLD	Total
Not aspirated	22	21	43
Aspirated	4*	1*	5
Total	26	22	48

Chi squared cannot be calculated as *expected frequencies are less than 5.

P8ML: Devoicing of fricatives and affricates in final position

	SLD	DLD	Total
Devoiced	16	8	24
Not devoiced	2*	0*	2
Total	18	8	26

Chi squared cannot be calculated as *expected frequencies are less than 5.

P8ML: Use of glottal stops

	SLD	DLD	Total
Used	34	62	96
Not used	33	63	96
Total	67	125	192

Chi squared equals 0.023; Degrees of freedom = 1.

The two-tailed P value equals 0.8797.

The association between rows (groups) and columns (outcomes) is considered to be not statistically significant.

P8ML: Substitution of /r/ with [l]

	SLD	DLD	Total
Substituted	0*	0*	0
Not substituted	45	88	133
Total	45	88	133

Chi squared cannot be calculated as *expected frequencies are less than 5.

P8ML: Substitution of /z/ with [dʒ]

	SLD	DLD	Total
Substituted	0*	0*	0
Not substituted	7	2*	9
Total	7	2	9

Chi squared cannot be calculated as *expected frequencies are less than 5.

P8ML: Simplification of word medial consonant clusters

	SLD	DLD	Total
Simplified	10	9	19
Not simplified	5	8	13
Total	15	17	32

Chi squared equals 0.622; Degrees of freedom = 1.

The two-tailed P value equals 0.4302.

The association between rows (groups) and columns (outcomes) is considered to be not statistically significant.

P8ML: Simplification of final consonant clusters

	SLD	DLD	Total
Simplified	28	68	96
Not simplified	3*	2*	6
Total	31	71	102

Chi squared cannot be calculated as *expected frequencies are less than 5.

P9ML: Substitution of dental fricatives

	SLD	DLD	Total
Substituted	98	32	130
Not substituted	2*	3*	5
Total	100	35	135

Chi squared cannot be calculated as *expected frequencies are less than 5.

P9ML: Non aspiration of voiceless plosives

	SLD	DLD	Total
Not aspirated	98	8	106
Aspirated	2*	3*	5
Total	100	11	111

Chi squared cannot be calculated as *expected frequencies are less than 5.

P9ML: Devoicing of fricatives and affricates in final position

	SLD	DLD	Total
Devoiced	21	10	31
Not devoiced	4*	12	16
Total	25	22	47

Chi squared cannot be calculated as *expected frequencies are less than 5.

P9ML: Use of glottal stops

	SLD	DLD	Total
Used	12	17	29
Not used	25	37	62
Total	37	54	91

Chi squared = 1.316; Degrees of freedom = 1.

The two-tailed P value equals 0.2513.

The association between rows (groups) and columns (outcomes) is considered to be not statistically significant.

P9ML: Substitution of /r/ with [l]

	SLD	DLD	Total
Substituted	0*	0*	0
Not substituted	23	35	58
Total	23	35	81

Chi squared cannot be calculated as *expected frequencies are less than 5.

P9ML: Substitution of /z/ with [dʒ]

	SLD	DLD	Total
Substituted	0*	0*	0
Not substituted	1*	11	12
Total	1	11	12

Chi squared cannot be calculated as *expected frequencies are less than 5.

P9ML: Simplification of word medial consonant clusters

	SLD	DLD	Total
Simplified	0	2*	2
Not simplified	10	12	22
Total	10	14	24

Chi squared cannot be calculated as *expected frequencies are less than 5.

P9ML: Simplification of final consonant clusters

	SLD	DLD	Total
Simplified	20	35	55
Not simplified	8	6	14
Total	28	41	69

Chi squared = 1.998; Degrees of freedom = 1.

The two-tailed P value equals 0.1575.

The association between rows (groups) and columns (outcomes) is considered to be not statistically significant.

P11ML: Substitution of dental fricatives

	SLD	DLD	Total
Substituted	106	99	205
Not substituted	3*	4*	7
Total	109	103	212

Chi squared cannot be calculated as *expected frequencies are less than 5.

P11ML: Non aspiration of voiceless plosives

	SLD	DLD	Total
Not aspirated	27	10	37
Aspirated	7	5	12
Total	34	15	49

Chi squared = 0.914; Degrees of freedom = 1.

The two-tailed P value equals 0.3390.

The association between rows (groups) and columns (outcomes) is considered to be not statistically significant.

P11ML: Devoicing of fricatives and affricates in final position

	SLD	DLD	Total
Devoiced	33	31	64
Not devoiced	0*	1*	1
Total	33	32	65

Chi squared cannot be calculated as *expected frequencies are less than 5.

P11ML: Use of glottal stops

	SLD	DLD	Total
Used	58	68	126
Not used	28	36	64
Total	86	104	190

Chi squared = 0.089; Degrees of freedom = 1.

The two-tailed P value equals 0.7652.

The association between rows (groups) and columns (outcomes) is considered to be not statistically significant.

P11ML: Substitution of /r/ with [l]

	SLD	DLD	Total
Substituted	6	0*	6
Not substituted	41	80	121
Total	47	80	127

Chi squared cannot be calculated as *expected frequencies are less than 5.

P11ML: Substitution of /z/ with [dʒ]

	SLD	DLD	Total
Substituted	0*	0*	0
Not substituted	5	0*	5
Total	5	0	5

Chi squared cannot be calculated as *expected frequencies are less than 5.

P11ML: Simplification of word medial consonant clusters

	SLD	DLD	Total
Simplified	5	6	11
Not simplified	11	17	28
Total	16	23	39

Chi squared = 0.124; Degrees of freedom = 1.

The two-tailed P value equals 0.7245.

The association between rows (groups) and columns (outcomes) is considered to be not statistically significant.

P11ML: Simplification of final consonant clusters

	SLD	DLD	Total
Simplified	51	54	105
Not simplified	9	5	14
Total	60	59	119

Chi squared = 1.220; Degrees of freedom = 1.

The two-tailed P value equals 0.2693.

The association between rows (groups) and columns (outcomes) is considered to be not statistically significant.