

A New Model of Interpreter-mediated Aphasia Assessment for People from Diverse Language Backgrounds

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Table of Contents

Abstract.....	5
Statement of Candidate.....	6
Chapter One: Introduction and Literature Review.....	7
1.1 Health Care Interpreters in Australia.....	9
1.2 Speech Pathology.....	11
1.3 Aphasia.....	11
1.4 Culturally and Linguistically Diverse (CALD) Patients and Speech Pathology.....	12
1.4.1 Bilingual Speech Pathologists	13
1.4.2 Bilingual speech pathologist assistants	13
1.4.3 The Bilingual Aphasia Test	14
1.4.4 Interpreters and Speech Pathologists	15
1.5 Brief outline of differences between Chinese-Mandarin and English	18
1.6 Proposed solution of speech assessment session	19
1.6.1 Pre-session briefing.....	21
1.6.2 Interaction or assessment session.....	22
1.6.3 Debriefing session.....	23
1.6.4 Aims of the present study.....	24
Chapter Two: Methodology	
2.1 Participants and recruitment.....	25

2.2 Data collection procedures.....	27
2.3 Testing Materials.....	28
2.4 Analytical Framework: Interactive Framing.....	29
Chapter Three: Findings and Discussion	
3.1 Pre-session briefing session.....	33
3.2 Assessment-interaction session.....	33
3.3 Debriefing session.....	37
3.3.1 Word-identification frame.....	38
3.3.2 Performance-comment frame.....	46
3.3.3 Linguistic-description frame.....	50
3.3.4 Test item discussion frame.....	52
3.4 interviews.....	58
3.4.1 Linguistic and cultural theme.....	58
3.4.2 Quality of information.....	59
3.4.3 Role Boundaries.....	59
3.4.4 Telephone interpreting.....	60
3.4.5 Practical Constraints.....	60
3.4.6 Suggestions for the new model.....	61
Chapter Four: Discussion and Conclusion	
4.1 Syllables and phonemes	63

4.2 Chinese dialects.....	64
4.3 Role Boundaries for Interpreters.....	66
4.4 Feasibility of the New Model.....	67
4.5 Limitation and Implication.....	68
Reference.....	71
Appendix 1.....	82
Appendix 2.....	83
Appendix 3.....	84
Appendix 4.....	85
Appendix 5.....	88

Abstract

Aphasia is a non-degenerative acquired communication disorder that commonly occurs following a stroke. Patients who develop aphasia require comprehensive and structured language assessments by a speech pathologist in order to plan appropriate therapy. For patients from diverse language backgrounds, an interpreter generally assists with this language assessment. However, previous research has identified shortcomings of the current model of interpreter-mediated aphasia assessment. This research investigates the efficacy of a new model of interpreter-mediated assessment that has been described in the research literature. In brief, this entails splitting the assessment into two separate sessions: the first is a video-recorded language assessment, while the second involves the speech pathologist and interpreter in a collaborative analysis of the recording. The study recruited a Mandarin-speaking patient, an English-speaking speech pathologist and a Mandarin interpreter. Through framing analysis of the clinical sessions, and post-session interviews with the interpreter and the speech pathologist, the findings demonstrated that there was useful information exchanged by the speech pathologist and the interpreter during the debriefing session, which might not have happened in the current practice where there is no formal debriefing session. It is important to note that due to COVID-19, the patient and the speech pathologist participants were in the same room, but the interpreter mediation was through telephone contact. The useful information included discussion of syllable and phoneme structures in English and Mandarin, the role of Mandarin dialect variation in aphasia assessment, the role boundaries for interpreters, and the feasibility of the new model. The study indicated that follow-up research targeting a range of languages may be useful to achieve a more comprehensive picture of the new model. Specific training for interpreters and speech pathologists on issues highlighted by the findings of this study may also improve the assessment process and outcomes.

Statement of Candidate

I certify that the work in this thesis entitled 'A New Model of Interpreter-mediated Aphasia Assessment for People from Diverse Language Backgrounds' has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree to any other university or institution other than Macquarie University. I also certify that the thesis is an original piece of research and it has been written by me. Any help and assistance that I have received in my research work and the preparation of the thesis have been appropriately acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis. The research presented in the thesis was approved by Human Research Ethics Committee South West Sydney Local Health District, reference number 2019/ETH03633, on 24th July 2019.

Chapter One

Introduction and Literature Review

Globalization has offered opportunities for people from one country to migrate and live in another country. Australia is well known as a country that has been accepting migrants from all over the world. According to the Australian Bureau of Statistics, over 28% of Australians were born overseas and the number of Australian residents born overseas is increasing, with the most significant increases apparent in migration from China and India in 2018-2019 (ABS, 2019). These migration patterns trend present challenges in maintaining equitable access to health services in Australia when patients from diverse cultural and linguistic backgrounds seek medical attention. Abundant evidence shows that certain groups of patients from non-English speaking backgrounds, also referred to as culturally and linguistically diverse (CALD) backgrounds are often disadvantaged when accessing healthcare services due to language barriers (Heaney & Moreham, 2002; Basic, Shanley & Gonzales, 2017; Dougherty, Lloyd, Harris, Caffrey & Harris, 2020). Wohler and Dantas (2017), for example, found that immigrant and refugee women in particular face obstacles when accessing mental health services in Australia. Another study indicates that older patients in Australia from CALD backgrounds are more likely to die in hospital than those who speak English, with language barriers being one of the possible factors affecting the quality of care they receive in hospital (Basic, Shanley & Gonzales, 2017). It is important to acknowledge, however, that not all individuals from culturally and linguistically diverse backgrounds have low levels of English proficiency.

A number of countries where English is the dominant language traditionally receive large numbers of migrants from other parts of the world, and this brings challenges and difficulties for health professionals who do not speak the same languages as the patients they are treating. To provide the best available treatment plans for patients who do not speak English, or do not speak it well, understanding the patient's feeling, thoughts, symptoms and beliefs is crucial for health

professionals (Angelelli, 2004). The barrier may be removed if the treating health professional happens to speak the same language as the patient. In reality, however, it is often difficult or impossible to assign a patient who does not speak English proficiently to a health professional who happens to speak the same language, especially in the public health system. Of course, bilingual health staff are sometimes called upon to facilitate communication between CALD patients with limited English proficiency and English-speaking health professionals. However, according to Mereno, Otero-Sabogal and Newman (2007), most bilingual staff in hospital settings who are asked to be ad hoc interpreters do not have sufficient language skills, and fail to interpret at a level that a professional interpreter can achieve in clinical encounters. As a result, having access to a professional interpreter is clearly desirable in the health setting.

Unfortunately, although more and more studies have demonstrated that the use of professionally trained interpreters is preferred in a range of different healthcare settings, professionally trained interpreters are still underused across the world (Angelelli, 2004; Moreno, Otero-Sabogal & Newman, 2007; Bischoff & Hudelson, 2009; Huang & Phillips, 2009; Gary, Hilder & Donaldson, 2011) and there are many possible reasons for this. Firstly, on many occasions, family members or friends of the patient are brought along to the consultation and used as interpreters; in the case of Latino communities in the United States Casey, Blewett & Call (2004) observe that this situation often comes about because of the unavailability of professional interpreters. Similarly, Bischoff and Hudelson (2009) suggest that professional interpreters are being underused in hospital settings in the USA, and a professional interpreter is often only organized where using either bilingual staff or family members is not an option. The researchers attribute this practice to concerns about the cost of engaging an interpreter, as well as the lack of a 'service culture'. In their study investigating the reasons for using family members instead of trained interpreters in medical consultations in both New Zealand and Australia, Gray, Hilder and Donaldson (2011) note that the reason for underusing trained interpreters in New Zealand is due to funding issues, but they are unable to provide a clear answer as to why it is also the case in Australia; nevertheless, they imply that the reasons could

include the judgement of the clinician that a family member can be immediately accessible, the complexity of the consultation is low and the family member's language ability is sufficient in the context. This conjecture coincides with the findings of an observation from a study of telephone interpreters in Australia (Huang & Phillips, 2009) that most clerical staff are unwilling to book an interpreter unless the doctor requests it. Furthermore, the study found that the administrative staff sometimes believed that booking interpreters was time consuming, accessibility of professional interpreters was limited, and some hospital staff mistakenly believed that patients preferred to use their family members as interpreters. Although interpreting services have been developed rapidly and the use of a professional interpreter in clinical settings is promoted significantly across Australia (with doctors and allied health professionals being the largest users of interpreting services), the utilisation of professional interpreters and the efficacy of such utilisation still require further improvement (White, Plompen, Osadnik, Tao, Micallef & Haines, 2018).

Regardless of what causes the use of ad hoc interpreters, using an untrained interpreter in medical settings can have significant consequences. Angelelli (2004) argues that having a non-professional ad hoc interpreter such as a family member in medical consultations often causes inaccurate interpretation leading to misdiagnosis; patients accompanied by their family members may act differently compared to patients who are not accompanied by family members. Other strong evidence also shows that ad hoc interpreters have high risks of omitting, adding and distorting information as well as acting in a non-impartial manner in such communication; for instance, a family member acting as an interpreter may tend to answer a clinician's questions without allowing the patient to answer, or may withhold information from the patient (Angelelli, 2004; Moreno, Otero-Sabogal & Newman, 2007).

1.1 Health Care Interpreters in the Australian Context

In Australia, qualified interpreters are certified by National Accreditation Authority of Translators and Interpreters (NAATI). NAATI certified interpreters not only need to reach the national

interpreting standard ensuring accuracy of meaning transfer, but are also bound by the AUSIT (Australian Institute of Interpreters and Translators) Code of Ethics. Bell (1995) emphasises that the registration of a NAATI interpreter or translator ensures that professional standards and ethics are maintained. After its initial establishment, NAATI went through years of development and engaged in consultation on the issues surrounding standardization and professional conduct with interpreting and translating educators, professional organizations and service providers. The NAATI certification system (which replaced the previous accreditation system in 2018) is not only recognized in Australia but also in New Zealand and other Asian-Pacific countries. Under the NAATI guidelines and the AUSIT Code of Ethics, interpreters are not only expected to deliver accurate meaning transfer, but also provide cultural information to clients if required. Isaac (2005) indicates that professional interpreters need to be competently bilingual and bicultural.

In Australia, there are three main health care interpreter services in the Sydney metropolitan area. The Sydney Health Care Interpreter Services provide interpreting services to hospitals and health care facilities in the Sydney Local Health District and the Sydney South East Local Health District. Health Language Services provide interpreting and translating services to the South West Sydney Local Health District. Western Sydney Health Care Interpreter Service provides interpreting and translating services to the Sydney West and Sydney North Health Districts. The ways in which these three interpreting services operate are similar. Health care interpreters have scheduled appointments and move from one appointment to the next every day. They provide interpreting services for patients and clinicians in variety of medical settings, including both outpatient and inpatient consultations (Sydney Local Health Care Interpreter Services, 2017). Although the three interpreting services endeavour to provide their services as required, an unpublished study from the Centre for Multicultural Health at the University of New South Wales explains that health care interpreting services face operational and managerial challenges, especially concerning the unavailability of interpreters for languages that are high in demand (as cited in Garrett, 2009, pp. 50).

Interpreters work in different health settings. In the context of speech pathology, the health professionals rely heavily on interpreters' linguistic and cultural knowledge to achieve accurate diagnostic information of the of the patients. . As is explained below, this is a clinical setting that requires a close and uniquely configured cooperation between a speech pathologist and an interpreter.

1.2 Speech Pathology

Speech pathology plays a significant role in allied health. Speech pathologists carry out assessments and design therapy sessions that are tailored to address individual patients' language disorders and swallowing problems. There are two main streams in the profession: speech pathology for children who have speech or language disorders or feeding problems, and speech pathology for adults who experience communication disorders or swallowing difficulties due to damage to the parts of the brain that control the language and swallowing functions. As cited on the Speech Pathology Australia website, "*Speech pathologists study, diagnose and treat communication disorders, including difficulties with speaking, listening, understanding language, reading, writing, social skills, stuttering and using voice*" (Speech Pathology Australia, n.d.). The study reported in this thesis focuses on speech pathology in relation to communication disorders in adults, in particular people with aphasia.

1.3 Aphasia

Aphasia refers to impairment of language stemming from damage to the language centres of the brain, with stroke being the most common cause. Aphasia has been defined and classified in different ways. According to Rosenbek, LaPointe and Wertz (1989), some define aphasia as 'the loss or impairment of language caused by brain damage' (p. 35), whereas others classify aphasia as a cognitive deficit. Treating it as a 'multimodality deficit', Davis (2000) redefines aphasia as 'a selective impairment of the cognitive system specialised for comprehending and formulating language, leaving other cognitive capacities relatively intact' (p. 16). People with aphasia experience impairment in the syntactic, morphological and phonological aspects of their speech. The condition

makes it difficult for people with whom they communicate to understand, and the person with aphasia may also have difficulty understanding spoken or written language.

A common classification of aphasia is based on the fluency spectrum , with Broca's aphasia and Wernicke's aphasia being the best-known examples of non-fluent aphasia and fluent aphasia respectively (Raymer & Rothi, 2017). Other types of aphasia within the spectrum are conduction aphasia, transcortical aphasia, global aphasia (LaPointe, 1990). There are other communication disorders in adults, and some of them (such as disorders involving prosody) are claimed to be associated primarily with damage to the right hemisphere of the brain (Code, 2010; Raymer & Rothi, 2017). Apraxia of speech and dysarthria are other acquired speech and language disorders that might also occur in people following a stroke (Joran & Hillis, 2006). The commonly agreed distinct difference among these three disorders are that aphasia affects the linguistic aspects of the speech whereas apraxia is the impairment of the motor parts of speech production that do not result from neuromuscular deficits, and dysarthria is a result of muscle weakness or impaired coordination and presents with slurred or slow speech (Joran & Hillis, 2006; Raymer & Rothi, 2017; Tesak & Code, 2008). Moreover, Code (2010) emphasises that aphasia is to do with the *use* of the language but not the planning process of such use. Articulation problems caused by muscle weakness are fall into the category of dysarthria, and are excluded from the classification of aphasia (Davis, 2000).

Speech pathologists conduct language assessments to determine whether a patient has aphasia and if so, what type of aphasia the patient has. Although speech pathologists would normally gain some understanding of a patient's language problems by a preliminary assessment (such as asking the patient a few simple questions, gathering information from family members regarding the patient's language features, and reading clinical notes from doctors or other health professionals), a comprehensive assessment is generally required in order to plan appropriately tailored therapy.

1.4 Culturally and Linguistically Diverse (CALD) Patients and Speech Pathology

According to Barnes and Bloch (2018), people who experience communication disorders are referred to be assessed by speech pathologists, who will undertake detailed assessment in order to plan strategic interventions to facilitate communication in the lives of these people. In countries like Australia, the process becomes complex when speech pathologists assess patients with language disorders who speak limited English, or who speak a language in addition to English that also requires assessment.

1.4.1 Bilingual Speech Pathologists

It seems that if the speech pathologist who assesses the CALD patient can speak the same language as the patient, the situation would be less complicated. However, it is not always feasible to have a bilingual speech pathologist assessing a CALD patient. Previous literature pinpoints that bilingual speech pathologists who are educated and trained as bilingual clinicians in a context where English is the language of the public domain are extremely rare (Knoph, 2013; Wright-Harp & Munoz, 2000). Even if they are bilingual, many speech pathologists have undertaken all of their training in English. According to Kayser (1995), there are five competencies that are considered necessary for bilingual speech pathologists, which are language proficiency in both English and the language other than English (LOTE), the ability to describe the process of language acquisition for both English and LOTE, the ability to conduct assessments in both languages and to differentiate between language differences and communication disorders, the ability to apply appropriate intervention/therapy in both languages, and cultural sensitivity. A recent national survey in the United States suggests that even some bilingual speech pathologists still prefer to use a professional interpreter because being bilingual does not automatically mean that their skills in the language other than English are sufficient to analyse the patient's primary language (Santhanam, Gilbert & Parveen, 2018). In Australia, most speech pathologists providing language services to children growing up in a non-English speaking family environment do not speak the same language as the children (Verdon, McLeod & Winsler, 2014). Additionally, there is also an issue of the distribution of language services.

This means that, for example, an Arabic-speaking patient might not be allocated to an Arabic-speaking speech pathologist in a public health setting unless the local hospital or community health centre happens to employ a speech pathologist fluent in Arabic. In this case, the mismatch of the languages spoken by the speech pathologist and the patient still exists.

1.4.2 Bilingual speech pathologist assistants

Apart from having bilingual speech pathologists work with CALD patients, another proposed solution to assess communication disorders in CALD patients in the United States is the use of bilingual speech pathologist assistants, who are interpreters or translators with training or certification as speech pathologist assistants (Perez, 2018). Perez argues that relying on interpreters or translators has some potential shortcomings, such as the fact that interpreters do not have special knowledge about speech pathology, and therefore a qualified speech pathologist assistant would be a potential solution. However, through surveys, the study found that although most of the speech pathologist assistants felt confident in assisting bilingual speech assessments, the training that they had generally came from observation of speech pathologists at work, rather than from formal coursework study. While Perez's study offers an alternate option in speech pathology assessment with CALD patients, this study is in the context of American speech pathology and a similar study has not been conducted in the Australian context.

1.4.3 The Bilingual Aphasia Test

The Bilingual Aphasia Test is an instrument that is sometimes used in language assessments involving CALD patients. Developed between 1975 and 1982 and adapted to more than 60 languages, the Bilingual Aphasia Test (BAT) is designed to assess a person's language ability and incorporates linguistic and cultural features of the patient's LOTE (Zanetti, Tonelli & Piras, 2012). The BAT can be used to determine which of a bilingual speaker's languages is more severely affected by aphasia, and can also be used reliably in patients whose primary language cannot be assessed with standard assessment materials (Paradis & Libben, 1987). However, the BAT is most commonly used

to compare the effects of aphasia on the two languages spoken by a bilingual person (Dakwar, Ahmar, Farah & Froud, 2018). One of the advantages of using the BAT is that the test is supplemented by other features that are suitable for the specific language and culture (Paradis & Libben, 1987). However, even though many studies give credit to the BAT when assessing patients whose primary language is not English, there are still concerns that BAT may not be applicable perfectly to some languages. Amberber (2011) recognises the advantages of the BAT over translations of the English version of other standardised tests where the translations often cannot adapt to the linguistic features of a particular language, especially when the target languages are so different from English. The failure to incorporate these kinds of adaptation into aphasia test translations can generate misleading information and potentially lead to misdiagnosis. Nevertheless, Amberber expresses the view that the BAT needs to be further developed to cover more languages, such as different Cook Islands languages and Australian Aboriginal English. Also, the BAT is claimed to lack the capacity to assess language varieties in diglossic aphasia patients (Dakwar, Ahmar, Farah & Froud, 2018). Furthermore, when a BAT is conducted by an English-speaking speech pathologist for patients whose primary language is not English, another person, probably a relative or a friend of the patient, will most likely be called upon to assist the running of the test (Paradis & Libben, 1987). Although Paradis and Libben claim that the test items can be administered by a friend, relative or bilingual hospital staff member without formal training, this would be seen as an inappropriate role to impose on a relative or friend in the contemporary hospital setting in Australia. Nevertheless, an extra person will still need to be involved with using BAT during a language assessment, whether the third person is professional interpreter or other personnel.

1.4.4 Interpreters and Speech Pathologists

Apart from having a bilingual speech pathologist carry out the aphasia assessment and/or using the BAT as an assessment instrument in the context of assessing a CALD patient, working with an interpreter in such assessments is the third option. Although involving an interpreter is more

common than using the BAT in the Australian context, it is worth pointing out that the BAT is a testing instrument while an interpreter is a professional. Therefore, the two options are not directly comparable. If a speech pathologist in Australia works with an interpreter, it usually means that they are using assessment instruments or approaches that they would use with the English-speaking patients, and the interpreter is helping them to administer them (with or without adaptation) in another language. One study from New Zealand investigates the possibility of assessing a bilingual Mandarin-English aphasic speaker with the BAT, but it focuses primarily on the comparison of the participant's Mandarin and English capacity after a stroke rather than on the effectiveness of the BAT (McCann, Lee, Purdy, & Paulin, 2012). There has been very little research comparing the efficacy of interpreter-mediated aphasia assessments where the speech pathologist is using the BAT with the assessments where the interpreter is interpreting or sight translating English aphasia tests on the spot.

Interpreting is an activity that requires special skills and techniques to assist participants who do not share the same language and culture to understand each other in the interaction (Hale, 2007). In a most interpreter-mediated medical settings in Australia, the interpreter is responsible for transferring the meaning of the message between an English-speaking health professional and a non-English speaking patient or client. The purpose of such rendition from the interpreter is to enable both parties to understand each other.

However, the interpreter's role is different in an interpreter-mediated language assessment. In the case of a speech assessment with the speech pathologist, the interpreter is not only required to interpret what is said, but is also expected to offer some linguistic features of the patient's spoken output to assist the speech pathologist to reach the goal of the assessment and avoid any misdiagnoses. Langdon (2016) highlights that the interpreter needs to pay particular attention to what the patient says and explain to the speech pathologist what is said and what should have been said in a language assessment session. Similarly, according to Clark (1998), the interpreter involved

in a language assessment is expected to transfer meaning, and also to advise the speech pathologist on whether the testing materials are appropriate in the particular language or not. Langdon and Quintanar-Sarellana (2013) suggest that both the speech pathologist and the interpreter need to cooperate to establish rapport with the patient, understand the patient's cultural beliefs and be aware of non-verbal communication.

It is clear that when working with speech pathologists, interpreters have a role that is beyond the usual role defined in the AUSIT Code of Ethics. Previous research demonstrates that in contrast to the role of interpreters defined in the Code of Ethics, which includes a non-judgemental attitude towards the use of client's first language, speech pathologists rely on interpreters giving their evaluations of how the patient's speech differs from the standard speech in the language to make an accurate diagnosis, pushing the interpreters away from their usual professional boundaries (Clark, 1998; Roger & Code, 2011). As a result, Langdon and Cheng (2002) argue that the interpreter who is required in a speech assessment session for a patient who has language disorder not only needs to be familiar with the linguistic features of both languages involved but also needs to have the capacity to deliver what has been said by the patient without changing the wording (as cited in Merlini and Favaron, 2007, pp. 102). In this case, the interpreter shifts away from their usual role of meaning-based rendition (Roger & Code, 2018).

The expectation of dual roles of interpreters from speech pathologists in language assessments presents a requirement that the speech pathologists should work closely with interpreters in order to achieve the most desirable assessment outcome. According to Isaac (2005), cooperation and information-sharing between health care providers and professional interpreters play a vital role in improving effective interaction in clinical settings. However, there are challenges and difficulties during the cooperation between speech pathologists and interpreters. Clark (1998) notes that speech pathologists are sometimes frustrated during a language assessment involving an interpreter as they are unable to access what the patient says directly, whereas interpreters are generally

reluctant to offer any extra opinions beyond what the speech pathologists ask for because they are concerned that this conflicts with their Code of Ethics.

While there are some studies looking at general details of difficulties and proposed strategies in the area of conducting an interpreter-mediated language assessment, relatively few studies target specific languages in use. For instance, Roger and Code (2011, 2018) observed interpreter-mediated aphasia assessments involving the languages of Tagalog, Cantonese, Greek and Vietnamese in their study, whereas Kambanaros and van Steenbrugge (2004) chose a Greek patient for their research. There are still many other languages that are important to investigate in this context. It would be useful to investigate aphasia assessments conducted in a wide range of languages in order to compare the issues that arise in interpreter-mediated aphasia assessments involving different languages.

1.5 Brief outline of differences between Chinese-Mandarin and English

This study involved the assessment of a Mandarin-speaking patient with a Mandarin-English interpreter. Aphasia tests are designed to assess particular linguistic elements in a language (English) and these features might not exist in another language. Given that in an interpreter-mediated aphasia assessment context, interpreters are (as mentioned above) asked to provide linguistic features of the language, it is useful to consider the structural differences between Mandarin and English which are challenging for Mandarin interpreters. Some of the issues are discussed later (Chapter Three); however, a few illustrative differences are present here.

Chinese is a logographic and tonal language, whereas English is an inflecting and non-tonal language (Yiu, 1992). According to Fung (2009), some of the Chinese language characteristics can be summarized as follows. First, the syllable structure in Chinese is simpler than that in English. Second, each tone in Chinese-Mandarin actually has lexical meanings. Third, tense in Chinese is not marked by inflection. Fourth, Mandarin is a semantic based language whereas English is a more syntactic language.

Chinese is the written form of the language whereas Mandarin is the spoken form of the language.

For the purpose of the thesis, there is no distinction between these two terms. Both refer to the Chinese-Mandarin language (spoken).

For the purpose of the thesis, passive tense means marked passive tense.

It is important for the interpreters to know about these and other differences between Mandarin and English in the context of a language assessment. This is because the interpreters in this context are often asked to interpret in a specific way so that the purpose of the assessment is not compromised. As mentioned above, aphasia testing material is designed to test certain linguistic features in a language and in most circumstances the test is based on English. With these differences, if the interpreter interprets the questions in the assessment in the way asked by the speech pathologist, the rendition may sound awkward in Mandarin. In this case, the interpreter may need to explain this to the speech pathologist and seek further instructions. Interpreters would also need to advise the speech pathologists if one of the test items, in their opinion, becomes problematic in Mandarin. To do so, the interpreters need to have relevant linguistic knowledge and knowledge of the differences between Mandarin and English. In some cases, the interpreter may even need to know what alternatives in Mandarin can be used so that the purpose of the assessment is not compromised. Apart from that, when asked to provide detailed description of the patient's Mandarin language features, it is desirable for the interpreters to not only provide the description but also explain to the speech pathologist the relevant differences between Mandarin and English as part of the description. Additionally, the interpreter needs to have the ability to identify any morpho-syntactic errors that are associated with the purpose of the assessment and made by the patient in Mandarin.

It is quite challenging for the interpreters in this context. During the assessment, it is hard for interpreters to manage the interpretation of meaning and keep track of deviations from normal speech at the same time. It also takes a lot of effort to construct sentences in the target language

that reflect the original intention of the test items, while also formulating descriptions of language features exhibited by the patient undergoing assessment.

1.6 Proposed solution of speech assessment session

To cope with the challenges that have been discussed, there have been many suggestions for the cooperation process between speech pathologists and interpreters.

Given that the complexity of a language assessment session involving an interpreter, an increasing number of studies propose an ideal model of speech assessment that includes a pre-session briefing, interaction process or an assessment session, and a debriefing session (Kambanaros & van Steenbrugge; Langdon & Quintanar-Sarellana, 2003; Langdon, 2016; Roger & Code, 2011;). In a study conducted by Roger and Code (2011) to test the validity of aphasia assessments involving interpreters, the authors argue that the way that the aphasia assessments are done will potentially affect the validity of the assessments. According to their study, firstly, interpreters are accustomed to use meaning transfer skills to deliver interpretation and therefore some interpreters might not be able to spontaneously identify specific linguistic aspects of the speaker's language output, which are what speech pathologists look for. Secondly, due to the differences between languages, a language test that is designed to test aphasia in English may not be suitable to test a patient's language performance in a language that is not English. For instance, Yiu (1992) states that some tests of syntactic formulation that are built into aphasia assessments in English may not be applicable to Mandarin. Because some of the items in the test materials might not be interpretable or translatable from English into another language, interpreters might have to alter the way of message transfer that interpreters usually do. For example, in normal situations, paraphrasing is a valid interpreting skill to convey the intended meaning if difficulty in finding the equivalent word arise. However, if paraphrasing is used in the context of an aphasia assessment, the basis for the test may be lost. Another important finding of their study is that interpreters might have to pause their interpretation and report to speech pathologists some specific linguistic features noticed by interpreters during the

assessment, posing a danger to distract patients' attention and disrupt the assessment. Also, if the patient is being put 'on hold' while the speech pathologist and the interpreter have a long conversation which the patient cannot understand, there is a potential conflict with the Code of Ethics. As stated in the AUSIT Code of Ethics, an interpreter needs to interpret everything that is said by both parties in the interaction. Hence the interpreter might need to adopt appropriate strategies to advise the patient of the discussion between the interpreter and the speech pathologist. The section below outlines some of the recommendations with respect to interpreter-mediated language assessment proposed by previous studies.

1.6.1 Pre-session briefing

Many authors argue that a pre-session briefing is necessary for interpreters as it will help them better perform the interpreting tasks (Langford, 2009; Hale, 2013; Sturman, Farley, & Claudio, 2018). In the context of an aphasia assessment, *pre-assessment briefing session* between the two professionals has been widely recognized as a pre-requisite for an effective language assessment (Kambanaros & Steenbrugge, 2004; Langdon, 2016; Roger & Code, 2011). In particular, Isaac (2002) stresses that important elements such as the purpose of the assessment, assessment material, information and medical background of the patient should be part of the content in the pre-assessment briefing session. In addition to that, she also stresses that the pre-assessment briefing should be a two-way street, i.e. it is not simply an opportunity for the speech pathologist to 'instruct' the interpreter, but the interpreter should be given space to raise questions and potential issues as well. Similarly, Langdon (2016) indicates that speech pathologists should advise interpreters on important terminology related to the assessment, the preferred interpreting mode and seating arrangements during the briefing session. Although Langdon has mentioned the importance of discussing interpreting difficulties such as non-verbal interaction in the briefing session, details of these difficulties are not mentioned. Kambanaros and van Steenbrugge (2004) suggest that in addition to the common elements mentioned by Isaac and others, specific elements that speech

pathologists are looking for to reach a diagnosis are also needed to be discussed with interpreters in the pre-briefing session. The study of Kambanaros and van Steenbrugge also supports the idea that interpreters may have to alternate between different interpreting modes, such as consecutive interpreting, word-for-word interpreting, simultaneous interpreting or summary interpreting, during the assessment to achieve the purpose of the session.

A pre-session briefing of 15-20 minutes duration is ideal, with consideration of the specialised knowledge of aphasia and linguistic differences between English and the language other than English (Isaac, 2002). Unfortunately, most interpreter bookings do not include the time for a collaborative pre-session briefing due to administrative pressures and lack of awareness of the importance of such a briefing session in the language assessment context.

Isaac (2002) claims that a collaborative pre-session briefing between speech pathologists and interpreters prior to the language assessment session is desirable and it allows the speech pathologist to provide relevant information and intended procedures to the interpreter and offers an opportunity for the interpreter to clarify any linguistic and cultural issues. Conversely, different from the collaborative pre-session briefing that would take 10-15 minutes, there is also a model which Isaac (2002) does not advocate, and this is a one-way pre-session briefing that usually takes only 5-10 minutes before the interpreting session starts. In the one-way pre-session briefing, the speech pathologist is in a position of control and there is a lack of input from the interpreter. In her study, Isaac also suggests that in an aphasia assessment with adults, the speech pathologist can discuss things that will help to achieve the goals of the assessment session with the interpreter during the pre-session briefing. For instance, the speech pathologist can advise the interpreter on what materials to be used in the assessment session so that the interpreter would have time to translate or clarify linguistic difficulties with the speech pathologist. The interpreter and the speech pathologist can decide together on issues like mode of interpreting and how they would manage situations where supplementary description of the patient's aphasic utterances may be useful.

1.6.2 Interaction or assessment session

After the pre-session briefing, the speech pathologist and the interpreter will go to see the patient and begin the assessment. It is recommended by Langdon (2016) that the interaction be videotaped or audiotaped so that a more accurate diagnosis can be achieved by having the opportunity to review it. Langdon (2016) also proposes that during the interaction session, both the speech pathologist and the interpreter should take notes. Hand (2013) stresses that interpreters should avoid making any changes to the utterances of both the speech pathologist and the patient during a formal assessment session. If so, however, in an aphasia assessment the interpreter needs to pay attention to two things. First, if the patient's utterance makes sense, the interpreter needs to render it into the other language without changing the meaning. Second, if the interpreter decides that the patient's utterance does not make sense, they need to recall the words from their memory and render them without changing the order of the words. It is important to note that assessing both 'functional communication' and specific linguistic features are part of a speech pathology assessment. Although accuracy is one of the most important precepts in the AUSIT Code of Ethics for interpreters and translators, Roger and Code (2011) point out that interpreters perform interpreting tasks on a meaning transfer basis and it is their role to clarify anything that does not make sense to them and then make it meaningful when transferring the message. However, this is generally not the expectation from the speech pathologist when conducting standardised assessments, as the speech pathologist needs to know how things are said and to understand the features of the patient's language output to reach a specific diagnosis. In addition, such clarifications can become a prompt to the patient, which will cause the patient's answer to be an "elicited" answer.

1.6.3 Debriefing session

Because many ambiguities and unresolved issues are likely to arise during the interpreter-mediated assessment session, such as professional jargon, lack of linguistic equivalents, sentence length, variations in dialect or word meaning and register (Isaac, 2002), it may be desirable to have a

debriefing session where both the speech pathologist and the interpreter can sit down and review the interaction that has been videotaped or audiotaped. Otherwise, the patient may feel being left out when the interpreter and the speech pathologist are engaging in clarification or discussion about those difficulties during the interaction session (Roger & Code, 2011). Langdon (2016) indicates that a debriefing session is necessary as it provides an opportunity for both the interpreter and the speech pathologist to review the interaction process and the outcome of the assessment. It will also be beneficial to plan any follow-up appointments for the patient. Unfortunately, according to anecdotal evidence, the debriefing session rarely happens in real life situations, as interpreters generally have to leave for their next appointment.

1.6.4 Aims of the present study

Although an increasing number of studies claim that a three-step language assessment session with interpreters, involving a pre-briefing session, an interaction session and a debriefing session, is ideal, limited action has been taken to carry out these recommendations. There is also a scarcity of research that closely observes what outcome the three-step assessment model can bring in real practice compared to the current model, which generally involves little or no time devoted to pre-session briefing or post-session debriefing. The present study aims to investigate the efficacy of the proposed model of interpreter-mediated aphasia assessment for CALD patients with new application of interactional analysis framework to determine whether this model has the potential to benefit the patients by providing more useful information to the speech pathologists. The detailed qualitative descriptive analysis of interactions in this study provides more evidence for the specific nature of these benefits across a range of languages, in particular in the Mandarin language.

Chapter Two

Methodology

2.1 Participants and recruitment

The re-structured aphasia assessment session in this study was an authentic assessment that included an interpreter-mediated language assessment with a pre-session briefing and a post-session briefing involving the speech pathologist and the interpreter. The researcher negotiated in the first instance with the hospital concerned, and later with the speech pathologist who volunteered, to structure the session in this way. The study allocated up to two hours for the whole process with a 10 -15 minute pre-briefing session, a 60 minute aphasia assessment session and a 45 minute post-session debriefing session. The pre-session briefing, the assessment session and the debriefing session were video-recorded. Individual interviews with the speech pathologist and the interpreter were organised straight after the sessions. It is worth mentioning that the initial design of the study was to have the interpreter present interpreting face to face. However, due to the impact of COVID-19 at the time the study actually took place, the interpreter had to interpret the assessment session over the phone. Hence during the debriefing session, the speech pathologist played audio over the phone to the interpreter.

Ethics approval was obtained from the South West Sydney Local Health District Human Research Ethics Committee, followed by the Governance support from the organisation that manages the particular research site.

Participants were recruited in a manner that minimised the potential for perceived coercion. For speech pathologists, information about the study was circulated by e-mail to all speech pathologists by the Head of Speech Pathology in the rehabilitation hospital on behalf of the researcher, and then

the interested speech pathologist participant contacted the researcher directly for more information. For healthcare interpreters, information about the study was circulated by Health Language Services by e-mail and the interested Mandarin interpreter participant then directly contacted the researcher for further follow up. For the patient participant, the participating speech pathologist contacted an eligible Mandarin-speaking patient with aphasia who was booked for assessment and sought permission for the researcher to contact them about the study. The consent was obtained from the patient and from his next-of-kin.

The participants in the study were a Mandarin-speaking patient with aphasia, a speech pathologist and a NAATI Certified Mandarin interpreter who had some interpreting experience in medical settings. The speech pathologist worked in a rehabilitation hospital and was experienced in conducting language assessments for patients who spoke a language other than English. Both the interpreter and the speech pathologist expressed that they had experiences interpreting or conducting aphasia assessment under the current model where the assessment session typically runs for 30-60 minutes, with only a couple of minutes for the pre-session briefing and the post-session debriefing.

Considering that a person's comprehension can be affected as part of aphasia, the study excluded patients with severe comprehension impairment. This was because of potential difficulties obtaining informed consent from someone with severe receptive language impairment. The patient participant in the project was originally from Taiwan and spoke Mandarin, some Cantonese, Hakka and limited English. It was assumed that he probably spoke Taiwanese as well, but this had not been documented prior to the assessment. He was admitted to the hospital after a left basal ganglia haemorrhage with intraventricular extension resulting in aphasia. The patient had been in the hospital for more than a month before the assessment was conducted. Before the assessment reported here, the patient had already been assessed preliminarily by the speech pathologist and was suspected to have both aphasia and apraxia.

Mandarin is the chosen language in this study because the researcher is a Mandarin-speaker and was thus able to analyse what transpired in both languages during the assessment. The purpose was not to judge the Mandarin interpreter's performance during the assessment, but to explore the applicability of the new model in real practice. It is important to mention that the speech pathologist's first language was English, but she was able to understand limited Mandarin. Her normal practice is to work with a Mandarin interpreter to assist with language assessment and therapy for Mandarin-speaking clients with aphasia.

2.2 Data collection procedures

This project adopted a single case study design as its qualitative research methodology. Merriam and Tisdell (2016) note that similar to other qualitative research methods, the single case study involves the researcher investigating a case by collecting and analysing data and producing a descriptive outcome. However, to further differentiate a case study from other types of qualitative research methods, Merriam and Tisdell (2016) emphasise that the unit of analysis needs to be bounded, which means it needs to be limited to a particular case with a limited time of observation, to be a case study. In this instance, the unit of analysis is a re-structured aphasia assessment session, involving a speech pathologist, an interpreter and a patient with aphasia.

The researcher organized an authentic interpreter-mediated aphasia assessment under the new model and observed and recorded the session in a rehabilitation hospital. The assessment session was about 45 minutes in duration and was video-recorded. The video was later used by the speech pathologist and the interpreter for debriefing purposes. The debriefing session was about 20 minutes. During the debriefing session, after the patient left the room, the speech pathologist asked the interpreter questions regarding the patient's language intelligibility and sought clarification on specific answers given by the patient at the assessment by playing back certain parts of the recording.

Following that, for the purposes of the study, brief semi-structured interviews (see Appendix 2 and Appendix 3) with the speech pathologist and the interpreter were conducted and recorded for feedback on this new model. Although the study did not include (for comparative purposes) another aphasia assessment under the current model involving the same speech pathologist and interpreter, comments comparing the new model and the current model provided by the speech pathologist and the interpreter were still valid because both of them had experience in conducting or assisting with aphasia assessments under the current model in real practice, even though they had not previously been paired with each other.

Both the language assessment session and the debriefing session were transcribed for the purposes of discourse analysis. According to Gee (2014), the overall aim of discourse analysis is to decode the meaning from the text data in a particular context. By using discourse analysis of the clinical interactions, a precise and finely grained account of the exchanges that occur throughout the encounter was created. Combined with the responses of the professional participants captured in interviews, this resulted in a rich multi-perspectival description of the unit of analysis that is bounded in this study. This description, in turn, was anticipated to provide valuable information about ways in which the innovative approach to assessment could be adjusted and fine-tuned prior to larger scale trials.

As noted above, formal ethics approval was sought and obtained from the relevant Human Research Ethics Committee and the hospital site. The project was initially designed to involve the interpreter, speech pathologist and patient physically present in the same room, with the researcher also present to coordinate the recording. However, due to the outbreak of COVID-19 at the time the assessment took place, the standard of care for the participating interpreting services changed to providing interpreting services over the phone in order to minimise the risks of spreading COVID-19. Also, in response to government and university measures to combat COVID-19, the data was

collected remotely instead of the in-person observation and data collection that was envisaged in the original study design.

2.3 Testing Materials

The assessment tool used in this assessment by the speech pathologist was the Western Aphasia Battery (WAB). The first part is “Spontaneous Speech”, which looks at the fluency and information content of the patient’s utterance. The second part is “Auditory Verbal Comprehension” followed by “Repetition”. The next part is “Object Naming” where the speech pathologist presents certain objects to see whether the patient can give correct responses to visual stimulus. The other parts include Reading, Writing, Apraxia, Constructional, Visuospatial and Calculation Tasks. In this assessment, the speech pathologist was only able to administer a few sections of the WAB. She was going to continue with the test until the patient expressed that he felt tired, and she therefore chose to bring the session to and end at that point. It was worth mentioning that the assessment did not follow the order in which the WAB subtests appear in the test booklet. Details of the specific subtests conducted will be presented later in Chapter Three.

2.4 Analytical Framework: Interactive Framing

Interactive framing is a sociological approach introduced by Goffman (Goffman, 1981) to look at interactions or conversations among participants. According to Goffman, the exchange of utterances between participants forms the chain of talk. In a two-participant conversation, the *addressed recipient* is anticipated to respond to the speaker in a variety of ways to achieve mutual understanding between them, such as back-channelling or questioning. In a multi-participant conversation, there is more than one hearer when the first speaker speaks. The hearers may not respond to the first speaker in sequence. Participants can have different roles in the conversation: not everybody responds to everything, and some hearers might not respond to the speaker at all. There are also utterances that are exceptional to the typical ‘statement-response’ form, such as self-talk. To provide a general picture of the rules of talk, Goffman introduced the notion of ‘production

format'. In the production format, an *animator* was defined as a speaker who gives voice to words but is not responsible for the meaning, an *author* is a speaker who has the ownership of the content and the delivery form, and a *principal* is a speaker who takes responsibility for the information being delivered. Additionally, the relationship between participants changes according to the sequence of the speakers who take the floor in the next turn. The alignment of all participants in the talk constitutes the 'participation framework' at that specific moment. This alignment or the role of participants may change in the next moment depending on who is the next speaker. Goffman referred to this change of role as a change of *footing*. For example, a participant in a conversation changes his or her footing from a *principal* to an *author* when he or she changes the topic from self-expression to retelling statements from others.

Goffman's analytic framework later has been further developed by different scholars. Building on the work of Goffman, Tannen and Wallat (1987) explain that interaction entails frames and knowledge schemas; a 'frame' refers to 'what is going on' at any point in an interaction and schemas refers to the quality and depth of knowledge that an individual possesses on certain topics relevant to a given interaction. Marks (2012) states that whether a conversation is successful is influenced by the background knowledge and frames (schemas) of the conversational participants that are brought into the conversation. For example, in their study of interactions in a paediatric outpatient clinic, Tannen and Wallat (1987) noted that the paediatrician talked differently when she addressed the child, the child's mother and a tape recorder which was documenting the consultation for future education purposes. Tannen and Wallat indicate that during the consultation, the paediatrician used three different frames: the social encounter frame to examine the child and build rapport with the child; the examination frame to report what she was doing to be tape-recorded; and the consultation frame to talk to the mother. The three frames shifted throughout the interaction. According to the authors, the reason behind these frame shifts was that the mother's knowledge schemas were different from the doctor's knowledge schemas. For example, the mother asked questions about cerebral palsy which forced the doctor to shift from the examination frame to

consultation frame to answer the mother's questions. Tannen and Wallat emphasise that mismatch of knowledge schemas causing frames shifts in interactions is quite normal, but it can be 'burdensome' in some cases where the speaker has several different audiences.

While acknowledging Goffman's distinguished contribution to the analysis of interaction, Wadensjö (2015) claims that Goffman's participation framework has mainly been applied to monolingual interactions and in an interpreter-mediated interaction, the interpreter actually has a unique role to play. Wadensjö (1998) introduces the *reception format* that focuses on the 'hearer', which is a parallel category to Goffman's production format that focuses on the 'speaker'. In the reception format, there are three different types of listeners: *reporter* who repeats what is said, *recapitulator* who retrieves what is said and then reformulates the message in his or her own words, and *responder* who responds to what is said by bringing in his or her own ideas. In other words, participants in the interaction evaluate their roles on a turn-by-turn basis and a person's participation status can change back and forth during the interaction.

Based on the production format and reception format, one can see that *reporter* matches *animator*, *recapitulator* matches *author*, and *responder* matches *principal*. It is important to note that in an interpreter-mediated interaction, when the interpreter is expected to respond to another speaker's utterance in different ways, i.e. interpret the meaning into another language or respond directly to the speaker or describe features of the language, he or she needs to adopt a particular mode of listening, namely that of a reporter, recapitulator or responder. Previous literature on interpreting suggests that in an interpreter-mediated interaction, for the purpose of coordinating the interaction, the interpreter changes footing from the default interpreting role to cultural mediating role by switching from the first person to the third person when rendering speakers' utterances (Keselman et al. 2010; Merlini, 2009; Wadensjö, 2015).

Building on the work of Wadensjö and Metzger who analysed footing in interpreted interaction, Marks (2012) supports Metzger's categorification of relayings and interaction management in

interpreted interaction. There are sub-types under relayings and interaction management. The interpreter's footing changes when they change from primary author to secondary author. As the study analyses sign-language interpreter, the interpreter uses a lot of gestures and pointing as primary author to facilitate the interaction. In a similar manner, interpreters working over the phone could also use more interactional management strategies to facilitate the communication as they are unable to visualise the clients and any objects that are physically present in the clients' location. Telephone interpreters could also use more cutting-in or cueing the next speaker to take the floor. Hence telephone interpreters could potentially switch the footing more often than face to face interpreters.

Similarly, the findings from a study conducted by Roger and Code (2018) show that there were three main frames observed in the interpreter-mediated aphasia assessments; the *Testing-Translation Frame* was the default frame, where both parties were focused on administering the test items; the *Discussion-Description Frame* became active when the speech pathologist was seeking clarification from the interpreter regarding the patient's responses; the *Cultural-Linguistic Frame* came into play when the interpreter and the speech pathologist were discussing cultural or linguistic features of the patient's language and whether the test item was applicable to the language being targeted in the assessment. Roger and Code (2018) claim that the frequent shifts of frame in the interpreter-mediated aphasia assessment mean that the interpreter is needing to shift attentional resources frequently, and shifting frames requires that the person with aphasia is put 'on hold' while points are clarified; because of these constraints, key information can be lost.

Building on the implication from Roger and Code's study, this study developed a new framework for the assessment session structure (referred to in this thesis as "the new model") and used interactive framing to closely examine the debriefing session. Through interactive framing, understanding the alignments that participants take to each other helps understand how the participants see each other's role and focusing on the frames help to define 'what is going on' at various points during the

pre-session briefing, assessment, and post-session debriefing. This helps to understand precisely what, if any, additional useful information is generated from the model.

The interview data were analysed thematically. The interview questions were set in advance, and aimed to elicit the participant's feedback on different themes in relation to the new model.

Chapter Three

Findings and Discussion

3.1 Pre-session briefing

For the purpose of the study, pseudonyms were used. The interpreter is referred to as “Ian” and the speech pathologist is “Sarah”.

In the pre-session briefing, before Sarah took the patient into the assessment room, she introduced Ian (by telephone) about the purpose of the assessment, the language that the patient speaks, and specifically emphasised that she required a verbatim rendition of the patient’s utterance from Ian, including any speech errors and speech sound errors. There was not much output from Ian in the briefing session apart from general backchanneling.

Although Sarah was advised that the allocated time for the pre-session briefing was up to 15 minutes (as recommended in previous literature), it only took about one minute in reality. According to Sarah, this was the usual practice of a pre-session briefing for an interpreter-mediated language assessment. Speech pathologists would normally deal with issues that are not linguistically and culturally appropriate to the language in use when they arise. Sarah noted that the reasons for this are twofold. Firstly, there are quite a lot of test items in the testing materials. To go through them with the interpreter each time before the assessment is extremely time consuming and not realistic. Secondly, to complete the whole assessment with an interpreter usually takes a long time and it is hard to predict how far they can go through the test, as the patient sometimes would feel tired and not be willing to continue with the test. Thus, even though more time was allocated for this particular appointment to accommodate a longer briefing, Sarah reverted to her ‘usual’ practice for the reasons above.

3.2 Assessment-interaction session

Sarah expressed later in the interview that due to the tiredness of the patient, she was unable to complete the full WAB assessment with him. Subtests of Auditory Verbal Comprehension and Recognition as well as Object Naming were conducted during the assessment. In the assessment, Ian performed his usual interpreting role most of the time. When the patient's utterance became hard to comprehend, Ian tried very hard to interpret the words (even though they did not make sense in the patient's sentence) as requested by Sarah in the briefing session. In the below extracts, 'S' refers to the speech pathologist Sarah and 'I' refers to the interpreter Ian. The patient is referred to as 'P'. Square brackets enclose the English translation of what the interpreter said to the patient. Turn numbers are referred to as 'T+number'. Although the telephone context was unexpected and not part of the initial design of the study, it did impact on the interpreter's performance. As noted in Section 2.4, interpreting is not just hearing and rendering what is said; on some occasions, visual cues are very important too. The loss of the visual cues here caused some difficulty, as will be discussed throughout this chapter.

To illustrate how Ian approached the task of interpreting words and phrases from otherwise largely incomprehensible utterances, the following example is presented:

Extract 1

- 1 S: what are you- why are you in the hospital?
- 2 I: nín shì wèi shén me jìn de yī yuan a?
- 3 P: wèn, er, bú s, er, wǒ, wǒ zuò de è::è::è tiān, tái, cái, yī tiān, tú, nǐ zhè lǐ, rán hòu, rán hòu, wǒ, zài, zuò::zuò, è, è, è jìn, yeah.
- 4 I: um...I...um...just...ah...to...but just one day, and then I just um...two, yeah.

Only on one occasion when Sarah asked the patient to describe the content of a picture did Ian not interpret the exact words from the patient. Instead, he only interpreted the words that he understood without providing a supplementary description of the words that he could not

understand. A more detailed discussion of this part is presented later, as it was discussed by the two professionals in the debriefing session (Extract 7).

Extract 2

1 S: I want you to tell me what's happening in this picture.

2 I: rán hòu qǐng nín gào sù wǒ mén nín cóng zhè zhāng tú piàn kàn dào
le shì zài fā shēng shén me [and tell me what can you see what's happening
in the picture]

3 P: zài:, zhè gè, liǎng gè, tú, tú, tú zǐ, tú tú shén me yì sī a?
{flapping the picture} tú zǐ, liǎng zhāng, yī zhī, zhè jǐ zhī, tú zǐ, tú
zǐ, qǐng wèn, qǐng wèn, yǒu::yǒu::yǒu, yǒu, shén me yì zī a [zài, here, two,
tú, tú, tú zǐ, tú tú, what does it mean? tú zǐ, two pieces, one, this, this
ji, tú zǐ, tú zǐ, may I ask, may I ask, have::have::have, have what yì zī]

4 I: em...it is...yeah...this two...ti ti ti zhe, um, what, what do you mean?
Um...just pi...two pictures...um...may I ask [um]...what do you mean?

Ian later on in the interview explained that he was unsure what words had been uttered by the patient, and was unable to get the meaning of some of the words. As discussed in Chapter One, interpreting is an activity based on meaning transfer. If the interpreter did not understand the utterance, he or she is unable to produce the equivalent meaning in the other language. There was another occasion where Ian went silent with no rendition of the patient's utterance. On this occasion, most of the patient's utterance was isolated English words or phrases where the relevance of the words to the context was not clear. Later on, in the debriefing session, Ian did not discuss why he was silent on this occasion. It is possible that he did not understand what the patient said, and he may also have assumed that Sarah could understand that part because the patient spoke English. Interestingly, Sarah did not seek any clarification with Ian at this point and proceeded to the next test question, which might support the possible explanation above.

There were several occasions where Sarah requested clarification from Ian about the patient's utterance by asking Ian to interpret that part again. For example:

Extract 3

- 1 S: so if I ask you to point to the pen with the comb, you would do this (sp demonstrating the activity)
- 2 I: suó yǐ rú guǒ wǒ yào nín bǎ shū zǐ zhǐ xiàng bǐ de huà, nà nín jiù huì zhè me zuò (So if I ask you to point to pen with the comb, you would do this_)_.
- 3 P: ai yay a, 'xu'. Wǒ ne, shí yang dōng xī, wǒ::zhǐ::jì dé{gesture}, ok? Wǒ de, under, underneath. Now, under?, under {pick up comb}, and under {pick up pen}, and under, yeah? So, um.
- 4 S: can you interpret that bit?
- 5 I: um, one...um...um...ok...i...um...uu...i... (um...der...standant)...so...yeah.

Similarly, Ian asked Sarah for clarification about her questions on a few occasions (as illustrated below). This appeared to be largely due to Ian's inability to visualise the test items over the phone.

Extract 4

- 1 S: will paper burn in fire?
- 2 P: [no] (soft)
- 3 I: [sorry], what was that?
- 4 S: will paper burn in fire?
- 5 P: 'no'.
- 6 I: peter (unsure)...burn in fire?
- 7 S: paper.
- I: oh, paper, sorry.

Sarah moved away from her assessor footing and gave instructions to Ian on multiple occasions when the test item required the assessor to give the first sound of the word in testing as a prompt to the patients to help them articulate the word.

Extract 5

- 1 S: what's this?
- 2 I: zhè shì shén me? (What's this?)

3 P: ball? {giggle},
 4 S: what it is?
 5 I: zhè shì shén me? (What's this?)
 6 P: {shaking head}.
 7 S: what's this?
 8 I: zhè shì shén me? (What's this?)
 9 P: bù zhī(soft), bù zhī dào. (I don't, don't know).
 10 I: I don't know.
 11 S: It's a---it's a---
 12 P: No.
 13 S: you can put it on your clothes.
 14 I: nǐ ké yǐ fang zài yī fú lǐ miàn de. (You can put it in your clothes).
 15 P: 'gu', under, under::stand.
 16 S: it's a S---- **(to the interpreter)** can you give the first sound of it? It's a s...oh, you can't see it. It's a safety pin. Can you give the first sound of the word in Mandarin?
 17 I: Ok, so it's a pin?
 18 S: safety pin.
 19 I: Oh, it's a safety pin.
 20 I: humm, zhè shì yí gè huí-- (Humm, this is a huí--
 21 P: du::ri-...du::ri, du:ri::raise, yeah.
 22 S: it's a safety pin.
 23 I: zhè shì huí kòu zhēn. (This is a safety pin).
 24 P: du:ri, du:ri

As shown above, Sarah asked the patient what it was by showing a picture of a safety pin. The patient was unable to pick up the word even after Sarah described the function of a safety pin. Up until T15, Ian was in his usual role as an interpreter: when he was listening, he was a *reporter* and he became an *animator* when he started to interpret. In T16, Sarah asked Ian directly to give the first

sound of a safety pin in Mandarin to the patient. To respond to the requests, in T16 and T17, Ian shifted to author and responder by checking with Sarah and making sure what he needed to do.

The assessment continued until the patient felt tired and appeared to find it difficult to keep going.

3.3 Debriefing session

The debriefing session involved only Ian and Sarah, hence the perspective taken to examine the interaction is different from that of an interpreter-mediated interaction where there are more than two participants. Nevertheless, the application of interactive framing in this study provided an overall picture of what main topics were discussed between the speech pathologist and the interpreter in the debriefing session. Four main frames were identified in the interaction: a word-identification frame, a performance-comment frame, a linguistic-description frame and a test item discussion frame. Shifts between the four frames were enacted in no fixed order and (on some occasions) in rapid succession. For example, in the beginning, Sarah and Ian were discussing some words uttered by the patient during the assessment (the word identification frame), and Sarah asked Ian about the patient's intelligibility (invoking the performance comment frame). While answering Sarah's question, Ian briefly explained to Sarah that there is some lexical variety between Standard Mandarin and Taiwanese Mandarin as the patient was from Taiwan (invoking the linguistic description frame). According to Ian, this could be one of the factors that had affected the patient's performance. Ian then returned to continue answering Sarah's question about the patient's Mandarin intelligibility.

The four main frames will be discussed in detail in the sections that follow.

3.3.1 Word-identification frame

In the word-identification frame, Sarah played back the recording of the assessment and asked Ian specific questions regarding the patient's answers to the test questions; specifically, she sought to clarify some of the individual words that were uttered. In this way, Sarah obtained some of the

information that she required to understand the patient's language ability. In the extracts below, the recorded segments of the assessment that the participants were discussing are presented in italics.

Extract 6

1 S: So I'm just gonna play back um...just the third question, what is your first and last name?

S: What is your first and last name?

I: nín de zhè gè xìng míng shì shén me? [What is your first and last name?]

Patient: plus, sruik, pleas

2 S: yep, that bit? That three words, was that Mandarin? Do you recognise the words?

3 I: um...no, it sounds like English, it's like "I, like, this".
[interpreter did not interpret this during the assessment]

4 S: I'll play it again.

5 I: [not], not, doesn't sound like Mandarin.

6 S: Doesn't sound like Mandarin?

S: What is your first and last name?

I: nín de zhè gè xìng míng shì shén me? [What's your first and last name?]

Patient: plus, sruik, peas, sān yuè, bǐ(soft), bǐ wǔ hào la. [plus, sruik, pleas, March, bǐ, fifth]

7 S: what was that one? That "sān" [three]

8 I: sounds like I, like, it was, it sounds to me like he was speaking in English.

9 S: but the other three words are Mandarin?

10 I: no, it sounded like "that", something.

I: nín de zhè gè xìng míng shì shén me? [What is your first and last name?]

Patient: sān yuè, bǐ(soft), bǐ wǔ hào la. [March, bǐ, fifth]

11 S: was that one, that one was Mandarin, wasn't it?

12 I: the fifth of March.

13 S: yeah. {writing notes}.

In this encounter, Sarah persistently asked Ian whether the words "*sān yuè bǐ wǔ hào*" from the patient's answer were Mandarin words. Because the three words were part of the answer from

the patient, Sarah had to play back the recording three times to allow Ian to capture the exact words. In the first attempt to seek clarification from Ian in T1-5, only the first half of the patient's answer was played, which was "*plus, sruik, pleas*", and Ian commended that they sounded like English words to him. The sounds of these words might have been similar to English words, but the utterance as a whole did not have any discernible meaning.

As interpreters' rendering is based on meaning, if the speaker's utterance does not make sense, the interpreter would have to either tell the conversation participants that they do not have any semantic meaning or switch to word-for-word interpreting. In this case, Ian tried his best to understand the three English words that the patient was trying to say and mimicked the sounds, expressing uncertainty about whether or not they were even English words. In the second attempt to seek clarification, Sarah played the patient's answer again and this time the whole sentence from the patient was played. In T7, Sarah specifically flagged the words that she was interested in by mimicking the sound of the first word "*san1*". In both attempts, Ian insisted that the answer sounded like English to him, although he gave a slightly different version at the second time. Ian's first reply was "*I, like, this*" whereas in the second time it was "*I, like, it was*". Neither of these two renderings appeared to correspond to the patient's answer "*plus, sruik, peas*". A complicating factor was that the sounds from the patient were hard to capture via the phone for Ian, something he noted explicitly in the interview following the session. In T9-10, Sarah asked Ian again whether the three words were Mandarin. Although Sarah mimicked the sound of the first word from the patient, Ian still could not determine whether they were Mandarin. Instead, Ian said the word sounded like the English word "*that*". In the last attempt, Sarah only played the part that contained the three words "*sān yuè, bǐ (soft), bǐ wǔ hào la*" and asked Ian whether they were Mandarin. Ian gave a positive answer this time by interpreting the Mandarin words into English as "*the fifth of March*".

Interestingly, to the researcher – who was able to listen to the recording in better sound quality and saw the mouth movement of the patient - the three words were identifiable as Mandarin, but the utterance was grammatically incorrect. “Fifth of March” should be equivalent to “sān yuè wǔ hào (三月五号)” in Mandarin. However, in the patient’s utterance, it sounded like there was an additional Mandarin word “bǐ (比)”. According to the Chinese-English Dictionary edited by Guanghua Wu (1994), “bǐ” can be a verb, a noun, a preposition, an adjective and an adverb in Mandarin. Each syntactic function of the word carries a different meaning. For example, when it is a verb, it can mean ‘compare to’ or ‘gesture’; when it is a noun, it means ‘proportion’; when it is used as a preposition, it means ‘than’.

There are thus a few possible meanings of “bǐ”. Linguistic, syntactic and/or semantic correctness is assessed at the morphological, lexical or sentential level. Utterances, however, are evaluated as per their pragmatic appropriateness. None of the possible meanings would result in a syntactically or semantically correct utterance in the context in which they appeared in this utterance. Instead of explaining the erroneous syntactic features of the utterance, Ian directly interpreted the three words as “the fifth of March”. There are two possible reasons for this. Firstly, Ian may not have been able to hear the word “bǐ” over the phone, given that the first “bǐ” was quite soft and the second “bǐ” was spoken very fast. Secondly, Ian may have assumed that the word “bǐ” was just a filler and perhaps from the interpreter’s perspective there was no need to interpret that.

In the case of patients with language disorders, subtle changes in the patient’s speech, such as changes in articulation or syntax, may be important in arriving at an accurate diagnosis. Paraphasia is a ‘speech disorder where the selection of inappropriate words in sentences otherwise well-formed leads to breakdown in understanding between speaker and hearer’ (Buckingham & Rekart, 1979, pp. 197). There are two types of paraphasia: phonological paraphasia and semantic paraphasia. Phonological paraphasias occur when a speaker with aphasia uses a word that sounds similar to the intended word, but has a different meaning (Buckingham & Rekart, 1979). In the case of Mandarin

(unlike English), words can sound similar but differences in lexical tone make a difference to the meaning (Lee, 1984). In Mandarin, there are four main lexical or linguistic tones that differ in pitch and contour (ma¹ or mā, ma² or má, ma³ or mǎ, ma⁴ or mà) and one flat tone (ma); changes in tones can alter the syllable and hence change the meaning (Ding, Liu, McBride & Zhang, 2015; Pelzl, 2019). In this extract, the patient may have produced bǐ (depending on the character, it can mean different things in English) with the intention to deliver some meaning, but the tone for that syllable may have been changed due to his language impairment and therefore created comprehension uncertainty for listeners. However, regardless of the tonal variation, an extra word in 'fifth of March' does not make any sense.

Sarah asked Ian five times (T2, T6, T7, T9 and T11) in this encounter whether the words from the patient were Mandarin. Each time Sarah seemed increasingly convinced that the three words were Mandarin, and this might have been because she understood some Mandarin but not enough for her to conduct the assessment in Mandarin by herself. Additionally, Ian had to listen back to the recording three times to provide a relatively accurate answer to Sarah. The unsolved problem in this extract is that there was no discussion or exploration of the linguistic tones in Mandarin that could have made the patient insert an inappropriate 'bǐ' in his answer. Neither was there any exploration of the inappropriate position of "bǐ" in the phrase of 3rd of March. Regardless of which of the reasons mentioned above was responsible for the inability to resolve this issue, neither of the participants was to blame. The knowledge of linguistic tonal changes in Mandarin and the potential effects of multiple language disorders associated with aphasia is far beyond an interpreter's professional sphere of expertise. Such exploration and discussion would also require more input and time from both the speech pathologist and the interpreter.

There was another encounter in the debriefing session where Sarah asked Ian about specific words from the patient. As the patient's speech was not clear, it took a few turns for Ian to provide an answer.

Extract 7

1 SP: I played back a bit. This is a continuous speech, on that part. So that was initially ... a picture to describe things.

P: er, wo3 zuo4 de e4::e4::e4 tian1 [er, I, I zuo4 de e::e::e tian1]

2 SP: Can you hear?

3 I: um...a little bit. He was just murmuring like "then"...um----

4 SP: but it wasn't --

5 I: he wasn't really... saying anything.

[playing back recoding in the background]

P: wèn, er, bú si, er, wǒ, wǒ zuò de è::è::è tiān [wèn, er, no, er, I, I did e::e::e:: tiān] {SP fast forwarded the recording}

I: um...I...um...just...ah to...but just one day, and then I just um...two, yeah.

SP: thank you for answering those questions.

I: gǎn xiè nín huí dá zhè xiē wèn tí [Thank you for answering these questions]

SP: now I want you to look at this picture.

I: xiàn zài qǐng nín kàn yī xià zhè zhāng tú piàn [Now please take a look at the picture]

SP: I want you to tell me what's happening in this picture.

I: rán hòu qǐng nín gào sù wǒ mén nín cóng zhè zhāng tú piàn kàn dào le shì zài fā shēng shén me [and tell me what can you see what's happening in the picture]

P: zài:, zhè gè, liǎng gè, tú, tú, tú zǐ, tú tú [zài, here, two, tú, tú, tú zǐ, tú tú]

6 SP: what did he say that bit there?

7 I: um...one--...two -- (to)...um...from--

8 SP: from

P: tú, tú zǐ, tú tú, shén me yì sī a? tú zí, liǎng zhāng, yī zhī, zhè jí zhī [tú, tú zǐ, tú tú, what does it mean? tú zí, two pieces, one, this, jí zhī]

9 SP: yep, that bit, that, that section there. Do you know what he [said]?

10 I: [um]...can you play it again?

11 SP: yep. {played back again}

P: tú zǐ, tú tú, shén me yì sī a? tú zí, liǎng zhāng, yī zhī, zhè jí zhī, tú zí, tú zǐ, qǐng wèn, qǐng wèn, yǒu::yǒu::yǒu, yǒu, shén me yì zī a [tú zǐ, tú tú, what does it mean? tú zí, two pieces, one, this, this jí, tú zí, tú zǐ, may I ask, may I ask, have::have::have, have what yì zī]

12 SP: like that bit before he said um...at the star--

13 I: um...he said like "what, what, what do you mean".

14 SP: like before that...{play back again}.

P: *tú zǐ, tú tú [tú zǐ, tú tú]*

15 SP: Like was that a real word?

16 I: um...

P: *tú zǐ, liǎng[tú zǐ, two]*

17 SP: tú zǐ...like it doesn't mean anything. tú zǐ (softly repeating the word)

18 I: um...

19 SP: does it? tú zǐ, tú zǐ

20 I: can't pick up...what he's trying to say

{SP played back the recording again}

P: *yī zhī, zhè jǐ zhī, tú zǐ, tú zǐ, qǐng wèn[one, this ji, tú zǐ, tú zǐ, may I ask]*

21 SP: can you hear that bit? Can you pick up anything he was saying there?

22 I: only like "may I ask...", [the rest I don't understand].

23 SP: [only that bit?] I'm just wondering whether there were any words that he said that well meant anything. Were that () sounds a little bit different? But it might have meant something? [But maybe he got]...

24 I: [it might] but I couldn't pick it up.

As Sarah mentioned in T1, the words that she was looking for were part of a continuous stream of speech from the patient, so she played back the recording a few times for Ian to capture the words. From T1-5, Sarah started playing the continuous speech, and Ian in T5 pointed out that the patient's utterance carried no meaning. In T6, Sarah stopped the recording right after the sentence from the patient that contained the words that she was interested in. She then clarified with Ian the meaning of the words. In T7, Ian was unsure about the meaning of the whole utterance and only interpreted the words that were meaningful to him. The same part was played again in T9 and T11, Ian still only interpreted the words that he could comprehend in T13. After playing back the segment yet another

time, Sarah directed Ian to the specific words “*tú zǐ, tú tú*” and mimicked the sounds, hoping Ian could tell her if they were meaningful words. It seemed that Ian was trying very hard to provide an answer that was not misleading. In the end, he emphasised three times that he could not understand what “*tú zǐ, tú tú*” mean (T20, T22, T24), and could only interpret the meaning of the phrase “may I ask”.

The reason that Sarah played back the recording multiple times and clarified with Ian on specific words from the patient was given in T23. She wanted to know whether the words from the patient were actual words but with incorrect sounds, which could potentially help her with a diagnosis.

There are three possible reasons for Ian’s apparent inability to provide a definite answer. Firstly, interpreting (as discussed earlier) is an activity based on meaning transfer; if the utterances are non-words, it is difficult for the interpreter to interpret. Secondly, interpreters are not trained in a way that enables them to provide such information. As a result, to answer the question of whether the words “might have meant something”, interpreters would have to make an assumption based on subjective opinions, otherwise they will be unable to answer it, like Ian in this case. When responding to Sarah’s question, Ian changed his footing from an interpreter to an average Mandarin-speaking person who could only tell Sarah whether the patient’s utterance made sense or not.

Additionally, it is possible that Ian was mindful of the need to adhere to his role as an interpreter by avoiding any assumptions about the meaning of the patient’s utterance. The AUSIT Code of Ethics for interpreters specifies that interpreters can provide cultural and language information to clients if necessary. However, the Code does not specify what kinds of language information and to what extent such information can be provided by an interpreter. Instead, it states that ‘practitioners do not, in the course of their interpreting or translating duties, engage in other tasks such as advocacy, guidance or advice’ (AUSIT Code of Ethics and Code of Conduct, 2012, pp. 6). There is a grey area in the Code of Ethics, meaning that interpreters sometimes have to justify their decisions on a case-by-case basis.

The words in question in this extract, namely *tú zí*, *tú zǐ*, require a close look beginning from the prompt “*I want you to tell me what’s happening in this picture*” given by Sarah. To understand what is happening in this instance, it is necessary to consider some general features of Mandarin Chinese. Mandarin Chinese can be represented in characters, Zhuyin and Pinyin. Both Zhuyin and Pinyin are phonetic transcription systems. The difference between Zhuyin and pinyin is that Zhuyin is a group of symbols that consist of Chinese characters whereas Pinyin is the standard phonetic system with Roman alphabet and lexical tones that correspond to the sounds of Chinese characters (Lin. 1993). In China, Pinyin is the official phonological coding system and it is taught in school before children learn how to write Chinese characters (Ding et al., 2015).

During the assessment, the instruction ‘*I want you to tell me what’s happening in this picture*’ was interpreted into Mandarin to the patient as ‘*xiàn zài qǐng nín kàn yí xià zhè zhāng tú piàn*’. In Mandarin, “*tú piàn* 图片” means picture. In *Pinyin*, the word is spelled out as “*tú piàn*” with “*tú*” in the second tone and “*piàn*” in the fourth tone. In the patient’s response, the word “*tú*” had an identical sound as “图”. However, the second syllable “*zí*” or “*zǐ*” following “*tú*” did not match any words interpreted by lan in Mandarin. One can assume that the patient wanted to say “*tú*” in Mandarin, meaning the picture, but joined it with another element, so that the combination ‘*tú zí*’ or “*tú zǐ*” did not correspond to any identifiable Mandarin words. It is interesting to see that the patient produced “*bí*” in Extract 6 and “*tú zí*” or “*tú zǐ*” in Extract 7 that did not make sense. However, lan did not go further to explain this to Sarah on either occasion. One of the possible reasons is the restriction of the role boundaries for interpreters under the Code of Ethics. Another possible reason is that interpreters do not have the knowledge to support any assumptions about what a patient is likely to have meant, and the presence of aphasia makes it difficult to verify intended meaning with the patient.

3.3.2 Performance-comment frame

During the debriefing session, apart from seeking clarification from Ian on certain words from the patient, Sarah asked Ian on several occasions to comment on the patient's Mandarin language ability. These activities were categorised under the performance-comment frame. The purpose of doing this was to determine whether the patient's Mandarin language ability would affect his daily communication with people who also speak Mandarin. Also, Ian's comments on his own performance were also included in the frame. As this was the first time both Sarah and Ian had been part of an interpreter-mediated the assessment over the phone, Sarah was also interested to know what Ian thought about interpreting remotely via the phone. Ian also took this opportunity to comment on his interpreting performance. In this frame, the interaction between Sarah and Ian became more relaxed and casual. Ian seemed more comfortable with providing subjective description and stepped further away from his interpreting role.

Extract 8

- 1 S: how, how good (???) do you think () ...using his speech in Mandarin?
- 2 I: he's actually fluctuate, sometime he was trying to speak in a sentence, it wouldn't make sense. Um...I just (???) anything. But when he... was trying to say, just a word, he's mostly ok. It was actually very quick and clear.
- 3 S: so how would you rate out of ten like his intelligibility, in Mandarin?
- 4 I: Mandarin....
- [quiet]
- 5 S: Hello?
- 6 I: yes?
- 7 S: did you say, a number? I didn't...
- 8 I: oh, yes, 6
- 9 S: oh, sorry...thank you
- 10 S: ...and there was also a, instru-...how did you find not being able to see the. Um. The, the the content, or the, the, the objects, and...
- 11 I: um...it wan't, um, it was a bit hard, you know, harder than ... able to see it physically, ah but it's not too bad. (...) , not () technical stuff, just daily living things. Um, it wasn't too hard. Maybe, as interpreter if we can get a heads up or...maybe a list of things...()that would be helpful, if...

- 12 S: oh, the list of things beforehand. Yep.
- 13 I: yeah.
- 14 S: Yeah coz in real life, I usually, show...
- 15 I: ...I am there then I can see it. (...), you know like [the cone, I () cone?] if I can see it, then I would know...that, ok, it's cone, because
- 16 S: [yes, and I show, yes, and I show, yep] and I can just show you the written, the written... where (inaudible) sentences, I think, there is a few... sorry maybe my pronunciation, (laugh) it's hard to understand...with the weather so intense...
- 17 I: it's the phone, and it's raining and...yeah... it's raining here
- 18 S: it's raining here also, it's raining () you also

In T1, Sarah initiated the performance-comment frame by asking Ian to comment on the patient's Mandarin language ability, and Ian provided his opinions in T2. Ian's opinions were based on whether he could understand the patient during the assessment. He reported finding it easier to understand the single words uttered by the patient. When the patient produced a sentence, it become harder for him to understand. It is important to notice that Sarah took it further by asking Ian to score the patient's intelligibility in Mandarin in T3, and Ian gave a score of six out of ten in T8. In this part of exchange, Sarah addressed Ian as someone who could provide judgment on someone else's language ability. In responding to that question, Ian shifted his role from a language mediator who provides interpreting for the interaction to a commentator. In other words, Ian became a 'responder' when listening to the questions from Sarah and a 'principal' when giving his answer to Sarah. Directly obtaining such comments from Ian may have been necessary for Sarah to gain a comprehensive understanding about the patient's communication ability in Mandarin. However, it pushed the interpreter away further from his normative interpreting role. Again, the AUSIT Code of Ethics says that interpreters can provide language and cultural information to clients if necessary, but it does not specify to what extent an interpreter can provide such information to the clients. On this point, Gentile, Ozolins and Vasilakakos (1996) argue that in the context of speech pathology, interpreters should interpret exactly what is said and if there are words or sentences that interpreter is unable to interpret, they should explain to the speech pathologist as to why they cannot be

interpreted. In the case of interpreting for speech pathologists, interpreters can provide language information to help with the work that the speech pathologists do for the patients, and this cooperation indeed plays an important role in facilitating the speech assessment or therapy. However, in some cases the extent of the interpreters' linguistic contribution might depend on individual interpreters.

During the debriefing session, it became clear that conducting the assessment over the phone made it even more difficult for Ian to understand the patient's speech. In T10, Sarah suddenly changed the topic to ask Ian how he felt about doing the assessment over the phone, in particular when Ian could not see the objects that she was using during the assessment. Apart from offering a general comment on the mode of conducting the assessment, Ian suggested that it would be very helpful if he could have the list of objects or items used in the assessment beforehand. From T12 to T17, Ian emphasised the importance of having a briefing before the assignment, but Sarah pointed out that in normal circumstances, the interpreter could see the objects or items used in the assessment and therefore providing such a list in advance would not be an advantage. Therefore, the telephone interpreting mode arguably made it more important for the interpreter to have a pre-session briefing.

After the discussion of doing the assessment over the phone, Ian took the opportunity to comment on his own performance during the assessment, which he believed (as implied above) was adversely affected by the use of the telephone interpreting mode.

Extract 9

- 1 I: when I give them the first sound of my version, he might not be able to pick it up. Also, ah...there is something that I need to add is... I think I misinterpreted something. Um...because I couldn't see the object...ah
- 2 S: yes, I know. This is () my first time doing it via the
- 3 I: ...first time did it over the phone as well, [S: Yeah (laughing)]so when we called it the padlock, I think you were saying that you use that to lock the door, I interpreted it that you can use that to knock the door.

4 SP: oh...

5 I: I, I was thinking () that object, you can use it to, knock the door, I thought XX or something,

6 SP: oh...

7 I: because I couldn't, I couldn't see it. And when you said padlock, and later...oh maybe she was trying to say lock.

8 S: oh, ok, ok.

9 I: maybe if he got that one wrong, then...I think that's mainly from me...

In T1, while explaining what happened in the assessment, Ian took the opportunity to explain to Sarah that he had misinterpreted a term, and the reason was that he could not see the item that Sarah was referring to during the assessment. One of the subtests in the assessment was object naming, where Sarah showed a picture of an object to the patient and asked the patient what it was. The purpose of this subtest was to see if the patient could retrieve the word when he saw the picture. And if the patient could not find the word to name the object, then Sarah would give a description of the function of the object to assist the patient to find the name. During this part of the assessment, Sarah presented the patient with a picture of a padlock, and the patient could not name it. Then Sarah hinted the patient by saying 'you can *lock* the door with this'. Ian had not known what the picture was when Sarah showed it to the patient (which he would of course have known in a face-to-face interpreting encounter) before Sarah gave a description of the function of the object in the picture. When Sarah gave a hint to the patient, Ian misunderstood because he could not hear clearly what Sarah said via the phone, so he thought Sarah said, 'you can *knock* the door with this' (T2-T3). It was only when Sarah said 'padlock' in the end (after the patient failed to name it after a few attempts) that Ian then realised that he had interpreted wrongly earlier (T7). It is interesting to see that Ian did not correct himself during the assessment. Given that Ian knew there would be a debriefing session after the assessment, he may have taken the view that it would be more appropriate to mention this to Sarah later.

As shown in the above examples, in the performance-comment frame, Sarah and Ian discussed the performance of the patient as well as their reflections on doing the assessment over the phone. Ian also had the chance to comment on his performance during the assessment, and attributed some difficulties and errors to the telephone interpreting mode.

3.3.3 Linguistic-description frame

While describing the patient's Mandarin language features and providing answers to Sarah's questions regarding the patient's Mandarin language intelligibility in the performance-comment frame, Ian identified that the patient was from Taiwan and shifted to the linguistic-description frame by explaining to Sarah some of the differences between Taiwan Mandarin and Standard Mandarin.

Extract 10

- 1 I: [Um...] he wasn't too bad. Ah, Some ()pronunciations...was a bit hard to understand, a little bit. Ah...And also I was just checking my record, and I think he is from Taiwan, right?
- 2 S: em...
- 3 I: so we might have a slightly different version of Mandarin, and we might, call things bit differently.
- 4 S: He speaks quite a few, languages. He speaks Mandarin, Hakka and Cantonese.
- 5 I: oh, ok.
- 6 S: Um...I don't know if he speaks Taiwanese. Like, Is it...?
- 7 I: No, it's not Taiwanese, he's not speaking Taiwanese. He's speaking Mandarin. But Maybe I don't know, ah...we did some of the naming the objects, he couldn't get some of them. I'm not sure whether it was because he can't get it or he can't come up with the word or it is because they use a different word.
- 8 S: oh ,yeah
- 9 I: you know how we give them the first sound, they might use, you know, they might call it differently.
- 10 S: yep.
- 11 I: when I give them the first sound of my version, he might not be able to pick it up. Also, ah...there is something that I need to add is... I think I misinterpreted something. Um...because I couldn't see the object...ah

In T1, Ian first continued his comment on the patient's Mandarin language ability and then gave one possible reason that could have caused miscommunication between himself and the patient. He confirmed with Sarah that the patient was originally from Taiwan and then explained that there was some lexical variation between Mandarin spoken in Taiwan (GuoYu) and Mandarin spoken in the mainland of China (*Putonghua* or Standard Mandarin) in T3.

In order to consider why the issue of variety of Mandarin matters here, it is useful to briefly compare GuoYu and Standard Mandarin. In mainland China, *Putonghua* (Standard Mandarin) is the official language and is largely based on Beijing Mandarin phonetically (Li, 2006). One of the distinguishing features between Beijing Mandarin and *Putonghua* is the deletion of non-syllable -r in *Putonghua*. (Li, 1985). Although it is commonly acknowledged that speakers of GuoYu and speakers of Standard Mandarin can understand each other, there are distinctive differences in lexicon, syntax, phonology and orthography between the two dialects (Kubler, 1985).

Given that there are significant differences between GuoYu and Standard Mandarin, it throws up challenges for interpreters when the patients who require a speech assessment speak a different variety of Mandarin because language assessments target language reception and production at lexical, syntactic and discourse levels. For example, the word 'motorcycle' is expressed as *mó túo chē* (摩托车) in Standard Mandarin but as *jī chē* (机车) in GuoYu. If the Mandarin interpreter from mainland China gives the first syllable as *mó* in Standard Mandarin, the patient from Taiwan would probably not be able to retrieve the word because in his or her lexical knowledge bank, motorcycle refers to *jī chē* and the first syllable is *jī*. Having said that, it is very difficult to determine that whether the patient being unable to recognise the prompts is due to the dialectal difference or the presence of aphasia. This was why Ian confessed in T7 that he was uncertain about the reason why the patient still could not say the word after being prompted with the sound of the first character; that is, he was unsure whether this was due to the patient's language deficits from aphasia or the variation between GuoYu and Standard Mandarin. If the object shown in the picture was one that would be

named differently between the two dialects, then when an interpreter gave the sound of the first character for that particular word in Standard Mandarin, the patient may not pick it up because the same object could be named differently in GuoYu. This was highlighted by Ian in T9 and T11.

In T4, when Ian was checking with Sarah whether the patient was from Taiwan, Sarah said the patient spoke Mandarin, Hakka and Cantonese. This corresponds to the literature mentioned earlier that often people from Taiwan can speak more than one language. In this case, if the patient did not have any language impairment, it is likely that Ian could have communicated with him without major comprehension problems. However, because the patient had aphasia, the difficulty for Ian was not only the differences in phonology, lexicon and syntax between GuoYu and Standard Mandarin, but also the fact that the language disorder made it impossible to seek clarification in a case of possible differences between the varieties of Mandarin.

3.3.4 Test item discussion frame

The last frame identified in the debriefing session is the test item discussion frame. Although named differently, the test item discussion frame overlapped somewhat with the linguistic-description frame. This is because in the test item discussion frame, Sarah and Ian were discussing the applicability of a subtest – object naming – in the Mandarin language, and Ian described the features of Mandarin as grounds for his arguments.

Extract 11

1 S: I want to know whether, ah, he, ah said anything that was similar to that in Mandarin but then maybe a different sound, or maybe the first sound was a bit different, and when you gave the first sound in Mandarin, ah,ah, did that give away the meaning, as well? Cause [we're doing an English]...

2 I: [um]...it's a bit tricky, because in English (???)...different sound...but in Chinese, when we refer the first sound, we actually said the character, um... and normally like for, um...let's say...what was the example, um... like for "fork", um...in Chinese it is "*chal zi*" (叉子), but when you say "叉", like the first letter, the first character, it's basically giving away because that's how you use the fork.

3 S: can you say "ch---"?

- 4 I: um...
- 5 S: Do you think that's not a sound ching?
- 6 I: um...I haven't tried that. I might next time. Yeah but I think that would be very hard for them to actually be able to know oh it is "chal zi" (叉子).
- 7 S: I guess it depends on how you learn Mandarin, whether it was...ah whether you sound the words out or whether it was pinyin, like...
- 8 I: yeah. And If they are not familiar with pinyin, then if we just give the first sound like "chi", then they won't be able... I don't think they () ...by giving them just a little bit of sound. But sometimes when we give the whole character, yes, sometimes it does, ah, give away, because the, the second letter basically means nothing.
- 9 S: yeah. The meaning is mainly in the first word, the first sound, like "叉".
- 10 I: yep.
- 11 S: the sound like "cha"
- 12 I: yes. And like for the tooth brush as well. In Mandarin it is two characters, two words, like tooth and then brush. When I gave the first sound, normally I just talking like "tooth"
- 13 S: what?...in the whole word?
- 14 I: yeah, because it's ya2 (牙). And it's Nothing like pronunciation we can give. ya2 is, is just one sound.
- 15 S: can you give that "ye-h"? "ye-h"? is that a different...?
- 16 I: um...narh...no.

T1 was a continuation of the word-identification frame and performance-comment frame from previous extracts where Ian was answering questions from Sarah about the patient's Mandarin language intelligibility and explaining the difficulty of interpreting the part of naming objects due to limited visual access. Hence as shown in T1, Sarah first explained to Ian what she was looking for from the patient's utterance and then asked Ian whether giving the first sound of the word in Mandarin would give away the word meaning (rather than providing, as intended, a phonological clue to help the patient retrieve the word). Whether or not additional semantic information would affect the patient's ability to retrieve the word is something Sarah evidently wanted to know to help her assessing the patient.

The way in which ‘initial sound’ cueing might work in different languages is an intriguing question. In the context of aphasia assessment, it is important to just give phonological cues to patients without any semantic cues. Patients with different types of aphasia may process the word initial phonological cues differently (Wingfield & Wayland, 1988). Therefore, if a phonological cue ends up being a semantic cue by giving the whole syllable in Mandarin, it defeats the purpose of the test.

As illustrated in T2, this type of question was difficult for Ian to answer for two possible reasons. Firstly, to answer the question, interpreters have to step out of their usual role of ‘interpreting’ changing the footing from recapitulator to responder. Secondly, most interpreters are not trained to provide specialised linguistic information (as a linguist might do) but could possibly give general information or description about the language that they are working with. In this extract, Ian explained to Sarah that Mandarin words (unlike English words) are based on characters instead of syllables and therefore he had to say the first character in Mandarin when Sarah requested him to give the first sound of the word during assessment. To further illustrate this, Ian gave an example of a Mandarin word “chā zi” that spelt as “叉子” (fork), which was asked in the assessment, and explained that he had to say “cha1” in Mandarin to give the first sound of “chā zi” to the patient and it could give semantic hints to the patient because “chā” conveys the function of a fork.

With the example from Ian and some insights into the Mandarin language, Sarah offered a suggestion in T3: instead of giving the full sound of the first character in Mandarin for *fork*, the other option was to give “ch”. Both Sarah and Ian were considering whether “ch” can be applied in Mandarin and finally in T6 Ian expressed his concern that it could become more difficult for the patient to guess the word. As Sarah understands some Mandarin, she suggested that whether it would become more difficult might depend on whether that person being tested has learned Mandarin based on *Pinyin* or other sound system. In T8, Ian agreed that if the person being test was not familiar with the *Pinyin* system, then “ch” would not make any sense to them because he believed that “ch” was not a complete sound of the word but partial sound of the word. The

dilemma associated with this particular word was that by giving “cha” in Mandarin, it did give away the meaning of the word because the second element of the word ‘zi’ did not carry any semantic meaning. Ian used the word ‘toothbrush’ as another example in T12 and said the first sound of the word was *yá*, which was the first character of the word and it meant tooth. The second character of the word was *shua1*, which meant *brush* in English. Therefore, in this case he could identify no partial sound of the word he could give to the patient, and the only option was to give the sound of *yá* to the patient. Sarah again offered a suggestion in T15 that the sound of the letter ‘y’ could be given to the patient instead; Ian suggested that this was not a viable option in T16, but did not give further explanation.

In this extract, the focus of the discussion was about the applicability of the items and the standard administration of these items (involving phonological cues) in the naming object subtest in the Mandarin language. To holistically examine the problems that arose in this discussion, one again needs to have some linguistic knowledge about English and Mandarin. In contrast to alphabet-based languages such as English, Mandarin is classified as a logographic language that uses characters as words or morphemes (Ho and Bryant, 1997; Li, 2002). More importantly, Mandarin, as a spoken form of Chinese, is a monosyllabic language and each syllable or character carries a meaning.

Although it is generally agreed that words are produced from a process called phonological encoding where phonemes are planned and activated, some researchers argue that only the entire syllable unit can be planned and activated in Mandarin (Wong, Huang and Chen, 2012) and some studies insist that phonemes are less important or not important at all in the process of word production in Mandarin (Qu, Damian & Kazanina, 2012). One possible reason that phonemes are believed to be less important in Mandarin is that unlike alphabetic-based languages, there are no orthographic units that represent individual phonemes; another possible reason is that most pronunciation errors in Mandarin are syllable-related not phoneme-based (Qu, Damian & Kazania, 2012). Although the issue of whether Mandarin word production is activated by syllables or phonemes is controversial, more and more studies suggest that phonemes do in fact play an important role as phonological

production units in both English and Mandarin (Yu & Mo, 2014; Yu, Mo, Li & Mo, 2015). More importantly, a study of a Mandarin-speaker with Broca's aphasia showed that the person made more errors on the initial consonant phoneme of a Chinese syllable called *shengmu* than the final phonemes of a Chinese syllable called *yunmu* (Zhang, Tian, Wei, Yu, Chen, Wang, 2011). Similarly, Newman, Tardif, Huang and Shu (2011) indicate that if a phoneme of a Chinese syllable changes, the whole syllable changes and the word changes too, which is identical in English.

Therefore, it is highly likely that the initial-phoneme phonological cues that speech pathologists use in the object naming subtest for people with aphasia is also applicable in the Mandarin language. Moreover, based on above-mentioned literature, it seems that the suggestions from Sarah regarding the two words *fork* and *toothbrush* are correct and appropriate. According to Zhang et al (2011), in Chinese Pinyin system, most characters or syllables entail one *shengmu*, the initial phoneme and one *yunmu*, the second or final phoneme; both *shengmu* and *yunmu* can be represented orthographically. In Extract 11, fork is equivalent in Mandarin as *cha1 zi*, and the initial phoneme of *cha1* is *ch*. The single syllable *cha* consists of an initial phoneme (*shengmu*) '*ch*' and a final phoneme (*yunmu*) '*a*' in *Pinyin*. Similarly, the word *toothbrush* is equivalent to *ya2 shua1* in Mandarin. In the single syllable *ya*, *y* is the first phoneme and *a* is the second or final phoneme. These phoneme and syllable phenomena are not expert linguistic knowledge that only a Mandarin linguist would know. The knowledge of *shengmu* and *yunmu* is taught to school-age children in China when they learn how to say words in Mandarin by using *Pinyin*.

The reason why Ian rejected the suggestions from Sarah in the debriefing session is a question that deserves a closer look. It is unlikely that Ian did not have the knowledge of *shengmu* and *yunmu* if this knowledge is taught to school-age children in China, because Ian is from mainland China and has received education in China. One possible reason is that there was misunderstanding between Sarah and Ian when Sarah requested Ian to give 'the first sound in Mandarin'. For Ian, as an interpreter, the first sound in Mandarin was the sound of the first syllable or the character, as shown in T2.

However, for Sarah, as a speech pathologist, ‘the first sound’ referred to the initial phoneme in the target language. The knowledge schemas between Ian and Sarah are thus mismatched because the two professionals had different understanding of what was meant by ‘the first sound of the word’. Because Ian did not have the knowledge of speech pathology, ‘the first sound of the word’ referred – in his mind – to the sound of the first character of a word. Firstly, from Ian’s perspective, or from the perspective of an average Mandarin-speaking person, the ‘sound’ of a Chinese word might be something that the listener can understand. Phonemes in Mandarin (as in English) do not carry any meaning. Secondly, in Chinese, characters are different from words (Li, 2002). Words in Chinese range from one-character words to three-character words. In modern Chinese, most words have two characters and hence most Chinese words are disyllabic (Li, 2002). For Ian, *cha1 zi* (fork) was one word, so was *ya2 shua1* (toothbrush). Both the two words in Mandarin consisted of two characters and were disyllabic. It was understandable for Ian to view that the first sound of the word *cha1 zi* was the sound of the first character, namely the sound of the first syllable. As she has some knowledge of Mandarin, Sarah was able to offer good suggestions to Ian. However, because Sarah possessed the knowledge schema of a speech pathologist, she was perhaps unable to understand how an average Mandarin-speaking person would perceive the meaning of ‘the first sound of the word’. As a result, she did not go further to explain to Ian why she came up with the suggestions and what would she have looked for if the patient had been a monolingual English-speaker.

As shown in this extract, misunderstanding caused by the mismatch of the knowledge schemas between Ian and Sarah could potentially cause misdiagnosis of the patient’s speech ability. The debriefing session in this new model provided a great opportunity for Ian and Sarah to explore this issue, but unfortunately, there was probably a lack of awareness between them that their knowledge schemas on the aspect of the assessment diverged.

3.4 interviews

After the debriefing session, Sarah and Ian were interviewed remotely by the researcher to get their feedback on the way that the aphasia assessment was conducted under the new model. The prepared interview questions were in some cases adapted to fit better with the specific features of the actual assessment session that had just taken place. Their responses were categorised into the following thematic areas: linguistic and cultural issues, quality of information, role boundaries, telephone interpreting mode and practical constraints.

3.4.1 Linguistic and cultural issues

Both Ian and Sarah appreciated the extra time allocated to the debriefing session where they could discuss the linguistic features of the patient's speech in detail. Given the fact that she had some knowledge about Mandarin, Sarah might not have asked Ian as many questions to clarify as other speech pathologists would have done. However, the time allocated to the debriefing session enabled her to further understand the patient's language and some cultural information which would affect the analysis of the results of the assessment later. As an interpreter, Ian indicated that he felt more engaged in the assessment under the new model as he could describe the patient's linguistic and cultural information in a less rushed way. However, he confessed that he was not very confident in doing so because he had not received training in this area. In Ian's words, *'Sarah just asked me to give a score, to be honest, we don't know how to give a score out of 10'*.

3.4.2 Quality of information

One of the main purposes of the study was to see if better quality information would be obtained under the new model. Sarah believed that the new model played a positive role in helping her to get more accurate data for future therapy planning. Having the interaction session recorded and the chance of hearing it multiple times while the interpreter was still present allowed her the opportunity to find out what the speech errors were, which was sometimes hard to do on the spot. Sarah said, *'this really helped avoiding important information being lost in translation'*. Similarly, Ian said, *'by listening to the recording again, we might find something we missed at the assessment and*

it increased the accuracy of the assessment'. It was worth mentioning that the initial misinterpretation that occurred during the assessment itself was largely due to the interpreter's inability to visualise the test items over the phone.

3.4.3 Role boundaries

In interpreter-mediated language assessments, the speech pathologist normally asks some questions that the interpreter would not be asked in other interpreting settings. In this study, Ian said '*I felt more involved*' but was not confident in commenting the patient's Mandarin intelligibility because he did not know the scoring criteria, although he did score the patient's Mandarin intelligibility in responding to Sarah's request. Sarah agreed that it was not the interpreter's job to analyse the patient's speech, but what speech pathologists were looking for in this type of language assessment was how close the patient's utterance was to the target words in the patient's language, for example, whether the sound of a word produced by the patient was different from the sound of the target word, or whether the words from the patient were different from the target words. In this regard, Sarah indicated that she was uncertain what types of questions would challenge the interpreter's role and she did not want to put pressure on interpreters in terms of answering these questions. Having said that, Sarah did not provide further comments as to how she dealt with this issue.

3.4.4 Telephone interpreting

Both Ian and Sarah felt that doing the assessment over the phone complicated the process of giving cues through the interpreter. For Sarah, it was hard to directly compare the two models because the new model was conducted over the phone due to COVID-19. Ian said, '*under the new model, the only thing was I couldn't see the patient*'. Not being able to interpret face to face was the only thing that Ian did not feel comfortable with under the new model. It is true that telephone interpreting makes interpreters only rely on hearing what is said without any visual hints or disturbances.

Depending on the nature of the booking, telephone interpreting may be efficient in some short and

easy conversation. However, for complex appointments, such as in the contexts of speech pathology and psychiatry where the patient's utterance could be unclear, face to face interpreting is still the preferred interpreting mode.

3.4.5 Practical constraints

From the interpreter perspective, Ian felt that there was not sufficient time allocated for the booking of the interpreter under the current model that does not include a dedicated time allocation for debriefing between the interpreter and the speech pathologist. He believed that the interpreters for this type of assessment should be booked for longer time, including a good pre-session briefing. However, Sarah indicated that the reason for not initiating a longer pre-session briefing was that it was unrealistic to go through the test items one by one with the interpreter beforehand. It was also uncertain whether or not the full assessment could be completed within the allocated booking time or how far it could proceed. Ian expressed that the proper debriefing session not only gave the opportunity for the interpreter to provide more information to the speech pathologist but also allowed the interpreter to better understand what they are expected to do and how they could do it better next time. Sarah also agreed with these points. If the environment allowed, she indicated that she would prefer to do the assessment under the new model. However, speech pathologists also face the pressure of time constraint. Sarah found that it was hard to block one hour and a half to do the assessment with the new model. Within the time constraints under the current model, Sarah believed they could at least obtain some information or summary from the interpreters. In her opinion, under the current model, she could ask the interpreter some questions on the spot so that she would not forget to do so later, although having extra time for debriefing was still helpful. More importantly, beyond the expectation of the study, Sarah stressed that interpreter-mediated aphasia assessment was just one aspect that they relied on when diagnosing the patient's speech disorder. The patient's progress with respect to the language disorder was another factor that they would consider as time goes by. If the patient did not have enough language production, then the speech

pathologist would not be able to make a full diagnosis anyway. Additionally, sometimes it took a few assessments to obtain a complete picture of the way in which a patient's language was impacted by aphasia. Sometimes the speech pathologists did some therapy sessions first and assessments later, or the full assessment could be completed during a few separate and short sessions, depending on the individual patient's situation.

3.4.6 Suggestions for the new model

There were no suggestions from Ian as per how the new model could be improved. The suggestion from Sarah about the new model was twofold. First, the amount of time spent on the debriefing session under the new model was a major issue to consider as to its feasibility in clinical practice. Also, it was impossible to videotape every session, and some patients were not comfortable with being recorded by video. Audio recording might be more feasible, but logistically it would not be as good as video recording because things such as gestures and facial expressions cannot be captured in audio recordings. Second, when working with speech pathologists in conducting such assessments, Sarah noted that the performance and the responses from individual interpreters varied greatly. For instance, she commented that some interpreters know what information speech pathologists would like them to provide, whereas others do not. This may be related to the training and experiences of individual interpreters.

Chapter Four

General Discussion and Conclusions

The present study is a preliminary empirical investigation of the effectiveness of a new model of interpreter-mediated aphasia assessment that includes a pre-session briefing, a video-taped interaction and a debriefing session. The key findings are summarised as below.

4.1 Misunderstanding of syllables and phonemes

Mandarin is a logographic language that is different from English, which is an alphabetic language. In Mandarin, there are twenty-seven phonemes, of which there are twenty consonants (Wong, 1953). As mentioned earlier, the testing material used in this encounter was designed for English-speaking patients, and hence it raised the question as to whether or not some of the test items were applicable to the assessment of aphasia in a Mandarin-speaking patient. The interpreter in this study faced the challenge of having to decide what to say to the patient when he was requested by the speech pathologist to give the first ‘sound’ of a word in Mandarin. Due to the mismatch of the knowledge schemas between the speech pathologist and the interpreter in conceptualising the ‘first sound’ of a word, what the interpreter did during the assessment was not actually what the speech pathologist would have done for an English-speaking patient. When the speech pathologist said, “the first sound of the word”, she meant the initial phoneme of the word. In addition to that, if interpreters do not have specific linguistic knowledge and an understanding of the purpose of phonological cueing in language assessments, it is highly unlikely that they would be able to produce the ‘sound’ that the speech pathologist would require. According to Wong (1953), one syllable in Mandarin represents a character, and can represent a word or part of a word. If the target word in Mandarin is a disyllabic word, it is very natural for an average Mandarin-speaking person to produce the sound of the first character as the ‘first sound of the word’. Interpreters in these circumstances would require further

instructions from the speech pathologist to deliver the kind of ‘sound’ clue that the speech pathologist intends.

Although extra time was allocated for the debriefing session, the issue discussed above was not resolved. One of the possible reasons would be that the interpreter and the speech pathologist came from different disciplines, and they were not familiar with each other’s practice and the terms used. For instance, usually interpreters would not know what language production involves and what speech pathologists are looking for exactly. Secondly, the interpreter might not have sufficient metalinguistic knowledge to tell the speech pathologist about the features of the Mandarin language. Key issues such as what morphemes or phonemes are in Mandarin, and judgment of a Mandarin-speaking person’s language intelligibility fall well outside the professional role of the interpreter, and are also beyond the level of linguistic knowledge that speakers normally have about their first language. Consequently, simply allotting extra time for a debriefing session in this case seemed to be not enough. Interpreters booked for language assessment would require further and targeted special training to equip themselves with the knowledge of speech pathology and associated linguistic knowledge in their working languages. For example, this study found that targeted training for interpreters about what the speech pathologist is looking for in object naming might help interpreters better understand the aim of this specific subtest. Also, training that targets the development of metalinguistic knowledge of the language or languages that interpreters work with would probably strengthen the confidence of interpreters working in this setting.

4.2 Mandarin dialects

Another interesting finding from the study is how Mandarin dialects could affect the interpreter’s rendition and the patient’s responses. As mentioned earlier, Chinese Mandarin is regarded as lingua franca in some Asian regions. Affected by geography, history and politics, spoken Mandarin varies in many aspects across these regions. Even in mainland China, lexical variation in Mandarin is observed

across China from the south to the north (Li, 2006). Wider variation in Mandarin occurs in other regions outside of mainland China, such as Singapore or Malaysia.

In the study, the patient originally came from Taiwan where spoken Mandarin is different from the variety spoken by the interpreter, who is from mainland China. Because the unique history of Taiwan and its complex relationship with mainland China, Mandarin spoken in Taiwan varies from that in the mainland of China in lexicon and syntax.

The interpreter in this study identified lexical variation between Taiwan Mandarin and Standard Mandarin that could possibly affect the patient's ability to capture the hints given by the interpreter for object naming. A study to investigate the lexical variations between Taiwan Mandarin and Standard Mandarin through corpus data from conversations and newspapers found that there are many terms and expressions in Taiwan Mandarin are actually 'loanwords' from Southern Min which is a language that most of the early migrants speak in Taiwan (Hsieh & Yeh, 2009). Li (1985) emphasises that some lexicons and idiomatic expressions in GuoYu are so different from that of Standard Mandarin that misunderstanding could occur between GuoYu speaking person and Standard Mandarin speaking person. However, it is less likely that major communication breakdown could occur in normal communication where the interlocutors do not have language disorders. For instance, if a Standard Mandarin-speaking person does not understand a specific term or expressions from a GuoYu person, they can just clarify with each other or sometimes there are contextual cues that can help with the communication. Usually, with interpreter-mediated interaction in other settings, interpreters can seek clarification from clients if they do not understand what the clients say. However, when the client has a language disorder like aphasia, the attempts from the interpreter to seek clarification would become less effective in terms of facilitating the assessment or therapy. If the interpreter gives the initial sound of a word that is only used in Standard Mandarin, the patient who has comprehension and expressions impairment would limit his or her ability to link that sound to the memory bank and produce that word. Similarly, if the

interpreter is asked to report whether or not the patient pronounces a word accurately, it would be hard for the interpreter to decide whether any sound variations are attributable to dialect variation or the language disorder.

This issue may not be something that is uncommon. The present study illustrated that the debriefing session provided a good opportunity for the interpreter to bring up this issue with the speech pathologist so that the speech pathologist can consider this in the outcome of the assessment.

4.3 Role boundaries for interpreters

The study found that the issue of role boundaries for interpreters in the setting of language assessment with speech pathologist indeed pose challenges for both interpreters and speech pathologists. This finding corresponds to findings from previous literature that some questions asked by the speech pathologist would put the interpreter in an ethical dilemma (Clark, 1998; Roger & Code, 2011; Roger & Code, 2018). On the one hand, the AUSIT Code of Ethics specifies that interpreters should not provide any opinions or suggestions during the course of interpreting. On the other hand, the Code of Ethics also states that interpreters should provide relevant linguistic and cultural information to the clients to facilitate the interaction. The study showed that in an interpreter-mediated aphasia assessment, the speech pathologist not only asked the interpreter for language specific information but also asked the interpreter to score the patient's language intelligibility. Additionally, the discussion between the speech pathologist and the interpreter in the debriefing session demonstrated that the role of the interpreter in this particular setting is different from other healthcare settings.

The interpreter assisted the speech pathologist to understand the patient's language intelligibility by explanation of the words and sounds used by the patients as well as justification of his rendition. In the debriefing session, the interpreter's footing was completely different from that in the assessment session. During the assessment, the interpreter was interpreting for the speech pathologist. He was a *recapitulator* (in the reception format) and an *author* or *animator* (in the production format) most of

the time. However, he became a *responder* (in the reception format) and a *principal* (in the production format) in the debriefing session. Even during the debriefing session, when listening to the recording, he sometimes appeared to be listening as a *reporter* and responding as an *animator* while at other times he adopted a different alignment to the recorded utterances and the speech pathologist, to take the role of a *recapitulator* or *responder*. By giving information or responses to the speech pathologist that he was responsible for, he switched from his role as an interpreter to another role. In this ‘other’ role, he responded to the questions from the speech pathologist directly and provided information based on his own experiences and knowledge. This ‘extra’ role is not a completely new role for interpreters. Even under the current model, interpreters are already asked to perform dual roles to assist with the assessments. This has been identified by many previous studies (Clark, 1998; Langdon, 2016; Kambanaros & van Steenbrugge; Langdon & Quintanar-Sarellana, 2003; Roger & Code, 2011;). Building on these previous observations, the current study found that there were multifaceted details that the interpreters can potentially provide to the speech pathologists in helping with the diagnosis. The role of the interpreters in this regard is so special that it should not be overlooked.

The study found that the speech pathologist was also uncertain about the role boundaries of interpreters. This lack of familiarity with interpreter’s role boundaries indicated that speech pathologists may benefit from obtaining knowledge about interpreter’s role so that the two professionals can work well with each other. This finding is in line with other literature that encourage further cooperation between the two professionals in the context of speech disorder assessment (Langdon, 2016; Isaac, 2005; Isaac, 2006).

4.4 Feasibility of the new model

One of the most important findings from this study is the suggestions from the speech pathologist and interpreter participants who used the new model for an aphasia assessment. It is acknowledged in both literature and the study that the new model offered extra time for the speech pathologist and the interpreter to identify the speech errors from the patient in debriefing, avoiding putting the

patient 'on hold' during assessment (Roger & Code, 2018). However, the feasibility of such a model is in question considering the time constraints in real clinical practice for both the speech pathologist and the interpreter. The last thing everyone wants to see is that the patient waits for a longer time to have a full assessment due to difficulty of finding the availability of both the speech pathologist and the interpreter for an extended appointment to conduct the assessment. The dilemma sits between getting quality information from the assessment and the availability of the speech pathologist and the interpreter.

Additionally, aphasia assessments are not always conducted at one sitting. As the speech pathologist stated, sometimes it took a few sessions to complete the assessment and other times patients do not always have the full assessment before therapy commences. Therefore, some implication from the new model is that in the future, it might be useful to record the parts of the assessment that are more dependent on the interpreters' linguistic knowledge and discuss them with the interpreter at an allocated debriefing session. Additionally, the development of standard questions or discussion points that facilitate the debriefing session between the speech pathologist and the interpreter and materials that outline the various roles played out so the speech pathologist and the interpreter have some common understanding to start with might be helpful. Development of relevant resources and stronger argument for benefits may balance out practical time constraints. Another potential issue with the new model is whether all patients would be comfortable accepting the assessments being video recorded. Patient care is the paramount focus for health care professionals. Consent to be video recorded must be obtained from patients before the new model is used.

4.5 Limitations and Implications

The study aimed to find out if a new model of interpreter-mediated aphasia assessment for CALD patients proposed by previous literature would help to generate more information for speech pathologists in diagnosing the patient's language problems. The new model includes a recorded assessment session and a debriefing session where the speech pathologist and the interpreter viewed

the recorded video together and discuss any linguistic or cultural issues arose from the assessment session.

There was some useful information that came out from the study, and this information would not have come out if the assessment had been conducted under the existing model. The current study demonstrates that the new model is potentially useful in helping speech pathologists to work more effectively with interpreters and obtain extra information that would improve the quality of the assessment. The main findings of the study include issues of syllable and phoneme between English and Mandarin and the misunderstanding of the terms and their applications in the speech pathology assessment context, the role of Mandarin dialect variation in interpreting for patients with aphasia, role boundaries for interpreters and the feasibility of the new model.

One of the biggest limitations of the study is that the assessment under the new model was assisted by a phone interpreter due to the precautionary measures taken by NSW Health in the face of COVID-19, where most of the interpreter bookings were delivered via telephone. The original design of the study was to have a face-to-face interpreter present in the assessment and the interpreter could watch the video together with the speech pathologist at the debriefing session. The inconvenience caused by telephone interpreting affected the study in a way that the interpreter could not visualise the pictures given by the speech pathologist to the patient during assessment and it resulted (on one occasion) in misinterpretation. However, the impact was minor given that the interpreter had the chance to rectify the misinterpretation during debriefing. The impact on the debriefing session was very minimal. If the interpreter had been able to watch the recorded video instead of listening, the speech pathologist might not have had to replay the recording multiple times. The participants' comments suggested that the sound quality over the phone might have been the main problem in this case.

Another limitation was that this study was a single case study and the language chosen in the study was Mandarin only. The findings might not apply to every aphasia assessment and all languages. The

knowledge and experiences of the interpreters and the speech pathologists, as well as the severity of the aphasia of the patients would also affect the outcome of the new model. The speech pathologist in this study had some knowledge about Mandarin, hence she might have been able to pick up some speech errors of the patient without clarifying with the interpreter. However, as she emphasised, she did normally use a Mandarin interpreter for aphasia assessment because her dominant language was still English, and she could not pick up all linguistic features in Mandarin-speaking patients.

Based on the findings, it might be worthwhile to develop a similar large-scale study to include more languages. Given that the practical constraints observed from this study, the future study could fine-tune the new model by adding more flexibility. For instance, speech pathologists can decide in advance which parts of the assessment are most reliant on interpreters and then record these segments only for later use at the debriefing time. This may be more realistic and does not compromise the quality of the information. It is also desirable to plan some specific training for interpreters working with speech pathologists. For instance, the training could include what the 'first sound' of word means for speech pathologists, and how giving cues in object naming could be incorporated into different languages.

Mutual understanding and effective cooperation between speech pathologists and interpreters will benefit CALD patients who require services from the two professions. The present study provided a preliminary outcome that more useful diagnostic information for the speaker with aphasia was obtained under the new model used in the study. Although there were limitations, the findings could be used to guide future larger studies and specific training for interpreters and speech pathologists in how to cooperate with each other in this context.

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Appendix 1: Transcription Convention

[]	Square brackets mark the start and end of overlapping speech. They are aligned to mark the precise position of overlap.
()	empty brackets mean inaudible. (This can also be shown with xxxxx)
(word)	putting the word in brackets means that the transcriber was not sure if this was exactly what was said.
<u>underlining</u>	indicates emphasis
CAPITALS	mark speech that is louder than surrounding speech. This is beyond the increase in volume that comes as a by-product of emphasis.
ˆsoft speechˆ	‘degree’ signs enclose noticeably quieter speech.
((hysterical laughter))	Additional comments from the transcriber, e.g. about features of context or delivery.
str:::etch	Colons show degrees of elongation of the prior sound; the more colons, the more elongation.
y’reckon?	Question marks signal stronger, ‘questioning’ intonation, irrespective of grammar.
no.	Full stops mark falling, stopping intonation (‘final contour’), irrespective of grammar, and not necessarily followed by a pause.
whatever?	Mark rising intonation (not necessarily a question)
↓	Vertical arrows precede marked pitch movement, over and above normal rhythms of speech. They are used for <u>notable</u> changes in pitch, stronger than the ones denoted by ? and . [You can find these using ‘insert symbol’ function in Word]
bu -	hyphens mark a cut-off of the preceding sound.
>he said<	‘greater than’ and ‘lesser than’ signs enclose speeded-up talk. Occasionally they are used the other way round for slower talk.
home= =The	‘Equals’ signs mark the immediate ‘latching’ of successive talk, whether of one or more speakers, with no interval between, but no overlap.

Appendix 2: Questions to be asked to the interpreter at interview

1. What do you think about the current model of interpreter-mediated aphasia assessment for patients from diverse language backgrounds? (Prompt if necessary: what tends to work well, and what tends to work not so well?)
2. What do you think about the 'new model' of interpreter-mediated aphasia assessment for patients from diverse language backgrounds? (Prompt if necessary: Did you feel that your role was different? What worked well? What did not work well?)
3. What do you think are the pros and cons of the new model?
4. Did the 'new model' involve you more in describing the language patterns of the patient's speech? If so, in what ways did this occur?
5. To what extent did you feel confident about describing the linguistic features of the patient's speech? Can you elaborate, or give some specific examples?
6. Overall, do you prefer the current model or the new model? Why?
7. What suggestions do you have for the new model?

Appendix 3: Questions to be asked to Speech Pathologist at interview

1. What do you think about the current model of interpreter-mediated aphasia assessment for patients from diverse language backgrounds? (Prompt if necessary: what tends to work well, and what tends to work not so well?)
2. What do you think about the 'new model' of interpreter-mediated aphasia assessment for patients from diverse language backgrounds? (Prompt if necessary: Did you feel that your role was different? What worked well? What did not work well?)
3. What do you think are the pros and cons of the new model?
4. Has the new model helped you cooperate better with the interpreter than that under the current model? If so, can you elaborate?
5. Do you think the new model helped you get the diagnostic information better than the current model? Can you explain why, or why not?
6. Overall, do you prefer the current model or the new model? Why?
7. What suggestions do you have for the new model?

Appendix 4:

CONSENT FORM

[To be used in conjunction with a Participant Information Sheet]

[A New Model of Interpreter-Mediated Aphasia Assessment for People from Diverse Language Backgrounds]

[Use plain English equivalent if a technical title]

1. I,.....
of.....
agree to participate in the study described in the participant information statement set out above (**or: attached to this form**).
2. I acknowledge that I have read the participant information statement, which explains why I have been selected, the aims of the study and the nature and the possible risks of the investigation, and the statement has been explained to me to my satisfaction.
3. Before signing this consent form, I have been given the opportunity of asking any questions relating to any possible physical and mental harm I might suffer as a result of my participation and I have received satisfactory answers.
4. I understand that I can withdraw from the study at any time without prejudice to my relationship with the **[Hospital Name]**.
5. I agree that research data gathered from the results of the study may be published, provided that I cannot be identified.
6. I understand that if I have any questions relating to my participation in this research, I may contact Hui Tao on telephone 042 038 9926, who will be happy to answer them.
7. I acknowledge receipt of a copy of this Consent Form and the Participant Information Statement.

_____ Signature of participant	_____ Please PRINT name	_____ Date
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_____ Signature of witness (if applicable)	_____ Please PRINT name	_____ Date
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_____ Signature of investigator	_____ Please PRINT name	_____ Date
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Appendix 5:

Date of Decision Notification: 24 Jul 2019

Dear Hui Tao, Thank you for submitting the following Human Research Ethics Application (HREA) for HREC review;

2019/ETH03633: A new model of interpreter-mediated aphasia assessment for people from diverse language backgrounds This project was considered by the **South Western Sydney Local Health District Human Research Ethics Committee** at its meeting held on **24/07/2019** and was determined to meet the requirements of the National Statement on Ethical Conduct in Human Research (2007). This project has been Approved to be conducted at the following sites:

- South Western Sydney Local Health District (Site)

The following documentation was reviewed and is included in this approval:

- Project Registration
- Human Research Ethics Application, Version 3.0, 12.07.2019
- Protocol, Version 4.0, 14.06.2019
- MASTER Participant Information Sheet, Version 2.0, 19.06.2019
- MASTER Participant Information Sheet – Patients with aphasia, Version 2.0, 19.06.2019
- MASTER Participant Information Sheet – Speech Pathologist, Version 2.0, 26.06.2019
- MASTER Consent Form, Version 2.0, 19.06.2019
- Interview Questions for Interpreter, Version 2.0, 12.07.2019
- Interview Questions for Speech Pathologist, Version 2.0, 12.07.2019 Application Documents -

(Please note : Due to security reasons, this link will only be active for 14 days.)

The Human Research Ethics Application reviewed by the HREC was:

Version: 3

Date: 12 Jul 2019

It is noted that the South Western Sydney Local Health District Human Research Ethics Committee is constituted in accordance with the National Statement on Human Conduct in Research, 2007 (NHMRC). The approval is for a period of 5 years from the date of this e-mail (24 Jul 2019) , on condition of the submission of Annual Reports. We wish you all the best with the project and remind you that any changes to the application and safety reports will need to be submitted and reviewed by the approving HREC prior to implementation.

This email constitutes ethical and scientific approval only. This project cannot proceed at any site until separate research governance authorisation has been obtained from the Institution under whose auspices the research will be conducted at that site.

This HREC is constituted and operates in accordance with the National Statement on Ethical Conduct in Human Research (2007). The processes used by this HREC to review multi-centre research proposals have been certified by the National Health and Medical Research Council.

Please contact us if you would like to discuss any aspects of this process further, as per the contact details below. We look forward to managing this application with you throughout the project lifecycle.

Please note the following conditions of approval:

1. The Principal Investigator will immediately report anything which might warrant review of ethical approval of the project in the specified format, including: any serious or unexpected adverse events; and unforeseen events that might affect continued ethical acceptability of the project.

1. The Principal Investigator will report proposed changes to the research protocol, conduct of the research, or length of HREC approval to the HREC in the specified format, for review. For multi-centre studies, the Chief Investigator should submit to the Lead HREC and then send the amendment

approval letter to the investigators at each sites so that they can notify their Research Governance Officer.

1. The Principal Investigator will inform the HREC, giving reasons, if the project is discontinued before the expected date of completion.

1. The Principal Investigator will provide an annual report to the HREC and at completion of the study in the specified format.

1. The Principal Investigator must reassure participants about confidentiality of the data.

1. Proposed changes to the personnel involved in the study are submitted to the HREC accompanied by a CV where applicable.

1. The Principal Investigator is responsible for ensuring the research project is conducted in line with relevant NSW Health, South Western Sydney Local Health District and Hospital policies available

from: <https://www.swslhd.health.nsw.gov.au/ethics/policies.html>

Please quote the Local HREC reference 2019/ETH03633 in all correspondence. The HREC wishes you every success in your research.

Yours faithfully

Jessica Grundy

on behalf of

Professor Jeremy Wilson Chairperson, SWSLHD Human Research Ethics Committee

This HREC is constituted and operates in accordance with the National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research (2007)*. The processes used by this HREC to review multi-centre research proposals have been certified by the National Health and Medical Research Council.

Kind regards,

Andrea Lee

Research Ethics and Governance Coordinator | **Research Directorate**

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