

The acquisition of *wh*-question constructions in Mandarin Chinese by L1 isiXhosa-speaking and L1 English-speaking high school learners

by

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ABSTRACT

This study investigates the acquisition of main clause *wh*-questions in Mandarin Chinese, at an elementary stage of language learning, by first language (L1) English- and L1 isiXhosa-speaking high school learners. English is termed a “*wh*-movement” language because the *wh*-expression moves from its canonical position in the clause into a sentence-initial position. In English, the *wh*-feature is said to be marked and strong ([*uwh**]), resulting in movement of the *wh*-expression. isiXhosa and Mandarin, however, are both “*wh*-in-situ” languages because the *wh*-feature is claimed to be unmarked and weak ([*uwh*]), resulting in the *wh*-expression receiving its phonetic spell-out “on site”. According to the Initial Hypothesis of Syntax (IHS; Platzack, 1996), unmarked features are present in a learner’s L1 (and L2/L3) initial state as the “default” features. The [-movement] parameter associated with the selection of the unmarked [*uwh*] feature results in in-situ *wh*-question constructions and is claimed to be the first parameter tested against target language (TL) input. Consequently, the acquisition of in-situ *wh*-questions is expected to be unproblematic.

It was tested whether L1 isiXhosa (L2 English L3 Afrikaans) participants would outperform L1 English (L2 Afrikaans) participants on a set of *wh*-question tasks as a result of facilitative L1 transfer, or whether results would be comparative due to the unmarked [*uwh*] feature’s early instantiation in the participants’ Mandarin interlanguage grammar. Sentence formation, oral production, grammaticality judgement and sentence translation tasks were administered to 20 participants. Results did not reveal a statistically significant difference between the two groups’ performance, but an analysis of the participants’ errors revealed different patterns indicative of L1 and L2 (or L3) transfer. Both groups failed to fully acquire the correct *wh*-in-situ structure in Mandarin and transfer from English or Afrikaans was evident, resulting in a close to even split between *wh*-movement and *wh*-in-situ structures being produced or rated as grammatical.

The two groups’ production/selection of both *wh*-in-situ and *wh*-movement questions at an elementary stage of language acquisition suggests that the unmarked [*uwh*] feature associated with the [-movement] parameter is instantiated in their early TL

grammars, but that transfer of the [+movement] parameter is still prevalent at this stage. It is predicted that without the necessary morphological competence required to recognise that the marked strong [*uwh**] feature of *wh*-movement languages is not instantiated in Mandarin, variability will persist in the form of transfer from the learners' previously acquired grammars until Mandarin input is sufficient to eliminate the selection of the [*uwh**] feature and application of the [+movement] parameter.

This study supports the claim that unmarked features are present in a learner's initial state. Crucially, however, results indicate that L3/L4 (and, by assumption, L2) acquisition does not *only* commence with the most economical derivations, but that all other previously acquired linguistic knowledge forms the basis for the learner's initial hypotheses about the TL grammar. As such, it is claimed that the IHS does not have precedence over cross-linguistic influence. Finally, it is also revealed that, as with child language acquisition, *wh*-words are acquired in a specific order by adults too, and that this acquisition order is based on the syntactic and semantic complexity of the *wh*-word in question.

Opsomming

Hierdie studie doen ondersoek na die verwerwing van hoofklous-*wh*-vrae in Mandarynse Chinees, tydens die vroeë fase van taalverwerwing, deur eerstetaal (T1-) Engels- en T1-isiXhosa-sprekende hoërskoolleerders. Engels word beskryf as 'n “*wh*-skuif”-taal vanweë die feit dat die *wh*-uitdrukking uit sy kanoniese posisie in die klous na 'n sin-inisiële posisie verskuif. In Engels word die *wh*-kenmerk beskou as gemarkeerd en sterk ([*uwh**]), eienskappe wat lei tot die verskuiwing van die *wh*-uitdrukking. IsiXhosa en Mandaryns is egter beide “*wh*-in-situ”-tale omdat die *wh*-kenmerk beskou word as ongemarkeerd en swak ([*uwh*]), eienskappe wat op hul beurt veroorsaak dat die *wh*-uitdrukking foneties uitgespel word in sy oorspronklike posisie. Volgens die Inisiële Hipotese van Sintaksis (IHS; Platzack, 1996) is ongemarkeerde kenmerke teenwoordig in 'n taalleerder se T1- (en T2-/T3-) inisiële staat as die “verstek”-kenmerke. Die [-skuif]-parameter wat geassosieer word met die seleksie van die ongemarkeerde [*uwh*]-kenmerk lei tot in-situ-*wh*-vraagstrukture en word beskou as die eerste parameter wat teen teikentaal- (TT-) toevoer getoets word. Daar word gevolglik verwag dat die verwerwing van in-situ-*wh*-vrae onproblematies sal wees.

Die studie het beoog om vas te stel of T1-isiXhosa (T2-Engels T3-Afrikaans) deelnemers beter sal vaar as T1-Engels (T2-Afrikaans) deelnemers op 'n stel *wh*-vraag-take vanweë fassiliterende oordrag uit hul T1, of vergelykbaar sal presteer vanweë die ongemarkeerde [*uwh*]-kenmerk se vroeë instansiëring in die deelnemers se Mandarynse intertaal-grammatika. Sinsformulering-, mondelinge-produksie-, grammatikaliteitsoordeel- en sinsvertalingtake is deur 20 deelnemers voltooi. Alhoewel daar geen statisties beduidende verskil tussen die twee groepe se punte was nie, het 'n analise van die deelnemers se foute wel verskillende patrone wat dui op oordrag uit die T1 en T2 (of T3) opgelewer. Nie een van die twee groepe het ten volle daarin geslaag om die korrekte *wh*-in-situ-struktuur van *wh*-vrae in Mandaryns te verwerf nie en oordrag uit Engels of Afrikaans was duidelik. Dít het gelei tot 'n byna gelyke hoeveelheid *wh*-skuif- en *wh*-in-situ-strukture wat geproduseer of as grammatikaal beoordeel is.

Die twee groepe se produksie/seleksie van beide *wh*-in-situ- en *wh*-skuif-vrae tydens die vroeë fase van taalverwerwing dui daarop dat die ongemarkeerde [*uwh*]-kenmerk wat met die [-skuif]-parameter geassosieer word, geïnstansieer is in hulle vroeë TT-grammatikas, maar dat oordrag van die [+skuif]-parameter steeds van krag is op hierdie stadium. Dit word voorspel dat, sonder die nodige morfologiese bevoegdheid om te besef dat die gemarkeerde sterk [*uwh*]-kenmerk van *wh*-skuif-tale nie in Mandaryns geïnstansieer is nie, varieerbaarheid sal voortduur in die vorm van oordrag vanuit die leerders se reeds verwerfde grammatikas tot en met Mandarynse toevoer voldoende is om die seleksie van die [*uwh**]-kenmerk en toepassing van die [+skuif]-parameter te stuit.

Hierdie studie ondersteun die veronderstelling dat ongemarkeerde kenmerke in 'n leerder se inisiële staat teenwoordig is. Van grootste belang egter is die resultate se aanduiding dat T3/T4- (en, vermoedlik, T2-) verwerwing nie *slegs* met die mees ekonomiese afleidings begin nie, maar dat alle reeds verwerfde talige kennis die basis vorm vir 'n leerder se aanvanklike hipoteses oor die TT-grammatika. Gevolglik word dit voorgestel dat die IHS nie voorrang geniet bo kruis-linguistiese invloed nie. Lasstens word dit ook openbaar dat, soos in kindertaalverwerwing, *wh*-woorde ook deur volwassenes in 'n spesifieke volgorde verwerf word, en dat hierdie verwerwingsvolgorde gebaseer is op die sintaktiese en semantiese kompleksiteit van die betrokke *wh*-woord.

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CHAPTER 1

INTRODUCTION

1.1 Background and problem statement

On the 26th of March 2013 the government of the Republic of South Africa, through its Department of Education, and the government of the People's Republic of China, through its Ministry of Education, signed a bilateral agreement (cf. Appendix 1) regarding cooperation in the field of basic education. Article 7 states that “[t]he Parties shall encourage the studying of the languages, literature, culture and history of the People's Republic of China in the Republic of South Africa and those of the Republic of South Africa in the People's Republic of China”. Furthermore, Article 8 declares that “[t]he Parties shall cooperate in the facilitation or introduction of the teaching and research of Mandarin at selected South African schools for the purposes of promoting cultural exchanges and research on sinology by South African teachers”. The South African Department of Basic Education (DBE) claims that, because China is South Africa's biggest trading partner, it is beneficial for South African learners to become proficient in Mandarin and to understand Chinese culture.

Consequently, the DBE announced the listing of Mandarin Chinese (i.e. Standard Chinese, hereafter referred to as “Mandarin”) as part of the South African school curriculum. As of January 2016, Grade 4 to 12 learners at a number of select South African schools are able to choose Mandarin as a non-official second additional language subject. This decision has been poorly received by the general public, primarily out of concern that it will detract from the teaching of indigenous languages in South Africa. It should, however, be noted that it is not compulsory for learners to study Mandarin, nor is it compulsory for schools to offer the subject. Rather, as explained by the spokesperson for the DBE, the offering of the subject at a particular school is optional and the manner in which the subject is implemented is at the discretion of the relevant institution. Resultantly, some schools offer it across an

entire grade as a compulsory subject, while others offer it as an optional extra subject with learners attending classes after hours.

The teaching of Mandarin in South African schools is coordinated by the six Confucius Institutes around the country. It is planned that over the next five years, annually, 100 volunteer teachers from China will be sent to teach Mandarin in South Africa, while 100 South African teachers will be sent to China to be trained as Mandarin teachers, so that Mandarin can be taught in South Africa, by South African citizens.

In light of these new developments, it is imperative that teachers are mindful of the fact that South African learners acquiring Mandarin collectively do so against the background of a number of different first languages (L1s) that vary in the degree to which knowledge of them may aid the acquisition of Mandarin. Of South Africa's 11 official languages, isiXhosa is the second most widely spoken language and falls under the Nguni branch of the Bantu languages. To my knowledge, there has only been one comparative study (pertaining to the encoding of temporal relations with a focus on the present tense) on isiXhosa and Mandarin, i.e. that by Ma and Simango (2014). There is also little research on the syntax of isiXhosa in general, and as a result there are no documented facts pertaining to the syntactic similarities and differences between the two languages and to how these similarities can be beneficial to the teaching of Mandarin as a foreign language to L1 speakers of isiXhosa.

1.2 Aims and objectives of the study

Within the field of second language (L2) acquisition, it is widely accepted that one's L1/L2 influences the acquisition of a L2/L3/L4 and that similarities between languages can be beneficial in the acquisition of target language (TL) rules. Previous studies investigating the acquisition of in-situ *wh*-questions have involved only speakers of *wh*-movement languages and have found that, apart from at an elementary stage of language learning, the acquisition of in-situ *wh*-questions by speakers of *wh*-movement languages is not problematic. The aim of this study, however, is to

investigate both the theoretical and practical implications of the acquisition of *wh*-question constructions in Mandarin by speakers of not only a *wh*-movement language, but also a *wh*-in-situ language. It is investigated whether the acquisition problems faced by elementary level learners of Mandarin are the same across speakers of *wh*-movement languages (e.g. English) and speakers of *wh*-in-situ languages (e.g. isiXhosa), or whether the latter group is at an advantage at this elementary stage because of their prior linguistic knowledge of in-situ *wh*-question formation.

Although *wh*-questions have been extensively studied by linguists, the study thereof in the three languages of interest is certainly not equally weighted. The most thoroughly researched is the acquisition of *wh*-questions in English. As English is a *wh*-movement language, it has often been used to test the accessibility of Universal Grammar (UG) to learners who are L1 speakers of a language that does not allow overt *wh*-movement (e.g., Hawkins and Hattori, 2006; Johnson and Newport, 1989; Schachter, 1990; Tayyebi, 2012; White and Genesee, 1996). With regard to the acquisition of *wh*-questions in Mandarin (and other *wh*-in-situ languages such as Korean) by speakers of *wh*-movement languages, fewer studies have been conducted under the surmise that the acquisition of in-situ *wh*-questions (specifically its syntax) is generally unproblematic (cf., for example, Choi, 2009; Goa, 2009; Kim, 2003; Yuan, 2007). Even less research exists on the nature of *wh*-questions in isiXhosa, a language in which the *wh*-expression, as in Mandarin, remains in-situ. Sabal and Zeller (2006), however, investigated the syntax of *wh*-question formation in Nguni languages. The illustrative examples used in their paper are from isiZulu, but the claims made about isiZulu also apply to the other Nguni languages such as isiXhosa (Sabal and Zeller, 2006).

The introduction of Mandarin as an optional school subject in South Africa brings together an unlikely combination of typologically disparate languages. Inspired by this atypical synthesis, as well as by the above-mentioned research (and in some cases the lack thereof), the primary aim of this study is to establish whether and how the acquisition of *wh*-question constructions in Mandarin by L1 isiXhosa- and L1 English-speaking elementary level learners differs. As mentioned above, English, being a *wh*-movement language, differs from isiXhosa and Mandarin in that the latter

two are both languages in which the *wh*-phrase or *wh*-word can remain in-situ. The syntactic similarity of *wh*-question constructions in isiXhosa and Mandarin could prove to be beneficial for L1 isiXhosa speakers if they were to use their L1 knowledge to help them in the acquisition of Mandarin. Because English is a *wh*-movement language, the L1 English speakers do not have this option at their disposal in their acquisition of Mandarin. As such, these speakers may serve as a control group. It should be noted that the L1 isiXhosa-speaking participants are also L2 speakers of English and L3 speakers of Afrikaans. Thus, this study aims to establish whether or not L1 isiXhosa speakers acquiring Mandarin transfer the rules of their L1 onto the L4¹ in a facilitative manner (despite potential interference from their L2 or L3).

Participants for this study were recruited from a secondary school in the Breede Valley municipal area in the Western Cape, South Africa. The school has a dual medium language policy; the two language streams are English and Afrikaans. Many of the school's learners in the English stream are L1 isiXhosa L2 English L3 Afrikaans speakers. The participants, as Grade 9 learners who had already been attending Mandarin classes for a year (as the teaching of Mandarin was implemented in this institution in April of 2015), were tested on their knowledge of sentence constructions containing one of the following three Mandarin *wh*-question words: *shenme* ("what"), *na* ("which") and *nar* ("where"). As this research study employed participants who had only one year of Mandarin classes alongside various other school subjects, the *wh*-question word *shenme shihou* ("when") and *wh*-question words pertaining to more complex interrogative questions, i.e. *weishenme* ("why") and *zenme* ("how"), had not yet been learned by the participants at the time of testing. These words were consequently not included in the testing. Furthermore, at the time of testing, the participants had only encountered simple *wh*-question constructions in their curriculum, therefore these were the only ones they were tested on.

¹ Note that, taking Afrikaans into account, Mandarin is technically the L1 isiXhosa-speaking participants' L4.

1.3 Research questions

From a primarily theoretical perspective, the purpose of this study is to increase our understanding of the process of language acquisition undergone by multilingual language learners. My specific research question is set out as follows: “At an elementary stage of language learning, do the syntactic similarities between *wh*-question constructions in two typologically distinct languages, isiXhosa and Mandarin, prove to be beneficial for L1 isiXhosa L2 English L3 Afrikaans speakers acquiring Mandarin?” Additionally, I ask the question: “Which language will L3/L4 learners transfer from in the elementary stage of subsequent language acquisition and why?” This study also addresses certain practical aspects of the language acquisition process by endeavouring to establish what problems, if any, elementary level South African high school learners of Mandarin, both L1 isiXhosa- and L1 English-speaking, face in the acquisition of specific *wh*-words and *wh*-questions in Mandarin.

1.4 Thesis layout

This thesis consists of six chapters – the first and current chapter is the introduction. Chapter 2 provides an overview of the theoretical framework within which this study is conducted, as well as a description of the syntax of main-clause *wh*-question constructions in English, isiXhosa and Mandarin, noting differences and similarities throughout.

Chapter 3 provides an overview of the literature pertaining to the concept of ‘parameter setting’, discusses both child and adult language acquisition and provides a summary of how bilingualism and multilingualism differ with regard to subsequent language acquisition. The notion of ‘cross-linguistic influence’ (CLI) is introduced and an overview of three different views of L3 transfer provided. Furthermore, four hypotheses regarding the possible outcome of this study are set out and, finally, three studies that examine the acquisition of languages with in-situ *wh*-question constructions by speakers of *wh*-movement languages are reviewed.

Chapter 4 details the methodological process involved in this study and provides an overview of the data collection process, the specifics of the participants who qualified for involvement in the study, as well as a description of the data collection instruments used. The latter includes a sentence construction task, oral production task, grammaticality judgement task, sentence translation task (which include both an English and isiXhosa version) and, finally, a psychotypological assessment.

Chapter 5 presents the results of the data collected. The two groups' results for each task are presented comparatively to one another, followed by an in depth analysis of the errors that frequently occurred in each group. On grounds of an analysis and discussion of the participants' results, across each of the four tasks and the psychotypological assessment, the participants' overall acquisition of simple *wh*-questions in Mandarin at an elementary level of L3/L4 acquisition is reported on. The final section of the chapter reports on the task and word effects noted in this study.

The final chapter, Chapter 6, provides a summary of the study's findings, looking at the participants' overall acquisition of the in-situ *wh*-question structure, and identifies which of the four hypotheses set out in Chapter 3 is supported by the data. An overview of the acquisition differences noted between the three *wh*-words tested in this study is also provided. In conclusion, the main findings of the study are summarised and the study's limitations acknowledged; suggestions are made for the teaching of *wh*-questions in Mandarin to South African learners as well as for future research.

CHAPTER 2

A COMPARITIVE DESCRIPTION OF *WH*-QUESTION FORMATION IN ENGLISH, ISIXHOSA AND MANDARIN

2.1 Introduction

This chapter provides a description of the syntax of main-clause *wh*-question constructions in English, isiXhosa and Mandarin. An interrogative clause (question) is one that is used with the intention of eliciting a response from an interlocutor. In the case of a polar question, the minimal required response is either *yes* or *no*; in the case of a *wh*-question, i.e. a clause containing an interrogative expression, specific information is required in response to what is asked. Interrogative expressions in English typically contain a word starting with *wh-*, for example *what/which/where/who/why/when* (with the exception of *how*, which is also treated as a *wh*-word because its syntactic behaviour is the same as the *wh*-interrogative expressions). In other languages, interrogative words may start with sounds other than what is indicated by *wh-* in English (e.g. *w-* in Afrikaans, *q-* in French and *k-* in Russian); however, in such languages the interrogative words are still referred to as “*wh*-words” because they fulfil the same function as their *wh*-counterparts in English, namely to elicit specific information.

English is termed a “*wh*-movement language” because in the derivation of a *wh*-question the *wh*-word or expression moves from its canonical position in the clause (e.g. the position corresponding with its function as object complement to the verb) into a sentence-initial position (Radford, 2009:184). The ability to form *wh*-questions in a *wh*-movement language such as English and the various constraints on *wh*-movement have long been used as a way to test the availability of UG in L2 acquisition (Belikova and White, 2009). The reason for this is that not all languages are *wh*-movement languages and therefore certain constructions that would be ungrammatical in English are acceptable constructions in other languages.

Schachter's (1990) study, for example, made use of the UG principle of subjacency² to establish if L1 speakers of languages that do not exhibit subjacency constraints (because the given languages do not evidence/demonstrate movement at spell-out in the formation of *wh*-questions) can recognise subjacency violations in English (Belikova and White, 2009: 201). If they can, Schachter (1990: 93) contends it is because the adult learner still has access to UG, a conclusion that is reached based on the fact that there is nothing in the speaker's L1 that would indicate that the sentence is ungrammatical.

Languages that do not require *wh*-movement in the formation of *wh*-questions are termed "*wh*-in-situ languages" (the term in-situ describes an element that remains in its original position and, as such, receives its spell-out "on-site" (Crystal, 2008: 247)). Certain in-situ languages, such as isiXhosa, are often regarded as "optional" *wh*-ex-situ/*wh*-in-situ languages. Cheng (1991:58), however, argues that languages that appear to optionally front the *wh*-expression are really *wh*-in-situ languages as there is in fact no movement of the *wh*-expression, a point that will be further explored in section 2.4. It should be noted that because this study focuses on the earliest stages of the acquisition of *wh*-questions in Mandarin, only the structure of main clause *wh*-questions in English, isiXhosa and Mandarin will be analysed; hence, constraints on *wh*-movement pertaining to more complex *wh*-constructions such as embedded constructions, multiple *wh*-questions or relative clauses, for example, will not be discussed. In section 2.2.1 a basic outline is given of the generative minimalist conception of clause structure, as well as a brief overview of Rizzi's (1997) proposals for an expanded left-periphery of clausal structure. This is followed in section 2.2.2 by a brief description of the operations and features relevant to *wh*-question formation.

² The subjacency principle (Chomsky 1973) places restrictions on movement and stipulates that an element cannot be moved across more than one bounding node in a given application, where bounding nodes include S (sentence) and NP (Noun Phrase) (Crystal 2008: 461).

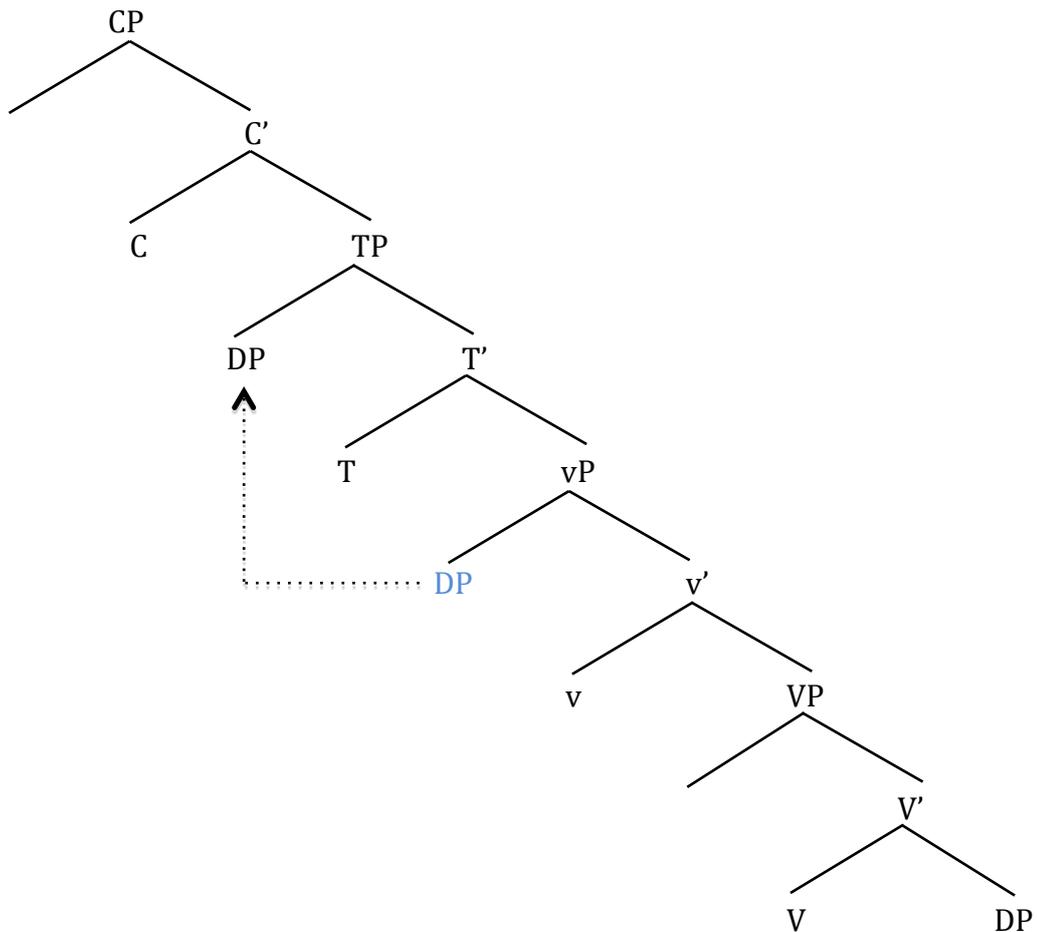
2.2 Minimalist assumptions and devices

2.2.1 Clause structure and the left periphery

The Minimalist Program, as the line of inquiry that has developed under the Generative framework, is the theoretical framework within which this study is conducted. Minimalist Syntax is therefore the model of grammar used below to describe the formation of *wh*-question constructions in the three languages of interest.

Ginsburg (2009:27) outlines the basic clausal structure assumed within minimalist syntax (Chomsky, 1995) and states that each clause includes the following projections built up in phases (as shown in (1) below): Complementiser Phrase (CP), Tense Phrase (TP), light verb phrase (*v*P), and Verb Phrase (VP). According to the VP-Internal Subject Hypothesis (VPISH), a subject (DP) is initially generated in Spec-*v*P and is subsequently moved to Spec-TP (Radford, 2009: 241); this operation is illustrated in (1) (the blue font indicates that the copy, left behind when an element is moved, is given a phonetically null spell-out). Several other operations also occur in the derivation of *wh*-interrogatives, as will be illustrated in the sections to follow.

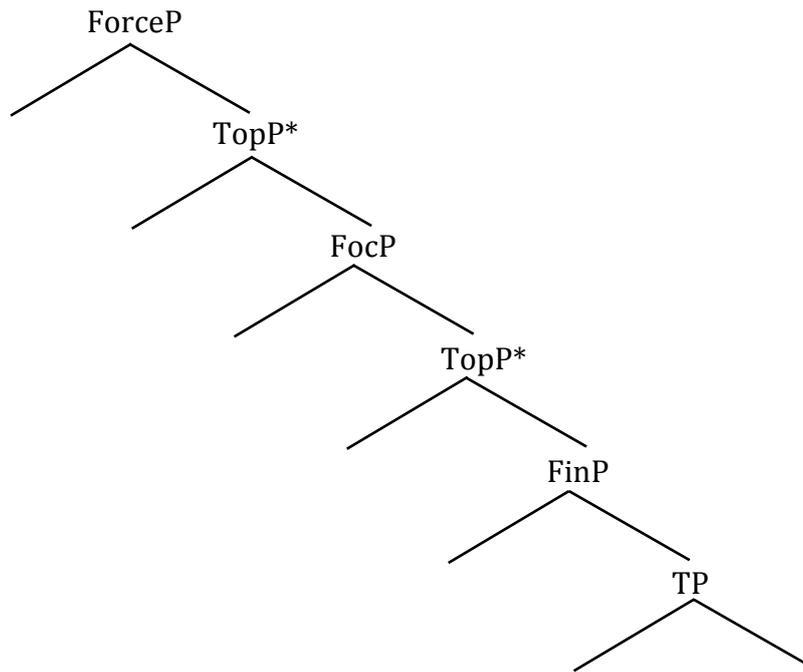
(1)



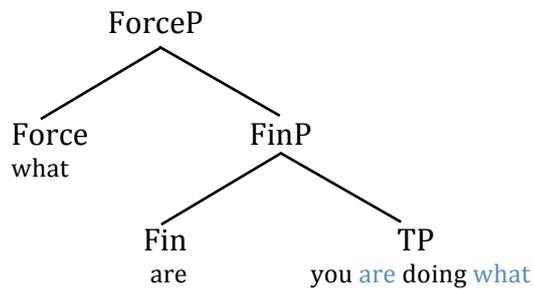
The CP domain, what Rizzi (1997) refers to as the “left-periphery” of the clause, is claimed to be further divided into a number of independent projections expressing information relating to (pragmatic) Force, Focus, Topicalization and Finiteness. In its most basic form the CP domain contains specifications for only Force (associated with clausal typing) and Finiteness (which determines if a clause is finite or non-finite); if Focus and Topicalization are also selected, the CP domain is further expanded to make provision for the relevant projections (Ginsburg, 2009: 31). Ginsburg (2009:31) states that the “*” after each TopP illustrates the possibility that there could be more than one TopP projection, as shown in (2). In a main clause *wh*-question, the CP domain would contain only Force and Finiteness projections, as shown in (3)³.

³ The derivations involved in the formation of this structure will be discussed in detail in section 2.3; the example below serves merely to illustrate how the expanded CP domain is represented in relation to the rest of the clause structure.

(2)



(3)



The left periphery will not be elaborated on further, nor will the above-mentioned proposals be incorporated in the rest of the study. The purpose of this discussion was simply to represent the nature of the CP domain and how in turn, its projections are associated with the formation of *wh*-questions, in terms of; either where the *wh*-expression is base-generated (in *wh*-in-situ languages, sections 2.4 and 2.5) or where the *wh*-expression moves to (in *wh*-movement languages, section 2.3).

2.2.2 Feature valuation and further operations

Within the Minimalist framework, a clause is constructed via a number of operations, at the very least External Merge (where elements from the lexicon are combined into

larger syntactic objects, hereafter simply referred to as Merge) and Agree operations (which relate to the valuation of the grammatical features carried by particular constituents). A further merge operation, Internal Merge, represents the operation commonly referred to as “Movement”, the term that will be used in this study. Ginsburg (2009: 23) states that Merge is brought about when an item is selected from the Numeration (the set of items selected from the Lexicon to be used in the formation of a structure) and merged to another item in the derivation. Movement, in contrast, occurs when an item that has already been merged into the structure from the Numeration is moved into another position within the structure. According to Chomsky (in Ginsburg, 2009: 23) the operation referred to as Agree occurs when a category (a “probe”) with uninterpretable features searches for another category (a “goal”) with interpretable features to value it. When such a relationship is formed, the uninterpretable features carried by the probe are in some instances deleted.

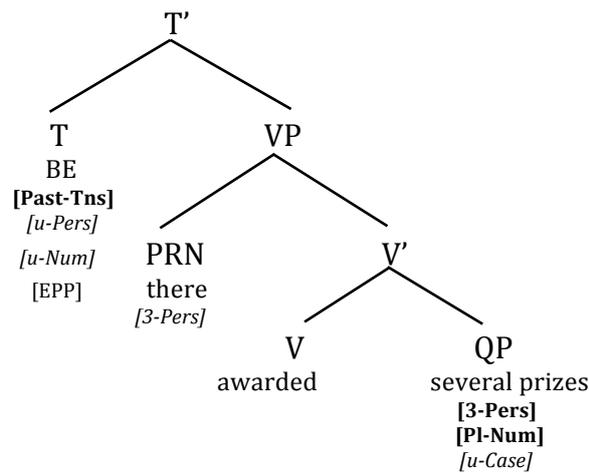
With regard to feature valuation, it is commonly accepted that when items enter into a derivation from the Numeration, certain features are valued and others are unvalued (Radford, 2009: 285). This, as mentioned above, is taken by Chomsky (in Radford, 2009: 286) to depend on whether the grammatical features of the given items are interpretable (and therefore play a semantic role) or uninterpretable. For example, Radford (2009: 286) states that auxiliaries carry interpretable features for tense, aspect and mood, but uninterpretable features for person and number. In contrast, nominal expressions carry interpretable features for person, gender and number (ϕ features) but not case⁴. As the diagram in (4) below (Radford 2009: 296) illustrates, the auxiliary (or T-constituent) carries uninterpretable features and acts as a probe searching for a goal within its C-command⁵ domain with the corresponding interpretable features to value both person and number. Upon finding the appropriate

⁴ Within a structure an argument (a nominal expression) is assigned a specific thematic (θ)-role (e.g. AGENT, THEME, GOAL, EXPERIENCER, SOURCE, LOCATIVE, TIME, BENEFACTIVE, POSSESSOR or INSTRUMENT). In the clause *The girl kicked the ball*, the AGENT is *the girl* and the THEME is *the ball*. As such, and of relevance to this study, a *wh*-word moves out of its θ -position (its initial canonical position) and into the specifier position of C (Spec-CP) (or, in an expanded CP domain, into the specifier position of some other head, e.g. Focus). θ -role assignment will not be discussed further and θ -features will not be included in any of the structures presented in tree diagram form.

⁵ Crystal (2013: 87) states that the term “command” pertains to “[t]he structural relations that hold between two elements in a tree”. A node “A” C-commands (constituent-commands) node “B” if: the first branching node that dominates A also dominates B; if A does not dominate B; and B does not dominate A.

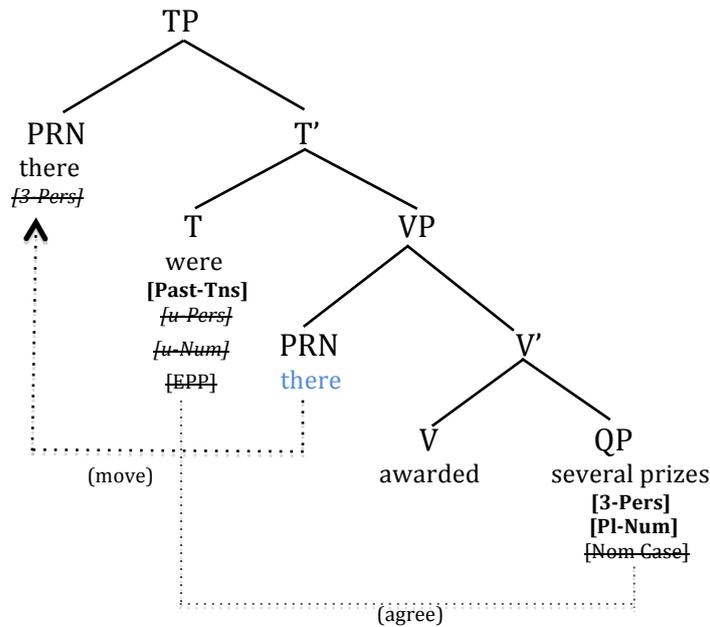
goals, namely *there* (which values only the [u-Pers] features) and *several prizes* (which in addition values [u-Num]), an agree relationship is formed with both goals and T (*BE*) is valued as third person plural. *Several prizes*, because T is finite, is valued as nominative (Radford, 2009: 285). The final step in the derivation is movement of *there* from the specifier position of the VP into Spec-T because of the EPP⁶ feature of T. The result is the derivation of the well-formed structure in (5).

(4)



(Radford, 2009: 296)

(5)



(Radford, 2009:296)

⁶ According to Radford (2009: 45), the Extended Projection Principle (EPP) specifies that a finite T must be extended into a TP projection that dominates the (syntactic) subject.

The operations Agree and Movement involved in the formation of *wh*-questions will be discussed within the context of *wh*-in-situ and *wh*-movement languages respectively. Ginsburg (2009: 198) claims that *wh*-questions in *wh*-in-situ languages such as Mandarin are formed via an agree relationship between the weak *wh*-feature of the C-Probe and the *wh*-expression; it is assumed here that this claim holds for isiXhosa as well. Adger (2003: 289) represents this weak *wh*-feature as [*uwh*]. The “*u*” of this feature indicates that its exact semantic interpretation as human (“who”), non-human (“what”), location (“where”), time (“when”), reason (“why”) or degree (“how”) is unknown (uninterpretable). It is this uninterpretable feature “that ensures that a *wh*-word/phrase [with the interpretable [*iwh*] feature – MV] is selected in the complementiser’s C-command domain” (Hawkins and Hattori, 2007: 275). The C-Probe carrying the [*uwh*] feature searches for an appropriate goal and feature checks the *wh*-expression in an Agree operation. The result is that the *wh*-expression remains in-situ. The formation of *wh*-questions in *wh*-movement languages such as English, however, involves a Movement operation, in that the *wh*-expression is raised to Spec-CP (after it has been feature checked) as a result of the strong [*uwh**] feature (represented by the asterisk)⁷ of C, which drives movement to Spec-CP (Adger, 2003: 289).

2.2.3 Polar questions

As background to the description of *wh*-question formation in English, isiXhosa and Mandarin, some fundamental points regarding interrogative clauses need to be addressed. Cheng (1991: 25) states that every clause must be “typed” as declarative, interrogative, imperative or exclamatory. Of relevance to this study is how a clause is syntactically typed as interrogative. The derivation of polar questions (hereafter referred to as *yes/no* questions) in English, isiXhosa and Mandarin will briefly be addressed, as the grammatical features and operations involved in their formation are integral to our understanding of how *wh*-questions in each of the three languages are formed (Cheng, 1991:24).

⁷ Feature strength is represented by Adger (2003: 289) with an asterisk (*). This convention will be used in the current study as well.

According to Ginsburg (2009: 15), there are three interrogative features involved in clausal typing of an interrogative: a Question-feature (Q-feature), a *wh*-feature and a Focus-feature (the latter is involved in the formation of specific interrogatives, such as pseudo-clefts in isiXhosa). With regard to main clause interrogative constructions, Ginsburg (2009:10) states that a Q-feature is what types a clause as interrogative. As such, a Q-feature is present in both *yes/no* and *wh*-clauses. Ginsburg (2009:10) goes on to state that the presence of a *wh*-feature is what distinguishes a *yes/no* clause from a *wh*- clause. Thus, a *yes/no* question has only a Q-feature, whereas a *wh*-question has both Q- and *wh*-features. A Q-feature is “housed” within a Q-morpheme (which Cheng (1991) argues is the same as a question particle (Q-particle), a term which will be adopted here) that is present in interrogative *yes/no* sentences. According to Ginsburg (2009:17) there are several types of Q-particles. In Mandarin, for example, the Q-particle *ma* occurs in *yes/no* questions and the optional *ne* (to be discussed further in section 2.5) in some *wh*-questions; and in isiXhosa, the Q-particle *na* can be used optionally in *yes/no* questions, as well as the overt Q-affix *ni* (derived from *ntoni* (“what”)) which can be suffixed to a verb or noun. According to Radford (2009:146), English contains a null complementiser that is affixal in nature and exhibits behaviour like that of a Q-morpheme. Examples of *yes/no* questions in English, isiXhosa and Mandarin are given in (6a-c), respectively.

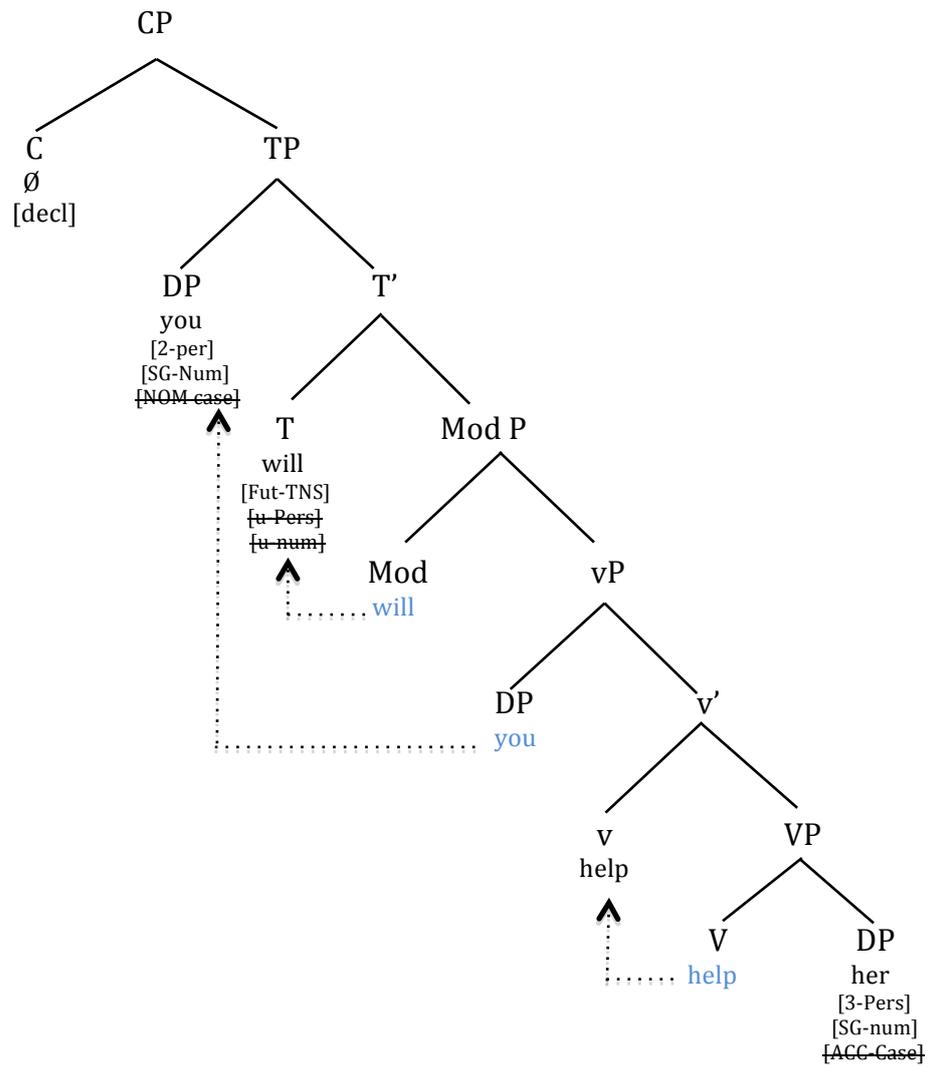
- (6) (a) Will you help her?
- (b) Ulambile **na**?
You hungry (Qp)
“Are you hungry?”
- (c) Nǐ yào chá **ma**?
You want tea (Qp)
“Do you want tea?”

The similarity between (6b) and (6c) is striking, as is the difference between (6b, c) and (6a). The isiXhosa (6b) and Mandarin (6c) interrogative clauses do not differ in word order from their declarative counterparts; in both cases, the change from declarative to interrogative clause is facilitated by adding *na* and *ma*, respectively, in clause-final position. Cheng (1991: 20) states that the syntax of *yes/no* questions determines whether or not a language is a *wh*-movement language or *wh*-in-situ language. Languages that make use of overt Q-particles in the formation of *yes/no* interrogatives (as both isiXhosa and Mandarin do) are generally *wh*-in-situ languages. In contrast, languages that do not form *yes/no* questions in this way (such as English) are most often *wh*-movement languages (Cheng, 1991: 20). If *wh*-in-situ languages form *yes/no* interrogatives by way of overt Q-particles, how do *wh*-movement languages form *yes/no* questions? The answer is through movement. Consider in this regard the English main clause declarative sentence in (7a) and the *yes/no* question in (7b). Both sentences are derived by means of Head movement, as shown in (8a, b), respectively.

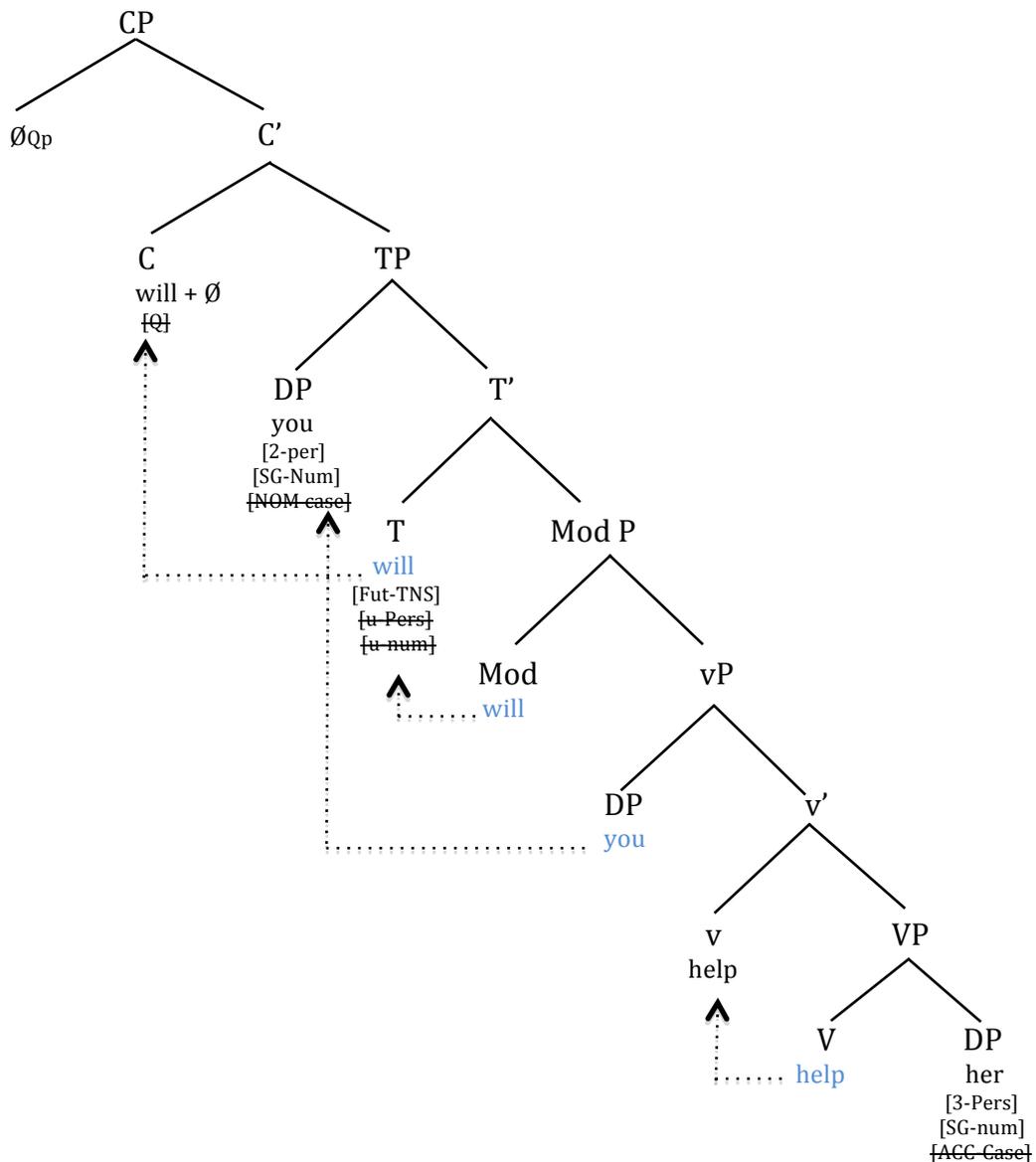
(7) (a) You will help her.

(b) Will you help her?

(8) (a)



(8) (b)



The declarative sentence in (7a) and the *yes/no* question in (7b) clearly differ with regard to word order. This difference can be ascribed to subject-auxiliary inversion, which involves moving the auxiliary from the head T position of the TP to the head C position of the CP in the derivation of (8b), but not in (8a)⁸.

⁸ If there is no auxiliary in the declarative clause (e.g. You want cake) the *yes/no* interrogative (e.g. **Do** you want cake?) is formed by inserting a dummy-do by way of (External) Merge into the clause, a process referred to as Do-support (Radford, 2009: 186).

Radford (2004: 123) maintains that interrogatives are CPs introduced by a null or overt interrogative complementiser (C)⁹. In English main clause *yes/no* questions the interrogative complementiser is a null Q-affix, which carries a Q-feature [Q] and a strong tense [TNS] feature (Radford, 2004:125). In conjunction with the strong [FIN] feature of C, the auxiliary *will* in (8a) is raised from T to C since it is an appropriate tense constituent and a finite verb. Movement entails that *will* is merged to the left of the null Q-morpheme under the C (Radford, 2004:171). Radford (2009: 196) claims that in languages such as English, a clause is only interpreted as an interrogative (and not an echo question) if the structure has a CP with an interrogative specifier (Interrogative Condition). In the case of *wh*-questions, the specifier is the *wh*-expression. In the case of *yes/no* questions, however, there is no *wh*-word or expression. This leads Radford (2009: 196) to propose that *yes/no* questions contain a null *yes/no* Q-particle generated in Spec-CP, suggesting that this is the null counterpart of *whether*.

As previously mentioned, the presence of a Q-feature (and the absence of a *wh*-feature) is what types a clause a *yes/no* interrogative. *Yes/no* interrogatives are formed either by the presence of an overt Q-particle as in isiXhosa and Mandarin, or by the presence of a null Q-affix, as is claimed to be the case in English (resulting in auxiliary inversion). It should be noted that in isiXhosa *yes/no* questions are also typed as interrogatives based purely on intonation. The use of this strategy in the formation of *yes/no* interrogatives is described by Cheng (1991: 20) as a special morpho-phonological device that is functionally similar to the use of overt markers such as Q-particles to form interrogatives. Cheng's (1991: 25) observation that the syntax of *yes/no* interrogatives determines how *wh*-questions are formed, entails that if a language forms a *yes/no* question by way of such a special device, no movement will take place in the formation of *wh*-question constructions in that language, therefore the language is termed a "*wh*-in-situ" language; accordingly, if a language forms *yes/no* questions without overt Q-particles or morpho-phonological processes (but rather by way of auxiliary inversion, for example), *wh*-questions will be constructed

⁹ A null complementiser, as explained by Radford (2004: 89), is a null constituent that has grammatical or semantic features but no phonological spell-out. With reference to English, Radford (2004: 105) states that all clauses are CPs headed by a complementiser (overt or null in nature) that marks the force of the clause as either declarative (*that* if the complementiser is overt) or interrogative (*if* when overt). The complementiser in *yes/no* questions and *wh*-questions is therefore null and has interrogative force.

(and typed) in that language by way of *wh*-movement. Cheng (1991: 20) points out, however, that languages that make use of “special devices” in the formation of *yes/no* questions often use similar (overt) devices in the formation of *wh*-questions (e.g. the optional *ne* found in Mandarin *wh*-questions). When no overt device is used in the formation of *wh*-questions in these languages, Cheng (1991: 23) maintains that there is always a non-overt (null) particle present fulfilling the same role.

The next three sections are devoted to a description of *wh*-question formation in, respectively, English (2.3), isiXhosa (2.4) and Mandarin (2.5). Throughout the discussion, the relevant differences and similarities between these languages will be pointed out.

2.3 *Wh*-question formation in English

The claim that *wh*-movement serves to type an English clause as a *wh*-question, means that the *wh*-expression, via a number of Merge and Move operations, needs to be moved into a sentence-initial position. The structure represented in (9) below is syntactically much the same as that for *wh*-questions in in-situ languages such as Mandarin and isiXhosa. In-situ questions in English are called “echo questions”. In terms of the claim that *wh*-movement serves as a diagnostic for *wh*-questions, echo questions do not qualify as *wh*-questions, even though they may contain *wh*-words or expressions. Radford (2009: 184) explains that echo questions are termed as such because they are primarily used in dialogues to repeat and question (usually out of disbelief or surprise) a statement made formerly by someone else. In short, they do not fulfil the interrogative function associated with non-echo *wh*-questions. Consider the following echo-question:

(9) You are going *where*?

One can easily imagine the above echo question being uttered in response to a statement eliciting disbelief such as *I am going to Antarctica for two weeks*. The information as to *where* the person is going has already been provided, so it is not an

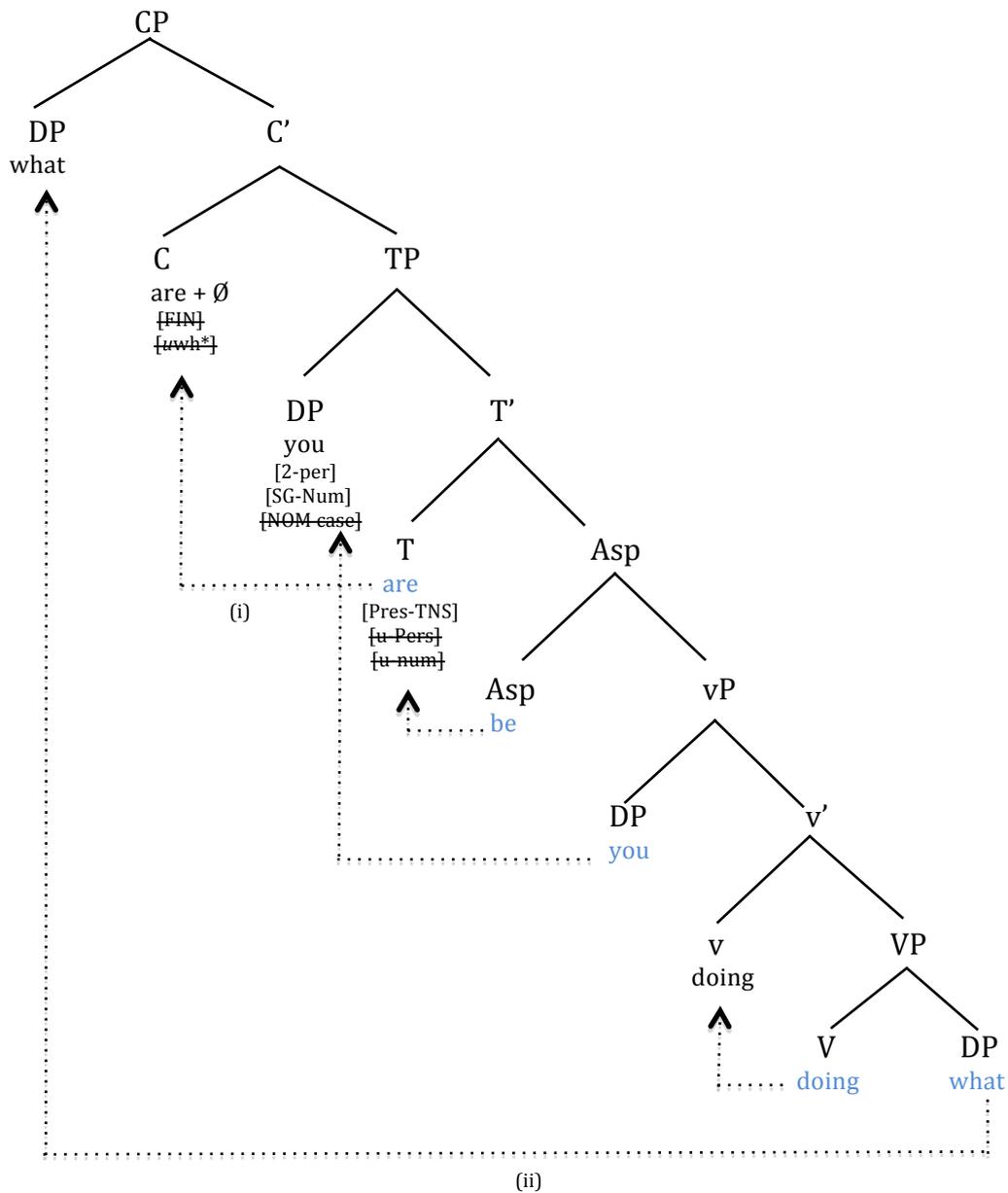
interrogative question, but rather has a semantic interpretation of *I can't believe it... provide me with more information*. This is exactly what the first speaker would most probably do at this point, explaining *why* he/she is going to the given location. As we can see, echo questions are not conventional *wh*-questions, but rather represent a phase within the formation of *wh*-questions before auxiliary inversion and before *where* is moved into sentence-initial position. The formation of *wh*-questions requires that two specific derivations occur if the clause is going to be typed a *wh*-question (Radford, 2004: 155). Unlike the formation of *yes/no* questions illustrated in (7), which requires head movement of the auxiliary from the head T position of TP to the head C position of CP to type the clause as a *yes/no* interrogative, main clause *wh*-question formation requires a second kind of movement (“*wh*-movement”) involving a maximal projection. According to Radford (2004: 155) a maximal projection, in this context, is the largest expression headed by a *wh*-word (or an interrogative quantifier, in his terms). Note that the maximal projection can either be a *wh*-word (interrogative quantifier) on its own or a *wh*-phrase containing the *wh*-word (a quantifier phrase in Radford's terms, but more generally depicted as a determiner phrase (DP))¹⁰, as seen in (10a) and (10b, c) respectively.

- (10) (a) *What* are you doing?
 (b) *Which class* are you attending?
 (c) *What subjects* will they take?

Wh-movement in (10a) only involves movement of a single *wh*-word. In this case the *wh*-word is simultaneously the head and the maximal projection of this head, indicated as a DP in the structure in (11). As shown in this structure, movement of the DP *what* represents one of the operations in the derivation of the non-echo *wh*-question in (10a) (Radford 2004: 155).

¹⁰ In this thesis, the convention for depicting a *wh*-phrase as a “DP” and not Radford's “QP” will be followed.

(11)



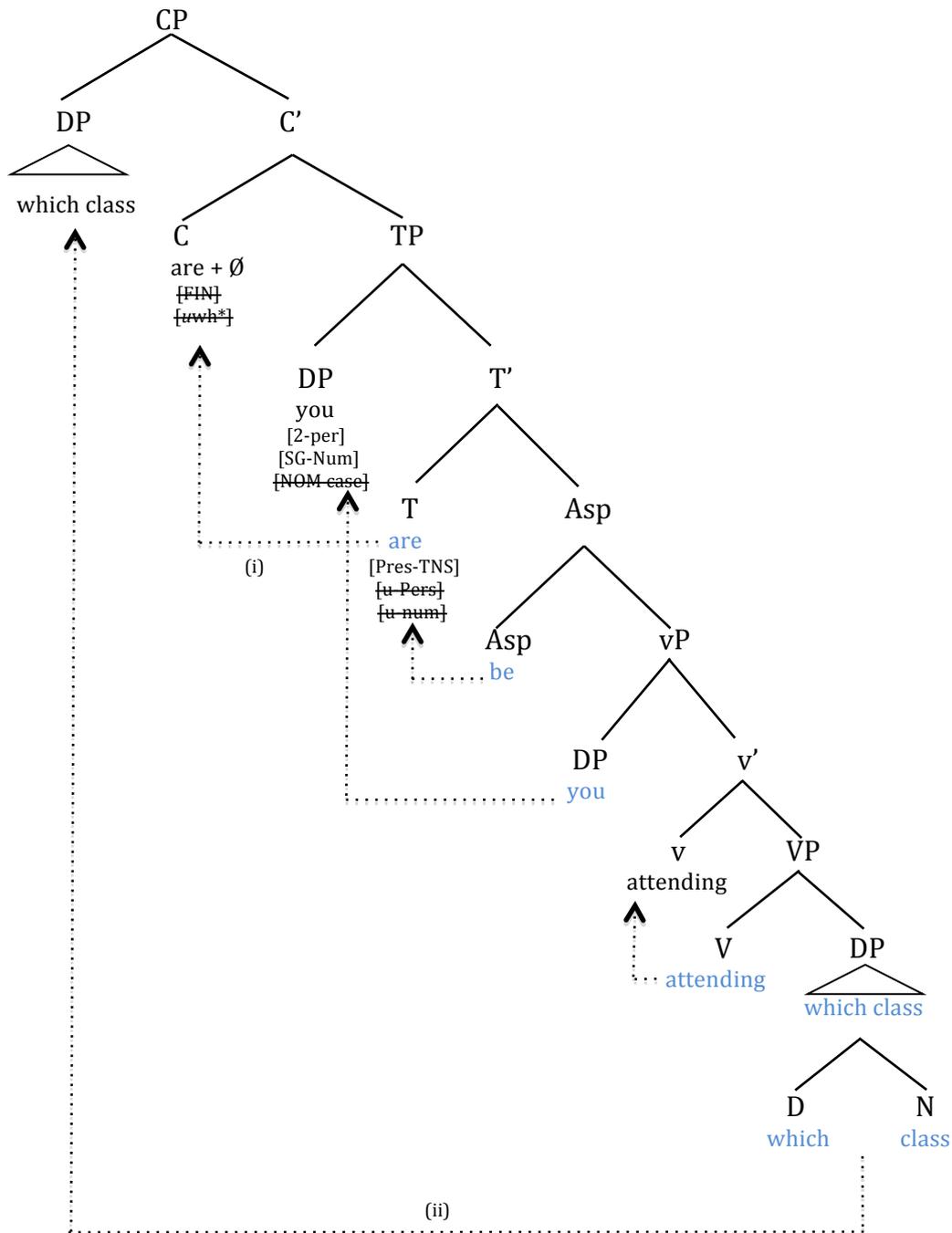
The two movement operations involved in the formation of *wh*-questions are indicated as (i) and (ii) in this structure. As in the formation of *yes/no* questions, auxiliary inversion occurs in (i) and specific to the formation of *wh*-questions, *what* has been copied and moved from clause-final to clause-initial position, with the copy remaining inside the VP receiving a null spell-out (Radford (2009: 160)). Head movement, as illustrated in (i), involves the auxiliary *are* moving from the head T position of the TP to the head C position of the CP, merging with the null C. Radford (2009: 159) claims that head movement of *are* is driven by the [TNS] feature of the

Q-affix (and strong [FIN] feature) in C which needs to be valued and therefore searches in its C-command domain for a goal constituent with an appropriate interpretable feature. Upon locating the appropriate item (the tensed auxiliary), the auxiliary *are* is copied and moved into the head C position of the CP where it merges with the null Q-affix; the copy that is left behind in T receives a null spell-out. The movement illustrated in (ii) is initiated by the strong *wh*-feature ($[uwh^*]$) of the C-probe that searches for an appropriate goal (the *wh*-pronoun *what*) and upon locating it, *what* is raised by means of *wh*-movement into Spec-CP, in accordance with the Interrogative Condition (Radford 2009: 196; cf. also section 2.2.3).¹¹

Consider next main clause structures where the *wh*-phrase does not consist of a single *wh*-word, but where the *wh*-word has been merged with a noun. In such cases, *wh*-movement involves moving the noun along with the *wh*-word, a phenomenon known as “pied-piping” (Ross, 1967). To illustrate, consider the derivation of the *wh*-question *Which class are you attending?* illustrated in (12) below. In this case the *wh*-phrase is a DP that was formed by merging the *wh*-word *which* with the noun *class*.

¹¹ It should be noted that although the above example used the *wh*-word *what*, *where* (one of the three *wh*-words under investigation in this study) behaves the same and therefore an English main clause *wh*-question containing the *wh*-word *where* will not be diagrammatically illustrated.

(12)



The DP complement of the V in (12) is the maximal projection of the D *which*, that is, the largest expression headed by the *wh*-word. This means that both *which* and *class* (upon being identified by the C-probe as having the appropriate [iwh] feature) are raised into Spec-CP position, as only maximal projections can undergo *wh*-movement (thus, the *wh*-word *which* cannot move without the noun *class*).

In sum, the formation of main clause *wh*-questions in English involves two kinds of movement, without which the clause would not be regarded an interrogative. The first, as found in *yes/no* questions, is auxiliary inversion (via head movement) from the head T position of the TP to the head C position of the CP. This operation is triggered by the [TNS] feature (and strong [FIN] feature) of C which needs to be valued and therefore attract the tensed (finite) auxiliary. The second movement, exclusive to the formation of *wh*-questions, is *wh*-movement. This involves movement of a *wh*-phrase, that is, the maximal projection of a head *wh*-word (irrespective of whether the *wh*-head occurs on its own or has been merged with some other element such as a noun). In *wh*-movement, the *wh*-phrase (the goal with the interpretable [*iwh*] feature) is searched for by the C-Probe and attracted by the strong [*uwh**] feature of C, which triggers movement of the *wh*-phrase to Spec-CP, thereby fulfilling the Interrogative Condition.

2.4 *Wh*-question formation in isiXhosa

Consider the following examples of main clause *wh*-question constructions in isiXhosa:¹²

- (13) (a) USam ufunda ntoni (Ø_{Qp})?
 U-Sam u - fund - a ntoni
 SM3rdSG-Sam SM1a-study-PRES what
 “What does Sam study?”

¹² In isiXhosa each noun belongs to a particular class (there are 15 classes). Each noun, depending on its class, has specific prefix (Bryant, 2007: 26). Relevant to this chapter the prefixes are as follows: class 1 = *um-/u-*, class 2 = *aba-/oo-* (class one and two are human); class 9 = *in-* (or *i-* if the word is borrowed from English, Afrikaans or KhoiSan (Bryant, 2007: 31)); class 11 = *u(lu-)*. Zeller (2006: 271) states that the class the noun falls under determines agreement with other items within the clause, i.e. verbs, adjectives, etc. The morphemes specified in this section are glossed as follows: SM=subject marker; PRES/PAST=present/past tense; SG=singular; PL=plural; COP=copula; RM=relative marker; Qp= question particle; EC= enumerative concord.

- (b) Ufundani (Ø_{QP})?
 U - fund - a - ni
 SM2ndSG -study-PRES-what
 “What do you study?”
- (c) Usebenza phi (Ø_{QP})?
 U - sebenz-a phi
 SM2ndSG-work-PRES where
 “Where do you work?”
- (d) Uthetha luphi ulwimi (Ø_{QP})?
 U - theth-a lu - phi ulwimi
 SM2ndSG-speak-PRES EC.11-which languages
 “Which languages do you speak?”

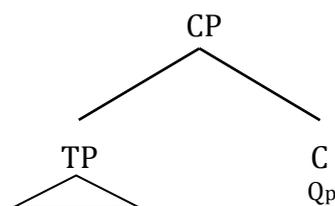
(adapted from Bryant, 2007: 136)

Although phrased differently, (13a) and (13b) express the same meaning. This is because *wh*-questions containing the *wh*-word *ntoni* (“what”) can also be formed by shortening *ntoni* to *ni* (Bryant, 2007: 136), which is then suffixed to the verb or noun as in (13b). *Phi* (translated as “where” in (13c) and “which” in (13d)) has two different meanings depending on its usage. Independently it means “where” as in (13c), but when the enumerative concord (in this case *lu-*) is prefixed to *phi*, here forming *luphi*, the meaning is altered to “which” (see (17) below for discussion of the formation of (13d)). The *wh*-question examples in (13) illustrate that the *wh*-word in isiXhosa remains in-situ, just as it does in Mandarin (as will be shown in section 2.5). Recall that in isiXhosa, as discussed in section 2.2.3, the Q-particle *na* can be optionally added to the end of a clause¹³. As previously mentioned, both Cheng (1991) and Ginsburg (2009) maintain that languages that make use of overt Q-particles in the formation of interrogatives (whether phonetically null or overt) do not require movement because, it is claimed, that the Q-particle types the clause as

¹³ *Na* can also be positioned in a post-verbal position for emphasis, accounting for its presence in the pseudo-cleft construction in (18a) below (Du Plessis, 2014: 4).

interrogative. Assuming that such languages always type an interrogative with the presence of a Q-particle, it follows (i) that there is always a (null or overt) Q-particle present and (ii) that *wh*-question formation in such languages does not involve movement of the *wh*-expression. Ginsburg (2009: 202) states that in in-situ languages the Q-particle is merged directly in C, a credible claim considering the CP is the domain under which clausal typing (or specification of force) is determined. The *wh*-feature of the Q-particle is, according to Sabel and Zeller (2006: 271), weak in Bantu languages, thus, there is nothing triggering movement of the *wh*-expression to Spec-CP. Rather, the C-Probe (with a weak [*uwh*] feature) searches for an appropriate *wh*-constituent and upon locating the appropriate goal, an agree relationship is formed between C and the *wh*-expression, with the latter then remaining in the clause-internal position in which it was merged at the start of the derivation (Ginsburg, 2009: 198). If Q-particles in isiXhosa (and Mandarin) are thought to be base generated in C, and if they are both typically S-V-O languages (with the exception of “*ba*” constructions in Mandarin (Juffs, 2005: 130)), the question arises how the clause-final position of Q-particles can be accounted for in these languages. According to Bailey (2013: 105), this question has typically been addressed by assuming that the Q-particle (under C) is base-generated in a head-final position (cf. for example Ginsburg, 2009), the structure of which is represented in (14) below.

(14)



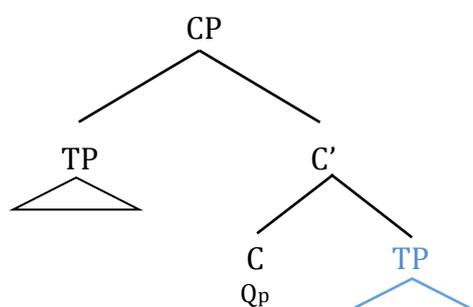
Bailey (2013: 105), however, takes issue with this as she observes that a head-final phrase cannot immediately dominate a head-initial phrase, and that moreover, a structure such as (14) violates the Final-Over-Final Constraint (FOFC)¹⁴. If the structure in (14) violates the FOFC, then the formation of in-situ *wh*-questions, such

¹⁴ The FOFC was introduced by Biberauer, Holmberg and Roberts (2007). According to Bailey (2013: 16) it serves to specify which structures are acceptable and which are not. Specifically, a head-initial phrase can dominate a head-initial phrase as well as a head-final phrase. In contrast, although a head-final phrase may dominate a head-final phrase, it may not dominate a head-initial phrase.

as those in isiXhosa (and Mandarin), would require an alternative account based on different assumptions. Such an alternative account of *wh*-question formation is presented below in the form of the structure in (15). This structure is based on Bailey's (2013: 311) structure of conjunction constructions, and will be adopted here as the framework for the description of *wh*-question formation in both isiXhosa and Mandarin.

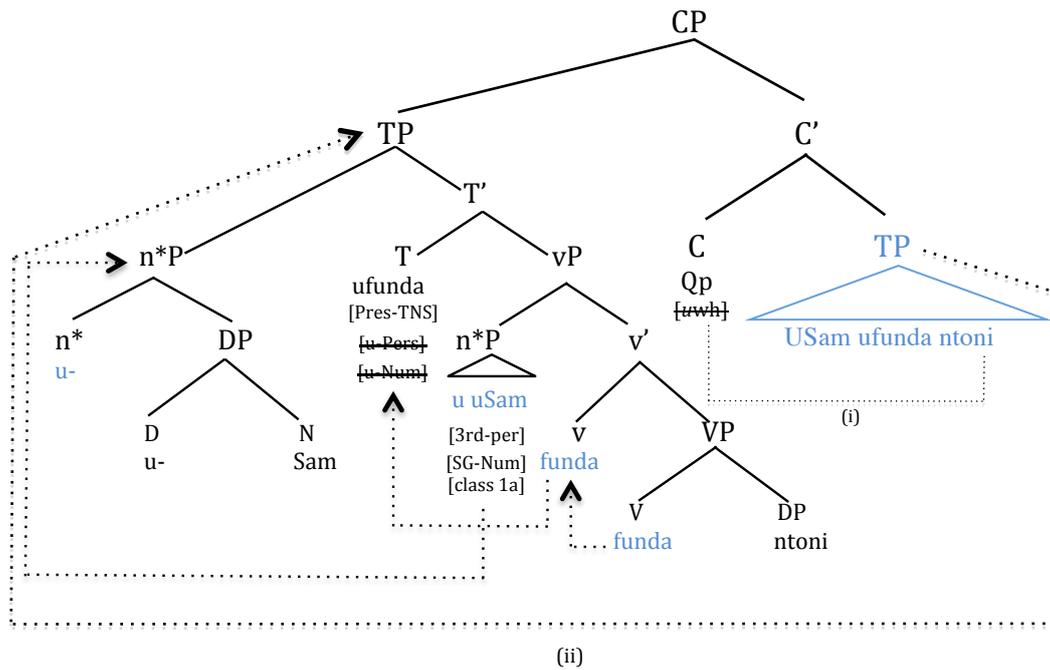
As shown in (15), the Q-particle is base generated under C, that is, in the head position of the CP, where it remains. However, upon spell-out, the Q-particle is not in a clause-initial position, but rather in a clause-final position. This is accounted for by following a similar process as the one involved in the formation of Bailey's (2013:338) conjunction constructions, by moving the entire TP into Spec-CP. This explanation maintains that while there is no movement of the *wh*-expression itself from a clause-final to a clause-initial position, the entire clause, via a movement operation, becomes the specifier of the Q-particle; and just as the second conjunct in Bailey's conjunction analysis is not phonetically spelled-out, neither is the null copy of the TP in (15) below.

(15)



Based on this model, the derivation of (13a) is represented in (16) below.

(16)



Following Zeller (2008: 224), I assume that the verb, with an appropriate [TNS] feature, moves into the head T position (attracted by the [TNS] feature of T), after which the subject (under n*P)¹⁵ moves out of the vP into Spec-T to facilitate subject agreement.¹⁶ Subject-verb agreement in Bantu languages, as described by Zeller (2008: 221), is achieved by prefixing the subject marker (SM)¹⁷ to the verb stem (*u-funda*), which agrees with the noun class features of the preverbal subject. Zeller (2008: 227) points out, however, that this “agreement” is not an Agree operation in its typical sense, but rather is a case of clitic doubling (as seen under the n*P in (16) above) and that originally the preverbal subject DP and correlative SM (*u-* in the structure above) are essentially one element that form part of the same phrase, the internal structure of which is represented in the diagram above under the n*P.

¹⁵ Following Chomsky’s (2006) proposal, Zeller (2008: 227) represents noun phrases as n*P, and states that the n* is the equivalent of the light verb v* which selects the VP. Similarly, the n* is a functional category which selects the DP. Cf. also, Oosthuizen, 2013; and Msaka, 2014, for a detailed analysis of the n*P.

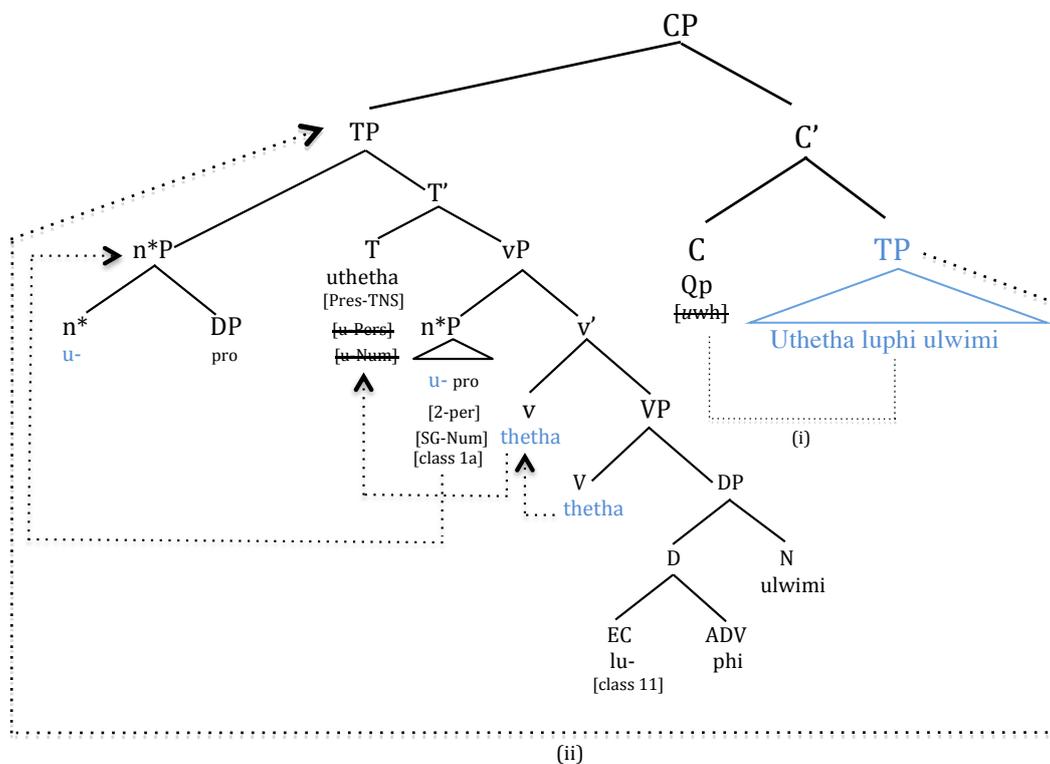
¹⁶ Zeller (2008: 246) states that in Bantu languages, subject agreement requires that the subject move out of the vP into Spec-T, a proposal based on the assertion that a SM marks a subject as [-Focus] and that this blocks the possibility of agreement between the [+Focus] feature of T and a constituent further down the structure with a [+Focus] feature with which it is required to form an Agree operation (in this case, the *wh*-expression). Thus, a subject with a SM is forced to move out of vP into Spec-T to allow for agreement between T’s [+Focus] feature and the [+Focus] feature of the appropriate constituent lower down the structure.

¹⁷ In isiXhosa a subject prefix (referred to by Zeller (2008) as a subject marker), is the grammatical equivalent of English pronouns, but cannot stand alone. Instead, the SM is prefixed to the appropriate verb.

Following movement of the subject into Spec-T, Zeller (2008: 228) adds that the SM combines with the verb (*funda*), leaving a null spell-out of *u-* in the head of the n*P. Finally, following Cheng’s (1991) claim that *wh*-questions in in-situ languages are typed as such by the presence of a Q-particle (null or overt), we assume the presence of a base-generated Q-particle (null in the example above) in C with a [*uwh*] feature. This weak [*uwh*] feature, via the Agree operation represented in (i) in (16), checks the [*iwh*] feature of *ntoni* and, as such, no movement is required of the *wh*-phrase to Spec-CP. Because Q-particles in the languages under discussion appear in a clause-final position, following Bailey (2013), a copy of the entire TP moves into Spec-CP position (in the movement labelled (ii)), leaving a null spell-out in its position of origin. The final structure is a TP in Spec-CP position with a clause-final null Q-particle.

With regard to the formation of a null-subject clause (as isiXhosa is a null-subject language), the structure below represents the formation of (13d) above, and also illustrates the formation of a “which” *wh*-question in isiXhosa.

(17)



Unlike the n*P in (16), the n*P in (17) has a pronominal interpretation in its DP (Zeller, 2008: 229). The SM *u-* is prefixed to the verb *thetha*, leaving a null spell-out copy in the head position of the n*P. The other noteworthy difference between (16) and (17) is that the *wh*-expression (which forms an agree relationship with the Q-particle in C as a result of the weak [*uwh*] feature) is formed via a number of merge operations. The word *phi* in its most basic form means “where”, however, as mentioned above, the simplest way (according to Bryant, 2007: 137) to translate “which” is to prefix the enumerative concord (class 11) *lu-* to *phi*, forming *luphi* as the head of the *wh*-phrase *luphi ulwimi* (“which languages”). As such the weak [*uwh*] feature, via the Agree operation represented in (i) in (17), checks the [*iwh*] feature of *luphi*, allowing the *wh*-phrase to remain in-situ. Once again, the final derivation occurs as a copy of the TP moves into Spec-CP, leaving the null Q-particle in sentence-final position.

The formation of the *wh*-questions above presents us with evidence that isiXhosa is a *wh*-in-situ language; however, isiXhosa is in fact often (incorrectly) regarded as an optional in-situ/ex-situ language. This is because the *wh*-word can appear in-situ (typically in a sentence-final position) as well as in a sentence-initial position in pseudo-cleft constructions¹⁸. Cheng (1991: 58) claims that such languages do not have “movement optionality”, as it is often referred to; rather, if the *wh*-word is in a sentence-initial position, it is because it is the base-generated subject of a pseudo-cleft and not the result of *wh*-movement (cf. also Sabel and Zeller, 2006). Consider the pseudo-cleft variation of the English sentence *What do you want?* below:

(18) What is it that you want?

In both the English main clause *wh*-question *What do you want?* and its pseudo-cleft counterpart *What is it that you want?* the *wh*-word *what* appears in sentence-initial position. In contrast, in isiXhosa it is only in pseudo-clefts that the *wh*-word appears in sentence-initial position, as illustrated in (19a). As discussed above, in all other cases it remains in-situ, as shown in (19b).

¹⁸ A sentence similar to a cleft sentence (which has one main clause and one dependent clause, each with its own verb) but in the case of pseudo-clefts the subject is a free-standing *wh*-clause (Crystal, 2013: 395). E.g. *What you need is a good break.*

- (19) (a) **Yintoni** na le uyifunayo?
 Yi- ntoni na le u - yi - funa - yo
 COP.9-what Qp that 2ndSG-COP.9-want-RM
 “What is it that you want?”
- (b) Nifuna **ntoni** (\emptyset_{Qp})?
 ni - fun - a ntoni
 2nd PL-want-PRES what
 “What do you want?”

(adapted from Du Plessis (2014 : 19))

Cleft constructions will not form part of the *wh*-constructions investigated in this study¹⁹. The brief discussion of pseudo-clefts is simply to support the claim that isiXhosa is a *wh*-in-situ language and that it does not allow for “movement optionality” of the *wh*-expression as it is sometimes claimed to do. Rather, when the *wh*-expression is fronted, it is base-generated in that position (meaning no movement of the *wh*-expression has occurred) and therefore is in-situ in spite of it being in a sentence-initial position.

2.5 *Wh*-question formation in Mandarin

Mandarin is regarded as a “pure” in-situ language (Yuan, 2007: 277)²⁰. This means that, as is the case with isiXhosa, there is no movement of the *wh*-expression; rather, the *wh*-expression remains in its canonical position in the clause, that is, the position in which it was first inserted into the structure. In this position, the *wh*-expression, as

¹⁹ The isiXhosa *wh*-questions in numbers 6 and 11 of the isiXhosa sentence translation task (XST task) are, however, pseudo-cleft constructions. This is because the translator was asked to formulate the questions in the most typical way, so as to be familiar to the participants. The idea behind the XST task was to establish if the task would trigger their L1 isiXhosa in-situ *wh*-question knowledge. As such, these pseudo-clefts were not regarded as problematic and no changes were made to the task.

²⁰ As established above (cf. section 2.4), so too is isiXhosa, in spite of the *wh*-fronting exhibited in pseudo-clefts which is often mistakenly referred to as “movement”.

mentioned above, fulfils its function as object complement of the verb²¹. Of particular importance with regard to *wh*-question constructions in Mandarin, is the fact that *wh*-words in Mandarin not only have an interrogative interpretation, but can also have a non-interrogative indefinite interpretation (Li, 1992: 125). This is illustrated by the difference in interpretation between the following sentences:

(20) (a) Tā yǐwéi wǒ xǐhuan shénme (\emptyset_{Qp})?

他 以为 我 喜欢 什么

he think I like what?

(b) Tā yǐwéi wǒ xǐhuan shénme.

他 以为 我 喜欢 什么

he thinks I like something.

(adapted from Li (1992: 125))

Indefinites will not be discussed further, as the focus of this study is on *wh*-interrogatives. However, as shown in (20), the presence (or absence) of a Q particle plays an important role in clausal typing of interrogatives in Mandarin: in spite of the presence of a *wh*-word, (20b) does not have an interrogative interpretation since it lacks the Q-particle. Note also that questions and answers in Mandarin display the same phrase order (Ross and Ma, 2006: 162). This means that in order to answer a main clause question in Mandarin, one need only change the subject of the clause and replace the *wh*-expression with the requested information. Consider the question and corresponding answer below:

(21) (a) Speaker 1: Nǐ bàba jiào shénme (\emptyset_{Qp})?

你 爸爸 叫 什么 呢

You father be called what

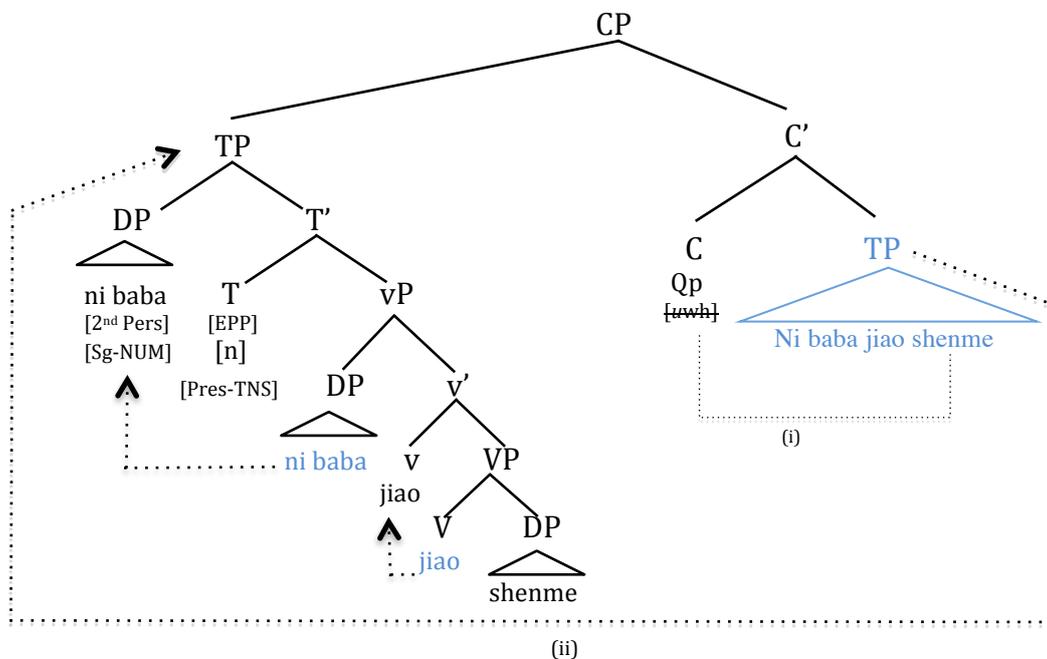
“What is your father’s name?”

²¹ Recall that Mandarin, like English and isiXhosa, has a typically S-V-O structure, with exception of *ba*- constructions (Juffs, 2005: 130; cf also section 2.4).

(b) Speaker 2: Wǒ bàba jiào Dawei.
 我 爸爸 叫 大卫。
 My father be called Dawei.
 “My father’s name is Dawei.”

The sentence-final position of Q-particles in Mandarin (as seen in (20a) and (21a)) has resulted in much debate and, according to Bailey (2013), misrepresentation with regard to its position within the clausal structure²². Recall that Q-particles are claimed to be merged directly in C in isiXhosa. Adopting this claim for Mandarin as well, and keeping in mind the fact that Mandarin is a head first language, this means that the structure illustrated in (14) in section 2.4 with reference to isiXhosa cannot offer an adequate syntactic representation. Therefore, just as in isiXhosa, moving a copy of the entire TP into Spec-CP position results in an in-situ construction with a sentence-final Q-particle. The derivation of a *wh*-question such as the one in (21a) would therefore be along the lines of the representation in (22) below.

(22)



²² Cf. section 2.4 for discussion of this issue in isiXhosa.

In accordance with the VPISH (cf. section 2.2.1), the DP *ni baba* (“your father”) that is base-generated in the specifier position of the ν P, is raised to Spec-TP. The weak [*uwh*] feature of the Q-particle under C probes for an appropriate goal and upon locating the *wh*-word *shenme* (“what”), Agreement is effected between the probe and goal (illustrated as (i) in (22)). Following this, the TP is raised into Spec-CP position (indicated as (ii) in the above structure), leaving behind a copy that will eventually receive a null spell-out, exactly as was proposed for isiXhosa in section 2.4. The result is that the *wh*-word remains in-situ at spell-out and the Q-particle that was merged in C is now in sentence-final position. It should be noted at this point that, according to Lin (2011: 29), Mandarin does not have grammatical features and that feature valuation is “vacuously satisfied”. In accordance with this view, the TP in (22) would not have unvalued ϕ features that need to be checked²³. Furthermore, Xue, Zhong, Cheng and Marrakech (2008: 3461) maintain that Mandarin is generally regarded as lacking grammatical tense, noting also that it does not have tense morphemes as English does. Rather, Xue et al. (2008: 3461) claim that speakers use the speech act moment as the temporal tense marker. A similar view is expressed by Lin (in Matthewson, 2005: 14), who maintains that the use of temporal adverbials (“today”, “yesterday”, “tomorrow”, etc.); the default viewpoint aspect; overt aspectual particles; and pragmatic reasoning are used to express temporal location and that the default tense, if not overtly “marked” as mentioned above, is the speech act time. Therefore, the default tense is the present tense (as indicated under T) in (22)²⁴.

The *wh*-word *nar* (“where”) behaves differently from *shenme* (“what”). Firstly, unlike its English counterpart “where”, *nar* needs to be preceded by the preposition *zai* (“in”, “at”) unless the verb is intransitive (Gao, 2009: 63). If the verb is intransitive, *nar* can follow the verb as seen in (23) below; in such cases the sentence structure is the same as described above for *shenme*, with *nar* in sentence-final position.

²³ I have, however, included the interpretable features specific to the DP.

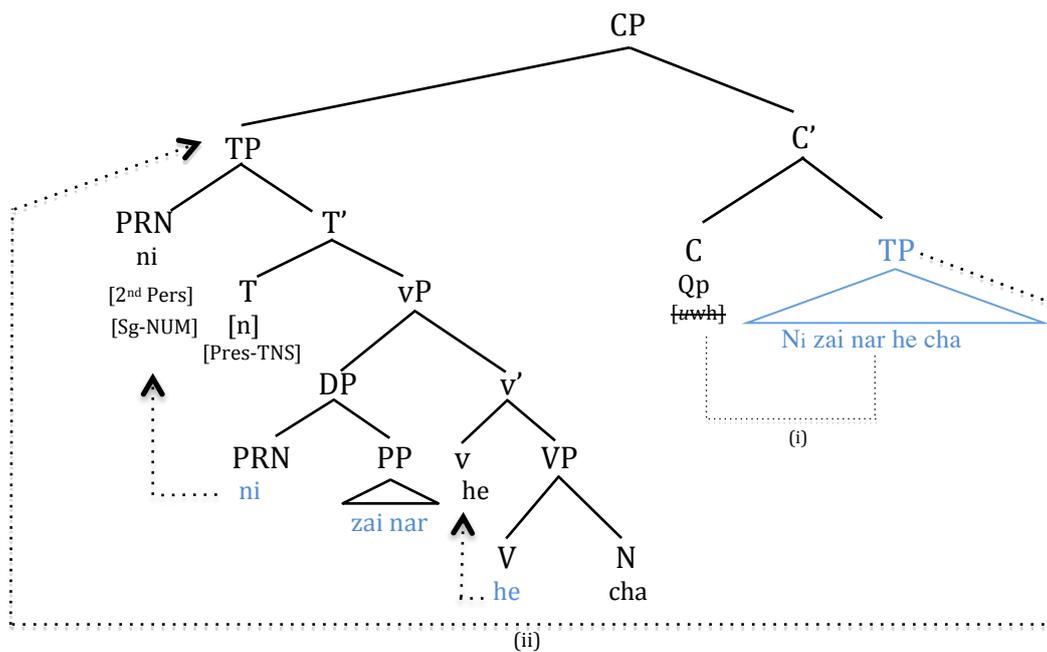
²⁴ [n] in (22), as expressed by Lin (2011), represents “no value”, thus, the tense is “present”.

- (23) Nǐ qù nǎr?
 你 去 哪儿
 You go where
 “Where are you going?”

If, however, the main verb is transitive, the preposition *zai* must precede *nar* and, unlike English in which adverbials of time, manner and place generally occur after the main verb, the *wh*-phrase *zai nar* must precede the main verb. As shown in (24) and (25) below, the *wh*-phrase *zai nar* occurs in a preverbal position, directly after the subject *ni* (“you”). The sentence structure of questions such as (24), result in Gao (2009: 63) contending that the “second position” is, in such cases, the proper one for *wh*-adverbials in Mandarin.

- (24) Nǐ zài nǎr hē chá?
 你 在 哪儿 喝 茶
 You at where drink tea
 “Where do you drink tea?”

(25)



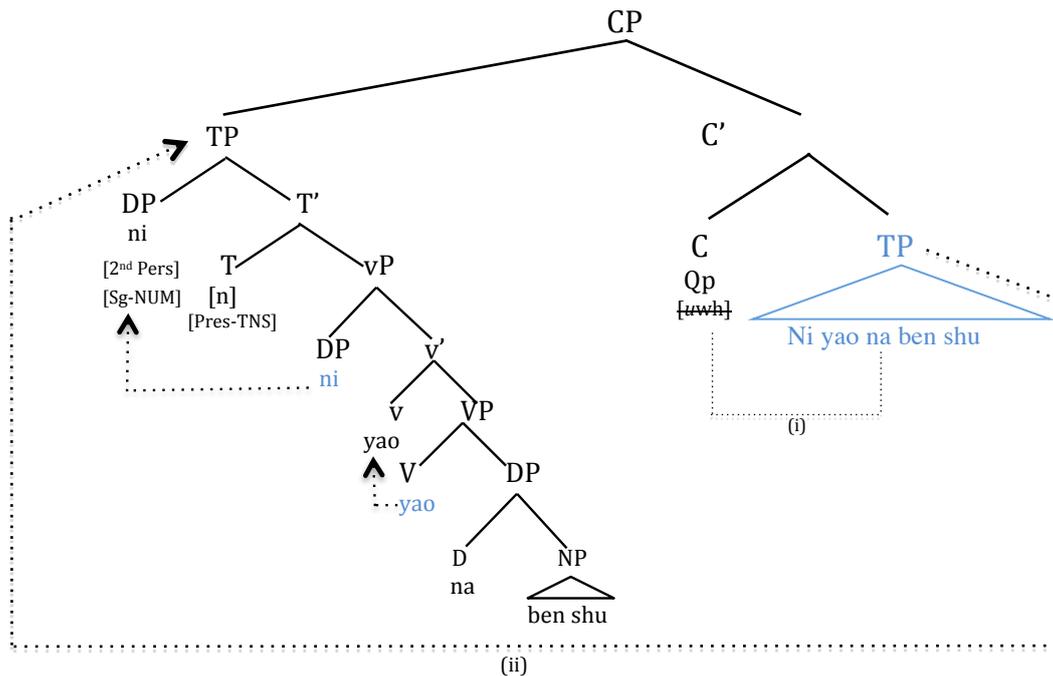
As in the case of (22) above, the subject *ni* in (25) moves from its initial underlying position in Spec-vP to Spec-TP. The weak [*uwh*] feature of the Q-particle under C probes for an appropriate goal and upon locating the *wh*-word *nar* (“where”), which forms part of the PP *zai nar* under the DP, Agreement, represented by (i), between the probe and goal can be effected. Following this, the TP moves into Spec-CP position.

Let us next consider the structure of main clause *wh*-questions containing the *wh*-word *na* (“which”). As in English, the *wh*-phrase containing the *wh*-word *na* is a maximal projection, as *na* is the head of a DP, namely the nominal expression, *na ben shu* (“which book”) in (26) below. The word order of the DP in Mandarin is the same as in English (and isiXhosa), with the determiner (or quantifier, *na* in (26)) positioned to the left of the noun (*shu*).²⁵ Determiners (and quantifiers as well according to Radford (2009: 4)) introduce the noun and have semantic features that determine the semantic features specific to the noun that they precede. In the case of “which”, the noun is introduced under the presupposition that there is a fixed number of possibilities that the speaker is referring to. If the *wh*-word (or quantifier) did not precede the noun, this interpretation would be impossible, as the semantic features of the *wh*-word would not specify those of the noun. In (27) below it is the *wh*-phrase and not only the *wh*-word which is in sentence-final position, again remaining in-situ as a result of the agree relationship, represented in (i), that is formed between the weak [*uwh*] feature of the null Q-particle merged in C and the *wh*-word *na* which is in the head position of the *wh*-phrase. Once again, the TP moves to Spec-CP; since the remaining copy of the TP receives a null spell-out, the Q-particle that provides the interrogative force appears in sentence-final position.

- (26) Nǐ yào nǎ bēn shū (Ø_{QP})?
 你 要 哪 本 书?
 You want which Cl book
 “Which book do you want?”

²⁵ Note that *bēn* is simply a classifier (Cl). Cheng and Sybesma (1998: 19) make the distinction between “mass-classifiers” and “count-classifiers”. Count-classifiers pertain to a specific singular noun, therefore, there is no English equivalent of *bēn*.

(27)



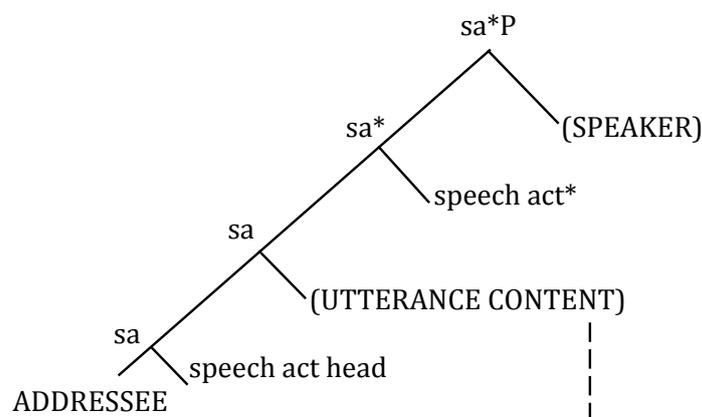
Finally, although excluded from the *wh*-question constructions tested in this study, it is necessary to make specific mention of the particle *ne* and its “optional” usage.²⁶ This discussion is simply to better understand *ne*’s function when used in *wh*-questions, an aspect (of *wh*-questions in Mandarin) that would be remiss not to mention. Concerning interrogative clausal typing in Mandarin, it has already been established that a Q-particle (generally null as seen in the examples above) is required for the clause to possess interrogative force (and to avoid an indefinite interpretation). The particle *ne* is often said to be “optionally selected” in the formation of *wh*-questions, yet its use is not without purpose. Unlike the Q-particle *ma* (found in *yes/no* questions in Mandarin), which serves a purely interrogative function, Lee-Wong (1998: 388) refers to the particle *ne* as a “mitigator” and explains that it can be used to convey politeness, to “soften the tone” of a question, or to express uncertainty.²⁷ Searle (in Lee-Wong, 1998: 387) refers to particles of this nature as

²⁶ Although *ne* is most often associated with “*wh*-questions”, its use is not limited exclusively to interrogatives and it can also be used with declarative clauses. Chang (in Lee-Wong, 1998: 389) “describes *ne* as a sentence/final particle, a question particle, and a modal particle depending on whether it is tagged on to an interrogative sentence or a declarative sentence”. One way it can be used in a declarative sentence is to express the continued state (Paul, 2009: 7) e.g. *Wàibiàn xià- zhe yǔ ne* (“It is still raining outside.”) (Chao in Paul, 2009: 7).

²⁷ According to an informant, a native/fluent speaker of Mandarin, this interpretation is correct; moreover, it appears that *ne* is often used in situations of negotiation, in conjunction with both *wh*-interrogatives and declaratives to soften the illocutionary force of the speech act.

“illocutionary force indicators”. As such, it seems likely that *ne* is used to convey speaker/addressee perspective (depending on how it is utilised) and serves to inform how the speech act should be interpreted. With this mind, Speas and Tenny (in Tenny, 2006: 260), claim that there is a specific Speech Act domain above the CP, as shown in (26) below. It is claimed that the speaker and addressee projections are linked in that the Speaker Projection is the “agent”, the Utterance Content is the “theme” and the Addressee Projection is the “goal” (Tenny, 2006: 260). In terms of this proposal, speaker perspective is the highest point within the structure and addressee perspective is closest to the TP. In considering *ne*, it seems plausible that it is within this domain that *ne* would occur, and that in a structure such as (28) below (Tenny, 2006: 260), a copy of the TP would have to move into a position that results in the TP being the specifier of *ne* (Spec-sa*P/Spec-sa depending on its usage), so that *ne* can occur in a sentence-final position.

(28)



Yip and Rimmington (2006: 137) agree with the above-mentioned interpretation of *ne*, and maintain that the particle adds “a quizzical tone” to the question, altering its meaning. The implication of this is that in (29a) below the Q-particle is null and that in (29b) the particle *ne* must be added if the respective meanings are to be conveyed.

(29) (a) Shū zài nǎ (Ø_{Qp})?

书 在 哪儿

Book at where

“Where is the book?”

(b) Shū zài nǎ ne?

书 在 哪儿 呢?

Book at where Qp

“Where can the book be?”

(Yip and Rimmington 2006: 137)

The interpretation of *ne* is elaborated on by Paul (2010). According to him (2010:9), Mandarin particles can be classified into three distributional classes. In terms of this classification, *ne* can be used (i) to express the continued state (CS)²⁸; (ii) to ask a follow-up question, in which the context is known to both interlocutors (FORCE); and (iii), as pointed out earlier, to convey speaker/hearer perspective (ATT). In order to determine the function of *ne*, it is important to clarify which categories make up the left-periphery of the sentence, that is, the domain above the TP, and their hierarchical ordering. Paul (2010: 11) proposes the following schema:

(30) ATT > FORCE > CS > TP

As discussed in in Section 2.1.2.1, Force is associated with clausal typing. Following Paul, for the clause to receive an interrogative interpretation, *ne* (like *ma* or null Q-particles) would be positioned in Force. Under such a view it would therefore not be entirely accurate to claim that *ne* is not a Q-particle *at all*; rather, specific to the context in which it is used, its “class” is determined (Paul, 2010: 6).²⁹ The importance

²⁸ CS = Continued state (Researchers own abbreviation); FORCE = interrogative force; ATT = attitude.

²⁹ Note, however, that an alternative suggestion is put forward by this author: In the case of *wh*-question constructions with *ne* added for specific effect, it is not unreasonable to assume that C is valued by a phonetically unrealised Q-particle in Force (giving the clause interrogative force) and that *ne* is simultaneously positioned above the CP in the Speech Act domain. Meaning that there are in fact two particles present in the C-domain (one null Q-particle and one overt particle (*ne*)) and that the TP moves into Spec-sa*/Spec-sa, preceding both particles. This is, however, a working hypothesis and, as such, it could be argued against by those who claim *ne* is valued with [Q] and [wh], in particular by

of Q-particles in *wh*-in-situ languages will be addressed again in Chapter 5 in the discussion of the participants' results.

2.6 Summary

In conclusion, this chapter provided a basic overview of the Minimalist assumptions and devices relevant to *wh*-question formation. After briefly examining polar (*yes/no*) questions, a detailed description was given of main clause non-echo *wh*-question formation in English, isiXhosa and Mandarin. Relevant similarities and differences between the three languages were noted throughout. It was established that unlike English, a *wh*-movement language, both isiXhosa and Mandarin are *wh*-in-situ languages. For each language, a detailed analysis was provided within the broad framework of generative minimalist syntax pertaining to the manner in which *wh*-questions are derived. The next chapter deals with parameter setting and the implications thereof in acquiring a L2/L3/L4 with similar or dissimilar parameters to that of the L1. The result of this can either be facilitative for learning if the two languages have similar mechanisms and parameters, or can result in interference from a L1 (or L2/L3) that has different parameters from the L2/L3/L4 being acquired. As such, the phenomenon of Transfer is considered with regard to the three languages examined in this study concerning how the different L1's spoken by the subjects could facilitate or hinder learning depending on the comparability or disparity between isiXhosa and English (or Afrikaans) respectively, and Mandarin.

those who claim *ne* can be valued differently depending on its usage, as this would make the presence of a null Q-particle superfluous (cf. Chang, 1994; Yuan, 2007; Paul, 2010).

CHAPTER 3

THEORETICAL FRAMEWORK

This chapter provides an introduction to the concept of ‘parameter setting’ in child language acquisition and discusses the influence that linguistic variation can have upon the acquisition of subsequent languages (cf. section 3.1). Section 3.2 serves to highlight the fundamental differences between child and adult language acquisition, as well as to determine the nature of the initial L3/4 state of this study’s participants in terms of whether their prior linguistic knowledge was acquired during childhood or adulthood and the effect that this could have on their subsequent language acquisition. Section 3.3 provides a brief summary of how multilingualism and bilingualism differ and explains the importance of this distinction; it also looks at the different ways in which cross-linguistic influence impacts upon language acquisition. Section 3.4 provides an overview of three different views of L3 transfer, while section 3.5 provides, based on the different views discussed, a number of hypotheses regarding the possible outcome of the current study. Lastly, section 3.6 reviews a number of studies that examine the acquisition of languages with in-situ *wh*-question constructions by speakers of *wh*-movement languages.

3.1 Parameters

3.1.1 Parameter setting

At the very core of this research study is the topic of L1 and early L2 parameter setting and, more specifically, the question of how the setting of these parameters affects the acquisition of a L3/L4 with corresponding or disparate parameter settings. In order to understand how parameters are set, one needs to first understand the nature of the language faculty itself. Chomsky (2005: 6) describes the language faculty as a composite of three factors:

1. A genetic endowment referred to as universal grammar (UG), which is “apparently nearly uniform for the species, ... interprets part of the environment as linguistic experience ... and ... determines the general course of the development of the language faculty.”
2. Experience, which results in variation that is “within a fairly narrow range”.
3. Principles “not specific to the faculty of language”.

Chomsky (2006: 6) highlights the importance of the third factor, explaining that it accounts for the principles of data analysis as well as the principles of structural architecture responsible for effective computation. The third factor acts as the interface between UG and experience (which is language specific). White (2003: 9) succinctly clarifies that “UG includes principles with a limited number of built-in options” that allow for cross-linguistic variation. To clarify the difference between “principles” and “parameters”, the former has a much broader scope and can take a number of forms; the latter however, referred to above as the “built-in options”, pertains to the “specification of the range of forms that a principle can take” (Crystal, 2013: 386). The notion that parameters exist within a language learner’s UG was initially introduced into the field of linguistics to provide a solution that could account for the seemingly impossibly complex task of language acquisition, explaining how the burden on the language learner is reduced (White, 2003: 10).

The second factor Chomsky (2005:6) suggests forms part of the language faculty, i.e. experience, is the primary factor responsible for positively or negatively setting parameters. This is because experience comes in the form of language input and provides the learner with clues as to the rules of their language. As such, the UG parameters are triggered as a result of the speaker’s language exposure and the parameter setting process (to be discussed below) is facilitated by the third factor, which ensures efficient data analysis and structural implementation.

The setting of parameters is for the most part assumed to involve a binary choice (White, 2003: 9). The selection of one option is believed to result in a clustering effect of various (among others) syntactic properties (White, 2006: 9). As such, parameters are more comprehensibly defined as “macro-parameters” containing “micro-

parametric clusters” (Sheehan, 2014: 399). These clusters, however, vary cross-linguistically and it is not to say that because a specific macro-parameter is selected that two languages will have exactly the same micro-parametric clusters; rather, a more refined explanation is necessary. Sheehan (2014: 400) proposes parameter hierarchies and suggests that a one-way dependency offers an appropriate solution. Consequently, if a positive setting of (the macro-parameter) Parameter A occurs, the option to positively (or negatively) set Parameter B (a micro-parameter) ensues. If parameter B is positively set, the option to set Parameter C is made available and so forth. As a result, similar (but not identical) parametric clusters will occur in different languages. This parameter hierarchy accounts for what Biberauer (2008: 14) refers to as “sub-parameters” when confronted with variation that seems contrary to the traditional notion of binary choices.

With regard to the *wh*-parameter, Biberauer (2008: 14) explains that the choice, typically regarded as binary, between parameter options results in either *wh*-movement (by selecting the marked strong [*uwh**] feature) or *wh*-in-situ languages (by selecting the unmarked weak [*uwh*] feature). As discussed in Chapter 2, isiXhosa, which appears to “optionally front” the *wh*-expression, only does so in pseudo-clefts and therefore no movement has in fact taken place, meaning that the *wh*-word is still in-situ. Biberauer (2008: 13), however, observes that there are some languages where such a solution is not sufficient in accounting for what appears to be “movement optionality”. One such language is Duala (a Bantu language spoken in Cameroon), which permits *wh*-movement and in-situ main clause *wh*-constructions. Biberauer (2008: 14) states that such optionality is only possible upon a positive setting of the *wh*-movement parameter and that the in-situ option is then a sub-parameter of the *wh*-movement parameter. What this means is that, if the parameter is set as [-movement], then this is the only option available in the formation of *wh*-questions. If, however, the parameter [+movement] is selected, then either no further selections are made and the language is exclusively a *wh*-movement language or a further micro-parameter is selected for [+/-movement] and either the *wh*-expression is fronted or can remain in-situ. Importantly, however, this is only brought about by the initial *positive* setting of the [+movement] parameter. Thus, the setting of the *wh*-parameter follows a parametric hierarchy. Each choice point is initially binary, with a second, third, etc.

set of binary options to follow³⁰. Such an explanation accounts for cross-linguistic variation, but also for the similarities between languages that are otherwise completely unrelated (e.g. isiXhosa and Mandarin).

Choi's (2009: 57) description of the Minimalist Program (MP) as a program, which "aims at the optimal design for language in terms of *economy of derivation*" allows for the hierarchical model of parameter setting as a particularly appealing solution. Instead of burdening the computational system with a complex UG containing an unlimited number of parametric choice points (i.e. the UG of the Government and Binding (GB) period), a simpler and more refined UG allows for only certain choice points based on the previous selection in the parameter hierarchy; hence, a refined view of the Principles and Parameters (P&P) framework is beginning to take shape under the MP.

3.1.2 Parametric differences

The notion that parametric variation between grammars can be attributed to properties of lexical items is long established (cf. Borer 1984; Chomsky 1995; Ouhalla 1991; Fukui and Speas 1986; Pollock 1989). Baker (in Biberauer, 2008: 19) refers to this as the "Borer-Chomsky Conjecture" (BCC), stating that "all parameters of variation are attributable to differences in the features of particular items (e.g. the functional heads) in the lexicon". More specifically, cross-linguistic variation, as noted by White (2003: 10), can be attributed to three characteristics of lexical variation: the realisation of functional categories, the features of the functional categories and the strength of the features in question. Regarding variation in the realisation of functional categories, Mandarin is a classifier language³¹ (unlike English) and therefore projects a classifier projection (Cl) under the number projection (Num) of the functional category Determiner (D)³² (Li, 1999: 76). The necessity of Cl, as explained by Li (1999: 75), is due to the fact that nouns in Mandarin are mass nouns (number is not specified and

³⁰ Refer to section 3.2.1 below for a diagrammatical representation of this parametric hierarchy.

³¹ A "classifier language" is a language that must use classifying words or morphemes that correspond to the relevant semantic class of the noun when nouns combine with numbers (Li, 1999: 75).

³² Although Mandarin does not have an equivalent of the definite determiner *the* in English, Li (1997:81) explains that Mandarin "still has a DP structure for argument nominal expressions". As such, Li (1999:82) states that pronouns and proper names (as definite expressions) are generated in D and can be followed by Num, Cl and Noun (N).

they are therefore inherently plural). With regard to the parameterisation of feature variation, Li (in Lardiere, 2003: 176) differentiates between Mandarin and English: the former does not select [\pm past] as a feature under T, while the latter does. Lastly, as mentioned above, features also differ in strength. For example, English has a strong [uwh^*] feature (represented by the asterisk), which drives movement of the *wh*-expression to C, while the weak [uwh] feature of Mandarin and isiXhosa results in in-situ constructions.

Is it sufficient, however, to attribute parametric variation solely to lexical variation? Biberauer (2008: 13), by means of a discussion about the parametric property linearisation (i.e. the derivation of linear structure from a hierarchical structure), argues that it may not be. Chomsky (in Biberauer, 2008: 14) expresses the view that “[t]here is no linear order in the N[umeration] \rightarrow Logical Form (LF) computation”, but rather that linearisation occurs at Phonological Form (PF). On that account, linear ordering is not thought to be encoded in the narrow syntax. Similarly, Bobaljik’s (in Biberauer, 2008: 16) proposal attempts to explain movement parameters in terms of the involvement of the PF interface. Bobaljik proposes that a Movement operation, as either overt or covert, does not necessarily depend on whether or not there is a movement diacritic located in the lexicon (resulting in an Agree operation in the absence of such a feature or a Movement operation in its presence), but rather is dependent on which copy of the moved element PF spells out.

What Biberauer (2008: 16) suggests is that, if such thinking is correct, perhaps it is not a case of either (lexicon)-or (interfaces), but rather that a parameter such as the *wh*-parameter could involve both lexical and interface components. In support of this, Biberauer (2008: 16) refers to the notion of clausal typing and the correlation between *wh*-in-situ languages and the presence of an overt Q-particle interpretable at LF (as discussed in Chapter 2). Recall that Cheng’s (1991) Clausal Typing Hypothesis claims that, in languages with Q-particles, these particles type a clause as interrogative and render movement at spell-out unnecessary. Thus, a link is formed between how certain lexical items are interpreted at LF and what the ensuing effect is at PF. Biberauer’s (2008: 24) point is that a parameter such as the *wh*-parameter may involve more complex interactions between the different aspects of language structure

(lexical, morphological and syntactic) than previously thought and that, in “formulating and ‘localising’ them”, more factors may need to be taken into consideration (Biberauer, 2008: 24).

3.2 Child and adult L2 acquisition

The following discussion is important in distinguishing between how knowledge acquired as a child language learner differs to that which is acquired in adult language learning, and in determining how this difference impacts upon the acquisition of subsequent languages. Fundamental to differentiating between child and adult language acquisition is the debate concerning access to UG, specifically with regard to what is presumed only to be available in childhood versus what can be accessed later in life. With regard to parameters specifically, the ease or difficulty with which parameters are acquired is said to be resultant of whether they are associated to features that are marked or unmarked. The successful acquisition of parametric rules associated with marked features is claimed to be resultant of whether or not the marked features were instantiated in childhood by way of parameter setting or not. Parametric rules associated with unmarked features, on the other hand, are said to be acquired without difficulty throughout life because unmarked features are claimed to be present in the learner’s initial state as the “default features”. What follows aims to provide a framework within which the study of the acquisition of *wh*-question constructions in Mandarin by L1 English L2 Afrikaans-speaking and L1 isiXhosa L2 English L3 Afrikaans-speaking participants can be conducted and the results thereof interpreted.

3.2.1 Access to UG and adult language acquisition

The nature of “a speaker’s initial linguistic state” is central to second/third (or additional) language acquisition. The difference between child and adult language learners, specifically with regard to how the initial state differs between the two, was initially summed up by the Fundamental Difference Hypothesis (FDH; Bley-Vroman, 1989). The FDH postulates that first L1 acquisition is controlled by a language

acquisition system (UG) that is no longer operational in adults, and that rather, adult language learning is controlled by domain-general problem-solving skills. Bley-Vroman has since revised the FDH and although he maintains that L1 (or L2 child) learning is characterised by convergence and reliability, while L2 adult acquisition shows neither convergence nor reliability, he substantially reduced the importance placed on UG in his original theory. This is in part due to the fact that, under the MP, the richness of UG is done away with (as discussed in section 3.1.1 above). As Gass (2013: 179) explains, the revised FDH acknowledges that processes used in the language faculty may be used in other faculties too, thus the difference between child language acquisition and adult language acquisition cannot be based *purely* on the different learning mechanisms involved. Although it may be the case that both adult and child language learners use general learning strategies to some degree, this perhaps similar process does certainly not result in the equal attainment of the TL among both children and adults. Consequently, it is not refuted that a child L2 learners' TL end-state is different to that of an adult L2 learner's.

There remain two general camps in the debate around adult language learners' access to UG. Rothman (2010: 108) identifies these two camps as consisting of (i) those who claim that L2 adult language acquisition is achieved through a combination of strictly domain-general learning skills and linguistic knowledge instantiated in childhood that work together to acquire subsequent grammars, and (ii) those who claim that adults continue to have full access to UG in the form of the same language acquisition mechanism that guides L1 acquisition. Rothman (2010: 108) observes that proponents of the first theory (e.g. Johnson and Newport, 1989; Bley-Vroman, 1990; Schachter, 1990; Clahsen and Hong, 1995; Meisel, 1997; Ullman, 2001; DeKeyser, 2003; Paradis, 2004) are certainly in the majority. White (2000: 149), however, points out that in the debate around access to UG, it might be advisable to refer to an unimpaired versus an impaired operation rather than to question whether or not there is access to UG, eliminating the all-or-nothing perspectives that seem too (un)restrictive. The "impaired" UG White refers to can perhaps be regarded as one that has been tainted with prior linguistic experience, the parameter settings having become "stuck" upon maturation of the language faculty. Consequently, certain parameters are applicable across different languages (because they happen to be the same in both the L1 or L2),

while others are not. As such, some of the learners' L1 parameter settings are correct in the case of the L2, while others are not. This means that problems in one domain do not necessarily equate to problems in another.

In line with this thinking is an earlier proposition by Tsimpli and Roussou (1990) that falls somewhere between the two general camps. Tsimpli and Roussou suggest an account of adult L2 acquisition that is based on the assumption that UG principles control the construction of adult L2 grammar, but that parameter setting is only available in the process of child language acquisition³³. By this account, Tsimpli and Roussou (1990: 151) maintain that adults still have partial access to UG because any natural language “is a possible language as defined by UG”. Tsimpli and Roussou (1991: 164) stress the importance of adults still having access to UG principles in the process of language acquisition, because were this not the case, in theory, acquired L2 grammars could constitute “impossible languages”. What is of particular importance with regard to Tsimpli and Roussou's (1990) perspective on adult's access to UG is that in spite of the claim that UG must be available (in some capacity) to constrain possible grammars, they maintain that parameter setting (which requires access to the “unimpaired UG” – MV) is exclusively available in child language acquisition.

With regard to parameterisation, specifically so that it aligns with minimalist assumptions, Tsimpli and Dimitrakopoula (2007) have more recently reiterated the view that (as stated above in section 3.1.2) parametric variation is resultant of “language differences at the level of lexical feature specification” and more specifically that these differences are dependent on whether or not (and how) a particular feature of a given language spells out (i.e. Merge, Move or Agree)³⁴. Tsimpli and Dimitrakopoula (2007: 223) provide examples of parameterisation in *yes/no* questions in English and Mandarin respectively, pointing out that (as discussed in Chapter 2) the Q-feature of Mandarin *yes/no* questions is realised as the overt question particle *ma*, while the Q-feature in English *yes/no* questions is an inflectional Q-affix, resulting in auxiliary inversion. With regard to *wh*-questions, however,

³³ A view that White (2000: 135) refers to as the “Full Transfer/Partial Access hypothesis”.

³⁴ Recall Bobaljik's (in Biberauer, 2008: 16) account in section 3.1.2 above.

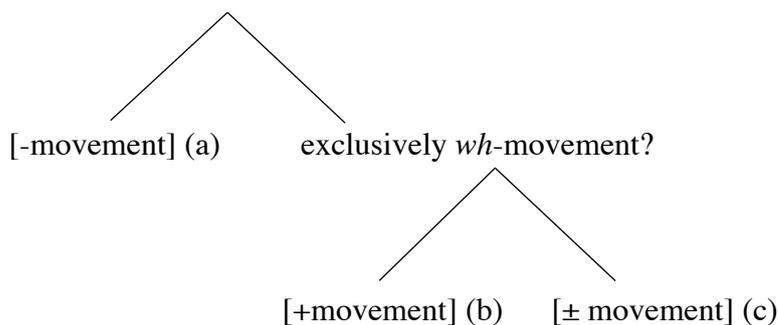
parameterisation of course lies in feature strength, depended on whether the unmarked weak [*uwh*] or marked strong [*uwh**] feature is selected.

If, as Tsimpli and Roussou (1990) claim, parameter setting is only possible in childhood, how is it that a number of studies (to be reviewed in section 3.6 below) have shown that adult language learners who are speakers of *wh*-movement languages are able to acquire the structure of in-situ *wh*-questions without difficulty, while speakers of *wh*-in-situ languages typically struggle to acquire the structure of *wh*-questions in *wh*-movement languages? In accounting for this, as well as for how parameterisation plays out in the acquisition of *wh*-questions in Mandarin, I refer to Platzack's (1996) Initial Hypothesis of Syntax (IHS). The IHS is inspired by Minimalist syntax and the theory of markedness, which specifies that strong features that drive movement are marked, while weak features resulting in agree relationships, without movement at spell-out, are unmarked. Gao (2009: 34) clarifies that under the Minimalist framework, "movement is constrained by the Procrastination Principle, which states that movement should be avoided as long as possible, since movement costs". Strong features, however, require that, although costly, movement must ensue. The IHS hypothesises that, at the commencement of language learning, there are no marked features (e.g. the marked strong [*uwh**] feature), but that there is a gradual adjustment "to get to the target language" on grounds of input (Platzack, 1996: 369). Platzack additionally proposes that this is not only the case in L1 acquisition, but that it is also the case in the acquisition of subsequent languages and that "...we initially go back to the IHS when trying to come to grips with the second language" (Platzack, 1996: 380). To illustrate this point, Platzack predicts that learners who are speakers of a SOV-sequence language, and who are acquiring a SOV-sequence language, will produce sequences of SVO in their interlanguage grammars; while speakers of SVO-sequence languages, who are acquiring a SVO-sequence language will not produce SOV constructions, resulting in the (unmarked) SVO order as the default (380: 1996). Consequently, the parametric rules associated with unmarked features are said to be easier (and possible) to acquire in adulthood because the unmarked features associated with them constitute the "default setting". As such, parameter options associated with unmarked features, present in the initial state of language acquisition, remain available to adult language learners throughout life in the form of "impaired

UG”. Parameters associated with marked features, however, unless set in childhood, are less easily acquired in adulthood as a result of adult learners’ no longer having access to “unimpaired UG”, which allows for parameter setting. Rather, adult learners need to make use of exclusively domain general cognitive skills to acquire the parametric rules associated with the marked features (which typically results in continued variability).

Platzack’s (1996) IHS makes for an economical theory of language acquisition. In the acquisition of *wh*-questions, the [-movement] parameter, associated with the unmarked [*uwh*] feature (present at the initial stage of language acquisition), is set upon receiving appropriate corresponding TL input. If, on the other hand, the [+movement] parameter must be selected, learners need to additionally acquire the marked strong [*uwh**] feature – a process that can be regarded as an “adjustment” from the initial state – as they cannot simply select the default unmarked feature. Roberts’ (2012:321) description of parameter setting is compatible with the IHS in that he corroborates Biberauer (2008: 14) and Sheehan’s (2014) claim that there is a parametric hierarchy (cf. section 3.1.1). Roberts (2012: 321) maintains that “true macro-parameters” are at the top of the parametric network, and that parameters become more “marked” as subsequent parameters are selected. Following Roberts (2012: 321), a network of parametric hierarchy specific to the *wh*-parameter is illustrated below:

(31) Is the *wh*-parameter set as [-movement] or [+movement]?



A language that selects (a) will be an exclusively *wh*-in-situ language, for example, Mandarin or isiXhosa. A language that selects (b) will be an exclusively *wh*-movement language, for example English, while a language that selects (c) will have

true movement optionality, for example Duala referred to above. Importantly, however, the above example illustrates that the [-movement] parameter (associated with the unmarked weak [*uwh*] feature), results in the most economical derivation and is therefore the most likely parameter to be at the top of the *wh*-parametric hierarchy. Furthermore it is likely that the parametric rules associated with it are the most easily acquired. Under such a view, the language acquisition device (LAD)³⁵ searches for the easiest “solution” to match the TL input. If the TL input matches option (a), no further searching is required. Thus, the LAD moves from the easiest solution (the most economical) to the next hardest until a match, compatible with TL input, is found (Roberts, 2012: 321).

Based on Platzack’s (1996) IHS, and aligned with Roberts’ (2012) description of parameter setting, Algady (2013: 75) claims that “it is reasonable to assume that learners would start testing target grammars using the most economical syntax” and that were this grammar not to match the TL grammar, “the learner would keep testing the grammar with more complex syntax until it matches” the TL. Accordingly, if the unmarked weak [*uwh*] feature of Mandarin is the default setting in the learners’ initial state, no further “testing” would be required and they should all acquire the correct in-situ structure from the time language learning commences. Crucially though, Platzack (1996: 380) does claim that L1 and L2 (or L3/L4 – MV) acquisition are fundamentally different in that, “firstly, L2 acquisition is always performed against the background of a native language, and secondly, there is, presumably, no stage of automatisisation in L2 learning”. Therefore, in the acquisition of subsequent languages, prior linguistic knowledge, resulting in facilitative or non-facilitative transfer, cannot be disregarded (even in the acquisition of parametric rules associated with unmarked features).

With regard to adult language learning, second only to the debate surrounding “access to UG” (and, by association, the learning mechanisms involved and which features are and are not acquirable), is the debate concerning how previous linguistic

³⁵ Krashen (in Gass 2013: 132) assumes that a LAD is “an innate mental structure capable of handling both first and *second language acquisition*” (researcher’s own emphasis). Thus, it is assumed that adult language learning is not only guided by domain general learning skills, but also by a LAD (as well as prior linguistic knowledge and “impaired UG”).

knowledge impacts upon the degree to which the learner's interlanguage converges with the grammar of the TL. Linguistic variation between languages results in prior linguistic knowledge (in adult language learning) being either facilitative or non-facilitative. This is influenced not only by the specific combination of languages involved, but also by the fact that the L2 adult learner "does not ... come to language as 'an organism initially uninformed as to its general character' " (Bley-Vroman, 1990: 16, quoting Chomsky). As such, the adult language learner has an awareness of the "general character" of not only language, but also specific features of their L1. Although the impact of a L1/L2 upon the TL varies from one acquirer to another (and from one combination of languages to another), its influence on adult language acquisition is irrefutable. The role that prior linguistic knowledge plays in adult L2/L3/L4 acquisition is discussed in more detail in sections 3.3 and 3.4. The following section, however, before attempting to ascertain the initial L3/4 state of the participants in this study, looks specifically at child language acquisition.

3.2.2 Child language acquisition

Chomsky (in Gass 2013: 163) states that UG is "the system of principles, conditions, and rules that are elements or properties of all human languages" and that (unimpaired/full access to – MV) UG "is taken to be a characterisation of the child's pre-linguistic state".

In discussing child language acquisition, and specifically L1 versus L2 learners, a terminological clarification is necessary. Unsworth (2005: 6) distinguishes between simultaneous child bilingualism (2L1 acquisition) and early L2 acquisition (the process undergone by L2 learners whose first exposure to their L2 occurred after the bulk of their L1 was already acquired). She (2005: 7) defines a L2 child learner as "a non-native acquirer whose initial exposure to the target language is between the ages of four and seven years" and a L2 adult learner as "a non-native acquirer whose initial exposure to the target language is at an age of eight years or older". Unsworth's (2005: 6) position with regard to the upper level of child L2 acquisition (age seven) is based on findings by Johnson and Newport (1989; 1991) and DeKeyser (2000) who

found that children who started to acquire their L2 prior to the age of eight were able to reach native-like levels of attainment in the morphosyntactic domain.

The definitions and age-limitations above are in line with the Critical Period Hypothesis (CPH), which states that there is a critical period during which language acquisition, be it of a L1 or L2, is possible to native-like levels (Gass, 2013: 434). This critical period is typically regarded as the period from birth to the onset of puberty, with a gradual decline in language learning abilities from as early as age six having been noted (Gass, 2013: 440). Under a UG based model of language acquisition, native-like levels are attainable because, during the critical period, language acquirers have full access to UG and parameter setting for uninterpretable features (marked and unmarked).

3.2.3 The participants' *wh*-parametric initial state

As the above discussion has shown, the participants in the current study (being 15 years old) are regarded as adult³⁶ L3/L4 learners who come to the task of acquiring Mandarin with either 2L1 or early L2 (or even L3) linguistic knowledge. The two groups, L1 isiXhosa L2 English L3 Afrikaans speakers and L1 English L2 Afrikaans speakers respectively, have different language backgrounds and, therefore, different *wh*-parameter settings.

The L1 English L2 Afrikaans-speaking participants have the *wh*-parameter set as [+movement] for both their languages. As discussed in Chapter 2, for speakers of movement languages, the uninterpretable feature ([*uwh**]) of C is strong, which forces the *wh*-expression to move to Spec-CP. Because the L1 English L2 Afrikaans speakers in this study have only the [*uwh**] feature instantiated in their linguistic systems (both being *wh*-movement languages), they do not possess knowledge of a language that has selected the weak [*uwh*] feature and consequently do not know

³⁶ The participants in this study are adolescents, but using Unsworth's (2005:6) criteria, they fall into the category of "adult language learners" and are accordingly referred to as such. Unsworth (2005: 7) does admittedly acknowledge variance within the group she refers to as "adult" (from eight to 80 years), and specifically between those learners that are pre-pubertal and everyone else.

(based on their prior linguistic knowledge) that in-situ *wh*-questions are possible in the formation of an interrogative (as apposed to an echo question).

The L1 isiXhosa speakers are regarded as L2 child learners of English, as their L2 acquisition commenced before the age of seven years (in pre-school or primary school); therefore, these learners ought to have attained native-like (or at least near-native levels) of English proficiency (assuming they received sufficient exposure to English during the critical period). As such, the L1 isiXhosa L2 English L3 Afrikaans-speaking participants will have both *wh*-parameter settings activated: [-movement] in the case of their L1 and [+movement] in the case of their L2 and L3. As such, they are familiar with languages that have selected the weak [*uwh*] feature, resulting in in-situ constructions, as well as languages that have selected the strong [*uwh**] feature, resulting in *wh*-movement. Thus, these participants, as child L2 learners of English (and likely Afrikaans)³⁷ made a positive selection of both binary options for the *wh*-parameter before the end of the critical period. As adult language learners of Mandarin, they possess three distinct syntactic systems from which either of the two options may be transferred to the L4 initial state.

Of concern to the present study is whether the similarities and/or differences between their respective L1/L2/L3s and the TL will result in variation at an elementary stage of subsequent language learning. Recall that, Platzack (1996) claims, parameters associated with unmarked features are easier to acquire than parameters associated with marked features (because unmarked features are said to be the “default” features at the elementary stage of language acquisition). Furthermore, Roberts (2012: 321) claims that, “[t]he higher the position in the hierarchy, the harder it is for systems to change. At the lower level, micro-parametric levels, on the other hand, it is relatively easy for systems to change”. Accordingly, because the [-movement] parameter is associated with an unmarked feature (higher up in the parametric hierarchy) it could be expected that both groups should perform comparatively in acquiring the correct

³⁷ Recall that in the area in which the participants live, predominantly Afrikaans but also English are the primary languages spoken. All the participants selected English (firstly) and Afrikaans as the languages of instruction in primary school. Accordingly, it is presumed that they are all child learners of Afrikaans as a L3 as they would have been exposed to Afrikaans from the age of 6 or 7 at the latest. Although they very infrequently speak Afrikaans (established from the language background questionnaire) other than in their Afrikaans language lessons, they do have knowledge of how *wh*-questions are formed in Afrikaans, knowledge that would have been acquired before the age of 8.

sentence structure. This would be a result of both groups (i) having the unmarked [*uwh*] feature (and, by extension, the [-movement] parameter option) set as the default when they first started to acquire Mandarin and (ii) because both groups, having selected the [*uwh**] feature associated with the lower [+movement] parameter, should not, according to Roberts (2012: 321) struggle to make changes to their linguistic systems.

Recall again, however, that Platzack (1996) does concede that L2 (L3/L4) acquisition commences against the background of previously acquired L1 (L2) linguistic knowledge. Consequently, for speakers of exclusively *wh*-movement languages, acquiring the correct word order for in-situ *wh*-questions means also coming to terms with the fact that the strong [*uwh**] feature is not instantiated in Mandarin as it is in English and Afrikaans and that therefore they need to apply the [-movement] parameter (associated with the already present [*uwh*] feature) and not select the [+movement] parameter associated with the [*uwh**] feature. In the case of the L1 isiXhosa-speakers, it may be assumed that, because they are familiar with both the [-movement] and [+movement] parameter options, instantiated in their prior linguistic knowledge, they might, as a result of facilitative transfer from isiXhosa, outperform the L1 English-speaking participants. This is presumed because of their knowledge that, in certain languages (their L1 for example) a *wh*-word is not required to front a *wh*-question in order to form a grammatical *wh*-interrogative.

In spite of the above-mentioned predictions, because both groups have the strong [*uwh**] feature instantiated in their L1/L2 (L1 English group) or L2/L3 (L1 isiXhosa group), the acquisition process may not be quite as straightforward as predicted, due to possible interference from these previously acquired *wh*-movement languages. The entire process might, in fact, need to be viewed differently – not just as an *acquisition* process, but also as a process of “unlearning” as learners come to terms with the fact that *wh*-movement is not required (and that it is in fact ungrammatical) in the formation of *wh*-questions in Mandarin.

How this plays out for the two language groups in this study will, however, presumably be different. When acquiring a new language, Lardiere (2005: 179)

claims, there is a certain morphological competence required by the learner. Morphological competence is said to include knowledge of not only which features are paired with which forms, but also of the domains in which features are expressed in combination with other features, and the knowledge that a feature may be expressed in one domain in one language but not in that same domain in another language. As such, all learners will need to acquire the appropriate morphological competence to inform upon the fact that the [*uwh**] feature (instantiated in either their L1 and L2, in the case of the L1 English group; or instantiated in their L2 or L3, in the case of the isiXhosa group) is not instantiated in Mandarin and that the [-movement] parameter, as the “default setting” is the one that must be applied. As language learning commences, with the learners’ prior linguistic knowledge as a possible source of non-facilitative or facilitative transfer in the case of the L1 English- and L1 isiXhosa-speaking participants respectively, it will become evident if transfer from isiXhosa as a *wh*-in-situ language is facilitative in the acquisition of Mandarin³⁸. The uncertainty, however, lies in which language the L1 isiXhosa-speaking participants will transfer from. The L1 English-speaking participants, with only one previously instantiated *wh*-parameter, [+movement], have to recognise that their English/Afrikaans and Mandarin linguistic systems are entirely different with regard to *wh*-question formation and will need to reformulate what they know about *wh*-questions by applying the [-movement] parameter. Furthermore, the correct in-situ structure can only be acquired once non-facilitative transfer from English or Afrikaans ceases to occur, unlike transfer from isiXhosa, which could be facilitative in the acquisition process.

The following sections further expand upon how prior linguistic knowledge affects the acquisition of subsequent languages.

³⁸ This is not to say that *every wh*-question will then be correctly in-situ; isiXhosa and Mandarin do have slight differences (cf. Chapter 2), but this is re-addressed in Chapter 5. Overall though, in such a scenario, *most* constructions should certainly be correctly formed.

3.3 Multilingualism and cross-linguistic influence

According to Gass (2013: 4), L2 acquisition refers to “the process of learning another language after the native language has been learned. Sometimes, the term even refers to the learning of a third or fourth language.” Although this may be the case, Gass (2013: 485) states, the acquisition of additional languages (commonly referred to as L3 acquisition) is far more complex than L2 acquisition simply because there are multiple languages involved. Kellerman (in Cenoz, Hufeisen and Jessner, 2001: 2) observes that L1 acquisition and L2 acquisition are clearly differentiated by cross-linguistic influence (CLI), in that L1 acquisition is not subject to CLI of any kind. Cenoz et. al (2001:1) extend this statement to L2 acquisition and L3 acquisition, pointing out that while L2 learners have two systems that can influence each other, L3 learners have three (or more, depending on the number of languages already acquired) systems involved in the language acquisition process and that CLI can occur between any of the three (plus) systems. For this reason, Montrul (in Potgieter, 2014: 18) points out that it is commonly accepted that the use of the term “L2 acquisition” to refer to the acquisition of any number of languages subsequent to the first fails to recognise the complex and cumulative effect that knowledge of two or more linguistic systems has on the acquisition of further languages.

With this established, we can predict that L3 acquisition will not only be subject to CLI from the language learner’s L1, but from the L2 (and in the case of L4 learners, the L3) as well. Different kinds of CLI that may be relevant to the current study are introduced below, and are followed by a discussion of the differing views on transfer.

3.3.1 Cross Linguistic Influence

CLI is the collective term for an array of language-related phenomena that occur in a multilingual’s interlanguages. Gass (2013: 139) points out that the term, introduced by Kellerman and Sharwood Smith (1986), provides a more comprehensive umbrella term than “transfer” to refer to the influence that a language learner’s previous linguistic knowledge has upon subsequent language acquisition. CLI includes, amongst other phenomena, transfer, avoidance, overproduction and borrowing. The

first three are predicted to be possible role-players in the current study and will consequently be discussed in more detail below.

3.3.1.1 Transfer

Transfer is regarded as the “carryover of native language surface forms to a second language context” (Gass, 1983: 385). This means that, according to Crystal’s definition, “[t]ransfer effects form part of a person’s interlanguage” (2013: 491). This influence can manifest in the domains of syntax, the lexicon, semantics, phonology and, to a lesser degree, morphology. Gass (2013: 80) points out that there needs to be a terminological understanding of “transfer” and how the term is used. An important distinction is that between the process of transfer and the eventual outcome of the process. The linguistic product of the process indicates whether facilitative transfer or non-facilitative transfer (“interference”) has occurred. Thus, as Gass (2013: 80) points out, transfer can only be regarded as facilitative or non-facilitative once the learner has produced linguistic output that can be measured against TL norms.

It is said that the extent to which a learner’s prior linguistic knowledge affects additional language acquisition depends on the (psycho)typological distance of the languages in question (cf. for example, Rothman, 2010: 112). This goes to say that if a learner is multilingual and possesses knowledge of multiple languages, the language that is either the most typologically similar to the TL or *perceived* to be the most typologically similar (regardless of whether or not it is) will likely be “called upon” in aid of the acquisition of the TL (Gass 2013: 139). Thus, it is not only the actual typological similarity, but also the *perception* of typological similarity that is of importance in determining whether or not transfer is likely to take place. It is important, however, to note the different interpretations of the term “typology”. According to Falk and Bardel (in Potgieter, 2014: 25), this term may be taken to refer to the following three phenomena:

- (i) “language relatedness”, i.e. the consanguinity of two languages;
- (ii) “typology”, i.e. similarities between the linguistic features across language families; and
- (iii) “psychotypology”, i.e. the language learner’s perception of the degree of similarity between languages.

The second two interpretations are of concern to the present study and, as such, the terms “typology” and “psychotypology” (the latter of the two originally coined by Kellerman, 1979) will be used. Typological similarities can lead language learners to doubt the plausibility of certain TL structures, perhaps because they deem that particular structure as specific only to their L1/L2. This perspective is what is referred to as the learner’s psychotypological judgement. Gass (2013: 150) clarifies that from the learner’s perspective, linguistic items are regarded as either language-specific or language-neutral. The former is perceived to be a distinct characteristic of one language and the latter a language universal. Consequently, rejection of a given language structure that is perceived to be language-specific (although it is in fact not the case) can ensue and instead of facilitation taking place, the learner may avoid using the given structure altogether (Gass 2013: 141). Typological distance between languages does not, however, exclusively result in interference or difficulty in acquiring specific TL structures. In this respect, Gass (2013: 148-149) refers to the fact that a quality of some aspect of the TL can be so different to the learner’s L1/L2 that it is novel, causing the structure to be more easily noticed and therefore readily recalled.

3.3.1.2 Avoidance and overproduction

The similarities and differences between languages do not only determine what is produced but also, as Gass (2013: 140) observes, what is not. Whilst avoidance of certain TL structures may be a result of the degree of perceived difficulty of a TL structure or scepticism regarding the grammaticality of the TL structure, L1/L2-TL difference is in fact said to be the most likely predictor of avoidance (Gass 2013: 142). Gass does not elaborate on why this is the case, but presumably it is because it is far less taxing to produce a L2 structure that is not entirely dissimilar to a structure

in your L1 than it is to produce a L2 structure that is completely different to any structure in your L1. In doing so, your L1 acts as a facilitative tool to help “construct” the required L2 structure. When a L2 structure is entirely different, however, there is no support system in place via L1 knowledge and no prior knowledge can be drawn upon to aid the acquisition process.

Avoidance, as Gass (2013: 141) observes, is a choice. Consequently, avoiding certain structures means selecting others instead. This in turn can lead to the overproduction of certain items. In avoiding certain TL structures, the language learner’s options are limited, hence overproduction occurs. Avoidance is, to a certain degree, dependent on the language learner’s competence, and although the TL structure may be familiar to the learner, the choice to exclude it indicates that use of the structure has not yet become automated (Benson 2002: 69). Unlike transfer, avoidance is often difficult to detect, in which case indications of overproduction can be useful when looking for evidence of avoidance.

3.4 Views on L3 transfer

The following section addresses the question of which variables are involved in syntactic transfer in L3A. Accordingly, three positions, as set out by Rothman (2010), are summarised below. Prior to discussing these three views on L3 transfer, it should be noted that a fourth position, referred to by Bardel and Falk (2007: 462) as the “non-transfer position”, is a view advocated by researchers who claim that a learner’s prior linguistic knowledge is of minor significance in the process of subsequent language acquisition (cf. Clashen and Muysken, 1986, 1989; Epstein et al., 1996, 1998). Under this view, the acquisition of a particular language by speakers of different languages will look much the same, as all learners are understood to behave comparably (Bardel and Falk, 2007: 462). Potgieter (2014: 22), however, points out that this position has yet to be persuasively argued for and will therefore not be expanded upon further.

The three positions set out below are: the Cumulative Enhancement Model (CEM; Flynn, Foley and Vinnitskaya, 2004); the ‘L2 status factor’ (Bardel and Falk, 2007); and the Typological Primacy Model (TP; Rothman, 2010). The abovementioned researchers have established that the L1 is not the only source of potential transfer to the L3 as previously suggested (cf. Leung, 2006; Hakansson, Pienemann and Sayheli, 2002) and endeavour instead to ascertain whether transfer is always facilitative (Flynn et al., 2004); whether the L2 is the primary source of L3 transfer (Bardel and Falk, 2007); and finally, whether transfer occurs as a result of the learner’s (psycho)typological perception of the degree of similarity between previously acquired languages and the L3 (Rothman, 2011). The investigation of these topics lead to the formulation of the three different positions on transfer discussed below.

3.4.1 The Cumulative Enhancement Model

Flynn et al.’s (2004) CEM is based on the premise that any previous linguistic knowledge can be advantageous in the acquisition of subsequent languages (Rothman, 2010: 110). The study that lead to this premise examined the oral production of restrictive relative clauses in English by three groups of learners: L1 Japanese speakers, L1 Spanish speakers and L1 Kazakh L2 Russian speakers. Rothman (2011: 110) clarifies that because Kazakh and Japanese have a similar head direction, if language learning were not cumulative, L3 acquisition of English by the L1 speakers of Kazakh should resemble L2 acquisition of English by the L1 speakers of Japanese and not the L1 speakers of Spanish. This was not the case; rather, the L1 Kazakh L2 Russian-speaking learners transferred from Russian, their L2, which has a similar CP structure to English, with an acquisition pattern matching the L1 Spanish-speaking participants (Spanish also has a similar CP structure to English). Consequently, Flynn et al. (2004) proved that the L1 is not the only source of transfer in L3 acquisition. Furthermore, they claim that if transfer occurs, it is always facilitative.

Given the above findings, the CEM claims that language acquisition has a “scaffolding effect” in that any prior linguistic knowledge is either facilitative to the acquisition of subsequent languages or remains “neutral” (Rothman, 2011: 110). The prediction then is that only facilitative transfer will occur in the process of language

acquisition and not non-facilitative transfer. However, as Potgieter (2014: 24) points out, the CEM is not supported by the findings of a number of studies investigating L3 acquisition (cf. for example Bardel and Falk, 2007; Rothman and Cabrelli Amaro, 2007, 2010). As such, the current study disregards the CEM as a model that can accurately predict language transfer. With this said, not everything that is claimed by the CEM is without merit, because as Cenoz and Jessner (2009: 125) point out, most researchers now accept that “CLI is indeed possible in any direction between a multilingual’s languages”.

3.4.2 The ‘L2 status factor’

A study conducted by Bardel and Falk (2007) testing syntactic transfer, focussed on the placement of negation markers by two groups learning either Swedish or Dutch as a L3. The one group consisted of L1 speakers of a verb-second (V2) language who spoke a non-V2 language as a L2; the other group consisted of, conversely, L1 speakers of a non-V2 language who spoke a V2 language as a L2. Data were collected during one-to-one sessions and each session was recorded. Results showed that the L1 non-V2/L2 V2 group outperformed the L1 V2/L2 non-V2 group in their L3 (either Swedish or Dutch). Because Swedish and Dutch are V2 languages, the results support the hypothesis that transfer from the L2 to L3 is indeed possible. Bardel and Falk (2007: 480) expand upon this finding and claim that L2 morphosyntactic transfer is not only possible but that it is “stronger than the typology factor in L3 acquisition” and that the L2 has a privileged status over the L1 in L3 acquisition (a position supported by Bohnacker, 2006; Rothman and Cabrelli Amaro, 2010; and Falk and Bardel, 2011). While those in support of the ‘L2 status factor’ generally believe that typology is not as important as the L2 status, Rothman and Cabrelli Amaro (2010) recognise that typological distance might also be influential (to be discussed below). The primary claim of the L2 status factor, however, is that the L2 blocks the otherwise easily accessible L1 (Rothman, 2011: 111).

In the case of the L1 English L2 Afrikaans-speaking participants, it will be impossible to discern whether they are transferring from their L1 or L2 as these are both *wh*-movement languages. However, the ‘L2 status factor’ can certainly be tested using the

data obtained from the L1 isiXhosa L2 English L3 Afrikaans-speaking participants, isiXhosa being a *wh*-in-situ language. For this reason, the L1 isiXhosa-speaking participants' data may indicate whether the L2³⁹ does indeed have a privileged status in L3/L4 acquisition.

3.4.3 The Typological Primacy Model

Rothman (2011) proposed the TPM as a modification to the CEM. Unlike the CEM, the TPM suggests that transfer will occur from the closest (psycho)typological language, regardless of whether or not the transfer is facilitative. The CEM was disproved in a study by Rothman and Cabrelli Amaro (2010) that showed transfer of null-subject-related properties from L2 Spanish to L3 Italian and French in L1 English L2 Spanish learners. Spanish alone was transferred, in spite of the fact that French and English, and Spanish and Italian (respectively) are more alike for this parameter. Whilst these results disproved the CEM, it did not rule out the L2 status factor. Rothman (2011) subsequently conducted research testing adjectival placement and semantic interpretation by L1 Italian L2 English learners of Spanish and L1 English L2 Spanish learners of Portuguese. Rothman (2011: 107) clarifies that of the abovementioned languages, English is the most typologically distant to the L3s in question in that, unlike the other languages, it does not permit noun-raising. Accordingly, on the grounds of typology alone there should be no transfer of English, either as a L1 or L2. The results confirmed this, as only transfer from Italian (as a L1) and Spanish (as a L2) occurred. Because transfer did not occur exclusively from the learners' L2, the L2 status factor too was ruled out, proving that typology rather than language acquisition order is the more reliable predictor of transfer.

In subsequent years, Rothman (2013) clarified some fundamental points pertaining to how the TPM should be interpreted. He claims any similarity between languages is determined subconsciously and very early on in the L3 acquisition process. Rothman (2013: 2) maintains that there is a brief transitory stage where initially both/all the previous linguistic systems are accessible for transfer, after which one of these systems is chosen as the one which will serve as the basis for the initial hypotheses

³⁹ Or, in the L1 isiXhosa-speaking participants' case, the L3 (Afrikaans). Cf. section 3.5 below for an explanation for why Afrikaans is most likely not the language transferred from.

about the L3 system. This subconscious “decision” occurs only when the language learner is able to identify enough linguistic information about the L3 based on the input available to them. As such, the initial transitory period has no specific time frame, but rather is determined by the time it takes for the L3 input to become sufficient for identifying which system is seemingly typologically closest to it.

It should be noted that not all “linguistic cues”, as Rothman (2013: 7) explains, are equally identifiable. Rothman (2013: 7) suggests that there is a hierarchy in place in which certain factors are identifiable (and influential) above others. These factors form a mutual dependency on one another, resulting in a given characteristic only being identifiable once certain others have been recognised. Rothman’s (2013) hierarchy of factors is represented below:

Lexicon → Phonological → Functional Morphology → Syntactic Structure

Rothman (2013: 7) clarifies that “syntactic structure clearly depends on functional morphology, which in turn is determined in the lexicon and interfaces with phonology”. Rothman (2013: 7) continues to explain that identifying lexical similarities poses less of a challenge than identifying (in the following order) phonological similarities, morphological similarities and finally syntactic similarities. This is in part due to the fact that identifying the latter two types of similarities requires more L3 experience (input) and knowledge about the L3 than the former two do. Rothman (2013: 7) does, however, briefly mention that he is investigating the possibility that syntax might follow more closely after lexicon in that syntactic macro-parameter similarity might be a noticeable cue very early on in language acquisition. Rothman (2013) does not elaborate on this, but were this to be the case, it could be assumed that a macro-parameter such as the *wh*-parameter would be acquired early in the acquisition process. (Chapter 5 will show whether or not this was the case in this study.) As this is yet to be investigated further, the above hierarchy of factors will be assumed.

With regard to identifying similarities between given linguistic systems, the TPM predicts that where there is not sufficient similarity at a lower level (lexical similarity

for example) the next level is “called upon” (Rothman, 2013: 8). As such, hierarchical levels can be skipped if no correlation between languages at that level can be established. Finally, once a specific linguistic system is identified as the one which is closest to the TL, language transfer occurs in its entirety and not on a structure-by-structure basis (Rothman, 2013: 2). As a result, the learner “takes the bad with the good”, resulting in both facilitative and non-facilitative transfer. Rothman (2013: 8) elaborates by stating that although two languages may in fact be structurally most similar with regard to a specific aspect, the language that is perceived as being the most typologically similar *overall* is the one that is transferred. Consequently, attempting to make predictions about which system a learner will transfer from is not without challenges. To further complicate matters, recall that the TPM’s primary proposal is that transfer is resultant of (psycho)typological distance. This means that, as opposed to language combinations in which lexical similarities (predicted as the most important factor) or any other similarities are obvious, languages with obscure similarities, say similarities of a syntactic nature, do not allow for such easy parallels to be drawn between them. In such cases, the learner’s (often unfounded) perception of similarity becomes the primary factor in determining language transfer, making predictions about which language a learner is likely to transfer from near impossible.

The accuracy of the assumptions that underlie Rothman’s TPM will be considered by: (i) investigating whether a learner’s conscious psychotypological perception of language distance (as opposed to only the subconscious perception as Rothman suggests) can determine which language is transferred in the process of L3/L4 acquisition and; (ii) whether syntactic similarities between languages are indeed particularly difficult to identify, or whether as Rothman suggests (and is yet to investigate) syntax possibly follows more closely after the lexicon in the hierarchy of linguistic cues, making syntactic structures a noticeable cue very early on in L3/L4 acquisition.

3.5 Hypotheses regarding the outcome of the present study

As the current study is concerned with the acquisition of *wh*-questions in Mandarin at an elementary level, all the participants may be regarded as “low proficiency” learners. Potgieter (2014: 27) points out that it is generally assumed that the higher a learner’s L3 proficiency, “the lower the degree of CLI”. Conversely, at this early stage of language acquisition, transfer is to be expected. However, according to Platzack’s (1996) IHS, unmarked features as the “default setting” make the acquisition of the parameter options associated with them easier to acquire than parameter options associated with marked features, therefore the learners may acquire the rules for in-situ *wh*-questions with far less difficulty than expected, reducing the amount of transfer even at this early stage of language acquisition. As such, one of the following two hypotheses may be borne out in this study:

1. Given that the weak [*uwh*] feature of interrogative C is unmarked and that, according to Platzack’s (1996) IHS, parameter options associated with unmarked features are easier to acquire in adulthood because they are the “default”, the in-situ *wh*-question structure will be successfully acquired at an elementary level of language learning by all learners. Mastery of in-situ *wh*-questions ensues because all learners apply only the [-movement] parameter associated with the unmarked weak [*uwh*] feature. There is no transfer of prior linguistic knowledge and upon testing the least complex grammar first and finding that it “matches” no further “testing” (in the form of transfer) takes place.
2. The correct structure of *wh*-questions in Mandarin will not be acquired, either fully or in an equal capacity, at an elementary level by learners with different language backgrounds. CLI is at play and interferes with the relative ease with which parameters associated with unmarked features are acquired. The participants’ productions exhibit signs of facilitative or non-facilitative transfer. The degree of transfer is still high in the elementary stages of language acquisition.

In the case of the first hypothesis being corroborated by the data, no further predictions are necessary. If, however, the second hypothesis holds true, one of the following two sub-hypotheses may be borne out by the data. The first is based on Rothman's (2011) TPM, while the second is based on Rothman's claim that there is a transitory stage in L3 acquisition in conjunction with Lardiere's (2005) claim that only once sufficient morphological competence is acquired will the acquisition of the correct structure follow suit.

3. The L1 isiXhosa-speaking group will outperform the L1 English-speaking group due to recognising the similarities between *wh*-constructions in isiXhosa and Mandarin, these similarities being a result of the weak, unmarked [*uwh*] feature being instantiated in both languages. Transfer, as a natural step in the language acquisition process, occurs from all prior linguistic systems. Upon recognising that isiXhosa is the "best match" for transfer, facilitative transfer from the L1 alone occurs, resultant of identifying the typological similarities between the two languages.
4. The two groups perform comparatively and neither has yet fully acquired the structure of *wh*-questions in Mandarin. Non-facilitative transfer from English (as a L1 or L2) or Afrikaans (as a L2 or L3), to be expected in the case of the L1 English-speaking participants and unexpected in the case of the L1 isiXhosa-speaking participants, is presumed to explain this phenomenon. In the case of the L1 isiXhosa-speaking participants, transfer from English is presumed because of both their high proficiency levels in English and because of the fact that English is the medium through which Mandarin is taught. Furthermore, at this early stage of language acquisition, the L1 isiXhosa-speaking learners have not acquired the sufficient morphological competence in Mandarin to realise which parameter option ([*-movement*] or [*+movement*]) is appropriate. The L1 English-speaking learners are also yet to acquire the necessary morphological competence to identify that the strong [*uwh**] feature is not instantiated in Mandarin and

subsequently still need to apply the [-movement] parameter option associated with the weak [*uwh*] feature.

If the data do not show ceiling effects, it can be assumed that in spite of the unmarked [*uwh*] feature of the [-movement] parameter being the default, without sufficient morphological competence, learners do automatically apply the most economical derivation without trying out their other more complex configurations as possible matches. Thus, the IHS is not shown to take precedence over CLI. Recall that, according to Rothman (2013: 2), there is initially a brief transitory stage during which both the L1 and L2/L3 are accessible for transfer and that only after sufficient L3/L4 input is obtained, is exclusive transfer from one system decided upon. If it is found that the IHS does not take precedence over CLI, if the L1 isiXhosa participants alternate between *wh*-movement and *wh*-in-situ constructions, it could be the case that they are still in this transitory stage and are yet to decide upon which linguistic system is closest to Mandarin and therefore best suited to serve as the source of transfer. Furthermore, if similar behaviour is exhibited by the L1 English speakers, perhaps they too have transferred from their L1 system during this transitory stage and alternate between the “default” [-movement] parameter option and [+movement] parameter option instantiated in their L1/L2. Upon realisation that their L1/L2 is not facilitative, restructuring occurs, changing their internalised linguistic knowledge and resulting in variation until the target structure is acquired (Gass, 2013: 225).

3.6 A review of studies investigating the acquisition of in-situ *wh*-question constructions in a L2 by L1 English-speaking learners

Before looking at how the abovementioned predictions measure up to the current study’s findings (in Chapter 5 to follow), it is pertinent to review the findings of other studies investigating the acquisition of in-situ *wh*-question constructions. The study of *wh*-questions and the acquisition thereof has long been an area of interest to researchers. According to Choi (2009: iii), most of the research on this topic, that was conducted within a generative grammar framework, focuses on the acquisition of *wh*-question constructions in *wh*-movement languages by speakers of *wh*-in-situ

languages (cf., for example, Schachter, 1988; Johnson and Newport, 1989; Hawkins and Hattori, 2006; Tayyebi, 2012). This specific focus is primarily a result of the assumption that the acquisition of in-situ *wh*-question constructions is unproblematic because the weak [*uwh*] feature is unmarked and present in a learner's initial state, and therefore the [-movement] parameter option associated with it is easier to acquire than the [+movement] parameter associated with the marked strong [*uwh**] feature.

On the other hand, researchers investigating the acquisition of *wh*-questions in in-situ languages are interested in testing whether it is as unproblematic as expected, but interestingly, as seen below, syntax is only a minor aspect of concern to most of them. Choi's (2009) study is concerned with L1 English speakers' interpretation of *wh*-expressions in Korean which, as in Mandarin, have an interrogative or indefinite reading (cf. to Chapter 2, section 2.5). As the primary focus of Choi's (2009) study is not of a syntactic nature, the study will not be reviewed. Importantly, however, the findings show that the greatest acquisition difficulty does not lie in the parametric differences between Korean as a *wh*-in-situ language and English as a *wh*-movement language, but rather in correctly interpreting whether or not the *wh*-expression has an indefinite reading. As the present study is solely concerned with syntax, three studies with a focus on the acquisition of the correct word order in *wh*-questions in in-situ languages by learners whose L1s exhibit *wh*-movement are briefly discussed below.

The first study is a bi-directional study conducted by Kim (2003), investigating the acquisition of *wh*-questions by L1 Korean learners of English as a L2 and the acquisition of *wh*-questions by L1 English learners of Korean as a L2. The participant groups included 44 L1 English-speaking learners of Korean and 48 L1 Korean-speaking learners of English. At the time of testing, both groups had been L2 learners of the respective TLs for between six and sixteen months. Data were collected via elicited written tasks testing their knowledge of *wh*-questions in English or Korean. Kim's (2003) results show that the L1 English-speaking group was, for the most part, successful in acquiring the correct structure of *wh*-questions in Korean, while the L1 Korean-speaking group was unable to do the same in English. The former group produced target-like Korean *wh*-questions 77% of the time and non-target-like fronted *wh*-questions 16.96% of the time. The latter group produced *wh*-questions fronted by

the *wh*-word 84.6% of the time, but only 15.96% of these productions were target-like with subject-auxiliary inversion. Only the successful acquisition of subject-auxiliary inversion is said to indicate a fully developed CP projection for English and, as such, the [+movement] parameter associated with the [*uwh**] feature was deemed not (yet) to have been acquired.

Kim (2003) draws on Platzack's (1996) IHS to explain the findings. As discussed above, the IHS hypothesises that language learning commences with the unmarked features, and that only later are the marked features acquired, and that as a result parametric rules associated with unmarked features are easier to acquire than those associated with marked features. Consequently, the acquisition of the correct word order, for Korean in-situ *wh*-questions, in Kim's (2003) study was argued to have been unproblematic for the L1 English-speaking learners, as upon "testing" the most economical syntax, and finding that it matches, learners stopped applying more complex rules. However, in reviewing Kim's (2003) study, Gao (2009: 5) points out that because the participants had already been learning Korean for as long as six to sixteen months, they had subsequently already passed the stage "when the initial state of *wh*-questions is manifested in the learners' L2 grammar". This makes it somewhat difficult to use the IHS to justify the findings, as one cannot be certain that there was no variability at the initial stage. A study involving learners who, at the time of testing, have had far less TL exposure and still obtain ceiling effects would be the only way to prove the accuracy of the IHS.⁴⁰

Another study was conducted by Yuan (2007), who investigated the acquisition of different *wh*-words by L1 English-speaking learners of Mandarin as a L2. The study focused on whether it is possible for the Subjacency Principle to be uninstantiated in the learners' L2 interlanguage and also aimed to establish whether there is L1 transfer in the form of the [+movement] parameter associated with the strong [*uwh**] feature of English when acquiring the sentence structure of in-situ *wh*-questions in Mandarin. As the latter of the two research topics is the only one relevant to the present study,

⁴⁰ It should be noted that, although the participants in the present study have been learning Mandarin for 12 months, accumulatively (as set out in Chapter 4) they have only received ± 24 hours (one class every two weeks during the annual academic cycle) of instruction in total – an amount of instruction that would certainly qualify them as "true beginners".

only this aspect of the study will be reviewed. Yuan (2007) used a GJ test containing eight grammatical in-situ *wh*-questions and eight ungrammatical *wh*-questions exhibiting movement. Of the *wh*-words investigated, half were nominal words, such as *shei* (“who”) and *shenme* (“what”), and half were adverbials, such as *shenmeshihou* (“when”), *nar* (“where”), *zenme* (“how”) and *weishenme* (“why”). Subjects were undergraduate students receiving between two to 10 hours of Mandarin tuition a week and included a control group of 20 native speakers of Mandarin and 107 L1 English speakers of varying Mandarin proficiency levels. The beginner group had an average of four months of studying Mandarin, while the most advanced group had an average of 207 months of study.

The results did not show a significant difference between the control group and any of the L2 learner groups in the rejection of ungrammatical *wh*-questions with *wh*-movement. It was also investigated whether learners would accept *wh*-questions with the particle *ne* as grammatical. It was found that, apart from the L2 beginner and post-beginner learner groups, all other groups behaved in a native-like manner and accepted the *wh*-questions with *ne* as grammatical. Yuan (2007: 285) explains that because no interrogative particles (Q-particles) exist in English, learners need to acquire Q-particles in Mandarin, the (complete – MV) acquisition of which only seems to occur at an intermediate level of language proficiency. Yuan (2007: 285) claims that the acceptance of *wh*-questions with *ne*, in conjunction with the rejection of all Mandarin *wh*-questions exhibiting *wh*-movement, provides evidence that, except in the case of the beginner and post-beginner groups, interrogative C is valued with [Q] and [wh] (in the form of the particle *ne*) and that therefore *wh*-movement is unnecessary (because clausal typing has been satisfied) or impossible (because of the principle of economy)⁴¹. Yuan (2007: 279) explains that, according to Rizzi, “*force* can be expressed by overt morphological encoding in the head of ForceP [e.g. Mandarin – MV], or by moving/providing a required operator to ForceP [e.g. English – MV]”, therefore, the presence of *ne* means that clausal typing has already been satisfied. Yuan (2007), however, works under the theoretical framework that

⁴¹ Recall, however, that *ne* is not exclusively a “*wh*-particle” as Yuan (2007) suggests, and is most likely merged in the Speech Act domain above the CP. Furthermore, under the working hypothesis put forward by this author, *wh*-questions formed with the particle *ne*, are assumed to have both a null Q-particle under C (to type the clause interrogative) and the overt particle *ne* (in the Speech Act domain), with the TP in Spec-sa*P/Spec-sa, preceding both particles (cf. Chapter 2, section 2.5).

ForceP/CP is head-final in Mandarin – an assumption that is not supported by this study (cf. Chapter 2). In spite of this, under the theoretical framework that this study adopts, Yuan may be correct in claiming movement is “impossible”, but for a different reason. If Q-particles are merged directly under C, and the TP moves into Spec-CP position, resulting in a sentence-final Q-particle, movement of a *wh*-word to Spec-CP is impossible in English speakers’ Mandarin interlanguage, because Spec-CP is occupied by the TP. Thus, although not in full support of the theoretical framework under which Yuan’s (2007) assertion is made, the claim does have merit.

Finally, Gao’s (2009) research involves two studies, the first of which reports on the acquisition of simple *wh*-questions by L1 English-speaking L2 Mandarin learners, and the second on these learners’ acquisition of indirect questions and *wh*-questions in syntactic complements. The former is a longitudinal study conducted over one academic year of learning (which was also the participants’ first year of L2 learning), while data for the second study were collected at the end of that first year. Only the first study, relevant to the present study, will be reviewed. Participants were 21 English-speaking first year university level learners of Mandarin as a L2, none of whom had any prior exposure to Mandarin before entering the university programme. Data collection commenced two weeks after the learners were introduced to *wh*-words and the rules pertaining to *wh*-question construction. Following this, data were collected four times at half-semester intervals. The different *wh*-words (with different grammatical functions) investigated were object words, such as *shei* (“who”) and *shenme* (“what”); adverbials such as *nar* (“where”) and *zenme* (“how”); and *wh*-words with an attributive function such as *shenme* (“what”) and *na* (“which”).

Both OP and GJ tasks were used to collect data. Four tests for each task type were completed over the course of the year. The OP task was an interview-style task in which the participants were instructed to ask the testers simple *wh*-questions. The first three OP tasks included 10 simple *wh*-questions, while the fourth had 15 items (five for each of the more complex *wh*-words under investigation). The Mandarin *wh*-words that the participants needed to use, as well as the information they needed to enquire about, were provided. The English equivalent of each *wh*-question was furthermore provided, essentially making this an oral sentence translation task. Gao

(2009: 53) explains this was done to reduce the burden of searching for the correct vocabulary and also to ensure that learners did not form interrogatives using other sentence patterns by using exclusively Q-particles. The first three GJ tasks (used exclusively for the first study) were a composite of 40 items, half being *wh*-questions and half being distractors. Of the 20 *wh*-questions, half were grammatical and half were ungrammatical. Participants had three options to choose from when gauging the grammaticality of the sentences: *yes*, *no*, and *do not know*. The last option was included so that, according to Gao (2009: 57), participants did not “guess” the correct answer. Of the four GJ tasks, the fourth was again slightly different, as it was used to also obtain data for the second study and included 50 items in total.

Gao (2009: 86) maintains that an accuracy rate of 80% and above across all eight tests conducted (for the four OP and four GJ tasks respectively) may be taken as an indication that the correct word order of Mandarin *wh*-questions has been successfully acquired (a reason for this strict cut-off percentage is not provided). With regard to the OP tasks, 15 of the 21 participants had an accuracy rate of 80% and above for the final OP task, but only 11 of these 15 participants had an 80% or higher accuracy rate across all four tests. Thus, only 52.38% of all the participants were judged, on grounds of the OP tasks, as having acquired the knowledge that the [*uwh*] feature is selected in the formation of *wh*-questions in Mandarin. The GJ tasks too showed that, as a group, the participants had not fully acquired this knowledge, but did get very close with their average score of 76.98%. On grounds of both the OP and GJ tasks, over the course of the year, only seven participants were said to have fully registered the fact that the [*uwh*] feature (associated with the [-movement] parameter option) and not the [*uwh**] feature (associated with the [+movement] parameter option) is selected in the formation of *wh*-questions in Mandarin.

Although Gao’s findings may seem to indicate that the acquisition of in-situ *wh*-questions by speakers of *wh*-movement languages is not as unproblematic as previous studies have indicated, the accuracy rate of 80% and above is perhaps too stringent. Overall, the participants’ accuracy scores were always above 69.05% and 71.13% for the GJ and OP tasks respectively. These scores, in my opinion, indicate that the participants’ knowledge was certainly better than a “best guess” scenario (especially

given the option of *do not know* in the GJ tasks) and shows that the strong [*uwh**] feature of their L1 was not obviously transferred into their L2 initial state.

In conclusion, with its focus on parameter setting and transfer, this chapter outlined the theoretical framework within which this study is situated. Based in part on the methodology used in the studies discussed above, the following chapter details the methodological process involved in determining (i) to what degree the L1 isiXhosa- and L1 English-speaking participants in the present study have acquired the necessary knowledge that the unmarked weak [*uwh*] feature associated with the [-movement] parameter option, and not the marked strong [*uwh**] feature associated with the [+movement] parameter option, is selected in Mandarin, and (ii) whether or not there is any difference between the two language groups' ultimate performance.

CHAPTER 4

METHODOLOGY

This research study is primarily qualitative in nature with a small-scale quantitative data analysis (to follow in Chapter 5). An overview of the data collection process, the specifics of the participants who qualified for involvement in the study, as well as a description of the data collection instruments is provided in this chapter. Section 4.1 details the steps involved in obtaining the school's consent, Western Cape Education Department (WCED) clearance and ethical clearance. Section 4.2 describes the criteria for participant selection and the administration (and results) of a language background questionnaire and English language proficiency test. Section 4.3 briefly outlines the rationale behind the choice of tasks for this study and reports on the findings of (and reasoning behind) the pilot study. It also provides a detailed description of the data collection instruments and the administering of each of the four tasks. Finally, section 4.4 provides a description of a test that was administered to the participants to determine their psychotypological rating of the languages in questions and explains the rationale behind the test design.

4.1 Ethical aspects

The first step was to obtain the school's consent for involvement in the study. The researcher approached the principal, who was provided with a detailed description of the study and an appropriate timeline for the data collection period (ensuring no data were to be collected during the period of either the June or November examinations). The signed school consent form (cf. Appendix 2), together with the research proposal and data collection instruments (cf. Appendices 8,9,10 and 11), were sent to the WCED for clearance. Upon receiving WCED clearance (cf. Appendix 3), the researcher applied for ethical clearance from the affiliated university. This process involved detailing the purpose of the study, explaining the voluntary involvement of the subjects and supplying an approximation of the data collection timeline. Additionally, the following documents were submitted: the signed school consent

form, along with confirmation of WCED permission to proceed; the tasks to be administered, including the language background questionnaire (cf. Appendix 6); and finally the informed assent and consent forms (cf. Appendices 4 and 5) that were to be issued, upon the obtainment of ethical clearance, to the prospective participants and their parents. Once ethical clearance was obtained, the prospective participants were approached, the study thoroughly explained to them and each participant issued with an information sheet for them and their guardians, as well as the assent and consent forms. The information sheet outlined the purpose of the study and explained what tasks they would be asked to complete if they chose to participate⁴². Participants and their parents/guardians were given ample opportunity to contact the researcher with any queries relating to the study, either telephonically or in person at the school.

4.2 Selection of participants

4.2.1 Participants

Prospective participants were Grade 9 learners (mean age 15 years 3 months) who, at the time of testing, had been attending Mandarin classes for one academic year in Grade 8. Consequently they were regarded as beginners, still in the stage when the initial state of *wh*-questions is manifested in their TL grammar. This was determined because (i) according to the academic school calendar, they had no more than 24 Mandarin lessons (one every two weeks) since the teaching of Mandarin commenced in April of 2015, and (ii) they had only recently been introduced to *wh*-interrogatives in the Mandarin syllabus. They were selected based on their end-of-year Mandarin marks in 2015 (with no participant obtaining less than 50% - a requirement that aimed to ensure proficiency levels adequate enough to complete the forthcoming tasks) and their status as either English or isiXhosa L1 speakers⁴³. Learner application forms (as Grade 7's applying for a Grade 8 position in 2015) were initially used to establish the

⁴² All information sheets, assent and consent forms were in English. No isiXhosa versions of the documents were issued to the L1 isiXhosa-speaking participants or their guardians, as the guardians (familiar with the school's language policy) can all speak English. English and Afrikaans are the media through which the school communicates with all the learners and their parents/guardians.

⁴³ Gender was not controlled for and selection was based purely on performance in Mandarin and on L1 background. As a result, of the 20 participants only two were male and 18 were female.

prospective participants' L1s. This information was later confirmed upon completion of the language background questionnaire (details to follow).

In total, 22 prospective participants (11 L1 isiXhosa, 11 L1 English) were approached. Additionally, two L1 English-speaking participants were approached for participation in a pilot study (to be discussed in section 4.3.3). The 11 prospective participants in the L1 isiXhosa-speaking group were identified first. They were identified as prospective participants as they were the only L1 isiXhosa speakers in Grade 9 who achieved 50% or above for Mandarin at the end of 2015. Based on the 11 L1 isiXhosa speakers' Mandarin marks, 11 L1 English speakers with corresponding Mandarin marks were selected. This was done to ensure that there was an equal spread of marks between the two groups, ensuring one group's marks (as a mean) were not significantly different to the other. Had it been the case, for example, that the L1 isiXhosa speakers (as a group) had all achieved much higher marks than the L1 English speakers (through a random selection of L1 English candidates), it would be difficult to assess whether their performance on the given tasks was in fact due to L1 transfer or because they had been "better" Mandarin students to start with. To prevent such a scenario, the number of L1 isiXhosa speakers whose marks fell within a specific percentage bracket, each bracket ranging across 5%, needed to be matched by an equal number of L1 English-speaking participants.

Two prospective participants (one L1 isiXhosa-speaking learner and one L1 English-speaking learner) later declined the offer to participate and withdrew from the study before testing commenced.⁴⁴ This brought the total number of prospective participants down to 10 in each group. The range of Mandarin marks obtained by the 20 participants at the end of 2015 is represented in Table 4.1 below.

⁴⁴ By chance, the two prospective participants who chose not to participate in the study scored within the same 5% bracket (i.e. between 50 and 54%), and so an equal number of participants within each 5% bracket was still obtained.

Mark obtained	Nr of L1 isiXhosa participants	Nr of L1 English participants
50%-54%	2	2
55%-59%	0	0
60%-64%	1	1
65%-69%	3	3
70%-74%	1	1
75%-79%	1	1
80%-85%	0	0
86%-90%	1	1
91%-95%	0	0
96%-100%	1	1

Table 4.1: Participants' end-of-year 2015 Mandarin marks

4.2.2 Language background questionnaire

A language background questionnaire was administered to the 20 prospective participants, the results of which qualified all 20 of them for participation in the study. The questionnaire inquired as to gender, first/second/third languages, language(s) of schooling, and language(s) spoken at home, in their area of residence as well as socially. It furthermore enquired as to what symbols the participants had achieved for each of the languages taken as a school subject, and as to the participants' own rating of their listening, oral, writing and reading proficiency in each of the languages they claim to know. All 20 participants received their foundation/intermediate phase schooling in English (primarily) and Afrikaans, Afrikaans being the language predominantly spoken in the area in which the study was conducted. They all scored their ability to speak, listen/comprehend, read and write in English as either "very good" or "good". Of the 10 L1 isiXhosa participants, all 10 scored their ability to listen/comprehend and speak isiXhosa as either "very good" or "good". However, with regard to their isiXhosa reading and writing abilities, one participant selected "very good", four selected "good", one selected "fair", whilst three claimed to have "poor" proficiency and one reported that she had "no knowledge". Although isiXhosa is their L1, they have (virtually) no exposure to it in a written form. They all went to

English/Afrikaans dual-medium pre-primary/primary schools and live in an area of the Western Cape where Afrikaans is the predominant language, thus all the written media they are exposed to is either in Afrikaans or English. isiXhosa is not offered as a subject at the participants' school and as a result many of them are illiterate in their L1.

Of the 10 participants in the L1 isiXhosa-speaking group, nine stated that they are L1 isiXhosa L2 English L3 Afrikaans speakers, and one that she is a simultaneous L1 speaker of both isiXhosa and English, with Afrikaans as a L2⁴⁵. All 10 L1 isiXhosa-speaking participants indicated that their parents are L1 isiXhosa speakers. With regard to the L1 English-speaking group, nine participants specified that they are L1 English L2 Afrikaans speakers, and one that she is a simultaneous L1 speaker of English and Afrikaans⁴⁶. All but one of the L1 English-speaking participants listed their parents' L1 as Afrikaans. At this point it becomes necessary to mention that of the 10 participants in the L1 English-speaking group, seven of the participants are so-called "coloured" participants⁴⁷. The relevance of this, as highlighted by Potgieter (2014: 146), is that there is a tendency amongst many L1 Afrikaans-speaking coloured parents in the Western Cape to raise their children in English. This decision, often politically motivated, is said to stem from a negative association between Afrikaans and the Apartheid Government (Potgieter, 2014: 146). The aforementioned tendency, in conjunction with the multilingual context of this study, made it near impossible to find strictly monolingual participants who are learning Mandarin as a L2. Thus, the participants are technically defined as being either (simultaneous) bilingual speakers of English and Afrikaans or trilingual⁴⁸ speakers of isiXhosa, English and Afrikaans⁴⁹.

⁴⁵ A telephonic interview was conducted with her mother to ascertain the age at which she started speaking isiXhosa and English respectively and it was established that she was sent to an English pre-school at the age of four, but that she had been speaking isiXhosa since infancy. She too then qualified as a L1 isiXhosa L2 English and L3 Afrikaans speaker.

⁴⁶ This participant feels equally proficient in both languages, was speaking both before the age of four (which Potgieter (2014: 31) takes to be the cut-off for "simultaneous bilingualism/trilingualism") and is therefore regarded as a speaker of two first languages.

⁴⁷ Potgieter (2014: 133) clarifies that the use of this term in South Africa refers to "persons of mixed ethnic origin" and that this mixed ancestry has roots in a combination of two or more of the following areas: Europe, Asia and regions home to various indigenous Khoisan and Bantu tribes. The term is, however, a sensitive one (and the use of it contested) and should be used with caution.

⁴⁸ The definition of "trilinguals" relevant to this study, as defined by Hoffman (in Potgieter, 2014: 17), is "children who grow up in a bilingual community and whose home language (either that of one or both parents) is different from the community languages". This is the case for the L1 isiXhosa speakers

The fact that all the participants can speak Afrikaans as either a L2 or L3 does not pose a problem for this study, as English and Afrikaans are both languages in which the *wh*-word is fronted. Thus, were there to be CLI from Afrikaans (as opposed to English) it would in fact make no difference to the results, as English and Afrikaans have the same *wh*-question structure. Furthermore, any CLI that could account for non-target like behaviour in the acquisition of *wh*-questions in Mandarin by the L1 English or L1 isiXhosa speakers is most likely due not to Afrikaans but to English as the latter is the participants' stronger language (English being a L1 as opposed to L2 for the L1 English participants and a L2 as opposed to L3 for the L1 isiXhosa participants).

4.2.3 English language proficiency test

An English language proficiency test was also administered to the participants. The reasoning behind the administration of the test was to demonstrate (via sound practice and not purely based on assumption) that each of the L1 isiXhosa-speaking participants' command of the English language was sufficient to understand the instructions for each of the given tasks and to ensure that their acquisition of Mandarin was not hindered by poor proficiency in English, the medium of instruction in the Mandarin class. The L1 English-speaking participants, by virtue of the fact that they are L1 English speakers, were assumed to have sufficient proficiency levels for the aforementioned two purposes. Consequently, their completion of the proficiency test was simply to ascertain whether the L1 isiXhosa-speaking participants' range of scores fell within a similar scope to that of the L1 English speakers. If this were indeed the case, it would be reasonable to assume that the L1 isiXhosa speakers had the required English proficiency levels. Following Perold (2011: 66)⁵⁰, who used the advanced level version of the same language proficiency test, the lowest score

whose home language is isiXhosa, but who live in a social context where primarily Afrikaans and also English are the languages spoken within the community.

⁴⁹ This is an observation that should be kept in mind when reviewing the participants' English proficiency results (to follow).

⁵⁰ Perold's (2011) study investigated the grammatical features of English that may be taught via explicit instruction to L1 isiXhosa-speaking learners.

obtained by a L1 English speaker was deemed the lowest boundary acceptable for a L1 isiXhosa speaker to guarantee sufficient proficiency levels.

Note that the proficiency test did not form part of the selection criteria for this study, firstly because there were only 10 L1 isiXhosa-speaking participants who qualified for the study on the basis of their Mandarin marks. (The aim was to obtain the maximum number of participants possible and therefore prospective participants could not be dismissed on grounds of their English proficiency test marks.) Secondly, the L1 isiXhosa-speaking participants receive all their schooling in English and are accordingly required to complete all of their academic tests and examinations in English. By assumption then, these participants have sufficient English proficiency to learn Mandarin through the medium of English and to understand the English instructions for the tasks employed in this study. This assumption was, however, tested through means of the proficiency test.

The test that was decided upon is a proficiency test designed specifically for South African L2 English learners and is known as the *Standardised proficiency test in English second language: Intermediate level* (Chamberlain and Reinecke, 1992). This test was developed to test the proficiency levels of L2 English speakers within the range of Junior Secondary Proficiency Levels (i.e. Grades 7 - 9), this period (Senior Phase) being regarded as the operational definition of “intermediate” (Chamberlain and Reinecke, 1992: 13). The content is not of an academic nature and evaluates the testees’ ability to correctly answer questions based on “the denotation and connotation of words and phrases in sentences and reading passages, as well as [identify the - MV] correct or most suitable language use” from a number of multiple choice options (Chamberlain and Reinecke, 1992: 13). As such, the test was thought to be a reliable measure of whether or not the Grade 9 participants’ English proficiency was of an adequate level to understand the instructions of the tasks they would later be presented with.

Each prospective participant was allocated a participant number ranging from “X01” to “X10” and “E01” to “E10” for the isiXhosa and English groups respectively. The test was administered to all 20 the participants, ensuring that both the guidelines for

administration of the test set out in Chamberlain and Reinecke (1992), as well as the allocated time limit of 40 minutes were strictly adhered to. The testees' raw scores were divided into nine intervals on a stanine⁵¹ scale (provided in the test package). Each level represents a descriptive achievement level from “very good” (a score of “9”) to “very poor” (a score of “1”). According to Chamberlain and Reinecke (1992: 12), a score of “5” is regarded as the “average Intermediate Level” and represents the norm of the population, and a score of “7” is “above average Intermediate level”. Each testee's final percentage score, descriptive level and stanine score obtained in Chamberlain and Reinecke's (1992) *Standardised proficiency test in English second language: Intermediate level* are presented in Table 4.2 below, followed by a visual representation in Figure 1 of each group's performance.

L1 English-speaking group			L1 isiXhosa-speaking group		
Code	Score (%)	Description and stanine score	Code	Score (%)	Description and stanine score
E01	45% ⁵²	Low average (4)	X01	55%	Average (5)
E02	92.5%	Very good (9)	X02	72.5%	Above average (7)
E03	92.5%	Very good (9)	X03	55%	Average (5)
E04	62.5%	High average (6)	X04	65%	High average (6)
E05	82.5%	Good (8)	X05	75%	Above average (7)
E06	50%	Average (5)	X06	57%	Average (5)
E07	77.5%	Above average (7)	X07	82.5%	Good (8)
E08	77.5%	Above average (7)	X08	80%	Above average (7)
E09	92.5%	Very good (9)	X09	77.5%	Above average (7)
E10	90%	Very good (9)	X10	90%	Very good (9)

Table 4.2: Results of the English language proficiency test

⁵¹ A stanine (“standard nine”) scale is a nine-point scale, with a mean of five and a standard deviation of 1.96. The raw scores are divided into nine intervals, from 1 (very poor) to 9 (very good). Each stanine score represents a specific percentage range of testees that attained that achievement level (Chamberlain and Reinecke, 1992: 12)

⁵² This low percentage might be surprising given that this is the score off a L1 English speaker, but on grounds of her being a native English speaker, it can be assumed that her proficiency is sufficient enough to complete the tasks. As the lowest score obtained by a L1 English-speaking participant, this becomes the lower cut-off for the L1 isiXhosa-speaking participants.

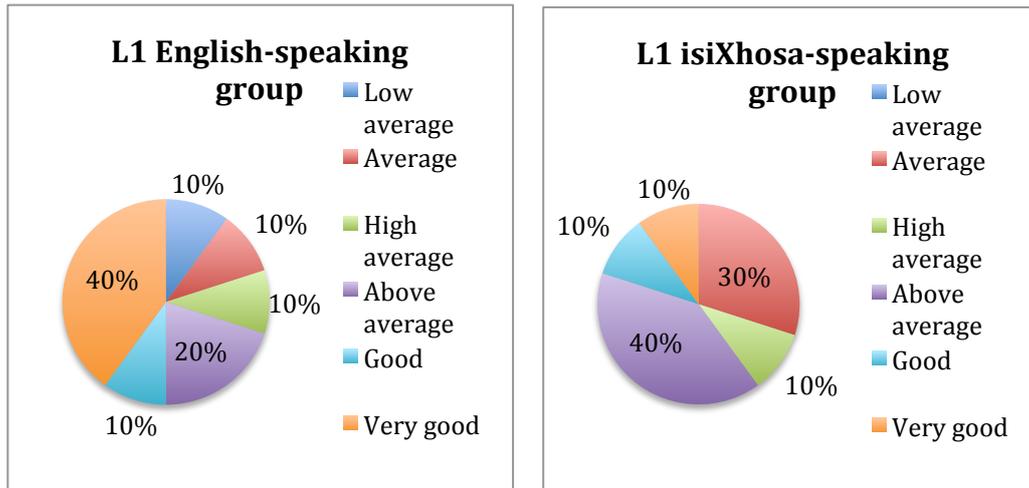


Figure 4.1: Comparative percentile charts for the English language proficiency test results

The results obtained by the L1 English-speaking group range from “low average”, (the lowest mark being 45%) to “very good” (the highest mark being 92.5%). Accordingly, 45% was taken as the minimum score that L1 isiXhosa-speaking participants needed to achieve in order to guarantee that their English language proficiency levels were sufficient to complete the forthcoming tasks. As this requirement was met with (the L1 isiXhosa participants’ scores ranging from 55% to 90%), it may be assumed that, as far as the testing of *wh*-constructions in Mandarin goes, the L1 isiXhosa-speaking group will in no way be disadvantaged by the fact that English is not their L1.

4.3 Data collection instruments and testing

4.3.1 Overview of tasks

Four tasks were administered to the participants in the following order: a sentence formation (SF) task, an oral production (OP) task, a grammaticality judgement (GJ) task and a sentence translation (ST) task. The first two tasks were administered individually, while all 20 participants completed the last two tasks during two group sittings. The decision to triangulate the data by including more than one task was made because, firstly, each of the above-mentioned tasks has its strengths and limitations and, secondly, because including tasks that are not of equal complexity

would provide the most accurate reflection of the participants' L3/L4 interlanguage state. Gao (2009: 46) explains that “[d]ata triangulation refers to the multiple, independent use of methods of obtaining data in a single observation.” Using multiple methods in the data collection process is of value because it “reduces observer or interviewer bias and enhances validity and reliability of the information” (Johnson in Gao, 2009: 46). Consequently, the four very different tasks used in this study should provide good insight into the participants' current knowledge of *wh*-question formation in Mandarin.

The choice of the specific above-mentioned tasks was decided upon, based on the methodology of previous studies (discussed in the previous chapter) investigating the acquisition of in-situ *wh*-question constructions by speakers of *wh*-movement languages. These studies and tasks are briefly described here again for convenience. Choi's (2009) study used a ST task to test L1 English speakers' interpretation of *wh*-expressions in Korean. ST tasks provide valuable insight into the vocabulary choices made by learners and, in contrast to tasks involving OP, are advantageous in that they reduce performance-based problems. As a result, ST tasks make effective instruments in assessing learner competence with regard to *wh*-question formation. Yuan (2007) used a GJ task to investigate the acquisition of different *wh*-words by L1 English-speaking learners of Mandarin as a L2. Yuan's study focused on whether it is possible for the Subjacency Principle to be uninstantiated in the learners' L2 interlanguage and also aimed to establish whether there is L1 transfer in the form of the strong [*uwh**] feature of English when acquiring in-situ *wh*-questions in Mandarin. Gao's (2009) study, which reports on the acquisition of simple *wh*-questions by L1 English-speaking L2 Mandarin learners, as well as these learners' acquisition of indirect questions and *wh*-questions in (syntactic) complements, used both GJ and OP tasks in the data collection process. In spite of the limitations of GJ tasks (cf. for example the brief discussion to follow in Chapter 5, section 5.5), they are commonly used in the study of *wh*-question acquisition. GJ tasks are said to reveal learners' intuitions about the grammaticality of TL input and, according to Leow (1996: 126), the theoretical assumption underlying the use of GJ tasks is that they provide a “...relatively direct window into learners' implicit knowledge or grammatical competence of the L1/L2 language”. With regard to the inclusion of an OP task, it was hoped that given the

time constraints involved in OP, such a task might elicit the most “instinctive” answer from the participants.

Finally, a study conducted by White and Genesee (1996), although it does not pertain to the acquisition of in-situ *wh*-questions (and is instead concerned with the acquisition of rules for *wh*-movement by speakers of *wh*-in-situ languages), included both a GJ task and SF task relevant to subjacency and the Empty Category Principle (ECP)⁵³. The SF task in White and Genesee’s study inspired the researcher to include such a task in the current study. It was deemed an effective way to test the placement of *wh*-expressions in *wh*-questions, without possible performance-based problems such as vocabulary recall (or selection from the vocabulary list) interfering with the process of word order selection.

The tasks were administered in the above-mentioned order for three reasons. Firstly, to ensure that the testing did not commence with the most difficult tasks (which the researcher, during the pilot testing, established were the OP and ST tasks) but instead to allow the participants a chance to become comfortable with the material. Secondly, had the GJ task been administered first, it might either have reminded the participants of the correct word order of *wh*-constructions in Mandarin, or alternatively have led them to believe that the incorrect word order in the GJ test was in fact the correct order. Finally, the ST task had to be administered last to ensure that the isiXhosa task did not, prior to completion of the other tasks, unfairly “trigger” the rule that the *wh*-word remains in-situ in languages like isiXhosa and Mandarin.

4.3.2 Pilot study

Prior to the commencement of the testing procedure, two pilot participants completed all four tasks, on four separate days, over the course of a week as part of a pilot study. Both pilot participants were L1 English speakers. There were unfortunately not enough Grade 9 L1 isiXhosa learners whose Mandarin marks were above 50% to “sacrifice” a potential test participant for participation in the pilot study. The pilot participants were randomly selected (ensuring only that they had above 50% for

⁵³ The ECP requires that a trace be properly governed by its antecedent (Crystal, 2013: 168).

Mandarin at the end of 2015). The purpose of piloting the study was to assess whether the tasks were of an adequate level for the participants, i.e. not too difficult or time consuming. In terms of task “difficulty”, the ease or difficulty of the tasks was not determined by the number of correct/incorrect *wh*-word placements/judgements, but rather on grounds of whether or not the pilot participants understood the vocabulary presented to them and could complete the tasks (regardless of whether their answers were grammatical or ungrammatical⁵⁴) with relative ease. Each pilot participant was allocated a participant code, “P01” and “P02” respectively. Table 4.3 below illustrates the percentage of accurate word order placements/judgements achieved by each participant on each task, with a distinction between the three *wh*-words tested. The average total scores for the test as a whole are also provided. Table 4.4 presents the average total scores for the three respective words when the results of the four tasks are totaled.

Task		Participant P01		Participant P02	
		Individual words	Task as a whole	Individual words	Task as a whole
SF	<i>shenme</i> (“what”)	0%	20%	80%	60%
	<i>nar</i> (“where”)	0%		60%	
	<i>na</i> (“which”)	60%		40%	
OP	<i>shenme</i>	0%	0%	67%	55.6%
	<i>nar</i>	0%		100%	
	<i>na</i>	0%		0%	
GJ	<i>shenme</i>	60%	56.6%	90%	83.3%
	<i>nar</i>	40%		90%	
	<i>na</i>	70%		70%	
ST	<i>shenme</i>	0%	0%	100%	55.6%
	<i>nar</i>	0%		67%	
	<i>na</i>	0%		0%	
Total test score		19%		64%	

Table 4.3: Pilot participants’ overall results on the four tests, presented as average percentage scores

⁵⁴ As the accuracy of the participants’ word order judgements is the issue at hand, incorrect word order judgements do not indicate that the test is too difficult, but rather simply that the participant is most likely transferring the incorrect word order for Mandarin from their L1 (English).

% correct: <i>shenme</i> (“what”)	% correct: <i>nar</i> (“where”)	% correct: <i>na</i> (“which”)
49.6%	44.6%	30%

Table 4.4: Pilot participants’ average scores for the three *wh*-words on the test as a whole

The pilot participants’ achievement of an average of 42% for the test as a whole indicate that there were no floor effects when the two sets of marks were considered together. Participant P01’s performance on the OP and ST tasks did, however, suffer from floor effects. Given P02’s relatively good performance on the these two tasks, the tasks were not deemed problematic but rather an ideal testing ground for possible differences between the performance of participants who do and those who do not have knowledge of a *wh*-in-situ language. The reason for this is that, by chance, pilot participant “P02” had knowledge of Swahili (a *wh*-in-situ Bantu language). This “in-situ” knowledge appeared to have a positive effect upon the pilot participant’s performance in comparison to the performance of the pilot participant who had no knowledge of a language that allows the *wh*-word to remain in-situ. Given that Swahili and isiXhosa share the *wh*-in-situ rule, participant P02’s performance was deemed a possible indication of what to expect in the L1 isiXhosa participants’ performance.

The formation of questions/sentences in the SF, OP and ST tasks indicated that the pilot participants generally formed constructions based either on the typical English or Mandarin word order for such questions/sentences and not random constructions with little resemblance to the word orders of these two languages. This suggests that the pilot participants clearly understood what was expected of them in order to complete the given tasks and were familiar with and understood the vocabulary employed. From the results above it was also predicted that the OP and ST tasks would be the most difficult for the participants and that the placement of the *wh*-word *na* would be acquired with the most difficulty.

Note that both the pilot participants and the 20 participants who volunteered to partake in the study were issued with a Mandarin vocabulary list with corresponding

English meanings (cf. Appendix 7). This was for revision purposes and as the present study is concerned purely with syntax, it was important to ensure that participants did not score badly on the tasks due to a lack of vocabulary. All participants kept the vocabulary list with them during testing and were encouraged to refer to the list when necessary. No Mandarin-isiXhosa vocabulary list was provided because, as mentioned above, 40% of the L1 isiXhosa-speaking participants professed to very low isiXhosa literacy levels in the language background questionnaire. Thus, a Mandarin-isiXhosa vocabulary list would not have been of much help and, additionally, posed the possible risk of triggering their L1 (discussed below).

Including the time taken to introduce and explain each task to the participants, the SF task was recorded as having an average completion time of 45 minutes; the OP task took an average of 15.5 minutes; the GJ task was completed by both pilot participants in just under 30 minutes; and the ST task was completed in approximately 35 minutes by both participants. According to a guideline set out by Sievertsen, Gino and Piovesan (2016), no task should take any participant longer than one hour to complete if fatigue effects are to be avoided. This requirement was met with in the pilot study. The pilot participants' performance, in conjunction with the time it took them to complete the given tasks, was to the researcher's satisfaction. Consequently, no changes were made to any of the four tasks and testing could commence.

It should be noted, once again, that the three *wh*-words under investigation are *shenme* ("what"), *na* ("which") and *nar* ("where"). The participants, as "beginner-level" Mandarin students, have not yet learnt the *wh*-question expression *shenme shihou* ("when") and *wh*-question words pertaining to more complex interrogative questions, i.e. *weishenme* ("why") and *zenme* ("how"). These words were consequently not included in the testing.

4.3.3 Testing period

Prior to the commencement of testing for data collection purposes, each qualifying participant was asked to provide the researcher with the times that best suited them for the completion of the first two tasks (the second two were completed as a group).

Taking into account the participants' involvement in extracurricular activities, extra classes or specific transport limitations, time slots were allocated to each participant over the course of a month. All testing took place on weekdays and was completed before the beginning of the June examinations. The reason for the month-long data collection period (as opposed to each child completing all four of the tasks in one sitting) was that no participant was able to dedicate the necessary amount of time in one day to the completion of the tasks. Also, had this been a possibility, fatigue effects would have ensued.⁵⁵

To ensure consistency in the 20 participants' Mandarin knowledge during the month of testing, the tests were completed as follows: all 20 participants completed Task 1 in the first two weeks and Tasks 2, 3 and 4 within the second two weeks. During each two-week time period, it could be guaranteed that all 20 participants had covered the same work in their Mandarin class. This was made possible through communication with the Mandarin teacher, who informed the researcher that all the classes in the English stream were busy revising the same chapter (in preparation for the forthcoming exams) during the first two weeks. The school runs on a nine-day cycle, the participants have one Mandarin class per cycle (a factor which contributes to the fact that, as mentioned above in section 4.2.1, after 12 months they are still very much at a "beginner" level)⁵⁶. As such, within the first two-week testing period (which happened to be 9 teaching days as the first Monday of that cycle was a public holiday) it could be guaranteed that they would all have covered the same work. The same was true of the second two weeks when the participants completed Tasks 2, 3 and 4 because the last testing day for the entire group was the Thursday (Day 9 of the cycle). On the Friday (Day 1 of the next cycle), the L1 isiXhosa participants completed the isiXhosa ST task, but this was done before classes commenced for the day, so none of them benefitted from an extra Mandarin lesson.

⁵⁵ After completion of Task 1 (approximately 45 minutes), the pilot participants were noticeably fatigued. The mean time of the two pilot participants over all four tasks was 130 minutes. Had the tasks all been completed in one sitting, it would have taken too long to guard against fatigue effects (recall Sievertsen, Gino and Piovesan (2016)'s cut-off of one hour per sitting).

⁵⁶ Mandarin has only been taught as a school subject at the given school since April of the 2015 academic year. The implementation of Mandarin as a subject was done so in a bottom-up fashion, beginning with the Grade 8's of 2015 (who are now the current Grade 9 participants).

In the case of the second two-week testing period, the learners were busy with prepared orals, a factor that further guaranteed that no group of participants would be at an unfair advantage over another (had say certain classes progressed with a next section of work more rapidly). The fact that the testing period fell just before the June examinations commenced was facilitative in ensuring that all the participants had covered the same work up until that point. If however, in spite of these precautions, the participants' Mandarin knowledge increased over the course of the month due purely to revision, it would be a uniform improvement (over the course of the four tasks) and not an improvement that only benefitted the last few participants towards the end of the testing period.

4.3.4 Task 1: Sentence formation task

The SF task (cf. Appendix 8) consisted of 25 sentences in total of which 15 were *wh*-questions (five questions per *wh*-word) and 10 were distractors, the latter being included to ensure that the participants did not detect a pattern in what was being tested. The distractors (used in all the tasks) were a combination of declaratives and *yes/no* questions. The sentences were presented to the participants in a random order in the form of a pack of cards (a minimum of three to a maximum of six cards per pack) with a single word on each card. The cards had to be arranged appropriately to form a (grammatical) sentence – be it a question or statement.

Each card had only the Mandarin pinyin and character on it. Other than the vocabulary list, no English translation was provided. However, if a learner failed to locate the appropriate word on the vocabulary list, the English translation was orally provided by the researcher. Two practice sentences of varying difficulty were given to the participants to ensure that they fully understood the task. The participants were informed prior to testing that the researcher would be unable to provide them with any indication as to whether the sentence they had constructed was correct or incorrect (i.e. grammatical or ungrammatical). Rather, they were to simply inform the researcher when the arrangement was complete, at which point it would be written down by the researcher. If participants felt there was more than one appropriate

formation for a certain pack of cards, they were granted the opportunity to arrange more than one sentence⁵⁷.

The SF task was administered to the participants individually, either in the school's library or in one of the classrooms (ensuring the room was quiet and that there were no disturbances).

4.3.5 Task 2: Oral production task

The OP task was administered individually and an audio recording of each participant's responses was made. The task was explained to the participants and two practice exercises were provided, the first in English and the second in Mandarin. In total, excluding the two practice exercises, the task elicited nine oral productions (three per *wh*-word in a random order). The task was presented to the participants in the form of a book (cf. Appendix 9) in which nine different conversations (each on a new page) between two cartoon characters were presented. The booklet was inspired by Southwood and van Dulm's (2012) *Receptive and expressive activities in language therapy: WH Questions* booklet, which was designed to elicit *wh*-questions from language learners. Each of the scenarios was similar in that one of the two characters had asked the other a question. The question, however, was omitted, with only a question mark in a speech bubble indicating that a question had been asked. The answer was provided in the other character's speech bubble. The participant, after considering the illustrated scenario, was prompted to orally provide the researcher with the appropriate missing question.

Participants were encouraged to use their vocabulary lists when necessary and if they did not understand the meaning of the answer provided by the second cartoon character, the sentence was orally translated into English. The word order of declaratives in Mandarin and English is, apart from the lack of auxiliary verbs and articles in Mandarin, much the same (cf. (32) and (33) below). Therefore, translating either the individual words or providing the meaning of the answer in English would

⁵⁷ This only occurred twice, when the participants were obviously uncertain (they voiced their uncertainty to the researcher) as to the correct order. Most participants rejected the idea that there could be more than one possible order.

not have influenced (by way of word order clues) the word order of the *wh*-question that the participants produced. Of course, in the case of the L1 isiXhosa participants there was the risk that they would then “engage” English (their L2) and not isiXhosa (their L1) in possible language transfer. This was unfortunately an unavoidable problem throughout the testing process as the participants used their vocabulary list, which (as mentioned above) is an English/Mandarin list.

(32) Wǒ de péngyou xuéxi Hànyǔ.
 我的 朋友 学习 汉语
 My(Cl)⁵⁸ friend study Chinese.
 “My friend studies Chinese.”

(33) Wǒ bàba jiào Dawei.
 我 爸爸 叫 大卫。
 My father be called Dawei.
 “My father’s name is David.”

Again, no feedback relating to the accuracy of the answer was provided and the participants were informed of this prior to the time of testing. This task was completed in a minimum time of 5 minutes 47 seconds and a maximum of 17 minutes 39 seconds. In spite of the rapidity of this task, participants found it the most challenging.

4.3.6 Task 3: Grammaticality judgment task

All 20 participants completed the GJ task (cf. Appendix 10) in one group sitting. The test was a composite of 30 *wh*-questions (10 per *wh*-word) and 20 distractors, the order of all questions being randomised (with one randomised presentation used for all the participants). Of the 10 sentences specific to each *wh*-word, five were grammatical and five were ungrammatical. The same was true of the distractors, half were grammatical and half were ungrammatical. The task was a paper and pencil task

⁵⁸ Cl = classifier

and next to each sentence was either a “tick” or “cross”. The choice to circle the tick or cross marked the sentence as grammatical or ungrammatical respectively.

4.3.7 Task 4: Sentence translation task

The ST task (cf. Appendix 11) had both an English (EST) and isiXhosa (XST) version. It was initially planned that, of the L1 isiXhosa group, half would complete the isiXhosa version first and the English version second, while the order would be reversed for the remaining participants. The reasoning behind this was to assess whether there was any difference in performance depending on the order in which the two versions of the task were completed. If, for example, the completion of the isiXhosa version first “triggered” the participants’ L1 rule that the *wh*-word remains in-situ (a similarity between their L1 and Mandarin that they had perhaps not yet registered before), this newfound knowledge could be applied to the English version of the task too, resulting in these participants faring better in the translation tasks overall. Unfortunately, as a result of the poor isiXhosa literacy levels (established by the participants’ responses to the language background questionnaire), this course of action had to be abandoned and only six isiXhosa-speaking participants completed the task. The English version was administered first to all 20 participants, followed by the isiXhosa version the following day in the case of the relevant six L1 isiXhosa speakers. In order to prevent priming from the English version in the case of the latter group of participants, the two versions of the task were not identical translations of one another. Rather, similar sentences were formed by using the same collection of vocabulary items, only they were combined differently in the isiXhosa and English versions. As such, the collection of possible words was the same in both versions of the task, but the sentences formed were different. This was done to ensure that one test was not more difficult than the other.

Both language versions of the ST task were a paper and pencil task and each included a total of 15 sentences, nine of which were *wh*-questions (three per *wh*-word tested) and six distractors. As with all the other tasks, the sentence order was randomised. Participants were asked to write down the Mandarin translation (only the pinyin) of each sentence that they were presented with.

4.4 Psychotypological similarity assessment

Finally, a test was administered that required the participants to rate how (dis)similar English and Mandarin on the one hand and isiXhosa and Mandarin on the other hand are. Rothman (2013) claims that the only important perception with regard to psychotypological distance is an unconscious one. This, however, is impossible to assess. The aim behind the use of a psychotypological similarity test in this study was therefore to determine whether the learners' *conscious* perception of the languages' (dis)similarities might affect their acquisition of *wh*-questions in Mandarin.

As English and Afrikaans are both *wh*-movement languages which front the *wh*-word, the effect of transfer from either language would be the same, regardless of the participants' perception of (dis)similarities between English and Mandarin or Afrikaans and Mandarin. Therefore, the question of (psycho)typological similarity is only applicable to the L1 isiXhosa-speaking participants in this study.

The task was a pen and paper task and took the participants about five minutes to complete. Participants were asked to score as intuitively as possible and if an answer did not instinctively come to them, they were told they could "guess". This was done to ensure that no section was left blank and to encourage the most instinctive answer. The isiXhosa-speaking participants rated the (dis)similarity of the two languages in six different language pairs: English and Afrikaans, English and isiXhosa, isiXhosa and isiZulu, English and Mandarin, Afrikaans and Mandarin and isiXhosa and Mandarin. Each language pair was rated on a scale from 1 to 10, with 1 as "most similar" and 10 as "completely different". An example is provided in (34) below.

(34)

On a scale of 1–10, how similar do you think English and Mandarin are?

Close (Almost the same)	Distant (Completely different)
<div style="display: flex; justify-content: space-between; width: 100%;"> 1 2 3 4 5 6 7 8 9 10 </div>	

Although it was hoped they would score as instinctively as possible, the decision to include isiZulu and Afrikaans was to assess whether they had considered their decisions at all or if they had simply randomly decided upon a similarity rating. Had the participants all regarded, for example, isiZulu and isiXhosa as “completely different” and English and isiXhosa as “almost the same” it would have been evident that they had presumably misunderstood the task and simply just circled any number.⁵⁹ This is because the Bantu languages isiXhosa and isiZulu are more typologically similar than English and isiXhosa, and considering that the participants were familiar with isiZulu, they were presumably aware of this. The decision to include a number of comparative language pairs also provided a way to gauge each participant’s scores. To explain, just because one participant might rate isiXhosa and isiZulu as a “1” and another participant decide upon a “5” does not necessarily mean that the former thinks they are identical while the latter thinks they are very different. If the first participant rates English and isiXhosa as a “6” and the second rates the similarity as a “10”, then one gets a better idea within what range of scores the individual participants are working and may deduce that they both regard isiXhosa and isiZulu as more similar to each other than English and isiXhosa. Such findings would prove that their judgements can be “trusted” and used as a way to determine how (dis)similar they believe English and isiXhosa to be to Mandarin.

The following chapter reports on the results of the four tasks discussed above and suggests possible reasons for differences in the participants’ performance.

⁵⁹ The participants were all asked prior to the time of testing whether they were familiar with isiZulu (i.e. had they heard of it). All 10 confirmed that they had and that they had heard it spoken before, but that they did not themselves speak isiZulu.

CHAPTER 5

PRESENTATION AND ANALYSIS OF DATA

This chapter presents the data collected and reports on the participants' acquisition of simple *wh*-questions in Mandarin at an elementary level of L2 (L3/L4) learning. The results of an analysis of variance (ANOVA) between the L1 isiXhosa and L1 English groups' scores on the various tasks are presented in Section 5.1. Section 5.2 briefly introduces the concept 'Error Analysis' and discusses the kind of linguistic analysis used in this thesis to scrutinise the participants' errors. Section 5.3 presents the results of the SF task, Section 5.4 presents the OP task's results and Sections 5.5 and 5.6 present the results of the GJ and ST tasks, respectively. Section 5.7 reports on the results of the psychotypological assessment, while section 5.8 provides an overview of the two groups' overall performance. Lastly, Section 5.9 discusses the task and word effects noted in this study.

5.1 Mean group scores and analysis of variance between the two groups

Table 5.1 below presents the mean scores of the L1 isiXhosa and L1 English groups on the various tasks. The overall group results indicate that the L1 English-speaking group, contrary to expectations, outperformed the L1 isiXhosa-speaking group.

Score set	Number of items ⁶⁰	Word/task combination	L1 isiXhosa % correct mean	L1 English % correct mean
Overall scores	63	overall	43	50
Scores on individual tasks	15	SFT	40	47
	9	OPT	44	40
	30	GJT	57	67
	9	ESTT	29	47
<i>Wh</i> -words across all four tasks	21	<i>shenme</i> ("what")	54	67
	21	<i>nar</i> ("where")	38	46
	21	<i>na</i> ("which")	36	38

⁶⁰ The numbers reported here refer to the number of *wh*-items that each participant was tested on for each score set.

Score set	Number of items	Word/task combination	L1 isiXhosa % correct mean	L1 English % correct mean
<i>Wh</i> -words per task	5	<i>shenme</i> /SFT	44	48
	3	<i>shenme</i> /OPT	70	67
	10	<i>shenme</i> /GJT	57	75
<i>Wh</i> -words per task	5	<i>nar</i> /SFT	34	40
	3	<i>nar</i> /OPT	37	30
	10	<i>nar</i> /GJT	63	66
	3	<i>nar</i> /ESTT	20	47
	5	<i>na</i> /SFT	42	52
	3	<i>na</i> /OPT	27	23
	10	<i>na</i> /GJT	52	61
	3	<i>na</i> /ESTT	23	17

Table 5.1: Mean group scores

(SFT = sentence formation task, OPT = oral production task, GJT = grammaticality judgement task, ESTT =English sentence translation task, XSTT = isiXhosa sentence translation task)

In order to determine whether the two groups differed significantly from one another, an ANOVA was performed that looked at (i) the difference between the two groups' overall performance on the four tasks taken together, to ascertain if the participants' L1s effected the overall results (this being called the "Language group" effect in Table 5.2 below); (ii) the difference between the two groups' total scores for the three respective *wh*-words across all four tasks, to determine if one group out-performed another in the acquisition of a specific *wh*-word ("Language group-Word" effect); (iii) how the two groups' performance differed across the four individual tasks ("Language group-Task" effect); and (iv) the difference between the two groups' treatment of the three *wh*-words in the case of the four respective tasks, to establish if one group's acquisition of specific *wh*-word was better or worse depending on the task in question ("Language group-Word-Task"). The results of each effect/interaction⁶¹ tested in the ANOVA are presented as p-values in the second column in Table 5.2 below. With alpha set at 0.05, there is no statistically significant difference between the two groups in the case of any of the effects tested.

⁶¹ In statistics: a "main effect" is the effect of a single variable on a dependent variable, disregarding any other independent variables; an "interaction" refers to the relationship among three or more independent variables.

Main effect tested	p-value
Language group	0.46
Language group-Task	0.22
Language group-Word	0.48
Interaction	p-value
Language group-Word-Task	0.16

Table 5.2: Results of the ANOVA testing the difference between the two language groups' performance

To allow for a more in-depth analysis of the two groups' treatment of *wh*-questions in Mandarin, all the results will be analysed descriptively in the following sections, focusing on the errors the participants made.

5.2 Error Analysis

In analysing the data, the seemingly random errors the participants made deserve attention, as they may not be that random after all. Corder (1967: 167) draws a distinction between an error and a mistake and explains that one should refer to “errors of performance as *mistakes*, reserving the term *error* to refer to the systematic errors of the learner from which we are able to reconstruct his knowledge of the language to date”. It is claimed that such errors occur because “learners have not yet internalised the formation rules of the code” (Corder in Gao, 2009: 67). In this thesis, the term “error” is used in the above sense.

“Error Analysis”, as a method of examining linguistic data, involves the comparison of errors that learners make when acquiring a TL, with the TL form itself (Gass, 91: 2013). Although Error Analysis is important in that it often proves that speakers' errors are more than mere linguistic lapses, this analytical approach is not without criticism. Gass (92: 2013) points out that in analysing *only* errors, a full picture of learner production is not achieved, and that by analysing both errors and non-errors, researchers can gain more insight into the control that speakers exhibit over a specific structure. It is also often difficult to identify exactly what the cause or source of the

error is, especially if little attention is paid to the role of the native language. Although Error Analysis cannot offer a full explanation of learner production, errors “can be taken as red flags; they provide windows into a system – that is, evidence of the state of a learner’s knowledge of the L2” (Gass, 2013: 91).

Whilst this study will ultimately analyse the participants’ errors (while also taking into account their non-errors), Error Analysis is not the analytical approach that will be utilised. Instead of looking to only the TL for insight into the participants’ errors, both interlingual and intralingual errors will be analysed in order to get a complete picture of the participants’ interlanguage state. Gass (2013: 92) explains that the former can be attributed to the learners’ L1 (or L2 in the case of L3 acquisition), while the latter are resultant of the TL being learned, autonomous of the learner’s prior linguistic knowledge. It is therefore expected that similar intralingual errors will occur across speakers with differing prior linguistic knowledge (Gas, 2013: 92).

Because both language groups tested in this study have English as either a L1 or L2 and Afrikaans as either a L2 or L3, it is difficult to determine whether errors that both groups make are in fact interlingual errors (as a result of transfer from English/Afrikaans) or intralingual errors (as a result of learning Mandarin). As such, errors that *only* the L1 isiXhosa-speaking participants make can with certainty be regarded as interlingual because the L1 English group do not have knowledge of isiXhosa at their disposal. With this in mind, it can be said that both interlingual and intralingual errors occurred in the participants’ productions and judgements and the kind of errors that occurred differed depending on the *wh*-word involved.

Within each group, it is assumed that if an error is consistent and fairly frequent, then it is unlikely to be “random”. Following Gao (2009: 71) who claims an error occurrence rate of above 9.52% is worth reporting on, errors that display consistency and that are above this percentile range were considered worthy of attention. The following sections present an analysis of these errors.

5.3 Results of the sentence formation task

Participants' 15 *wh*-question constructions were graded by hand according to whether the *wh*-word was fronted or in-situ. Only the position of the *wh*-word was taken into account when grading the participants' responses. Apart from *na* ("which") that had to introduce the noun to be deemed correct, any sentence-final placement⁶² of a *wh*-word was regarded as indicative of the participant's realisation that the *wh*-word should be in-situ and that they had therefore selected the unmarked weak [*uwh*] feature (said to be the "default" feature with which language acquisition commences; cf. Chapter 3) and had subsequently begun to apply the [-movement] parameter. Thus, these constructions were marked "correct" and awarded a mark of "1". Any other placement was awarded a mark of nil. Tables 5.3 and 5.4 provide the participants' individual results. Table 5.5 provides a breakdown of the overall performance of the two language groups, and finally Table 5.6 presents the overall group scores for the three respective *wh*-words.⁶³

Participant	% <i>wh</i> -fronted constructions	% <i>wh</i> -in-situ constructions	% other constructions
X01	40	20	40
X02	13.3	60	26.6
X03	0	100	0
X04	73.3	6.6	20
X05	60	26.6	13.3
X06	6.6	60	33.3
X07	66.6	13.3	20
X08	46.6	20	33.3
X09	53.3	13.3	33.3
X10	0	80	20

Table 5.3: Analysis of L1 isiXhosa-speaking participants' SF task results

⁶² Apart from the *wh*-word *na* and one construction with the *wh*-word *nar*, which was in a second-to-final position in the SF and GJ tasks respectively (and was marked according to what was grammatical), the sentence-final placement of the *wh*-word was the in-situ placement for all the other constructions.

⁶³ Although the scores in Table 5.5 have already been reported on in Table 5.1 above, they are included here (and in the other sections) for convenience. The small number of *wh*-items for each task, in conjunction with the small test group makes it difficult to draw conclusions from participant's individual results. As such, only group results are provided in tables that present the individual *wh*-word results.

Participant	% <i>wh</i>-fronted constructions	% <i>wh</i>-in-situ constructions	% other constructions
E01	73.3	0	26.6
E02	13.3	73.3	13.3
E03	13.3	53.3	33.3
E04	66.6	20	13.3
E05	6.6	46.6	46.6
E06	53.3	33.3	13.3
E07	40	40	20
E08	0	73.3	26.6
E09	20	66.6	13.3
E10	6.6	60	33.3

Table 5.4: Analysis of L1 English-speaking participants' SF task results

Group	% <i>wh</i>-fronted constructions	% <i>wh</i>-in-situ constructions	% other constructions
L1 isiXhosa-speaking	36	40	24
L1 English-speaking	29	47	24

Table 5.5: Analysis of the two language groups' SF task results

Group	% correct: <i>shenme</i> ("what")	% correct: <i>nar</i> ("where")	% correct: <i>na</i> ("which")
L1 isiXhosa-speaking	44	34	42
L1 English-speaking	48	40	52

Table 5.6: Analysis of the two language groups' performance on the SF task - individual *wh*-words

As one can see in Table 5.5, the majority of the participants' constructions were in-situ constructions at 40% and 47% for the L1 isiXhosa group and L1 English group respectively. The second most common type of construction formed were those fronted by a *wh*-word at 36% and 29% respectively. The fact that this was the main type of error indicates that transfer from English (or Afrikaans) has most likely occurred. The fact that between 40% and 47% of the constructions are in-situ makes it difficult to establish if such constructions are formed because of a "best guess" or if because the participants are in fact beginning to learn that the [uwh] feature is weak in Mandarin. In attempting to establish which is more likely the case, an analysis of the "other errors" (referred to as such hereafter) that the participants made in the SF task

is necessary. The placement of the *wh*-word *nar* is discussed first, as this was the *wh*-word that saw two main error patterns occurring, each pattern favoured more or less by one particular group.

In the case of the L1 English-speaking participants, the placement of *nar* in second position in the sentence occurred in 16% of all the *nar* constructions and was a strategy used by 60% of the L1 English-speaking participants. Even though in these instances the placement was not grammatical, recall that (as explained in Chapter 2, section 2.5), in Mandarin, an adverbial *wh*-phrase, unlike English adverbials, precedes the main verb and that the second position can therefore be the correct one in some *wh*-questions. However, as the participants in the current study are still very much “beginners”, and have not yet been exposed to many *wh*-questions pertaining to “where a specific action is performed”, all but one of the *wh*-question constructions they were presented with enquired about nouns as apposed to verbs. Numbers 15 and 45 of the SF (cf. Appendix 8) and GJ tasks (cf. Appendix 10) respectively required that *nar* precede the main verb (and was in a second-to-final position), as it enquired about a verb (*gongzuo*, i.e. “work”). This was a question that (according to the Mandarin teacher) the participants were familiar with, and consequently it was included. The *wh*-2nd placement is therefore not correct in any of the *wh*-questions with *nar* and cannot be regarded as an indication that the participants have begun to grasp the fact that the [uwh] feature is weak.

In the case of the remaining “other errors” *nar* constructions produced by the L1 isiXhosa group, 6% consisted of sentences in which *nar* was in second position, and it was a strategy that was employed by only 20% of the participants. However, 12% of all the *nar* constructions had *nar* placed close to the back of the sentence, something that was done by 40% of the L1 isiXhosa group. This was something that was also done by the L1 English group in 8% of all the constructions with *nar*, by 30% of the L1 English-speaking participants. Although these placements are ungrammatical, the fact that the adverbial *wh*-word is in a “close-to-final” position is perhaps indicative that the participants are aware that the *wh*-word should not be fronted, but that they do not yet know exactly where it should be. The same could be said for the constructions in which *nar* is in second position, as in these constructions the participants seem to

avoid fronting *nar*. This “close-to-front” placement, however, seems to more strongly resemble the influence of English or Afrikaans and is most likely a result of the participants transferring the [+movement] parameter into the Mandarin interlanguage grammar by selecting the marked strong [*uwh**] feature instead of the unmarked weak [*uwh*] feature.

The same is likely true for the *wh*-word *shenme*, as it was placed in second position or in the middle of the *wh*-question 12% of the time, for all the *shenme* constructions, by the L1 English group and was a strategy that was used by 40% of this language group. This placement of *shenme* was also chosen by 60% of the L1 isiXhosa-speaking participants, but in their case, as much as 24% of all the *shenme* constructions were formed in this way. Gao (2009: 72), who had similar findings, explains that one possible reason is that there are two parameter settings at play, i.e. the [-movement] parameter and the [+movement] parameter that are both trying to “take control in the participants’ interlanguage” (Gao, 2009: 72). If Gao (2009) is correct, then such placements of *nar* and *shenme* might indicate that participants are aware that it is ungrammatical for the *wh*-word to be fronted in simple *wh*-questions and resultantly they avoid producing such constructions and place the *wh*-word elsewhere. Their prior linguistic knowledge, however, in the form English as either their L1 or L2 does not simply cease to be influential; hence, they place the *wh*-word towards the front of the sentence.

Finally, the *wh*-word *na* saw a similar strategy employed across both language groups, with it being used in an apparent “in-situ sense”, but done so incorrectly because it was placed in a sentence-final position (in such a position that it did not introduce the necessary noun) and, as such, was not an in-situ placement. Sixteen percent of the sentences that required the *wh*-word *na* were formed in this way, and this was done by 60% of the L1 English-speaking participants. Seventy percent of the L1 isiXhosa-speaking participants employed this strategy as well, with 24% of all the *na* constructions for this group being formed in such a way. This kind of error might (once again) indicate that the participants are aware that the *wh*-word should not be fronted, but that both groups are still in the process of tweaking their TL knowledge to achieve grammatical constructions.

In sum, as discussed above, the fact that both groups seemed to be alternating between positioning both *nar* and *shenme* either towards the front, in the middle, or towards the back of the sentence, indicates that there is certainly an awareness that the *wh*-word should not be fronted but that participants do not yet know where it should be positioned. Transfer from English and Afrikaans is still the most likely explanation for why the majority of the errors were errors of full *wh*-fronting. The “other errors” do, however, seem to indicate that the participants are in the process of recognising that the strong [*uwh**] feature is not instantiated in Mandarin, but also that their prior linguistic knowledge (of either their L1 or L2) is interfering at this elementary stage of language learning and that they are yet to figure out exactly what is and is not grammatical in the formation of *wh*-question constructions in Mandarin.

5.4 Results of the oral production task

The recordings of the participants’ nine oral *wh*-question productions were transcribed by the researcher and graded by hand according to whether the *wh*-word was fronted or in-situ. As with the SF task, only the position of the *wh*-word was taken into account in grading the participants’ productions and again, except in the case of *na* (“which”), any sentence-final placement (as the correct in-situ placement) of a *wh*-word was marked as “correct” and any other placement “incorrect”. The participants’ individual results, a breakdown of the two groups’ overall performance, as well as the comparative performance of the two groups on items testing the respective *wh*-words are presented, in that order, in Tables 5.7, 5.8, 5.9 and 5.10 below.

Participant	% of <i>wh</i>-fronted constr.	% of <i>wh</i>-in-situ constr.	% of other constr.⁶⁴	% constr. with the incorrect <i>wh</i>-word	% constr. with no <i>wh</i>-word	% constr. with additional <i>ma</i> particle
X01	66.6	11.1	0	0	22.2	11.1
X02	11.1	66.6	22.2	0	0	11.1
X03	0	66.6	33.3	0	0	11.1
X04	33.3	22.2	22.2	11.1	11.1	0
X05	100	0	0	0	0	0
X06	55.5	44.4	0	0	0	0
X07	44.4	33.3	11.1	11.1	0	11.1
X08	0	77.7	11.1	11.1	0	0
X09	22.2	44.4	22.2	11.1	0	11.1
X10	0	77.7	11.1	11.1	0	0

Table 5.7: Analysis of L1 isiXhosa-speaking participants' OP task results

Participant	% of <i>wh</i>-fronted constr.	% of <i>wh</i>-in-situ constr.	% of other constr.	% constr. with incorrect <i>wh</i>-word	% constr. with no <i>wh</i>-word	% constr. with additional <i>ma</i> particle
E01	88.8	0	11.1	0	0	11.1
E02	11.1	66.6	11.1	11.1	0	0
E03	55.5	33.3	0	11.1	0	11.1
E04	22.2	55.5	22.2	0	0	0
E05	0	55.5	11.1	22.2	11.1	22.2
E06	77.7	11.1	11.	0	0	0
E07	22.2	33.3	0	33.3	11.1	0
E08	0	77.7	22.2	0	0	22.2
E09	0	22.2	66.6	0	11.1	22.2
E10	33.3	44.4	22.2	0	0	0

Table 5.8: Analysis of L1 English-speaking participants' OP task results

The individual participants' results above have been combined and averaged to provide the group scores in three different columns in Table 5.9 below, the results in the last two columns of Tables 5.7 and 5.8 being excluded. The reasoning for this is that, in the case of the sixth column, constructions in which the *wh*-word was omitted do not provide insight into the placement of the *wh*-word and, as such, cannot inform us whether the [-movement] or [+movement] parameter has been applied. (Cf. section

⁶⁴ The "other constructions" pertains specifically to those constructions formed with the correct *wh*-word, but where the *wh*-word was incorrectly positioned in the sentence.

5.6.2 below, however, for a discussion pertaining to the formation of interrogatives without a *wh*-word). Column seven above includes the number of constructions formed with the *yes/no* particle *ma* (always in a sentence-final position). These constructions are, however, also not included in Table 5.9 below because this strategy was used across all three kinds of *wh*-constructions formed (*wh*-fronted constructions, “other constructions” and *wh*-in-situ constructions). Consequently, including the *ma* constructions in the calculations would have resulted in the “doubling up” of scores. Recall that (as discussed in Chapter 2) the particle *ma* is the Q-particle used exclusively for *yes/no* question formation, while *ne* is the Q-particle that can be optionally added in a sentence-final position to *wh*-questions (usually to add emphasis or to alter the meaning of the question to some degree). Thus, the use of *ma* is incorrect in the formation of *wh*-questions. In spite of this, if the *wh*-word was in-situ, the construction was marked as “correct” because the in-situ placement of the *wh*-word is indicative of the fact that the participants have correctly selected the weak [*uwh*] feature and not the strong [*uwh**] feature. Therefore, they are beginning to apply the [-movement] parameter, but have simply added the incorrect particle *ma* instead of the correct phonetically unrealised Q-particle or *ne* in a sentence-final position. A more in-depth discussion of the participants’ inclusion of *ma* in the formation of *wh*-questions is provided below.

In the Table 5.9 below, the percentage of “other constructions” and “constructions with incorrect *wh*-word” have been grouped together to collectively represent constructions which indicate that learners are in the process of (albeit incorrectly at this stage) reformulating what they know about *wh*-questions, and are not simply applying the [+movement] parameter.

Group	% of <i>wh</i>-fronted constr.	% of <i>wh</i>-in-situ constr.	% of other constr. / constr. with incorrect <i>wh</i>-word
L1 isiXhosa-speaking	33.3	44.4	18.8
L1 English-speaking	31	40	25.5

Table 5.9: Analysis of the two language groups’ OP task results

Group	% correct: <i>shenme</i> (“what”)	% correct: <i>nar</i> (“where”)	% correct: <i>na</i> (“which”)
L1 isiXhosa-speaking	70	37	27
L1 English-speaking	67	30	23

Table 5.10: Language groups’ comparative performance for OP task - individual *wh*-words

Table 5.9 indicates, that as with the SF task, the majority of the participants’ constructions were in-situ constructions at 44.4% and 40% respectively. Second to these constructions were the *wh*-fronted constructions, which constituted, respectively, 33.3% and 31% of the L1 isiXhosa-speaking and L1 English-speaking participants’ responses. Once again, transfer of the [+movement] parameter from English or Afrikaans is the most likely explanation for the fact that most of the errors were errors of *wh*-fronting. The analysis of the “other errors” below, however, will provide more insight into what is likely going on in these participants’ L3/L4 interlanguage. It should be noted that, unlike the SF task in which the participants were provided with the words they had to arrange, the OP task required that participants select their own words for the sentences and, as such, saw a total of 25% of the participants across both groups produce sentences without any *wh*-word. In total, this constituted 3.3% of all the produced constructions. Needless to say, the former type of error is not included in the OP tasks’ error analysis.

Forty-five percent of the participants also used the incorrect *wh*-word, either in-situ or in a position other than a sentence-initial position, in the formation of some of their constructions, an error that occurred in 6.6% of the OP task productions. In the case of the L1 English-speaking participants who used this strategy, *na* was always the word replaced, with either *shenme* used in its stead in 71.4% of these constructions, always in-situ, while *nar* was used to replace the remaining *na* constructions of this kind, either in-situ (14.3% of the time) or in second position (14.3% of the time). The L1 isiXhosa-speaking participants who used the incorrect *wh*-word also only did so in *wh*-questions that required *na* and replaced *na* with *nar* 80% of the time and with *shenme* only 20% of the time. In these instances, *nar* was in-situ 20% of the time, fronted 40% of the time and in *wh*-2nd position 20% of the time, while *shenme* was in-

situ whenever it was used. In sum, both groups substituted only one specific *wh*-word, *na*, with another *wh*-word, using either *shenme* or *nar* as the replacement *wh*-word. In the case of *shenme*, the positioning was always in-situ, while the positioning of *nar* was varied.

Another noteworthy error that occurred across both language groups was the use of the *yes/no* question particle *ma*. Although *ma* was only used 5.5% and 10% of the time (across all the OP task productions) by the L1 isiXhosa and L1 English groups respectively, it was used by 50% of the L1 isiXhosa-speaking participants and by 60% of the L1 English-speaking participants and was always in a sentence-final position. As mentioned above, *ma* can only be used in the formation of *yes/no* questions. If one were to use an overt particle in the formation of *wh*-questions, it would need to be the particle *ne*⁶⁵. It might, however, seem surprising that the participants chose to use *ma* and not the correct particle *ne*, but considering the participants had not yet learnt that *ne* can be used in the formation of *wh*-questions, it is not at all unexpected that this occurred. The only usage of *ne* the participants were aware of at the time of testing is the use of *ne* in asking reciprocal questions as seen in (35) below.

(35) Speaker 1: Nǐ gōngzuò máng ma?
 你 工作 忙 吗
 You work busy Qp
 “Are you busy with your work?”

Speaker 2: Hěn máng, nǐ ne?
 很 忙 你 呢
 Very busy, you Qp
 “Yes, very busy. And you?”

Consequently, the participants did probably not realise that the use of *ne* is an option in the formation of *wh*-questions. Interestingly though, although they would never

⁶⁵ Recall that *ma* can only be used to form *yes/no* interrogatives, while *ne* can be used as an optional particle in the formation of *wh*-questions to slightly alter the meaning of the question (refer to section 2.5 for a more detailed discussion).

have seen *ma* used in any other way other than in (35) above (this being the only way that it can be used), they seem to want to use it in the same way one would use a Q-particle in the formation of *wh*-interrogatives. Recall that Yuan (2007: 285) regards the acceptance of *wh*-questions with *ne* in conjunction with the rejection of all Mandarin *wh*-questions exhibiting *wh*-movement proof that interrogative C is “valued by a phonetically realised or unrealised *wh*-particle *ne*”. The importance of this (under the theoretical framework adopted in this study), as discussed in Chapter 3, is that if Q-particles are merged directly in C, movement of a *wh*-word is either unnecessary (because clausal typing has already been satisfied) or impossible (because Spec-CP is occupied by the TP) in English speakers’ Mandarin interlanguage.

If the claim is that movement of *wh*-words to Spec-CP will be blocked only once the interrogative particles of an in-situ language are acquired by speakers of *wh*-movement languages, then although the participants have used the wrong particle and have not always produced in-situ *wh*-question constructions, the sentence-final placement of *ma* (which is merged in C) may be the first sign of this acquisition process and, by extension, that an understanding that interrogative words remain in-situ at spell-out is gradually beginning to develop⁶⁶.

An error pattern that was slightly different across the two language groups is the placement of the *wh*-word *nar* in second position by a number of participants, just as in the SF task. In the case of the L1 English group, this occurred in 16.6% of the constructions in which the *wh*-word *nar* was required and it was a strategy used by 40% of this group. This placement was not, however, seen in many L1 isiXhosa-speaking participants’ constructions (only 20% positioned *nar* in second place), and it only occurred in 6.6% of the *nar* constructions. As discussed above, this placement possibly indicates that participants are aware that *wh*-fronting is incorrect, and so they avoid fronting the *wh*-word by trying to position it somewhere else.

⁶⁶ The results from Yuan’s (2007) study revealed that even the beginner learners had acquired the *yes/no* Q-particle and always positioned/accepted it in a sentence-final position (i.e. in C). Recall that Yuan (2007: 285) points out that save for the beginner and post-beginner groups, all other groups accepted in-situ *wh*-question constructions with the particle *ne* in sentence-final position; a fact that Yuan claims indicates that *wh*-movement is blocked. As *ma* is clearly the first (Q-)particle acquired by beginner learners of Mandarin, this author takes the correct placement (albeit used incorrectly) of the Q-particle *ma* to be a precursor to the acquisition of the correct structure of in-situ *wh*-questions.

Finally, the most noteworthy difference between the two groups' errors in the OP task pertains to a strategy that was used by 60% of the L1 isiXhosa-speaking participants (and occurred in 10% of their total OP task productions) and not by a single L1 English-speaking participant, i.e. non-identical *wh*-doubling. To briefly explain syntactic doubling, Barbiers (2008: 13) clarifies that this phenomenon occurs when a specific element is used two or more times, either within one clause ("short *wh*-doubling", as is the case in this study) or across a clause boundary ("long *wh*-doubling"). A morphosyntactic feature, morpheme, word or phrase that occurs more than once qualifies as a constituent that has been "doubled". Specific to this study, non-identical doubling is "where two distinct-looking elements co-occur" (Barbiers et al., 2008: 77). By this definition, doubling the *wh*-element so that it occurs twice (albeit in the form of two different *wh*-words) constitutes *wh*-doubling.

Participants who used the above strategy used two *wh*-words in one sentence, with the "extra" *wh*-word always in-situ, either directly after the correct *wh*-word or with a *wh*-word at either end of the sentence (the correct *wh*-word at the front and the extra *wh*-word in a sentence-final position). This only occurred in the case of *wh*-questions that required either *nar* or *na*. *Shenme* was used as the extra *wh*-word 88.8% of the time in structures that required *nar* or *na*, the remaining 11.1% constituting constructions with *nar* in stead of *na*. The fact that this was a strategy used only by the L1 isiXhosa-speaking participants could be a very tangible indication that, at this stage of TL acquisition, their L1 and L2/L3 systems are in direct competition with one another and that they are transferring from both systems, resulting in constructions that exhibit both *wh*-in-situ and *wh*-movement properties. The question, however, is why they are using two distinct *wh*-words to form the *wh*-questions as, the optional use of Q-particles aside, *wh*-doubling of this nature does not occur in isiXhosa *wh*-question constructions. This issue and *wh*-doubling will be discussed further in section 5.6.1.

Of the OP task errors made by the participants, there were also a few "close-to-final" placements of the *wh*-word; these will, however, not be specifically discussed due to the small number of participants who made these errors (20% of the L1 English-speaking participants, 2.2% of the time). To recap the errors discussed in this section specific to the OP task, recall firstly that the replacement of *na* with either *nar* or

shenme (always in-situ in the case of *shenme*) indicates that *na* is the only *wh*-word the participants were actively avoiding and, as a result, it may indicate that it is the most difficult of the three investigated *wh*-words to acquire (to be discussed further in section 5.9). Secondly, the sentence-final use of the *yes/no* particle *ma* is taken to be an indication that interrogative particles have begun to be acquired by the participants and that, following the complete acquisition of Q-particles in Mandarin, movement of the *wh*-word to Spec-CP will presumably be blocked, resulting in the formation of in-situ *wh*-questions. A third observation that was made is that the placement of *nar* in second position possibly indicates the participants' awareness that *wh*-words should not be fronted, this most likely being the first step in the acquisition of in-situ *wh*-question constructions. Finally, the *wh*-doubling errors in the L1 isiXhosa-speaking participants' constructions show possible signs of transfer from both English and isiXhosa in an attempt to navigate their way through this acquisition process.

5.5 Results of the grammaticality judgement task

The results from the GJ task, due to their nature, do not lend themselves to any kind of descriptive error analysis. There was no significant difference in their total scores for the items testing the placement of a *wh*-word. As expected, both participant groups scored higher in the GJ task than in any of the other tasks. One possible reason for this is because, according to Davies and Kaplan (in Gao, 2009: 46), L2/L3 language learners use more strategies – learned, translation and analogy - when approaching a GJ task than do native speakers who reply primarily on intuition, a strategy used far less by non-native speakers. Although this may be the case, the most likely reason for the participants scoring highest on the GJ tasks is probably because, in a GJ task, language learners have a 50% chance of guessing correctly, while the other tasks provide much more room for variation with regard to their errors. Regardless of the reason behind the participants' seemingly inflated results, it should be noted that GJ data has often been questioned in terms of its accuracy in representing the true state of a L2 learner's grammar (Gao 2009: 46).

The participants' individual results are presented in Tables 5.11 and 5.12, while Table 5.13 provides a comparison of both language groups' overall results. Keep in mind that participants had to correctly judge both grammatical and ungrammatical sentences, so "correct" refers to whether their judgement was appropriate, regardless of whether the sentence was in fact grammatical or not.

Participant	% correct: <i>shenme</i> ("what")	% correct: <i>nar</i> ("where")	% correct: <i>na</i> ("which")	% correct: overall
X01	90	70	20	60
X02	80	60	70	70
X03	60	60	50	56.6
X04	50	60	70	60
X05	30	40	30	33.3
X06	50	50	50	50
X07	40	70	40	50
X08	30	70	50	50
X09	40	50	70	53.3
X10	100	100	70	90

Table 5.11: L1 isiXhosa-speaking participants' individual GJ task results

Participant	% correct: <i>shenme</i> ("what")	% correct: <i>nar</i> ("where")	% correct: <i>na</i> ("which")	% correct: overall
E01	40	50	50	46.6
E02	100	70	60	76.6
E03	90	40	70	66.6
E04	60	40	50	50
E05	70	80	60	70
E06	60	60	40	53.3
E07	60	50	40	50
E08	90	100	90	93.3
E09	100	90	60	83.3
E10	80	80	90	83.3

Table 5.12: L1 English-speaking participants' individual GJ task results

Group	% correct: <i>shenme</i> ("what")	% correct: <i>nar</i> ("where")	% correct: <i>na</i> ("which")	% correct: overall
L1 isiXhosa-speaking	57	63	52	57
L1 English-speaking	75	66	61	67

Table 5.13: The two language groups' comparative performance on the GJ task

In comparison to the previous two tasks, there is certainly an improvement in the participants' overall performance on the GJ task. If the L1 isiXhosa-speaking group's overall GJ task result of 57% correct is compared to their results from the SF task (40% correct) and OP task (44.4% correct), there is an improvement of 17% and 12.6% respectively. Similarly, if the L1 English-speaking group's overall GJ task result of 67% correct is compared to their results from the SF task (47% correct) and OP task (40% correct), a 20% and 27% improvement is noted. As the GJ task is the third task completed by the participants, one might argue that perhaps their knowledge of the rules for *wh*-question formation in Mandarin has improved over the course of the tasks. This, however, cannot be because of exposure to *wh*-questions in the classroom, as this factor was controlled for. In terms of the tasks themselves, apart from *wh*-questions, the sentences the participants were presented with included a significant number of declaratives and *yes/no* questions, so they ought not have picked up any "clues" in that way either. It could, however, be the case that, because the GJ task followed directly after the OP task (which, as is the nature of the task, could only be presented in a question and answer fashion), the participants might have had more practice with question formation and perhaps improved during this process. However, this too is unlikely considering the small number of questions (nine) and the limited amount of time (no more than 15 minutes) this "practice" would have provided.

Nonetheless, actual development in terms of the knowledge that the [*uwh*] feature is weak in Mandarin will only be confirmed if the results for the fourth task also show an improvement or at least show comparative results to the third task. If not, then it would seem that GJ tasks, as discussed above, are perhaps not the best reflection of language learners' TL knowledge and that the reason for the significant improvement across both groups lies in that fact that the GJ task offers a skewed indication of the

participants' actual knowledge as were they to guess the answer, they would have a 50% chance of guessing correctly.

5.6 Results of the sentence translation task

5.6.1 Results of the English-Mandarin sentence translation task

The final task completed by both language groups was the English-Mandarin ST task (EST task). As with the SF and OP tasks, the position of the *wh*-word alone was considered when grading the participants' translations. Once again, apart from *na* ("which"), any sentence-final placement (as the correct in-situ placement) of a *wh*-word was marked as "correct" in terms of the participants' application of the [-movement] parameter (and therefore selection of the unmarked weak [*uwh*] feature). As with the OP task, participants occasionally omitted the *wh*-word or used the incorrect *wh*-word. The participants' individual results are provided in Tables 5.14 and 5.15 below, while a comparative breakdown of the two groups' overall performance on the translation task, as well as their performance on items testing the three respective *wh*-words are provided below in Tables 5.16 and 5.17 respectively.

Participant	% of <i>wh</i> -fronted constr.	% of <i>wh</i> -in-situ constr.	% of other constr.	% constr. with incorrect <i>wh</i> -word	% constr. with no <i>wh</i> -word	% of items not responded to	% constr. with additional <i>ma</i> particle
X01	100	0	0	0	0	0	0
X02	0	77.7	0	0	0	22.2	0
X03	44.4	44.4	11.1	0	0	0	22.2
X04	66.6	11.1	11.1	0	11.1	0	11.1
X05	100	0	0	0	0	0	0
X06	77.7	0	11.1	0	11.1	0	11.1
X07	44.4	44.4	11.1	0	0	0	0
X08	100	0	0	0	0	0	55.5
X09	66.6	22.2	11.1	0	0	0	66.6
X10	0	88.8	11.1	0	0	0	0

Table 5.14: L1 isiXhosa-speaking participants' English-Mandarin ST task results

Participant	% of <i>wh</i> -fronted constr.	% of <i>wh</i> -in-situ constr.	% of other constr.	% constr. with incorrect <i>wh</i> -word	% constr. with no <i>wh</i> -word	% of items not responded to	% constr. with additional <i>ma</i> particle
E01	100	0	0	0	0	0	0
E02	11.1	66.6	0	11.1	11.1	0	44.4
E03	22.2	33.3	33.3	11.1	0	0	0
E04	66.6	33.3	0	0	0	0	0
E05	11.1	66.6	22.2	0	0	0	44.4
E06	100	0	0	0	0	0	0
E07	55.5	22.2	0	11.1	11.1	0	11.1
E08	0	77.7	11.1	11.1	0	0	22.2
E09	0	88.8	11.1	0	0	0	11.1
E10	22.2	66.6	11.1	0	0	0	0

Table 5.15: L1 English-speaking participants' English-Mandarin ST task results

The individual results above have again, as with the OP task, been combined into three different columns in Table 5.16 below, excluding the results of the last three columns in Tables 5.14 and 5.15. The justification for this is the same as in the case of the previous task, in that the sixth column above presents constructions in which the *wh*-word was omitted and, as such, cannot provide any information with regard to the placement of the *wh*-word. As for column seven above, this column presents the items that were not translated, but rather left blank. Although only one participant did this, it is necessary to differentiate between omitted constructions and errors. The final column above provides the number of constructions that were formed exclusively with the *yes/no* particle *ma*; as no *wh*-interrogative was formed that can provide information regarding whether the [-movement] or [+movement] parameter has been applied, these results too are excluded in Table 5.16 below.

Group	% of <i>wh</i> -fronted constr.	% of <i>wh</i> -in-situ constr.	% of other /incorrect <i>wh</i> -word constr.
L1 isiXhosa-speaking	59.9	29	6.6
L1 English-speaking	38.9	45.5	13.3

Table 5.16: Comparative breakdown of the two language groups' English-Mandarin ST task results

Group	% correct: <i>shenme</i> (“what”)	% correct: <i>nar</i> (“where”)	% correct: <i>na</i> (“which”)
L1 isiXhosa-speaking	43	20	23
L1 English-speaking	77	47	17

Table 5.17: The two language groups’ comparative performance on the English-Mandarin ST task - individual *wh*-words

The results in Tables 5.16 and 5.17 above indicate that, as suspected, the GJ task was not a true reflection of the participants’ L3/L4 interlanguage knowledge. The L1 English-speaking participants’ results, although lower than their GJ task results, are similar to their previous SF and OP tasks’ results, while the L1 isiXhosa-speaking participants seem to have regressed considerably, even in comparison to the first two tasks’ results. The L1 isiXhosa-speaking participants produced more *wh*-fronted constructions in this task than in any other task. These fronted *wh*-constructions made up the majority of their constructions for the ST task at 59.9% of the total number of constructions produced; this is an increase of 23.9% compared to the SF task and 26.6% compared to the OP task. The L1 English-speaking group’s *wh*-fronted constructions also saw an increase of approximately 10% across both the SF and OP tasks with 38.9% of their constructions being fronted by a *wh*-word. The rise in *wh*-fronted constructions in L1 isiXhosa participants’ English-Mandarin ST tasks coincided with an 11% and 15.4% decrease in in-situ constructions compared to their SF and OP task results. In the case of the L1 English-speaking participants’ ST task results, however, only a 1.5% decrease in the percentage of in-situ constructions compared to the SF task was noted, while the number of in-situ constructions produced in the ST task increased by only 5.5% from their OP task. As such, compared to the isiXhosa-speaking participants’ results, the L1 English-speaking participants’ ST task results are more similar to their SF and OP task results, exhibiting a similar degree of transfer from English (or Afrikaans), while the L1 isiXhosa-speaking participants have fared much worse than before. This suggests that the ST task, which requires translation from English to Mandarin, resulted in more interference from English than before in the case of the L1 isiXhosa participants, as can be deduced from the rise in their *wh*-fronted constructions. Considering this was not the case before, it might be that the L1 isiXhosa-speaking participants were

previously transferring from both isiXhosa and English, but when they were required to specifically “engage” their English system, they transferred more from English as their isiXhosa was to some degree inhibited by the fact that they were translating from English.

Apart from the in-situ constructions, of the 10% of constructions (columns 4 and 5) that could be indicative of the early stages of the acquisition of the in-situ *wh*-question structure, only three strategies were particularly prevalent in the ST task. The remaining constructions of this kind, including the placement of *nar* in second position, the placement of *shenme* in the middle of a sentence and the in-situ use of the incorrect *wh*-word, made up only 3.8% of all responses. Consequently, they will not be discussed.

The first of the three types of prevalent errors that do not relate to *wh*-fronting, is the incorrect sentence-final placement of *na*. This was done by 40% of the L1 English-speaking participants and occurred in 16.6% of the constructions that required the *wh*-word *na* – *na* should of course be directly before the sentence-final noun it ought to introduce. This error only occurred 6.6% of the time in the data of the L1 isiXhosa-speaking participants and was an error made by only 20% of them. As mentioned above, such an error does seem to indicate awareness that the *wh*-word should be not be fronted, but also an incorrect understanding of how it should be used.

The second significant error, made by 25% of the participants (across both groups), was *wh*-doubling. Recall that this was previously an error made exclusively by the L1 isiXhosa-speaking participants in the OP task. In the case of the English-Mandarin ST task, however, participants from both groups provided constructions with two *wh*-words. Thirty percent of the L1 isiXhosa-speaking participants used this strategy and it occurred in 10% of their overall constructions, while 20% of the L1 English-speaking participants used this formation, resulting in 6.6% of their constructions having two *wh*-words. In every instance, it occurred in constructions that required the *wh*-word *na*, and either *shenme* or *nar* were added (in-situ) as the additional *wh*-word. *Shenme* was the most popular choice and was introduced as the additional *wh*-word in 80% of the occurrences across both groups.

According to the definition provided in section 5.4 whereby a morphosyntactic feature, morpheme, word or phrase that occurs more than once qualifies as a constituent that has been “doubled”, the error constructions of this kind may be regarded as cases of non-identical doubling. As argued for in section 5.4, it is not entirely without reason to suppose that this phenomenon is resultant of the L1 isiXhosa-speaking participants’ transferring from both their L1 and L2 and that the [-movement] and [+movement] parameters are in competition with one another. However, now that the L1 English-speaking participants have also “doubled-up”, how can these *wh*-doubling errors be explained? Because every instance discussed so far is an example of non-identical *wh*-doubling, it cannot be assumed that the participants are forming questions as they would in English and simply spelling out both the moved constituent and the trace. One possibility could be that the unmarked weak [*uwh*] feature, already instantiated in the participants’ Mandarin interlanguage results in the [-movement] parameter, even at this early stage, “competing” with the [+movement] parameter, and that therefore, the two groups behave more similarly than expected. Furthermore, it could be the case that because this was a strategy previously employed by only the L1 isiXhosa group in the OP task, it could be that the OP task provides evidence for the most “instinctive” transfer from linguistic systems that are already firmly established (as opposed to the application of rules that are in the process of being acquired). In addition, it could be that participants are using the extra *wh*-word in the same way one would make use of a Q-particle in Mandarin (this being especially feasible because the additional *wh*-word is always in a sentence-final position where Q-particles typically occur). Perhaps they have not entirely differentiated between the use of a Q-particle and an additional interrogative *wh*-word, using them interchangeably as interrogative markers. This may well be the case, as the next error type indicates that they are familiar with the *yes/no* interrogative particle, but not with the correct usage of them.

In the English-Mandarin ST task, the final and most frequent type of error unrelated to *wh*-fronting was the addition of the *yes/no* particle *ma* at the end of both *wh*-fronted and otherwise grammatical in-situ *wh*-questions. Fifty percent of all the participants used this strategy and it was an error that occurred across 14.9% of all the constructions, irrespective of the *wh*-word in question. The split was equal, with 50%

of participants in each group using this strategy. This occurred in 13.3% of the L1 English-speaking participants' constructions and occurred 16.6% of the time across all the constructions produced by the L1 isiXhosa-speaking participants. As with the OP task, the participants used the incorrect particle *ma*, but had they added *ne* (discussed in Chapter 2, section 2.5) at the end of an in-situ *wh*-question with the *wh*-words *shenme* or *nar*, although it would have altered the meaning of the question, the construction would have qualified as grammatical. Again, as with the OP task, if the *wh*-word was in-situ (indicative of the application of the [-movement] parameter) the structure, although not grammatical, was marked “correct” – where “correct” pertains to the correct in-situ placement of a *wh*-word.

As already discussed, the fact that the participants positioned this particle in a sentence-final position could suggest that they are beginning to grasp how an in-situ *wh*-question should be formed. The reason for this is, if a Q-particle (phonetically realised or null) in sentence-final position is merged in C, the TP, which moves into Spec-CP, occupies the position that the *wh*-word, in *wh*-movement languages, would move to as a result of the strong [*uwh**] feature of C that drives movement to Spec-CP. Therefore, if the participants are beginning to acquire particles and position the *ma* Q-particle (even though it is the incorrect particle for *wh*-questions) in a sentence-final position (i.e. in C), the next step in the acquisition process should be the process by which it becomes apparent that Spec-CP is occupied by the TP and that it is impossible to move a *wh*-word into Spec-CP. This in turn should result in the recognition that the strong [*uwh**] feature is not instantiated in Mandarin, but rather that the [*uwh*] feature is weak in Mandarin, resulting in well-formed in-situ *wh*-questions. The constructions formed with a fronted *wh*-word in conjunction with the (incorrect) Q-particle *ma* are not only ungrammatical, but are in fact “impossible constructions” because Spec-CP cannot be occupied by both the TP and the *wh*-expression. These “impossible constructions” could, however, indicate that the [-movement] parameter and [+movement] parameter, are in competition with one another. Importantly though, these participants do seem to realise that Q-particles in Mandarin type clauses as interrogatives.

To recap the errors above and what they may indicate about the participants' developmental stage; the incorrect placement of *na* in a sentence-final position, the addition of an extra *wh*-word in a sentence-final position and the incorrect use of *ma*, again in a sentence-final position, all indicate that *at the very least* the participants are beginning to realise that *wh*-words in Mandarin should not be fronted. If Yuan (2007) is correct in claiming that only once Q-particles have been acquired will the correct in-situ *wh*-question structure follow, the acquisition of particles may also indicate that if participants begin to acquire the knowledge that C is valued by a phonetically null or overt Q-particle, movement of the *wh*-expression to Spec-CP is not possible and will therefore eventually be blocked. Thus, although participants are yet to cease fronting the *wh*-word, the acquisition of Q-particles *should* be a precursor to the acquisition of the correct in-situ sentence structure.

The L1 isiXhosa-speaking participants' overall decline in performance on the ST task is a result of the increase in *wh*-fronted constructions, as well as the decrease in the number of in-situ constructions they produced. Although the L1 English-speaking groups' *wh*-fronted constructions also increased, the number of in-situ *wh*-questions produced did not drop that significantly. As such, it does seem that the L1 English-speaking participants results were more similar to their previous results (excluding the GJ task) than the L1 isiXhosa-speaking participants' results, as the latter group clearly fared substantially worse in the ST task than in any other task so far. One possible reason for this difference between the two groups is that this was the first task in which the L1 isiXhosa-speaking participants were shown the English equivalent of the Mandarin sentences they were asked to produce. As a result, the English word order may have subconsciously lead them to transfer from English, their L2, rather than from their L1, which was likely a natural choice as a source of transfer in the previous tasks where they weren't confronted with English. To establish if this is perhaps the case, one needs to compare the results of the English-Mandarin ST task to that of the isiXhosa-Mandarin ST task in which participants were not presented with the English word order, but the *wh*-in-situ isiXhosa word order. The latter results are presented in the following section.

5.6.2 Results of the isiXhosa-Mandarin sentence translation task

As noted in Chapter 4, only six L1 isiXhosa-speaking participants stated that they are literate in isiXhosa. Those six participants completed the isiXhosa-Mandarin translation task (XST task) and only their results of the English-Mandarin ST task can be considered in the below comparison. The same procedures used to grade the English translation task were used for the isiXhosa version. The individual participants' task results and the mean percentage scores for the two tasks comparatively, are represented below in Tables 5.18 and 5.19 respectively. An ANOVA was performed to determine whether the six participants' performance differed significantly from one version of the language task to the other. The results of each effect of the ANOVA are presented as p-values in the second column in Table 5.20. With alpha set at 0.05, there is no statistically significant difference between the two tasks in the case of any of the effects tested. Consequently, the results will again be analysed descriptively to establish what differences, if any, the two tasks yielded.

Participant	% of <i>wh</i> -fronted constr.		% of <i>wh</i> -in-situ constr.		% of other constr. or incorrect <i>wh</i> -word		% constr. with no <i>wh</i> -word		% constr. with additional <i>ma</i>	
	Eng	Xho	Eng	Xho	Eng	Xho	Eng	Xho	Eng	Xho
X02	0	33.3	77.7	55.5	0	0	0	11.1	0	22.2
X04	66.6	55.5	11.1	11.1	11.1	33.3	11.1	0	11.1	0
X06	77.7	44.4	0	22.2	11.1	22.2	11.1	11.1	11.1	0
X08	100	66.6	0	0	0	11.1	0	22.2	55.5	100
X09	66.6	0	22.2	11.1	11.1	55.5	0	33.3	66.6	55.5
X10	0	0	88.8	66.6	11.1	22.2	0	11.1	0	11.1
Group means	51.8	33.3	33.3	27.7	7.4	24	3.7	14.8	25	31.4

Table 5.18: The six individual L1 isiXhosa participants' scores on the English and isiXhosa ST task

Score set	Tasks / Word-Task combination	% correct
Overall scores	ESTT	33
	XSTT	27
<i>Wh</i> -words per task	<i>shenme</i> /ESTT	38.8
	<i>shenme</i> /XSTT	33.3
	<i>nar</i> /ESTT	27.7
	<i>nar</i> /XSTT	33.3
	<i>na</i> /ESTT	33.3
	<i>na</i> /XSTT	16.6

Table 5.19: Results of the six L1 isiXhosa participants' English and isiXhosa ST tasks
(ESTT = English sentence translation task, XSTT = isiXhosa sentence translation task)

Main effect tested	p-value
Task	0.55
Word	0.68
Word-Task	0.6

Table 5.20: Results of the ANOVA between the six L1 isiXhosa participants' English and isiXhosa ST tasks

In accounting for the fact that the L1 isiXhosa participants fared slightly worse on the XST than on the EST with 27% versus 33%, recall that these are learners who have no written exposure to isiXhosa in the school context (and presumably very little if any at home) and that, when learning Mandarin, they do so through the medium of English. As such, the isiXhosa-medium task may potentially be more challenging for them than the English-medium one and it appears that when trying to make sense of Mandarin, they revert to English. A number of the participants asked for a certain word or phrase to be translated from isiXhosa into English and it was also noted that many of them (quietly and under their breath) translated the isiXhosa sentence into English first and then wrote down the Mandarin sentence. This may well have “blocked” any possible L1 transfer.

In both versions of the ST task, the majority of the constructions contained fronted *wh*-words suggesting transfer from English (or Afrikaans). These errors occurred much more frequently in the EST task than in the XST task, which suggests that the participants were indeed more prone to transferring from the language in which the task was presented. Admittedly, this is not supported by the percentage of in-situ

constructions produced in the XST task, but there are far more “other errors” produced in the XST task than in the EST task, which does indicate that the participants used more (and different) strategies in the formation of their constructions than simply fronting the *wh*-word. The increase in “other errors” is assumed to be a result of transfer from isiXhosa, which will be discussed below. Before analysing the main differences between the results of the two tasks that could be indicative of transfer from isiXhosa, let us consider errors that were similar across both tasks.

Firstly, the particle *ma* was used in a sentence-final position by 66% of the six participants who completed this task. Its frequency was, however, higher in the XST task than in the EST task, being used in a total of 31.4% of the XST task constructions as opposed to 16.6% of the EST task constructions. Secondly, the *wh*-word *shenme* was placed in either second position or in the middle of the sentence by 50% of the participants 27.7% of the time, while *nar* was placed in second to middle position 11.1% of the time (5.5% for each incidence) by 33.3% of participants. These errors indicate that the participants have some awareness that the *wh*-word should not be fronted, but that they are yet to figure out exactly where it should be positioned.

What was particularly striking was that the XST task did not see a single instance of *wh*-doubling with one of the *wh*-elements in-situ. One participant used an additional *wh*-word, but fronted them both. The fact that this error did not occur in the XST task was surprising as all but one participant used this strategy in either the OP or EST tasks. A possible explanation for this is that the participants were perhaps “overthinking” the XST task and were more concerned with correctly translating each word from isiXhosa into Mandarin than with trying to form a grammatical sentence. This may be because, as mentioned above, the participants who completed this task are, although literate in isiXhosa, exposed to very little written isiXhosa and are certainly unfamiliar with using isiXhosa when thinking about Mandarin (Mandarin being taught through the medium of English). The almost direct translation suggested above would naturally only result in one *wh*-word per sentence as there is only one *wh*-word per sentence to translate.

Although it may be the case that these participants' L1 was to a certain degree inhibited by their predisposition to engage English when tackling the XST task, the final noteworthy difference between the two tasks' error patterns might prove otherwise. This difference involved 14.8% of the XST task constructions being formed without a *wh*-word in comparison to the previous 3.7% of constructions in the case of the EST task and 3.3% of constructions in the case of the OP task. Only the ST and OP tasks are referred to here, as they are the only tasks that provided the opportunity to freely omit the *wh*-word. The reason for this is because participants were provided with all the words required to form a *wh*-question in the SF task and were asked to try produce at least one construction with *all* the words. The nature of the GJ task of course excludes this error pattern entirely. Recall that *yes/no* questions can be formed in isiXhosa using intonation alone or by simply adding the Q-particle *na* to the end of the sentence (cf. Chapter 2, section 2.4). Therefore, transfer from isiXhosa is the most likely explanation for the considerable increase in *wh*-questions without a *wh*-word in the case of the XST task and for the increase in the use of the interrogative particle *ma* from 5.5% in the OP task and 16.6% in the EST task to 31.4% in the XST task. Although isiXhosa too requires a *wh*-word for a *wh*-question, the participants seem to be reverting to an isiXhosa strategy of forming an interrogative (albeit the strategy reserved for *yes/no* interrogatives) in the simplest way possible, i.e. by using intonation or a Q-particle and thus avoiding *wh*-questions altogether.

If this is indeed the case and it seems that the participants are transferring aspects of their L1, how do we align this finding with Rothman's (2013:2) claim that language transfer is "total" and not partial in the sense that one does not transfer certain aspects and not others? If Rothman (2013) is correct, we would expect the rest of the participants' Mandarin *wh*-question constructions to be in-situ as they are in isiXhosa. Although the percentage of *wh*-fronted constructions decreased considerably from 51.8% in the EST task to 33.3% in the XST task, they did not disappear entirely. In explaining this, recall that Rothman (2013: 2) points out that at an elementary stage of language learning there is a brief transitory stage. During this stage, both/all the previous linguistic systems are accessible for transfer, after which one system is chosen to serve as the basis for the initial hypotheses about the TL system. From the

kinds of errors the isiXhosa participants produced, it appears that it is indeed the case that participants are still in this “transitory stage”.

It is yet uncertain which linguistic system the L1 isiXhosa L2 English L3 Afrikaans participants will eventually select as basis for their hypotheses about Mandarin. One may ask why they have not yet simply chosen that system which is syntactically most similar to Mandarin. In tackling such a question, we need to keep Rothman’s (2011) TPM in mind which (stated here again for convenience) claims that transfer will occur from the (psycho)typologically closest language, regardless of whether or not the transfer is facilitative. In spite of Rothman’s (2013) claim that any similarity between languages is determined subconsciously, perceptions of typological distance between isiXhosa, English, Afrikaans and Mandarin were tested to ascertain whether there might be a correlation between the participants’ conscious perceptions of (dis)similarity and how they performed overall in their acquisition of *wh*-questions in Mandarin. The test results are presented and discussed in the following section.

5.7 Results of the psychotypological similarity rating

Recall that the ten-point scale on which the L1 isiXhosa participants had to rate their scores ranged from “0” to “10”, in which “0” represents “very similar” and “10” represents “very different”. The 10 L1 isiXhosa-speaking participants differed from one another in their English and Mandarin, Afrikaans and Mandarin and isiXhosa and Mandarin (dis)similarity ratings, but their ratings of the three “control” language pairs (i.e. English and Afrikaans, English and isiXhosa, and isiXhosa and isiZulu) did not seem arbitrary. This is based on the fact that they could recognise (in the case of the languages with which they are familiar, as opposed to the TL Mandarin) that they are either relatively similar (isiXhosa and isiZulu; column 3 below) or substantially different (English and isiXhosa; column 2 below). In the case of the perceived similarity between Afrikaans and English (column 1 below), the group is somewhat divided. It could be that participants focused on different aspects of the language’ grammar and based their rating of overall similarity on those specific aspects only.

It might also be the case that the fairly obvious divide between the L1 isiXhosa speakers and L1 Afrikaans speakers within the school and community resulted in the participants' perception that English and Afrikaans are dissimilar, without them really considering the typology of the two languages. This could in part be dependent on how much exposure participants get to each of these languages in a social context. For example, on the one hand, those participants who are exposed to much Afrikaans or Afrikaans-English code-switching in a social context might be more inclined to view the two languages as typologically close as they are more familiar with both the languages. On the other hand, participants whose social interactions are almost exclusively in isiXhosa and English could regard English and Afrikaans as typologically more distant from one another due to their use of each language being reserved for different contexts.

It is impossible to say for certain what participants based their ratings on, but judging by their English-isiXhosa and isiXhosa-isiZulu ratings, it certainly seems as if they considered their judgements carefully and understood what was required of them, because, as mentioned above, they did recognise (quite uniformly as a group) that isiZulu and isiXhosa are typologically closer than isiXhosa and English. As such, their respective judgements of the (dis)similarity between Afrikaans and Mandarin, English and Mandarin and isiXhosa and Mandarin may be deemed reliable. These ratings, along with their English-Mandarin, Afrikaans-Mandarin and isiXhosa-Mandarin ratings are provided in Table 5.21 below.

Participant	English-Afrikaans	English - isiXhosa	isiXhosa -isiZulu	Afrikaans-Mandarin	English-Mandarin	isiXhosa-Mandarin
X01	5	8	4	9	6	10
X02	10	8	4	10	10	10
X03	6	8	2	9	9	9
X04	3	5	1	10	10	10
X05	6	8	3	3	9	10
X06	6	7	3	8	8	9
X07	8	9	1	9	9	10
X08	7	9	2	10	10	10
X09	10	6	1	4	8	10
X10	3	7	5	7	4	4

Table 5.21: Results of the psychotypological assessment

The ratings in the last three columns are compared to the individual participants' overall average scores, for either four or five tasks (depending on whether or not the specific participant completed the XST task), in order to ascertain whether the difference they perceive between Mandarin and their L1/L2 might impact upon their overall acquisition of the correct *wh*-question pattern in Mandarin. Only the participants' percentages of in-situ constructions produced in the SF, OP and ST tasks in conjunction with the correct grammaticality judgement percentages (column 4 below) and incorrect *wh*-fronted constructions produced in the SF, OP and ST tasks (column 5 below) are totalled, averaged and included below.

In order for it to be convincingly argued that perhaps psychotypological distance between previously acquired languages and the TL does play a role in language transfer, one of two scenarios needs to occur: (i) either the similarity rating for isiXhosa and Mandarin is numerically lower (recall that a lower score is equal to a higher similarity rating and a higher score is equal to a lower similarity rating) than the rating for English and Mandarin or Afrikaans and Mandarin, and the percentage of correct constructions is high, or (ii) the similarity rating for isiXhosa and Mandarin is numerically higher than the rating for English and Mandarin or Afrikaans and Mandarin and the percentage of correct constructions is low. To determine if there was a statistically significant correlation between the participants' ratings and their overall performance, a Spearman correlation (a non-parametric test measuring rank

judgements) was run between the scores and percentages provided in Table 5.22 below. Table 5.23 presents both the correlation coefficient, indicating the strength of the association between the variables in question, and the Spearman p-values, indicating the significance of the correlation, in the third and fourth columns respectively.

Participant	Afrikaans-Mandarin	English-Mandarin	isiXhosa-Mandarin	% correct in-situ constr. and correct GJ judgements	% <i>wh</i> -fronted constr.
X01	9	6	10	22.7	68.8
X02	10	10	10	65.9	14.4
X03	9	9	9	66.9	14.8
X04	10	10	10	22.2	57.1
X05	3	9	10	14.9	86.6
X06	8	8	9	35.3	46
X07	9	9	10	35.2	51.8
X08	10	10	10	29.5	53.3
X09	4	8	10	28.8	35.5
X10	7	4	4	80.6	0

Table 5.22: Comparison between the participants' psychotypological similarity ratings and their overall performance

Variable 1	Variable 2	Spearman correlation coefficient	Spearman p-value
(dis)similarity rating: Afrikaans-Mandarin	% correct constructions	0.13	0.72
(dis)similarity rating: English-Mandarin	% correct constructions	-0.12	0.73
(dis)similarity rating: isiXhosa-Mandarin	% correct constructions	-0.74	0.01**

Table 5.23: Spearman correlation between psychotypological similarity ratings and percentage correct constructions

With alpha set at 0.05, there is no statistically significant correlation between either the Afrikaans-Mandarin or English-Mandarin (dis)similarity ratings and the participants' percentage correct *wh*-constructions. There is, however, a statistically

significant negative correlation between the isiXhosa-Mandarin ratings and the participants' percentage correct *wh*-constructions (i.e. as the perceived degree of dissimilarity between isiXhosa and Mandarin decreased, the participants' scores increased). This correlation is strong, the correlation coefficient being -0.74^{67} . Most of the participants rated the two languages as "completely different" with a score of "10", but the three participants who deviated from this score (X03, X06 and X10 who selected "9", "9" and "4", respectively) did either marginally better than the average (X06) or considerably better (X03 and X10) in terms of their overall percentage correct *wh*-constructions. In spite of this outcome, it is difficult to interpret these results, especially when looking at the three participants' results from all three language combinations comparatively. This is because, as the following discussion will show, the ratings for individual language combinations cannot be viewed in isolation when trying to determine whether the psychotypological assessment provides insight into the language of transfer or not. Rather, the ratings need to be assessed in terms of all three language combinations and the participants' overall performance.

Participant X10, the participant with the highest accuracy score by far for in-situ constructions at 80.6%, awarded a similarity rating of as low as "4" for the isiXhosa-Mandarin language set, indicating that she considered these two languages to be quite similar. This, however, was also her rating for the degree of similarity between English and Mandarin, so this conscious rating makes it difficult to conclude that the high percentage of correct constructions is due to facilitative transfer from isiXhosa. Participants X03 and X06 rated the dissimilarity level between isiXhosa and Mandarin as "9" (as opposed to "10", like the remaining seven participants). Participant X03, however, also awarded a "9" in the case of both the English-isiXhosa and Afrikaans-isiXhosa comparisons. This, once again, makes it difficult to argue that the (albeit slightly) lower rating suggests that facilitative transfer from isiXhosa is the reason for the higher percentage of correct constructions at 66.9%. Finally, participant X06, who's percentage correct constructions is only slightly higher than many of the other participants' scores at 35.3%, still has more fronted *wh*-constructions at 46%

⁶⁷ A correlation coefficient of zero would indicate that no linear relationship exists between the variables, while -1 or +1 indicates either a perfect negative or perfect positive correlation respectively. The closer the correlation coefficient is to ± 1 , the stronger the correlation.

than *wh*-in-situ constructions, meaning that transfer is still more prevalent from English and Afrikaans than it is from isiXhosa. This, however, is in line with participant X06's ratings, as the English-Mandarin and Afrikaans-Mandarin combinations were awarded a lower (i.e. closer) similarity rating of "8" each.

Whilst the Spearman correlation indicates a statistically significant and strong negative correlation between the degree of (dis)similarity between isiXhosa and Mandarin and the participants' grammatical scores, the close analysis of the above three participants' (dis)similarity ratings and overall performance suggest that the extent to which the conscious psychotypological assessment can inform theories of language transfer is limited and that, consequently, these results should be interpreted with caution.

With regard to the remaining participants: the only other participants with a significant variance between the three ratings are X01 who rated the degree of difference between English and Mandarin a "6", Afrikaans and Mandarin a "9" and isiXhosa and Mandarin a "10"; X05 who rated the degree of difference between English and Mandarin a "9", Afrikaans and Mandarin a "3" and isiXhosa and Mandarin a "10"; and X09 who rated the degree of difference between English and Mandarin a "8", Afrikaans and Mandarin a "4" and isiXhosa and Mandarin a "10". X01 and X05's similarity ratings align with the fact that their number of *wh*-fronted constructions was higher than their number of *wh*-in-situ constructions. In the case of X09, however, the number of *wh*-fronted and *wh*-in-situ constructions are very close together, not providing any firm evidence that there is a correlation between the similarity rating and the acquisition of the correct structure.

In an attempt to understand why the participants' perceived the language combinations in the way that they did, a collective group analysis is required. It was found that 40% of the participants rated English, Afrikaans and isiXhosa as equally dissimilar to Mandarin (X02, X03, X04, X08), 20% rated them very close together (almost equally dissimilar; X06, X07) and 40% decided on ratings that were considerably different (X01, X05, X09, X10). In the case of these three languages being judged as equally (or almost equally) dissimilar to Mandarin, it might be

because the participants were unaware of what was being investigated and therefore rated the languages holistically. In this case, at first glance, over and above the obvious difference between the Latin alphabet of English, Afrikaans and isiXhosa in comparison to the use of characters in Mandarin, the languages do appear to be very different. A few of these obvious differences are provided for illustrative purposes, starting with the differences between English/Afrikaans and Mandarin. In terms of syntax, English/Afrikaans and Mandarin do obviously not share the same *wh*-question formation pattern. With regard to tonality, English/Afrikaans and Mandarin are also very different in that Mandarin has four basic tones, which are used to differentiate between syllables (and their associated meaning in the context of the word), whilst English and Afrikaans are not tonal languages. Furthermore, Mandarin, unlike English and Afrikaans, lacks determiners, is a language without inflection and has a host of particles and classifiers that English and Afrikaans do not have.

Disregarding their shared *wh*-question structure and the fact that both are tonal languages, isiXhosa and Mandarin also appear to be very different. Their phonological characteristics are different in that isiXhosa is a language with click consonants while Mandarin has no such phonological features. In addition, isiXhosa, unlike Mandarin, is an agglutinative language in which nouns are classified into 15 different morphological classes that must agree with corresponding prefixes and suffixes. There are also no similarities (between English and Mandarin, Afrikaans and Mandarin or isiXhosa and Mandarin) in terms of lexicon, so the advantage of recognising that a word may have a similar interpretation in ones' L1 and L2, the kind of advantage a L1 Afrikaans-speaking learner of German as a L2 might have, is not available to these participants.

Consequently, it is not surprising that the three languages appear, at first glance, quite dissimilar. Recall that Rothman (2013: 8) claims that the language that is perceived as most similar *overall* is the one that is transferred onto the TL. This poses a difficulty for the participants, as were anyone without a background in linguistics or without extensive knowledge of any of the three languages in question to be asked to rate English, Afrikaans and isiXhosa in terms of their similarity to Mandarin, the obvious reaction would be to assume that they are all three entirely different to Mandarin.

However, had the participants noticed (or been explicitly told via instruction) that both Mandarin and isiXhosa are *wh*-in-situ languages, they might have rated them as more similar than they did and perhaps would have acquired the correct Mandarin word order more readily.

Recall again that the TPM holds that the language which is *perceived* to be most typologically similar is the one which is transferred from. Potgieter (2014: 23) points out that the TPM does not, however, make any predictions “regarding transfer in cases where typology is irrelevant in that the L3 is typologically equally similar or dissimilar to both the L1 and L2”. This can be extended to cases where the TL typology is *perceived* as equally similar or dissimilar to the L1 and L2/L3, which seems to be the case with 60% of the participants’ rating of the (dis)similarity between isiXhosa, Afrikaans and English, respectively, and Mandarin. As such, these participants’ either identical or similar psychotypological perceptions of a high degree of difference between the three language combinations (albeit conscious perceptions) do not provide enough insight into which language(s) they might transfer from to conclude that the test was of value. Overall, the participants’ conscious psychotypological perceptions do not appear to have been a determining factor in language transfer.

Section 5.8 below briefly summarises the two groups’ overall comparative results and discusses what the primary differences may be between the two language groups’ TL acquisition processes.

5.8 Overall results and findings

As previously mentioned, an ANOVA, based only on the participants’ correct productions or judgements, did not show any statistically significant difference between the L1 isiXhosa and L1 English groups’ results. The descriptive error analysis for each task did, however, illustrate that the two groups seem to favour different error patterns. Recall that Gass (2013: 91) considers language learners’ errors an indication of how the learner goes about attempting to figure out the TL

system. As such, although there is no significant difference in the groups' degree of attainment of the correct structure for *wh*-questions in Mandarin, the processes the two groups undergo do seem to be different. This may be the case because, as Gass (2013: 143) observes, language acquisition paths may not be the same for all learners, the difference being based primarily on what prior linguistic knowledge they have. Because the L1 English-speaking participants are only familiar with languages in which the *wh*-word is fronted (in English and Afrikaans), the fact that they did not seem to be at a disadvantage in comparison to the L1 isiXhosa group (whose L1 is a *wh*-in-situ language) is surprising. One possibility could be that they were not at as great a disadvantage as expected because, as suggested by Platzack (1996; cf. Chapter 3), unmarked features are the "default features" and that language acquisition commences with these unmarked features. If this is the case, the unmarked weak [*uwh*] feature is already instantiated in the L1 English-speaking participants' Mandarin interlanguage, they simply need to (upon receiving the appropriate input) recognise that they need to select the weak [*uwh*] feature and not the strong [*uwh**] instantiated in their L1. Although the L1 English participants still have quite a way to go towards fully acquiring the correct in-situ *wh*-question structure, their results did seem to be slightly more consistent across all four tasks than the L1 isiXhosa-speaking participants' results. This indicates that although the percentage of fronted *wh*-constructions is still high in their Mandarin interlanguage grammar (at 34% across all four tasks), and they have evidently not yet fully grasped that they need to apply the [-movement] parameter, they were also not at a disadvantage in comparison to speakers of a language in which the *wh*-word remains in-situ.

The L1 isiXhosa participants have two *wh*-parameter settings instantiated in their respective background languages' grammars, [-movement] (in the case of isiXhosa) and [+movement] (in the case of English and Afrikaans). It was anticipated that their knowledge of in-situ *wh*-question formation (instantiated in the L1) would be advantageous. This, however, was not the case as there was no difference between the percentage of *wh*-in-situ and *wh*-fronted constructions they produced across all four tasks at 43% each. Their disparate grammars seem to be in competition with one another, the result of which is that they have proven to not have any advantage in the

acquisition of in-situ *wh*-questions in Mandarin in comparison to their L1 English-speaking peers.

Rothman's (2013: 2) claim that there is an initial transitory stage in L3 acquisition, during which both previously acquired linguistic systems are engaged until the most fitting one is selected for full transfer, could mean that in the case of the L1 isiXhosa-speaking participants, they are transferring from both English and isiXhosa during this transitory stage (and consequently alternating between the applying the [-movement] parameter and [+movement] parameter), which might explain why they have produced an even split of *wh*-in-situ and *wh*-fronted constructions. This, however, does not explain why the L1 English-speaking participants performed (almost) comparatively to the L1 isiXhosa participants, the L1 English participants only having knowledge of *wh*-movement languages as part of their previously acquired linguistic knowledge. The only explanation for the L1 English-speaking participants' results is that because the [*uwh*] feature is already said to be present in their Mandarin interlanguage grammar, they too are alternating between both the [-movement] parameter option (as a result of selecting the "default" [*uwh*] feature), as well as the [+movement] parameter option instantiated in their L1/L2 prior linguistic knowledge.

Judging by the participants' error patterns, both groups are in the throws of acquiring the correct rule for the formation of *wh*-questions in Mandarin and are testing both *wh*-parameter options. Transfer from English and Afrikaans is evident, as is transfer from isiXhosa, but not only in the facilitative manner predicted. Non-facilitative transfer from isiXhosa is evident through the error patterns they produced, particularly in the XST task data in which they seem to be trying out different question formation strategies. Recall that these strategies include frequently omitting the *wh*-word altogether (as you can do in isiXhosa in the formation of *yes/no* questions) and the increase in the use of *ma* which, although incorrect in Mandarin *wh*-questions, can be done in isiXhosa (by adding the particle *na*) in both *yes/no* and *wh*-questions as there is only one overt Q-particle in isiXhosa.

However, as these incorrect formations illustrate, it may be the case that, as Oller and Ziahosseiny (in Gass, 2013: 149) suggest, learning is “the most difficult where the most subtle distinctions are required ... between the target and native language”. Accordingly, Gass (2013: 149) points out that similarities might conceal the fact that there is in fact something to learn even if it is subtle. Thus, the fact that isiXhosa and Mandarin both use in-situ constructions in the formation of *wh*-questions might conceal the fact that, unlike in isiXhosa, you cannot use the same Q-particle for both *yes/no* and *wh*-questions in Mandarin. In the case of the L1 isiXhosa-speaking participants’ omission of *wh*-words, they seem to be using the strategy of *yes/no* question formation in isiXhosa whereby ones uses intonation alone, thus avoiding the forming of a *wh*-question altogether. This is possibly used as a kind of “last resort” strategy when they do not know what the correct structure is and, instead of producing nothing, they attempt to form *any* interrogative. Thus, if they are transferring from isiXhosa, which they seem to be doing at least to some degree, it is certainly not always advantageous at this stage. Apart from realising that transfer from English (or Afrikaans) is incorrect, they may still also need to acquire the subtleties that distinguish the formation of *wh*-questions in Mandarin and isiXhosa.

What this suggests is that, although transfer can be facilitative when two languages have the same parameterised feature, certainly as language acquisition progresses and learners realise that one of their previous languages can be useful, it may in fact not be facilitative in the acquisition process in the initial stages of language learning. This is because learners have presumably not acquired the necessary TL morphological competence required. Recall that Lardiere (2005: 179) maintains that in order for a learner to acquire a language (and therefore the language’s rules) correctly, the learner is required to have a certain morphological competence. This morphological competence informs the learner of which features are paired with which forms, the domains in which features are expressed in combination with other features, and why it might be that in one language a feature is expressed in one domain, but in another language it is not. Based on this, participants need to acquire the relevant knowledge pertaining to the correct formation of *wh*-questions in Mandarin, specifically the knowledge that in Mandarin (as in isiXhosa) the [*uwh*] feature is weak, resulting in in-situ constructions, while in English and Afrikaans the [*uwh**] feature is strong,

driving movement of the *wh*-expression to Spec-CP. Once this occurs and the correct feature is selected, the correct structure of *wh*-questions in Mandarin can be acquired. The formation of both *wh*-fronted and *wh*-in-situ constructions suggests that language acquisition does not *only* commence with the unmarked features, but that all linguistic systems, and the associated features, form the basis for the learners initial hypotheses about the TL. Only once sufficient morphological competence is achieved as a result of TL input, can learners “decide” upon which features are selected and which are not, and by extension which language is best suited for transfer. Until such time, one can expect the participants in this study to be switching between *wh*-fronted and *wh*-in-situ constructions, struggling to establish what the correct sentence structure is and, in the case of the L1 isiXhosa-speaking participants, which linguistic system is the correct one to draw upon as a source of transfer.

In accounting for the seemingly surprising finding that the L1 isiXhosa-speaking participants did not at all benefit from their L1’s in-situ *wh*-question formation knowledge and had no advantage whatsoever in comparison to the L1 English-speaking participants, developmental sequences in early L2 acquisition should be kept in mind. Numerous morpheme order studies conducted in the 1970s found that there is a “natural order” in the acquisition of specific English morphemes, in not only L1 but also L2 acquisition (cf. Dulay and Burt, 1973; Bailey et al. 1974; Fathman, 1975; Kessler and Idar, 1979). Although results from L1 and L2 studies are not identical, the similarities are significant and furthermore, the acquisition orders in the above mentioned studies were found to be similar in both child and adult L2 acquisition (Kwon, 2005: 2). While most of the studies focused on English, the overall conclusion is that such findings apply to L2 acquisition in general, irrespective of the TL being learned.

For many researchers, the notion of developmental sequences in L2 acquisition has considerably reduced the assumed role of the L1 in the L2 acquisition process – a point that has rightfully received criticism (Gass, 2013: 128). This is in part because, although patterns do emerge between the interlanguage grammars of speakers of different languages acquiring the same TL, there is still considerable variation (as noted in this study) attributable to L1 influence (Kwon, 2005: 10; cf. also, Hakuta,

1974a; Larsen-Freeman, 1978). Consequently, Gass points out that the prevailing approach in current L2 acquisition research is to adopt a cognitive view that keeps in mind developmental sequencing, but also to recognise the important role prior linguistic knowledge plays in the early acquisition process (2013: 128).

The fact that there seems to be a specific developmental sequence in early L2 acquisition does, however, contribute to our understanding of why there is not more disparity between the two groups' results. In understanding why it is the case that the language acquisition process follows more or less a specific order, Gass clarifies that order-determining factors (apart from CLI from prior linguistic knowledge – MV) are based primarily on perceptual salience, semantic complexity, morphophonological regularity, syntactic category and input frequency (2013: 128)⁶⁸. With this in mind, in further attempting to clarify why the two groups performed comparatively (or rather the L1 isiXhosa-speaking group did not outperform the L1 English-speaking group), recall that Rothman (2013: 7) states that “syntactic structure clearly depends on functional morphology, which in turn is determined in the lexicon and interfaces with phonology”. Rothman's claim is that identifying lexical similarities is far less challenging than identifying phonological similarities and that in turn morphological similarities are more difficult to identify than both phonological and lexical similarities, syntactic similarities being the most difficult to identify of all. The reason for this, Rothman (2013:7) argues, is that identifying syntactic similarities requires more L3 experience (input) and knowledge about the L3 than any of the other parts of grammar do. If this is indeed the case, it is not surprising after all that the L1 isiXhosa-speaking participants did not have an advantage in the acquisition of *wh*-questions in Mandarin at this early stage of language acquisition, because they are then presumably yet to identify how their L1 may be facilitative in the acquisition of their L4.

⁶⁸ Cf. section 5.9 for a discussion regarding the acquisition order of *wh*-words.

5.9 Task and word interactions

In this study, the only effects that proved significant in an ANOVA were those pertaining to the difference in the acquisition of the three *wh*-words, as well as to the difference between the GJ task and the other three tasks when the two language groups' scores are added together and averaged. With alpha set at 0.05, there is a statistically significant difference ($p < 0.01$) between the 20 participants' average group scores for items testing the three respective *wh*-words. This is due to the score obtained for *shenme* being significantly higher than both the other scores. The difference between the participants' average group scores for the four different tasks was also statistically significant ($p < 0.01$), owing to the GJ task score being much higher than the other three tasks' scores. These differences are presented in Tables 5.24, and 5.25 and illustrated in Figure 5.1 below.

	% correct: SF task	% correct: OP task	% correct: GJ task	% correct: ST task
<i>shenme</i> "what"	46	68	66	60
<i>nar</i> "where"	37	33	65	33
<i>na</i> "which"	47	25	57	20
Overall	43	42	62	38

Table 5.24: The two language groups' combined performance for each task on items testing the three *wh*-words

% correct: <i>shenme</i> ("what")	% correct: <i>nar</i> ("where")	% correct: <i>na</i> ("which")
60	42	37

Table 5.25: The two language groups' combined overall performance on items testing the three *wh*-words across all four tasks

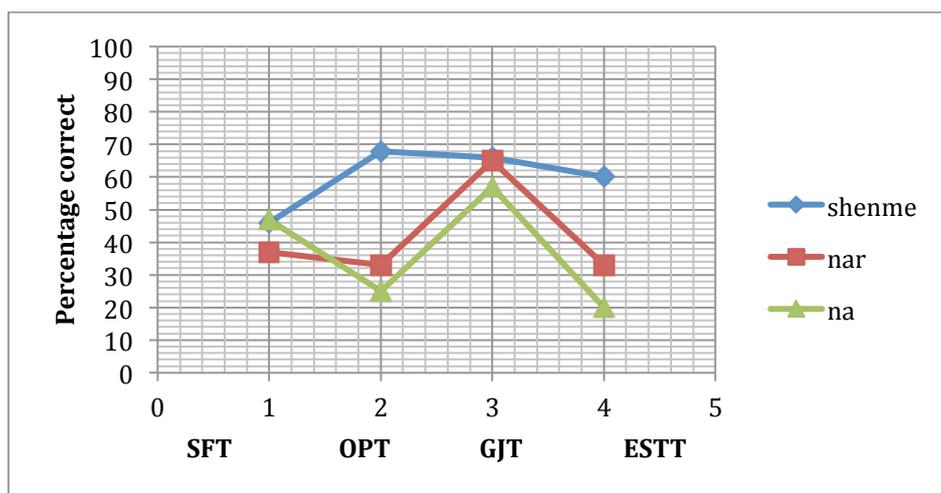


Figure 5.1: Word-task interaction and variance

As can be seen in Figure 5.1 and Tables 5.24 and 5.25 above, the correct use of *shenme* (“what”) was the most easily acquired, followed by *nar* (“where”) and then *na* (“which”). The accuracy of the placement of *shenme* improved considerably from the SF task to the OP task, after which it stayed within a 10% range of its initial spike. Overall, *shenme* was correctly positioned 46% of the time in the case of the SF task and between 60% and 68% of the time in the case of the three remaining tasks. The somewhat low score for *shenme* in the first test could be due to the participants’ uncertainty with regard to the entire testing process and so perhaps this initial state of possible “performance anxiety” hindered their performance.

The accuracy of the placement of *nar* and *na*, on the other hand, only improved dramatically in the case of the GJ task but, as previously discussed (and illustrated by the participants’ performance), the results of GJ task are not necessarily an entirely accurate reflection of the participants’ TL knowledge. Also, the participants’ decline in performance on their final task proves that they did not improve on the GJ task because they had progressed in their knowledge of the relevant rule, but rather that, had the GJ task been the only measure of their performance, the results would have been misleading.

Nar was treated fairly consistently across all the tasks except in the case of the GJ task (65% of placements were correct), with the correct placement of *nar* occurring between 33% and 37% of the time in the three remaining tasks. *Na*, however, was the

wh-word that saw both the greatest inconsistency across tasks as well as the lowest overall percentage in its correct usage. The percentages are as follows: 47% for the SF task, 25% for the OP task, 57% for the GJ task and 20% for the EST task. One practical explanation for this is that *na* was the *wh*-word most often avoided and replaced with either *shenme* or *nar*. As such, these constructions were regarded as incorrect and included as an “other error”.

A possible reason why there was such disparity in the participants’ scores on items testing the three respective *wh*-words (and a possible explanation for why *na* was the *wh*-word most often avoided) is because *wh*-words, certainly in child language acquisition, are acquired in a specific order that is determined by the complexity of the concept encoded in the *wh*-word in question (Bloom, Merkin and Wootten, 1982: 1086). Rowland, Pine, Lieven and Theakston (2003: 612) furthermore claim that the frequency with which *wh*-words are used, and therefore the frequency with which language learners hear them, also impacts upon the order in which they are acquired. Frequency and complexity in this sense are strongly correlated, as *wh*-words that relate to more complex concepts are used less than those related to more simple ones (Rowland et al., 2003: 612). Bloom et al. (1982: 1084) confirm that there is a specific order in which *wh*-words emerge in child L1 acquisition, and that the same order is replicated in child L2 acquisition.

The first words claimed to be acquired are the *wh*-pronominals *what*, *where* and *who*. *Wh*-pronominals are assumed to be relatively simple to acquire as they inquire about the “major sentence constituents that they replace” (Bloom et al., 1982: 1086). Following this, the *wh*-sententials *why*, *how* and *when* are acquired. *Wh*-questions with these *wh*-words are said to seek information pertaining to the “semantic relations among all the constituents in a sentence”, making the acquisition thereof significantly more difficult (Bloom et al., 1982: 1086). The last *wh*-words said to be acquired are the *wh*-adjectivals *which* and *whose*. Such *wh*-words are said to be even more complex as they require a specific answer about one of the sentence constituents. The results provided in Table 5.23 above provide evidence that this order of acquisition may also apply in the case of adult language acquisition.

In its presentation and discussion of the results of the present study, this chapter endeavoured to explain why there was no significant difference between the L1 isiXhosa-speaking and L1 English-speaking participants' acquisition of *wh*-question formation in Mandarin and attempted to account for the different error patterns noted between the two groups. The following chapter summarises the above-mentioned findings and offers a final overview of the learners' acquisition of in-situ *wh*-questions Mandarin. The study's limitations are pointed out and suggestions for instruction pertaining to *wh*-question formation in Mandarin, as well as for future research are offered in the final chapter.

CHAPTER 6

SUMMARY AND CONCLUSION

This study investigated whether L1 isiXhosa L2 English L3 Afrikaans learners of Mandarin as a L4 would be at an advantage when acquiring the in-situ *wh*-question structure in Mandarin, in comparison to L1 English L2 Afrikaans learners of Mandarin as a L3. The primary research question was whether L1 transfer from isiXhosa, as a *wh*-in-situ language, would be facilitative in the acquisition of in-situ *wh*-questions in Mandarin at an elementary stage of language learning. Previous studies investigating the acquisition of in-situ *wh*-questions have only involved participants who are speakers of *wh*-movement languages and have found that, apart from at an elementary stage of language learning, the acquisition of in-situ *wh*-questions by speakers of *wh*-movement languages is unproblematic. This study, however, endeavoured to investigate whether the acquisition problems faced by beginner learners is exclusively reserved for speakers of *wh*-movement languages, speakers of *wh*-in-situ languages performing better at an elementary stage of language learning because of their prior linguistic knowledge regarding in-situ *wh*-question formation. This chapter briefly summarises the findings, identifies which one of the hypotheses set out in Chapter 3 is supported by the results and also points out the limitations of the current study. Suggestions, both for the teaching of *wh*-question formation in Mandarin to speakers of *wh*-movement and *wh*-in-situ languages, as well as for future research pertaining to this topic, are also offered in this final chapter.

6.1 Summary of findings

6.1.1 The acquisition of the structure of in-situ *wh*-questions in Mandarin

The previous chapter's findings have shown that, in their elementary stage of language learning, the L1 isiXhosa-speaking participants did not, as anticipated, have an advantage over the L1 English-speaking participants in the acquisition of in-situ *wh*-questions in Mandarin.

Four hypotheses, restated here for convenience, were set out in Chapter 3.

1. Given that the weak [*uwh*] feature of interrogative C is unmarked and that, according to Platzack's (1996) IHS, parameter options associated with unmarked features are easier to acquire in adulthood because they are the "default", the in-situ *wh*-question structure will be successfully acquired at an elementary level of language learning by all learners. Mastery of in-situ *wh*-questions ensues because all learners apply only the [-movement] parameter associated with the unmarked weak [*uwh*] feature. There is no transfer of prior linguistic knowledge and upon testing the least complex grammar first and finding that it "matches" no further "testing" (in the form of transfer) takes place.
2. The correct structure of *wh*-questions in Mandarin will not be acquired, either fully or in an equal capacity, at an elementary level by learners with different language backgrounds. CLI is at play and interferes with the relative ease with which parameters associated with unmarked features are acquired. The participants' productions exhibit signs of facilitative or non-facilitative transfer. The degree of transfer is still high in the elementary stages of language acquisition.

In the case that the first hypothesis does not hold true, two sub-hypotheses were formulated as follows:

3. The L1 isiXhosa-speaking group will outperform the L1 English-speaking group due to recognising the similarities between *wh*-constructions in isiXhosa and Mandarin, these similarities being a result of the weak, unmarked [*uwh*] feature being instantiated in both languages. Transfer, as a natural step in the language acquisition process, occurs from all prior linguistic systems. Upon recognising that isiXhosa is the "best match" for transfer, facilitative transfer from the L1 alone occurs, resultant of identifying the typological similarities between the two languages.

4. The two groups perform comparatively and neither has yet fully acquired the structure of *wh*-questions in Mandarin. Non-facilitative transfer from English (as a L1 or L2) or Afrikaans (as a L2 or L3), to be expected in the case of the L1 English-speaking participants and unexpected in the case of the L1 isiXhosa-speaking participants, is presumed to explain this phenomenon. In the case of the L1 isiXhosa-speaking participants, transfer from English is presumed because of both their high proficiency levels in English and because of the fact that English is the medium through which Mandarin is taught. Furthermore, at this early stage of language acquisition, the L1 isiXhosa-speaking learners have not acquired the sufficient morphological competence in Mandarin to realise which parameter option ([-movement] or [+movement]) is appropriate. The L1 English-speaking learners are also yet to acquire the necessary morphological competence to identify that the strong [*uwh**] feature is not instantiated in Mandarin and subsequently still need to apply the [-movement] parameter option associated with the weak [*uwh*] feature.

Following on hypothesis 2 being proven correct, the hypothesis that is corroborated by the above findings is the fourth. The fact that the L1 isiXhosa-speaking participants did not have an advantage over the L1 English-speaking participants, in conjunction with the fact that both groups scored relatively poorly on the tasks, indicates that the acquisition of the correct word order of Mandarin in-situ *wh*-questions, in the elementary stages of language learning, is not entirely unproblematic. It also indicates that both speakers of *wh*-movement languages and speakers of *wh*-in-situ languages (the latter speakers also having knowledge of *wh*-movement languages) encounter problems in the early stages of language acquisition, even with the acquisition of parameters associated with unmarked features.

The findings reported on in this study do not support Algady's (2013: 75) claim that learners start the language acquisition process by testing target grammars using the most economical syntax (and only upon finding that they do not match, move on to

more complex grammatical constructions). Had this been the case, the participants would not have produced/accepted as large a number of *wh*-fronted constructions as they did, *wh*-movement not constituting an economical syntactic operation. The findings do, however, *in part* support Platzack's (1996) IHS. This is because there was no statistically significant difference between the L1 English- and L1 isiXhosa-speaking participants' performance, both producing *wh*-fronted and *wh*-in-situ constructions, suggesting that as Platzack claims, during the initial stage of subsequent language acquisition unmarked weak features are already present. Were the unmarked [*uwh*] feature not present at this initial stage, far fewer (if any) in-situ *wh*-question constructions would presumably be formed by the L1 English-speaking group. Additionally, however, recall that Platzack (1996: 380) does claim that, "L2 acquisition is always performed against the background of a native language". Consequently, this study has shown that language learning does commence, not only with the unmarked features, but with all prior linguistic knowledge forming the basis for a learner's initial hypotheses about the TL grammar, all this knowledge being "put to the test" to find a TL match. What this suggests is that, the IHS does not take precedence over CLI, and that language acquisition does not automatically commence with the parameter option associated with the unmarked feature set as a "default", but rather that all prior linguistic systems are initially engaged until sufficient TL morphological competence is acquired. In the case of L3/L4 acquisition, until a learner acquires the sufficient TL morphological competence, in spite of the fact that unmarked features may be present in a learner's initial state, transfer from the L1/L2/L3 will persist. Consequently, language learning is not simply a process of acquisition, but also becomes a process of elimination.

The different error patterns exhibited by the two groups indicate that learners with different language backgrounds, as a result of CLI, do indeed follow different paths in acquiring the rules of the target language. The errors assumed to be interlingual, made by the L1 isiXhosa group specifically in the XST task, show signs of transfer from isiXhosa, but this transfer is non-facilitative. In spite of the participants' efforts, the most prevalent error across both groups is still *wh*-fronting, taken to be the result of transfer from either English or, albeit less likely, Afrikaans.

In spite of the statistically significant negative correlation between the participants' isiXhosa-Mandarin (dis)similarity rating and their overall performance, the results from the psychotypological assessment cannot refute Rothman's (2013) claim that there is no link between conscious perceptions of similarity between languages and language transfer. Subsequently, the participants' conscious psychotypological perceptions of the degree of (dis)similarity between the various languages could not be considered influential in determining which language they would transfer from. It should be reiterated, however, that in order to fully disregard *conscious* psychotypological perception as a predictor of language transfer, a bigger group of participants would be required.

If transfer (be it facilitative or not) is not simply instinctive and, as Rothman (2013) claims, (subconscious) typological perception plays a role in which language is transferred from, then it is surprising that the L1 isiXhosa-speaking participants (with their already acquired in-situ *wh*-question formation knowledge) struggled to acquire the correct sentence structure. Recall, however, that there is said to be a specific developmental sequence in early L2 acquisition that is fairly uniform regardless of prior linguistic knowledge, and that this sequence depends on numerous factors including among others semantic complexity, syntactic category and input frequency (cf. section 5.8). This theory of developmental sequences in early L2 acquisition aligns with Rothman's (2013) claim that there is a hierarchy of identification and that not all language characteristics are equally identifiable. It is said that syntactic similarities, which require far more input in order to be identifiable than lexical, phonological or morphological similarities do, are the most difficult to identify – a claim that is upheld by this study's results. Consequently, it is expected that until such time that participants receive sufficient TL input, their TL interlanguage grammars will show significant transfer (in the form of interference) from English and Afrikaans and, it seems, non-facilitative transfer in the form of isiXhosa too (because of the subtle distinctions between Mandarin and isiXhosa). The notion that transfer, even from the language that is most likely to be facilitative in the acquisition process, can result in non-facilitative transfer, supports Rothman's (2013:2) claim that once the specific linguistic system is identified as the one which is closest to the TL, language transfer does not occur on a "structure-by-structure basis", but rather that language

transfer is total, whether or not it is facilitative. As a result, although both Mandarin and isiXhosa are *wh*-in-situ languages, there are subtleties in terms of what is and is not acceptable in *wh*-question constructions in the two languages. The acquisition of such subtleties, according to Gass (2103), can be even harder than obvious language differences. Additionally, it should be noted that because the isiXhosa-speaking participant's transferred from both their L1 and their L2 (or L3), the 'L2 status factor' is not supported by this study.

In sum, neither group acquired the morphological competence required to identify that the [-movement] parameter option associated with the weak [*uwh*] feature is applied in the formation of *wh*-questions in Mandarin. Additionally, it was found that the L1 isiXhosa-speaking group were not at an advantage due to their prior linguistic knowledge pertaining to the formation of in-situ *wh*-questions. The IHS does not take precedence over CLI and participants are thought to be in the initial "transitory stage", during which all prior linguistic systems are transferred from until such a time that TL input is sufficient to provide the learners with the morphological competence to identify the syntactic similarities or differences between their L1s and L2s. Once sufficient morphological competence is achieved, the application of the [+movement] parameter option, as a result of selecting the marked [*uwh**] feature, should cease to occur. Following this, the correct structure should be acquired as a result of the weak unmarked [*uwh*] feature being selected and the [-movement] parameter option of Mandarin being applied.

Furthermore, in the case of the L1 isiXhosa-speaking participants⁶⁹, the context in which the participants received their Mandarin instruction and the context in which the tests were administered cannot go without mention. Grosjean (in Potgieter, 2014: 28) claims that the communicative context is determined by the interlocutors, setting and conversational topic and that these factors are crucial in determining which language mode the speaker is in. Grosjean (2000: 3) defines 'language mode' as "the state of activation of the bilingual's languages and language processing mechanisms

⁶⁹ The argument here is of course also applicable in the case of the L1 English-speaking participants. However, whether they transfer from English or Afrikaans, the outcome in terms of *wh*-question formation will be the same. As such, they have not been specifically included in the discussion to follow.

at a given point in time”. He (2000: 3) continues to explain that activation is a “continuous variable ranging from no activation to total activation”. Crucially, Potgieter (2014: 27) points out that the language mode a learner is in affects CLI. If this is the case, and context, interlocutors and topic play a role in which of the L1 isiXhosa learners’ languages is “activated” within the academic environment of their school (in which both the teaching of Mandarin and testing for the study took place), and during contact with the researcher (who is also an English Language educator at the school), it is not surprising that the these learners’ interlanguage grammars show signs of transfer from English.

6.1.2 The acquisition of the three individual *wh*-words tested

It was further shown that, as with L1 and L2 child language acquisition, *wh*-words are acquired in a specific order in adult language acquisition. *Shenme* (“what”) was used in-situ in far more instances than *nar* (“where”) or *na* (“which”). It was also the case that *shenme* was the *wh*-word used most often (the form of CLI referred to as ‘overproduction’) to replace another *wh*-word in the participants’ errors, and that *na* was the *wh*-word most frequently omitted (the form of CLI referred to as ‘avoidance’). This aligns with Bloom et al.’s (1982) claim that the first *wh*-words acquired are the *wh*-pronominals *what*, *where* and *who*, followed by the *wh*-sententials *why*, *how* and *when* and, finally, the *wh*-adjectivals *which* and *whose*. *Wh*-adjectivals are said to be the most complex, as they require a specific answer about one of the sentence constituents. The *wh*-word order of acquisition is based on the syntactic and semantic complexity of the *wh*-word in question. Complexity and frequency go hand-in-hand as the more complex the word, the less frequently it is used. It can therefore be assumed that, during the elementary stage of language learning that the participants were in at the time of testing, they were probably most frequently exposed to the *wh*-word *shenme*, while receiving input that includes the *wh*-word *na* very infrequently.

6.2 Conclusion

The main research question this study set out to answer was (i) “At an elementary stage of language learning, are the syntactic similarities between *wh*-question constructions in two typologically distinct languages, isiXhosa and Mandarin, beneficial for L1 isiXhosa speakers acquiring Mandarin?” and additionally (ii) “Which language will L3/L4 learners transfer from in the elementary stage of subsequent language acquisition and why?” As discussed above, the results show that the answer to the first question is, “No, they are not”, while the answer to the second research question is, “All prior linguistic systems are transferred from at an elementary stage of language acquisition, regardless of whether transfer is facilitative or not”. This is likely because until the necessary TL morphological competence is acquired (to inform upon which linguistic system is better suited for transfer), transfer is likely to be instinctive and without “reason”. Furthermore it is evident that L3/L4 language acquisition does not commence solely with the most economical derivations or the “default” unmarked features, but that all prior linguistic knowledge forms the basis for the learners’ hypotheses about the TL grammar and is subsequently transferred into the TL interlanguage. I believe that these findings will hold true not only for L1 isiXhosa L2 English (L3 Afrikaans)-speaking learners of Mandarin as a L4, but that other learners of *wh*-in-situ languages, who have knowledge of both *wh*-in-situ and *wh*-movement languages, will most likely initially encounter problems in acquiring the correct in-situ sentence structure as they attempt to figure out which linguistic system (and therefore which parameter, [-movement] or [+movement]) is better suited for transfer to the TL. As such, the recommendations below, while proposed for the South African context, can be applied to the teaching of Mandarin (or other *wh*-in-situ languages) to speakers of another *wh* in-situ language (not just a Bantu language), irrespective of the specific languages or location.

6.2.1 Recommendations for educators

To overcome the problems elementary learners of Mandarin are faced with in acquiring in-situ *wh*-questions, Youn and Meng (2015: 120), suggest that, firstly,

English-speaking participants should be taught the structure of in-situ *wh*-questions in Mandarin by using English echo questions and, secondly, that Mandarin language educators should help develop the learners' linguistic consciousness through tasks that assist them in recognising the syntactic differences between the two languages. Following Youn and Meng's (2015) suggestion and inspired by the 'focus-on-form' approach to instruction (as set out by Ollerhead and Oosthuizen's (2005)), I make a similar recommendation with regard to the teaching of Mandarin.

Ollerhead and Oosthuizen (2005: 64) outline the different types of L2 instruction. These types are divided into two main categories, i.e. 'focus-on-meaning' (FonM) and 'form-focused instruction' (FFI). The latter is further divided into 'focus-on-formS' instruction (FonFS) and 'focus-on-form' instruction (FonF). The FonM approach is implicit instruction that offers rich and meaningful exposure to the L2 in context. FFI covers more generally the kind of explicit instruction which results in language learners' analysis of linguistic form, both that which is based on "artificial syllabi" and communicative approaches (Ollerhead and Oosthuizen, 2005: 63). As mentioned above, FFI instruction is split into FonFS and FonF, the former views language as "an object to be studied" and is based on an artificial rather than a naturalistic syllabus, while the latter makes use of strategies to "draw learners' attention to the form or properties of target structures within a meaningful context" (Ollerhead and Oosthuizen, 2005: 63). Ollerhead and Oosthuizen (2005: 63) explain that FonF instruction requires (i) that learners engage with the meaning of a structure before its form is given specific attention; (ii) the instruction to be based purely on learner needs as indicated by an analysis of learner performance; and (iii) that learners' attention is "briefly yet noticeably" drawn to a form. In Ollerhead and Oosthuizen's (2005) research it was found that FonF instruction proved to be the type of instruction that yielded the best results. Consequently, FonF instruction is the type of instruction I suggest be used for the teaching of *wh*-questions in Mandarin.

In order for this kind of instruction to be effective, Mandarin educators in South Africa need to be advised as to the exact linguistic melting pot they are dealing with in their classrooms. Once this has been established, the L1 English and L1 Afrikaans learners can be assisted in their acquisition of Mandarin *wh*-questions through

explicit instruction using (as mentioned above) English and Afrikaans echo questions, this type of question having the same structure as *wh*-questions in Mandarin. The L1 isiXhosa-speaking learners (or L1 speakers of another Bantu language that exhibits in-situ *wh*-question formation) can be informed that, as with *wh*-question formation in their L1, the *wh*-word does not undergo movement in Mandarin, but rather stays in-situ. In addition to this, the subtle differences in question formation between these learners L1s and Mandarin need to be identified and pointed out in order to avoid transfer that is non-facilitative. As for acquisition difficulties that learners might encounter with the specific *wh*-words this study focused on, some recommendations for instruction are provided below.

All Mandarin learners, as speakers of *wh*-movement or *wh*-in-situ languages, should be given explicit instruction as to how and when to use the Q-particle *ma*. Learners also need to be properly informed as to the positioning of *nar* (“where”) in *wh*-questions with a verb, ensuring that it precedes the verb, as well as to the pairing of *nar* with *zai* (“in/at”) to form *zai nar*, used with transitive verbs. Furthermore, it should be explained to learners that, as in English, the *wh*-word *na* (“which”) must introduce the noun it enquires about to form a grammatical question. As set out by the FonF model, this kind of instruction needs to occur within a meaningful context, one that encourages interlocutors to “question and answer” one another in order to grasp the meaning of the forms they are dealing with.

It is, however, to be expected that Mandarin educators (specifically those from China) are uninformed about the linguistic characteristics of their learners’ L1s. However, were simple descriptions of the languages’ similarities to Mandarin provided prior to the commencement of teaching, it could facilitate the implementation of the above-mentioned suggestions. Recall that, as discussed in Chapter 1, the long-term aim is to train South African educators in the teaching of Mandarin. In which case, South African educators, expected to be better informed about their students’ linguistic backgrounds, might be able to implement such teaching practices with little effort. I believe the use of FonF explicit instruction, in conjunction with facilitative language comparisons, could be hugely advantageous in the teaching of Mandarin within the multilingual context of South Africa.

6.2.2 Limitations of the study and recommendations for future research

Due to the small number of participants that qualified for the study and the limited number of participants in the Western Cape who are L1 isiXhosa-speaking learners of Mandarin, the research pool was rather restricted. Consequently, in order to determine whether the results borne out by this study hold true for the larger L1 isiXhosa L2 English-speaking population of high school learners studying Mandarin (for example L1 isiXhosa learners of Mandarin in the Eastern Cape), the study would have to be replicated on a larger scale, preferably using participants from a number of different schools. This might allow for a more realistic idea of learner potential, irrespective of the language instructor or specific schools' implementation of the teaching of Mandarin. Were such a study to be replicated, I would advise that data again be triangulated using multiple tests as this (as indicated by the GJ task data) was proven to be the most effective way to accurately gauge learner proficiency.

For future research looking at the acquisition of in-situ *wh*-questions by speakers of *wh*-in-situ languages, I would suggest the following three test groups: the first made up of monolingual/bilingual speakers of *wh*-movement languages only (such as the L1 English participants in this study); the second consisting of participants who are L1 speakers of a *wh*-in-situ language and L2 speakers of a *wh*-movement language (such as the L1 isiXhosa participants in this study); and the third group being L1 speakers of a *wh*-movement language and L2 speakers of a *wh*-in-situ language. Such a study could ascertain, in the case of the L1 “*wh*-movement” L2 “*wh*-in-situ” group, whether the already acquired knowledge⁷⁰ that the marked strong [*uwh**] feature (of their L1) is not always selected in the acquisition of subsequent languages (i.e. as in the case of their L2) makes it easier to “repeat” the in-situ *wh*-question acquisition process by eliminating the strong [*uwh**] feature when confronted with a L3/L4 that forms in-situ *wh*-questions.

Moreover, in researching this topic further, a longitudinal study that investigates learner progress over the course of a one- or two-year period would ascertain whether learners either continue to progress comparatively, or whether L1 (or L2)

⁷⁰ This “knowledge” of course being subconscious.

speakers of *wh*-in-situ languages progress at an accelerated rate in comparison to speakers of exclusively *wh*-movement languages as they become intermediate and advanced learners of Mandarin as a L3/L4.

Additionally, in light of the claims made in the last decade with regard to the presence of a Speech Act domain above the CP, research pertaining to (Q-)particles (and specifically the particle *ne* in Mandarin) with a focus on their exact function and position within both the C-domain, deserves more attention. Furthermore, research with a focus on specifically (i) question formation in isiXhosa and (ii) more generally, the syntax of isiXhosa (and other understudied Bantu languages), is in desperate need of attention.

Despite the above-mentioned limitations, I believe that, due to the thorough and multifaceted testing process as well as the depth of the data analysis, this study provides valuable insight into language transfer in the elementary stage of language acquisition by speakers of disparate languages. Consequently, I am of the opinion that it contributes to our understanding of the problems bilingual/multilingual language learners face in the elementary stage of the language acquisition process and offers valuable suggestions as to how to facilitate the acquisition process. Finally, I believe that this study has shown that certain characteristics of languages that are believed to be easily acquired need more attention, as the possible effect of interference from previously acquired linguistic systems, with different characteristics, should not be disregarded.

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APPENDIX 1

**Bilateral agreement between the Republic of South Africa and the People's
Republic of China**



AGREEMENT

BETWEEN

**THE GOVERNMENT OF THE REPUBLIC OF
SOUTH AFRICA THROUGH ITS DEPARTMENT
OF EDUCATION**

AND

**THE GOVERNMENT OF THE PEOPLE'S
REPUBLIC OF CHINA THROUGH ITS
MINISTRY OF EDUCATION**

**ON COOPERATION IN THE FIELD OF BASIC
EDUCATION**

PREAMBLE

The Government of the Republic of South Africa and the Government of the People's Republic of China (hereinafter jointly referred to as the "Parties" and in the singular as a "Party");

CONVINCED that cooperation in the field of basic education constitutes one of the important spheres of the bilateral relations;

DESIROUS for the development of cooperation between the two countries in the sphere of education and taking into account the significance of such cooperation for mutual understanding between the peoples of the People's Republic of China and the peoples of the Republic of South Africa;

WILLING to create a firm base for this cooperation;

HEREBY AGREE as follows:

ARTICLE 1

COMPETENT AUTHORITIES

The Competent Authorities responsible for the implementation of this Agreement shall be—

- (a) in the case of the Government of the People's Republic of China, the Ministry of Education; and
- (b) in the case of the Government of the Republic of South Africa, the Department of Basic Education.

ARTICLE 2

EXCHANGES OF EDUCATIONAL DELEGATIONS

The Parties shall exchange delegations consisting of officials from the Ministry of Education of the People's Republic of China and the Department of Basic Education of the Republic of South Africa to familiarise themselves with the basic educational systems of each other.

PREAMBLE

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CONVINCED that cooperation in the field of basic education constitutes one of the important spheres of the bilateral relations;

DESIROUS for the development of cooperation between the two countries in the sphere of education and taking into account the significance of such cooperation for mutual understanding between the peoples of the People's Republic of China and the peoples of the Republic of South Africa;

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ARTICLE 1

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ARTICLE 2

EXCHANGES OF EDUCATIONAL DELEGATIONS

The Parties shall exchange delegations consisting of officials from the Ministry of Education of the People's Republic of China and the Department of Basic Education of the Republic of South Africa to familiarise themselves with the basic educational systems of each other.

ARTICLE 3

EXCHANGES OF EDUCATIONAL INFORMATION

The Parties shall encourage the development of direct contacts and partnerships between the People's Republic of China and South African institutions of basic education in compliance with the applicable domestic law.

ARTICLE 4

EXCHANGES OF ACADEMICS, EXPERTS AND STUDENTS

The Parties shall encourage various exchanges among their institutions of basic education for educational purposes including visits of academics, experts and learners or pupils.

ARTICLE 5

PARTICIPATION BY EDUCATIONAL REPRESENTATIVES

The Parties shall encourage the participation of their representatives in educational congresses, conferences, seminars, workshops and other meetings held in the People's Republic of China and in the Republic of South Africa.

ARTICLE 6

COLLABORATION BY UNESCO COMMISSIONS

The Parties shall encourage collaboration between their respective National Commissions for UNESCO, established in their countries.

ARTICLE 7

STUDYING OF CULTURES

The Parties shall encourage the studying of the languages, literature, culture and history of the People's Republic of China in the Republic of South Africa and those of the Republic of South Africa in the People's Republic of China.

ARTICLE 8

CHINESE LANGUAGE TEACHING AT SOUTH AFRICAN SCHOOLS

The Parties shall cooperate in the facilitation or introduction of the teaching and research of Mandarin at selected South African schools for the purposes of promoting cultural exchanges and research on Sinology by South African teachers.

ARTICLE 9

CONDITIONS

Conditions including financial aspects as well as time frames, related to the implementation of this Agreement, shall be determined through bilateral consultations between the Parties.

ARTICLE 10

AMENDMENT

This Agreement may be amended by mutual consent of the Parties through an Exchange of Notes between the Parties through the diplomatic channel.

ARTICLE 11

RESOLUTION OF DISPUTES

Disputes between the Parties arising out of the interpretation, application or implementation of the provisions of this Agreement shall be resolved amicably through negotiations between the Parties.

ARTICLE 12

ENTRY INTO FORCE, DURATION AND TERMINATION

- (1) This Agreement shall enter into force on the date of signature by the Parties and shall remain in force for a period of three years unless terminated in accordance with sub-Article (2).
- (2) This Agreement shall be renewed automatically for additional periods of one year unless notice to terminate it is given, by either Party in writing through the diplomatic channel, to the other Party six months prior to the expiration thereof of its intention to terminate this Agreement.

- (3) Termination of this Agreement does not affect the completion of obligations or programmes of any separate agreement, contract or programme concluded in terms of this Agreement.

IN WITNESS WHEREOF the undersigned, being duly authorised by their respective Governments, have signed and sealed this Agreement in two originals in the English and Chinese languages, all texts being equally authentic.

DONE in Pretoriaon this 26 day of March2013.



**FOR THE GOVERNMENT OF
THE REPUBLIC OF
SOUTH AFRICA**



**FOR THE GOVERNMENT OF
THE PEOPLE'S REPUBLIC
OF CHINA**

**APPENDIX 2
SCHOOL CONSENT FORM**

	STELLENBOSCH UNIVERSITY	
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**SCHOOL CONSENT FORM FOR LEARNER PARTICIPATION
IN RESEARCH STUDY AND THE USE OF ACADEMIC DATA
FOR RESEARCH PURPOSES**

Dear Sir

I would hereby like to provide you with more information regarding the planned research study on the acquisition of *wh*-question constructions in Mandarin, by first language speakers of isiXhosa and first language speakers of English. After providing you with some background information on the purpose of the study, I will explain the extent of involvement from the school's learners, in the event that you consent to their proposed participation in the study.

Why have the learners at your institution been chosen to participate in the study?

The teaching of Mandarin at your institution in conjunction with the fact that a substantial number of your learners are either first language isiXhosa or English speakers, makes your institution perfect for the study. The learners identified as potential candidates performed well in both English and Mandarin in Grade 8 and therefore qualify for participation in the study as Grade 9 learners.

If you are willing to allow your institution's learners to participate in the study, please read the information below and complete the attached consent form.

1. Purpose of the study

In March 2015 the Department of Basic Education announced the listing of Mandarin as part of the South African school curriculum. As of 2016, learners at a number of South African schools are able to choose Mandarin as a non-official language subject.

Your institution is at the forefront of this new development as you commenced with the teaching of Mandarin as a school subject in 2015 already. No research has yet been done on how South African learners who speak isiXhosa and/or English acquire certain sentence structures in Mandarin. The proposed study will investigate the acquisition of a type of construction known as “Wh-questions”. Hopefully such research can assist in the teaching of Mandarin in South Africa.

2. Procedures

If a learner volunteers to participate in this study, he/she will be asked to complete several tasks. The tasks are simple and do not contribute to or subtract from their school work. The tasks will be completed at a time when it is convenient for each child. The results are confidential and will be used only for the purposes of the research.

The tasks to be completed are as follows:

- A list of sentences will be presented to the learners and they will mark each sentence as either grammatical or ungrammatical.
- Learners will translate simple sentences from English (and, in the case of the first language isiXhosa speakers, isiXhosa) into Mandarin.
- In response to my oral prompts and pictures presented to the learners, they will orally produce a few sentences.
- From a pack of cards with single words on, the learners will create simple sentences.

The tasks are not lengthy or particularly difficult, and specifically target simple sentence constructions. Everything the learners do in the tasks, they have already learnt in class, so essentially it will simply be revision for them.

3. Potential risks and discomfort

Participation in the study does not hold any risk for the participants and will not cause them any discomfort.

4. Potential benefits to subjects

Apart from the added revision these tasks might provide, the participants will not benefit personally in any way by taking part in the research study.

5. Confidentiality

No names of any participants will be mentioned in the thesis. Participants will be given a participant number that will be used in the thesis, and only the researcher and supervisors will be able to identify the participants. The data will be stored in a locked cabinet in the researcher's office and electronic data will be stored in a folder on the researcher's password-protected computer. The school will not be named, but rather an approximation of its location within the province will be given, in order to contextualise the study.

6. Participation and withdrawal

Participants can choose whether to take part in this study or not. If a learner chooses to take part in this study, he/she may withdraw at any time without consequences of any kind and without providing reasons for withdrawal.

7. Use of school data to identify potential candidates

In order to identify which learners are eligible for participation in the study, I need to assess their 2015 final year marks for English. Learners must have obtained a minimum of 60% for English.

8. When the study is to take place

Ideally, I would like to have the learners complete the tasks in the months of either April or May 2016, ensuring it does not coincide with their school examinations. This means I need to make contact with the parents/caregivers as soon as possible, to get their consent for their child's participation as well as explain the study to the learners in order for them to assent to participation.

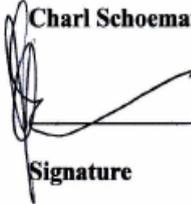
9. How to contact the researcher

If you have any queries or concerns about the research, please feel free to contact me, Marie-Louise van Heukelum, on 072 5256902 or e-mail me at marievanheuk@gmail.com.

SIGNATURE OF SCHOOL PRINCIPAL

The information pertaining to the research study, captured in the form of a school participation consent form, was presented in such a way and in a language that I can understand. I was given the opportunity to ask questions (by way of the relevant contact details provided) and these questions (if any) were answered to my satisfaction. I hereby consent that the learners at our institution may voluntarily participate in this study and that the necessary academic data may be used for research purposes. I have been given a copy of this form.

Charl Schoeman (principal)



Signature

06/2/2016

Date

SIGNATURE OF INVESTIGATOR

I declare that I explained the information in this document to Mr Charl Schoeman. He was encouraged and given ample time to ask me any questions.



Signature of investigator

06/02/2016

Date

APPENDIX 3 WCED RESEARCH APPROVAL



Directorate: Research

Audrey.wyngaard@westerncape.gov.za
tel: +27 021 467 9272
Fax: 0865902282
Private Bag x9114, Cape Town, 8000
wced.wcape.gov.za

REFERENCE: 20160224-8114
ENQUIRIES: Dr A T Wyngaard

Mrs Marie-Louise Van Heukelum
163 Oude Meule
De La Bat Street
Rouxpark
Worcester
6850

Dear Mrs Marie-Louise Van Heukelum

RESEARCH PROPOSAL: THE ACQUISITION OF WH-QUESTION CONSTRUCTIONS IN MANDARIN BY L1 ISIXHOSA AND L2 ENGLISH HIGH SCHOOL LEARNERS

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.
5. The Study is to be conducted from **02 May 2016** till **3 June 2016**
6. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December).
7. Should you wish to extend the period of your survey, please contact Dr A.T Wyngaard at the contact numbers above quoting the reference number?
8. A photocopy of this letter is submitted to the principal where the intended research is to be conducted.
9. Your research will be limited to the list of schools as forwarded to the Western Cape Education Department.
10. A brief summary of the content, findings and recommendations is provided to the Director: Research Services.
11. The Department receives a copy of the completed report/dissertation/thesis addressed to:
**The Director: Research Services
Western Cape Education Department
Private Bag X9114
CAPE TOWN
8000**

We wish you success in your research.

Kind regards.
Signed: Dr Audrey T Wyngaard
Directorate: Research
DATE: 24 February 2016

Lower Parliament Street, Cape Town, 8001
tel: +27 21 467 9272 fax: 0865902282
Safe Schools: 0800 45 46 47

Private Bag X9114, Cape Town, 8000
Employment and salary enquiries: 0861 92 33 22
www.westerncape.gov.za

APPENDIX 4

PARTICIPANT INFORMATION AND ASSENT FORM



PARTICIPANT ASSENT FORM

TITLE OF THE PROJECT:

The acquisition of sentence structures in Mandarin Chinese by first language isiXhosa and first language English speaking high school learners

RESEARCHER'S NAME:

Marie-Louise van Heukelum

CONTACT NUMBER:

072 5256902

What is RESEARCH?

Research is something we do to find new knowledge about the way things and people work. We use research projects or studies to help us find out more about children and adults and the things that influence their lives, such as their school, their families and their health. We do this because we want to make the world a better place.

What is this research project all about?

In this research project, we are trying to find out how South African learners who speak either isiXhosa or English as a first language, learn certain sentence structures and rules in Mandarin.

Why are you asking me to take part in this research project?

We are asking you to take part because your language marks are good and because you speak the right languages. We are looking for learners just like you to take part in this project.

Who is doing the research?

The person who thought of this research project is Marie-Louise van Heukelum. She works at your school as an English teacher. She will be the person in charge of the tasks that the participating learners will need to complete.

What will I need to do if I take part in the study?

- Make up a few Mandarin sentences from a pack of cards that each has a Mandarin word on.
- Try to say a few sentences in Mandarin.
- Mark sentences as correct (“grammatical”) or incorrect (“ungrammatical”) from a list of sentences.
- Try translate some sentences from English to Mandarin.
(If your first language is isiXhosa, you will also be asked to try translate some sentences from isiXhosa to Mandarin)

Is this for marks?

No. This has nothing to do with your school work.

Are there any disadvantages to taking part in this project?

No.

Are there any advantages to taking part in the project?

Not really, but you will be helping us to figure out how and what South African learners learn when studying Mandarin.

To whom can I speak about the project?

You can speak to your parents or to Marie-Louise van Heukelum at school anytime you like. If you want to ask Marie-Louise something, but would rather your parents asked, you can ask your parent(s) to phone or email her on your behalf.

Contact details of Marie-Louise van Heukelum:

072 5256902

marievanheuk@gmail.com

What happens if I do not take part in the project?

Absolutely nothing. It is your choice whether or not you want to take part in this research project. If you do not want to take part, just tell your parents or Marie-Louise.

Do you understand what this research is about, and will you take part in this project?

 Yes No

Did the researcher answer all your questions?

 Yes No

Participant’s signature

Date

APPENDIX 5**PARENTAL INFORMATION AND CONSENT FORM**

	STELLENBOSCH UNIVERSITY	
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**PARENTAL CONSENT FORM FOR CHILD PARTICIPATION IN
RESEARCH STUDY**

**Study on the acquisition of Mandarin Chinese sentence structures by first
language isiXhosa and first language English speaking learners.**

You are receiving this letter because your child is a suitable candidate for the research project mentioned above. The research is to be conducted by Marie-Louise van Heukelum, an English teacher at your child's school and a Master's student in the Department of General Linguistics at Stellenbosch University. The study is to form the basis of her thesis that will be submitted in fulfilment of a Master's degree in General Linguistics. As such, the results of the study will be published in the form of a thesis.

Your child has been identified for participation in the study because he/she is either a first language isiXhosa or first language English speaker and performed well in Mandarin in Grade 8.

If you are willing to allow your child to participate in the study, please read the information below and complete the attached consent form.

1. Purpose of the study

In March 2015 the Department of Basic Education announced the listing of Mandarin as part of the South African school curriculum. As of 2016, learners at a number of South African schools are able to choose Mandarin as a non-official language subject. As you know, your child's school offers Mandarin and your child has been doing

Mandarin for a year already since the start of Grade 8. No research has yet been done on how South African learners who speak isiXhosa and/or English acquire certain sentence structures in Mandarin – this will be the topic of the research study. Hopefully such research can assist in the teaching of Mandarin in South Africa.

2. Procedures

If your child volunteers to participate in this study, he/she will be asked to complete several tasks. The tasks are simple and do not contribute to or subtract from their school work. The tasks will be completed at a time when it is convenient for each child. The results are confidential and will be used only for the purpose of the research.

The tasks to be completed are as follows:

- From a pack of cards with single words on, the learners will create simple sentences.
- In response to my oral prompts and pictures presented to the learners, they will orally produce a few sentences.
- A list of sentences will be presented to the learners and they will mark each sentence as either grammatical or ungrammatical.
- Learners will translate simple sentences from English (and, in the case of the first language isiXhosa speakers, isiXhosa) into Mandarin.

The tasks are not lengthy or difficult and specifically target simple sentence constructions. Everything your child will do in the tasks he/she will have already learnt in class, so essentially it will simply be revision.

3. Potential risks and discomfort

Participation in the study does not hold any risk for the participants and will not cause them any discomfort.

4. Potential benefits to subjects

Apart from the added revision these tasks might provide, the participants will not benefit personally in any way by taking part in the research.

5. Confidentiality

No names of any participants will be mentioned in the thesis. Participants will be given a participant number that will be used in the thesis, and only the researcher and supervisor will be able to identify the participants. The data will be stored in a locked cabinet in the researcher's office and electronic data will be stored in a folder on the researcher's password-protected computer.

6. Participation and withdrawal

Participants can choose whether to take part in this study or not. If your child volunteers to take part in this study, he/she may withdraw at any time without consequences of any kind and without providing reasons for withdrawal.

7. Identification of investigators

If you or your child has any questions about the research, please feel free to contact Marie-Louise van Heukelum (researcher) or Dr Anneke Potgieter (supervisor).

Marie-Louise van Heukelum marievanheuk@gmail.com 072 5256902

Anneke Potgieter annekep@sun.ac.za

8. Rights of research subjects

You may withdraw your consent at any time and discontinue your child's participation without penalty.

You are not waiving any legal claims, rights or remedies because of your child's participation in this research study. If you have questions regarding your child's rights as a research subject, contact the Division for Research Development (essie@sun.ac.za; 021 808 9142).

SIGNATURE OF RESEARCH SUBJECT OR LEGAL REPRESENTATIVE

The information pertaining to the research study, captured in the form of a parental consent form, was presented in such a way and in a language that I can understand. I was given the opportunity (by way of the relevant contact details provided) to ask questions and these questions (if any) were answered to my satisfaction. I hereby consent that my child may voluntarily participate in this study. I have been given a copy of this form.

Name of parent/guardian

Signature of parent/guardian

Date

SIGNATURE OF INVESTIGATOR

I declare that I explained the information in this document to _____ [*name of the participant*] and/or [his/her] representative _____ [*name of representative*]. He/she was encouraged and given ample time to ask me any questions. This conversation was conducted in a language the representative and/or participant has full command of.

Signature of investigator

Date

APPENDIX 6

LANGUAGE BACKGROUND QUESTIONNAIRE

Participant code		

LANGUAGE BACKGROUND QUESTIONNAIRE

Master’s study of Marie-Louise van Heukelum: The acquisition of sentence structures in Mandarin by first language isiXhosa and first language English speakers

1. Biographical information of the respondent:

Gender: Female Male

Date of birth:

Home town:

In which province is your home town?

How long have you been living in the town or area where you currently attend school?

Since birth OR For years

In which town/area did you live before? (If applicable)

.....

Which primary school did you attend? (Name of school and place/town)

.....

2. Language background of the respondent (please complete this about yourself):

My first language

is.....

My second language

is.....

My third language is (if

applicable).....

English is my..... language (example: third)

I started to learn English when I wasyears old.

I started to learn isiXhosa when I wasyears old. (If applicable)

My parents speak.....as a first language.

Environment in which I learnt English: (tick appropriate box)

At home At school

In another environment (please specify):

.....

Environment in which I learnt isiXhosa: (tick appropriate box)

At home At school

In another environment (please specify):

.....

I currently use the following language(s)

at home.....

at family gatherings.....

at school.....

with my friends.....

3. Language proficiency of respondent

I received the following symbols for language subjects in Grade 8:

Language	Symbol
English	
Afrikaans	
Mandarin	

Please specify your ability in each language using the following numbers:

- 1 = very good (like a first language / mother-tongue speaker, or almost as good)
- 2 = good
- 3 = fair / OK
- 4 = poor / not good at all
- 5 = no knowledge

Languages	Listen and comprehend/ understand	Speak	Read	Write	When / Where you use this language (e.g. in class / at the shops)
Afrikaans					
English					
isiXhosa					
Mandarin					
OTHER (please specify):					

What language(s) did you as learner use in primary school for learning?

.....

What language(s) did the teacher use in the classroom in primary school?

.....

What was the school's official language(s) of instruction in primary school?

.....

What language(s) do you as learner use in high school for learning?

.....

What language(s) do the teachers use in the classroom in high school?

.....

What is the school's official language(s) of instruction in high school?

.....

What language(s) do you use when you work in a group in class?

.....

What language(s) do you use outside of the classroom and socially when you are with your friends?

THANK YOU FOR YOUR PARTICIPATION.

APPENDIX 7
VOCABULARY LIST

B			B
八	bā	eight	
爸爸	bàba	dad	
北京	Běijīng	Beijing	
本	běn	measure word (běn shū)	
不	bù	not	
C			C
茶	chá	tea	
吃	chī	to eat	
车	chē	car (liàng chē)	
D			D
大	dà	big/large	
打	dǎ	to play	
大卫	Dawei	David (name)	
的	de	particle (de péngyou)	
E			E
二	èr	two	
F			F
房间	fángjiān	room	
房子	fángzi	house	

G		G
个	gè	measure word (ge xuéxiào)
哥哥	gēge	elder brother
工作	gōngzuò	to work
狗	gǒu	dog
国	guó	nation/country
果汁	guǒzhi	juice

H		H
海鲜	hǎixiān	seafood
汉语	hànyǔ	Mandarin
好	hǎo	good/fine
喝	hē	to drink
很	hěn	very

J		J
家	jiā	home
叫	jiào	to call/to be called
教室	jiàoshi	classroom
鸡蛋	jīdàn	eggs
姐姐	jiějie	elder sister
九	jiǔ	nine

K			K
咖啡	kāfēi	coffee	
L			L
老师	lǎoshī	teacher	
李小龙	Lǐ Xiǎolóng	Li Xialong (Name)	
辆	liàng	measure word (liàng chē)	
六	liù	six	
M			M
吗	ma	question particle	
玛丽	Mali	Mary (Name)	
妈妈	māma	mother	
猫	māo	cat	
美国人	Měiguórén	American	
面包	miànbāo	bread	
面条	miàntiáo	noodles	
N			N
那	nà	that	
哪	nǎ	which	
哪本	nǎ běn	which (book)	
哪辆	nǎ liàng	which (car)	
哪支	nǎ zhī	which (pen/pencil)	
南非	Nánfēi	South Africa	

南非人	Nánfairén	South African
哪儿	nǎr	where
你	nǐ	you
你的	nǐ de	your
牛奶	niúniǎi	milk

P		P
----------	--	----------

朋友	péngyou	friend
苹果	píngguǒ	apple

Q		Q
----------	--	----------

七	qī	seven
铅笔	qiānbǐ	pencil (zhī qiānbǐ)
车	chē	car
汽水	qìshuǐ	soft drinks
去	qù	to go

R		R
----------	--	----------

人	rén	people/person
---	-----	---------------

S		S
----------	--	----------

三	sān	three
上海	Shànghǎi	Shanghai
什么	shénme	what
十	shí	ten

是	shì	to be (is)	
书	shū	book	(běn shū)
四	sì	four	
T			T
他	tā	he/him	
她	tā	she/her	
他们	tāmen	they	
W			W
我	wǒ	I/me	
我们	wǒmen	we	
五	wǔ	five	
X			X
小	xiǎo	small	
喜欢	xǐhuan	like	
学生	xuésheng	student	
学习	xuéxí	study	
学校	xuéxiào	school	
Y			Y
要	yào	to want/to need	
也	yě	also	
一	yī	one	
有	yǒu	to have	

游戏 yóuxi games

鱼 yú fish

Z **Z**

在 zài in/at/on

这 zhè this

支 zhī measure word

种 zhǒng kind/type (eg: which kind of...)

中国人 Zhōngguó rén Chinese (nationality)

中国 Zhōngguó China

APPENDIX 8**SENTENCE FORMATION TASK****Simple *wh*-question constructions in
Mandarin****Sentence formation task**

- Each set of words forms a sentence/question.
- The individual cards will be cut loose from one another and issued together as a pack from which the participants will construct sentences/questions.
- The sentences for each of the three question words have been grouped together . Each set of cards will be given to the prospective participants in a randomised order.

nǐ	你
gēge	哥哥
zài	在
chī	吃

shénme

什么

Ni gege chi shenme?/What is your brother eating?

tā

他

māma

妈妈

yào

要

shénme

什么

Ta mama yao shenme?/What does his mother want?

tāmen

她们

de

的

lǎoshi

老师

jiào	叫
shénme	什么

Tamen de laoshi jiao shenme?/What is their teachers name?

tā	她
jiějie	姐姐

zài	在
xuéxí	学习
shénme	什么

Ta jiejie xuexi shenme?/What does her elder sister study?

nǐ	你
de	的
péngyou	朋友
xǐhuan	喜欢
shénme	什么
<small>Ni de pengyou xihuan shenme?/What does your friend like?</small>	
wǒmen	我们
qù	去
nǎr	哪儿
<small>Women qu nar? / Where are we going?</small>	

tā	他
jiā	家
zài	在
nǎr	哪儿

Ta jia zai nar? / Where is his home?

nǐ	你
bàba	爸爸
zài	在
nǎr	哪儿
gōngzuò	工作

Ni baba zai nar gongzuo? / Where does your dad work?

nǐ	你
de	的
lǎoshi	老师
zài	在
nǎr	哪儿

Ni de laoshi zai nar? / Where is your teacher?

tā	她
de	的
fángzi	房子
zài	在
nǎr	哪儿

Tā de fángzi zài nǎr? / Where is her house?

tāmen	他们
yào	要
nǎ	那
gè	个

Tāmen yào nǎ ge? / Which one do they want?

nǐ	你
gēge	姐姐
xǐhuan	喜欢
nǎ	哪

liàng

辆

chē

车

Ni gege xihuan na qiche? / Which car does your elder brother like?

tā

他

shì

是

nǎ

哪

guó

国

rén

人

Ta shì na guo ren? / Which nationality is he?

nǐ	你
dǎ	打
nǎ	那
gè	个
yóuxi	游戏

Ni da na ge youxi? / Which game are you playing?

nǐ	你
yào	要
nǎ	那
zhī	支
qiānbǐ	铅笔

Ni yao na qianbi? / Which pencil do you want?

zhè	这
shì	是
nǐ	你
gēge	哥哥
ma	吗

Zhe shi ni gege ma? / Is that your elder brother?

tā

他

jiā

家

hěn

很

dà

大

Ta jia hen da. / His house is very big.

wǒ

我

hē

喝

niúnnǎi

牛奶

Wo he niunai. / I drink milk.

tā

他

yě

也

shì

是

měiguó rén

美国人

Ta ye shì Meiguoren. / He is also American.

nǐ

你

hǎo

好

ma

吗

Ni hao ma? / How are you?

wǒ	我
shì	是
Zhōngguó rén	中国人

Wo shi Zhongguoren. / I am Chinese.

tā	她
yě	也
xǐhuan	喜欢
xuéxi	学习
hànyǔ	汉语

Ta ye xihuan xuexi hanyu. / She also likes studying Chinese.

nǐ

你

bàba

爸爸

jiào

叫

Lǐ Xiǎolóng

李小龙

Ni baba jiao Li Xialong. / My dad's name is Li xialong.

zhè	这
bù	不
shì	是
wǒ	我
jiějie	姐姐

Zhe bu shi wo jiejie. / This is not my elde sister.

tā	她
yǒu	有
sān	三
zhī	只
māo	猫

Tā yǒu sān zhī māo. / She has three cats.

APPENDIX 9

ORAL PRODUCTION TASK



Simple *wh*-questions in Mandarin

Oral production task



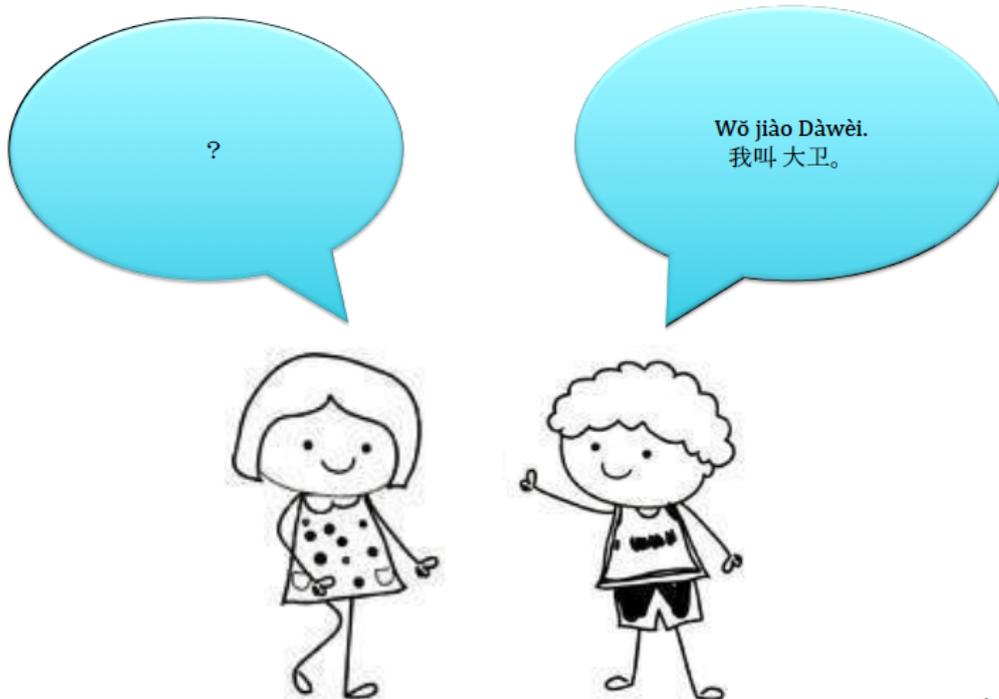
PRACTISE QUESTION 1



PRACTISE QUESTION 2



START OF OP TASK

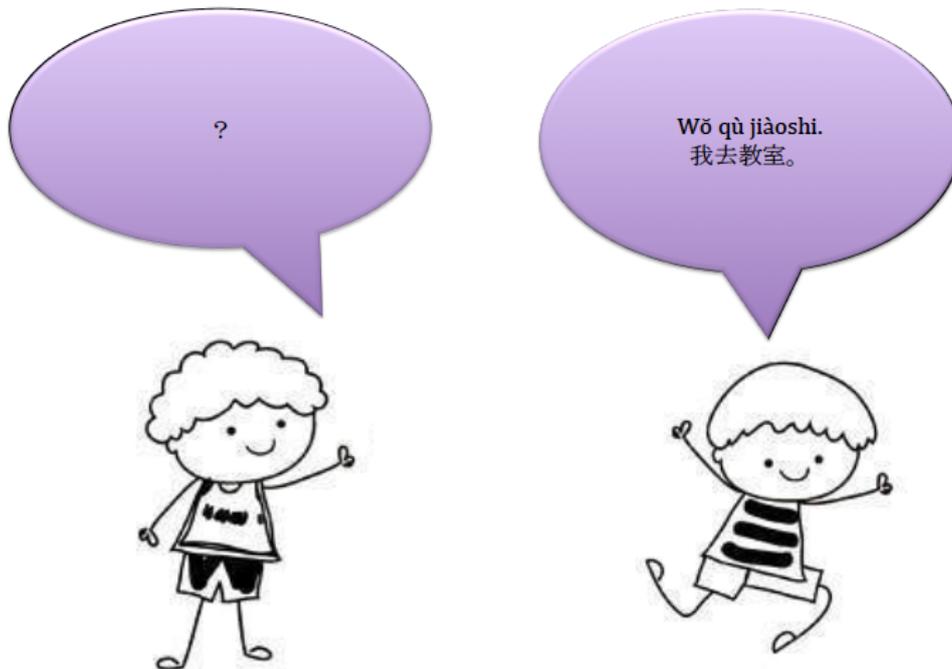


Images courtesy of <http://www.dreamstime.com>



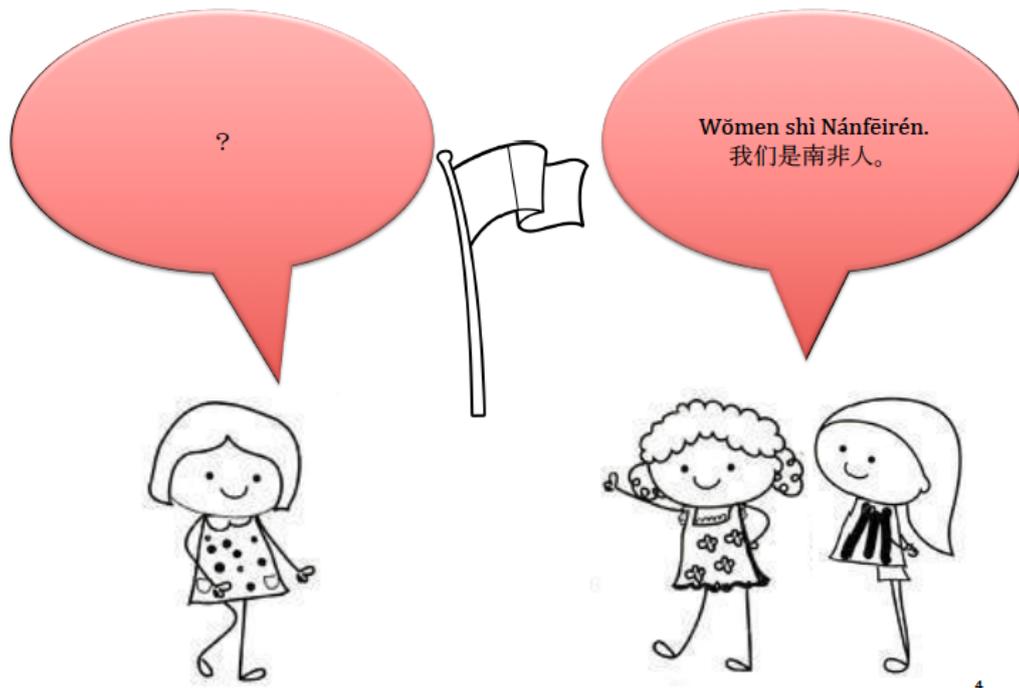
2

Images courtesy of <http://www.dreamstime.com>

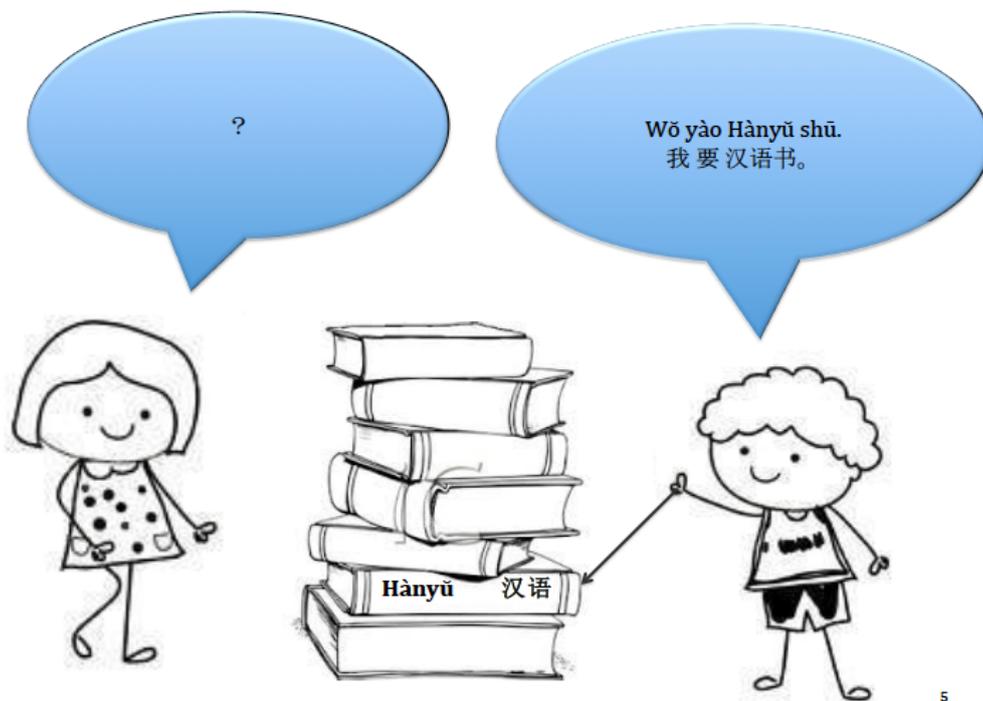


3

Images courtesy of <http://www.dreamstime.com>



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Images courtesy of <http://www.dreamstime.com>



Images courtesy of <http://www.dreamstime.com>

6



Images courtesy of <http://www.dreamstime.com>

7



Memorandum & English translations

QUESTION

ANSWER

Page 1

Nǐ jiào shénme?

You name what
"What is your name?"

Wǒ jiào Dàwèi.

My name Dawei
"My name is Dawei."

Page 2

Nǐ de péngyou xuéxí shénme?

Your friend studies what
"What does your friend study?"

Wǒ de péngyou xuéxí hànyǔ.

My friend study Chinese
"My friend studies Chinese."

10

Page 3

Nǐ qù nǎr?

You go where
"Where are you going?"

Wǒ qù jiàoshì.

I go classroom
"I am going to the classroom."

Page 4

Nǐmen shì nǎ guó rén?

You (plural) are which nations people?
"What nationality are you?"

Wǒmen shì Nánfēirén.

We are South African.

Page 5

Nǐ yào nǎ běn shū?

You want which (CI) book
"Which book do you want?"

Wǒ yào Hànyǔ shū.

I want "Mandarin book"
"I want the Mandarin book."

11

Page 6

Nǐ hē shénme?

You drink what
"What are you drinking?"

Wǒ hē guǒzhī.

I drink juice.
"I am drinking juice."

Page 7

Nǐ de gǒu zài nǎr?

Your (Cl) dog at where
"Where is your dog?"

Wǒ de gǒu zài wǒ jiā.

My (Cl) dog at my home.
"My dog is at my home."

Page 8

Nǐ zài nǎ ge xuéxiào xuéxí?

You at which (Cl) school study
"Which school do you study at?"

Wǒ zài Běijīng Hànyǔ Xuéxiào xuéxí.

I at Beijing Mandarin School study.
"I study at Beijing Mandarin School."

12

Page 9

Nǐ jiā zài nǎr?

You home in where
"Where is your home?"

Wǒ jiā zài Shànghǎi.

My home in Shanghai
"My home is in Shanghai."

* Cl –Classifier

13

APPENDIX 10
GRAMMATICALITY JUDGEMENT TASK

Grammaticality judgement task

Participant number

--	--	--

INSTRUCTIONS

Read the sentences below and circle the appropriate box, indicating whether the sentence is grammatical (correct) or ungrammatical (incorrect).

If the sentence is grammatical circle the box with the tick [✓].

If the sentence is ungrammatical circle the box with the cross [✗].

Grammatical (correct) = ✓

Ungrammatical (incorrect) = ✗

EXAMPLE



1. Wǒ shì Nánfēiren.

我是南非人



<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Wǒ hěn hǎo. 我很好。
<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Nǐ zài nǎ gè xuéxiào xuéxí? 你在哪个学校学习？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Tā jiějie qù nǎr? 她姐姐去 哪儿？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Shénme nǐ de péngyou xǐhuan? 什么你 的朋友喜欢？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. Wo jiào Mǎlì. 我 叫 玛丽。
<input checked="" type="checkbox"/>	<input type="checkbox"/>	6. Nǎr zài nǐ? 哪儿在你？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. Tā shì chī jīdàn. 她是吃鸡蛋。
<input checked="" type="checkbox"/>	<input type="checkbox"/>	8. Tā gēge xuéxí shénme? 他哥哥 学习 什么
<input checked="" type="checkbox"/>	<input type="checkbox"/>	9. Nǎr tāmen qù? 哪儿他们去？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	10. Wǒ māma yě xǐhuan yú. 我妈妈 也喜欢鱼。
<input checked="" type="checkbox"/>	<input type="checkbox"/>	11. Nǐ shì nǎ guó rén? 你是哪国人？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	12. Wǒ hē chà. 我喝茶。
<input checked="" type="checkbox"/>	<input type="checkbox"/>	13. Nǎr tā jiā zài?

		我家有四个房间。
<input checked="" type="checkbox"/>	<input type="checkbox"/>	27. Tā yào shénme? 她要什么？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	28. Tā fángjiān shì hěn bù dà. 她房间是很不大。
<input checked="" type="checkbox"/>	<input type="checkbox"/>	29. Nǐ jiějie hē shénme? 你姐姐喝什么？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	30. Zài nǎr tā gōngzuò? 在那儿她工作？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	31. Nǎ gè tā yào? 哪个他要？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	32. Nà bú shì wǒ gēge. 那不是我哥哥。
<input checked="" type="checkbox"/>	<input type="checkbox"/>	33. Nǐ bàba xǐhuan nǎ zhǒng guǒzhī? 你爸爸喜欢哪中果汁？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	34. Zài nǎr nǐ de fángzi? 在哪儿你的房子？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	35. Tā bù yào qìshuǐ, tā yào guǒzhī. 他不要汽水，他要果汁。
<input checked="" type="checkbox"/>	<input type="checkbox"/>	36. Nǐ de péngyou qù nǎr? 你的朋友去哪儿？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	37. Nǐ de māo zài nǎr? 你的猫在哪儿？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	38. Shì Lìli ge jiā dà ma? 是丽丽个家大吗？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	39. Tā fángzi yǒu wǔ zhī fángjiān.

		我房子有五只房间。
<input checked="" type="checkbox"/>	<input type="checkbox"/>	40. Shénme shì nǐ hē? 什么是你喝？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	41. Wǒ hē bù kāfēi. 我喝不咖啡。
<input checked="" type="checkbox"/>	<input type="checkbox"/>	42. Ta shì Měiguórén ma? 他是美国人吗？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	43. Shénme tā jiào? 什么她叫？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	44. Wǒ yào píngguǒ, nǐ yě yào ne? 我要苹果，你呀要呢？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	45. Nǐ māma zài nǎr gōngzuò? 你妈妈在纳入工作？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	46. Nǎ zhī qiānbǐ nǐ yào? 哪支铅笔你要？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	47. Tā jiā hěn dà. 他家很大。
<input checked="" type="checkbox"/>	<input type="checkbox"/>	48. Nǐ bàba xǐhuan shénme? 你爸爸喜欢神门？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	49. Nǎ guó rén shì nǐ de péngyou? 哪国人是你的朋友？
<input checked="" type="checkbox"/>	<input type="checkbox"/>	50. Ta jiào shì Dàwèi. 他叫是大卫。

MEMORANDUM

Grammaticality judgement task

- *Cl – classifier
- *QP – question particle
- *P - particle

	<input checked="" type="checkbox"/> 1. Wǒ hěn hǎo. 我 很 好 I very good “I am very well.”
<input checked="" type="checkbox"/> 2. Nǐ zài nǎ gè xuéxiào xuéxí? 你 在 哪 个 学 校 学 习 ? You at which (Cl) school study “Which school do you study at?”	
<input checked="" type="checkbox"/> 3. Tā jiějie qù nǎr? 她 姐 姐 去 哪 儿 ? Her sister go where “Where is her sister going?”	
<input checked="" type="checkbox"/> 4. Shénme nǐ de péngyou xǐhuan? 什 么 你 的 朋 友 喜 欢 ? What you friend like? “What does your friend like?”	
	<input checked="" type="checkbox"/> 5. Wǒ jiào Mǎlì. 我 叫 玛 丽 My name Mali “My name is Mali.”
<input checked="" type="checkbox"/> 6. Nǎr zài nǐ? 哪 儿 在 你 ? Where at you “Where are you?”	
	<input checked="" type="checkbox"/> 7. Tā shì chī jīdàn. 她 是 吃 鸡 蛋 。 She is eat eggs. “She is eating eggs.”
<input checked="" type="checkbox"/> 8. Tā gēge xuéxí shénme? 他 哥 哥 学 习 什 么 ?	

<p>He brother study what “What does his brother study?”</p>
<p><input checked="" type="checkbox"/>9. Nǎr tāmen qù? 哪儿 他们 去? Where they go “Where are they going?”</p>
<p><input checked="" type="checkbox"/>10. Wǒ māma yě xǐhuan yú. 我 妈妈 也 喜欢 鱼。 My mother also likes fish</p>
<p><input checked="" type="checkbox"/>11. Nǐ shì nǎ guó rén? 你 是 哪 国 人? You are which countries people “What nationality are you?”</p>
<p><input checked="" type="checkbox"/>12. Wǒ hē trà. 我 喝 茶。 I drink tea</p>
<p><input checked="" type="checkbox"/>13. Nǎr tā jiā zài? 哪他 她 家 在? Where her home at “Where is her home?”</p>
<p><input checked="" type="checkbox"/>14. Shénme tā māma yào? 什么 她 妈妈 要? What her mother want “What does her mother want?”</p>
<p><input checked="" type="checkbox"/>15. Nǐ yào nǎ gè? 你 要 哪 个? You want which (CI) “Which one do you want?”</p>
<p><input checked="" type="checkbox"/>16. Nà tā mama shì. 那 她 妈妈 是。 That her mother is. “That is her mother”</p>
<p><input checked="" type="checkbox"/>17. Tā jiā zài nǎr? 她 家 在 哪儿?</p>

Her home at/in where? “Where is her home?”	
	☒18. Nǐ ma hǎo? 你 吗 好? You (QP) good? “How are you?”
	☒19. Nà shì wǒ mama. 那 是 我 妈妈。 That is my mother
☒20. Nǎ gè xuéxiào tā gōngzuò zài? 那 个 学 校 她 工 作 在? Which (CI) school he work at “Which school does he work at?”	
☒21. Nǐ māma jiào shénme? 你 妈妈 叫 什么? You mother call what “What is your mother’s name?”	
☒22. Tā yào nǎ shū? 她 要 哪 书? She want which book “Which book does she want?”	
	☒23. Wǒ Gēge xǐhuan miàntiáo bù. 我 哥哥 喜 欢 面 条 不。 My brother likes noodles not “My brother does not like noodles.”
☒24. Nǎ liàng chē nǐ jiějie xǐhuan? 哪 辆 车 你 姐 姐 喜 欢? Which car you sister like “Which car does your sister like?”	
☒25. Shénme nǐ chī? 什 么 你 吃? What you eat “What are you eating?”	
	☒26. Wǒ jiā yǒu sì ge fángjiān. 我 家 有 四 个 房 间。

	My home has four (CI) room “My home has four rooms.”
☑27. Tā yào shénme? 她 要 什么? She wants what “What does she want?”	
	☒28. Tā fángjiān shì hěn bù dà. 她 房间 是 很 不大。 Her room is very not big. “Her room is not very big.”
☑29. Nǐ jiějie hē shénme? 你 姐姐 喝 什么? You sister drink what “What is your sister drinking?”	
☒30. Zài nǎr tā gōngzuò? 在 那儿 她 工作? At where her work “Where is her work?”	
☒31. Nǎ gè tā yào? 哪 个 他 要? Which (CI) he want “Which one does he want?”	
	☒32. Nà bú shì wǒ gēge. 那 不 是 我 哥哥。 That not is my brother “That is not my brother.”
☑33. Nǐ bàba xǐhuan nǎ zhǒng guǒzhī? 你 爸爸 喜欢 哪 中 果汁? You father like which kind juice “Which kind of juice does your father like?”	
☒34. Zài nǎr nǐ de fángzi? 在 哪儿 你 的 房子? At where your (CI) house “Where is your house?”	
	☑35. Tā bù yào qìshuǐ, tā yào guǒzhī. 他 不 要 汽水, 他 要 果汁。 He not want soft drink, he want juice “He does not want a soft drink, he wants juice.”

<input checked="" type="checkbox"/> 36. Nǐ de péngyou qù nǎr? 你 的 朋 友 去 哪 儿? Your (CI) friend go where? “Where is your friend going?”
<input checked="" type="checkbox"/> 37. Nǐ de māo zài nǎr? 你 的 猫 在 哪 儿? Your (CI) cat at where “Where is your cat?”
<input checked="" type="checkbox"/> 38. Shì Lìlì ge jiā dà ma? 是 丽 丽 个 家 大 吗? Is Lili (MW) home big (QP) “Is Lili’s hme big?”
<input checked="" type="checkbox"/> 39. Tā fángzi yǒu wǔ zhī fángjiān 我 房 子 有 五 只 房 间。 His house has five (MW) rooms
<input checked="" type="checkbox"/> 40. Shénme shì nǐ hē? 什 么 是 你 喝? What are you drink “What are you drinking?”
<input checked="" type="checkbox"/> 41. Wǒ hē bù kāfēi. 我 喝 不 咖 啡。 I drink not coffee “I am not drinking coffee.”
<input checked="" type="checkbox"/> 42. Ta shì Měiguórén ma? 他 是 美 国 人 吗? He is American (QP) “Is he American?”
<input checked="" type="checkbox"/> 43. Shénme tā jiào? 什 么 她 叫? What his name “What is his name?”
<input checked="" type="checkbox"/> 44. Wǒ yào píngguǒ, nǐ yě yào ne? 我 要 苹 果, 你 呀 要 呢? I want apple, you also want (P) “I want an apple, what about you?”
<input checked="" type="checkbox"/> 45. Nǐ māma zài nǎr gōngzuò?

你 妈妈 在 哪儿 工作? You mother at where works “Where does your mother work?”
☒46. Nǎ shuǐguǒ nǐ yào? 哪 水果 你 要? Which fruit you want “Which fruit do you want?”
☒47. Tā jiā hěn dà. 他 家 很 大。 His house very big “His house is very big.”
☒48. Nǐ bàba xǐhuan shénme? 你 爸爸 喜欢 什么? You dad likes what “What does your dad like?”
☒49. Nǎ guó rén shì nǐ de péngyou? 哪 国 人 是 你 的 朋友? Which country people is your (CI) friend “What nationality is your friend?”
☒50. Ta jiào shì Dàwèi. 他 叫 是 大卫。 His name is David



APPENDIX 11

SENTENCE TRANSLATION TASKS

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Sentence translation task

Participant number

INSTRUCTIONS

Translate the following English sentences into Mandarin. Write your translations on the lines provided. You only need to write the pinyin NOT the Mandarin characters.

1. Where are you?

2. My home is in China.

3. What is your father's name?

4. Which one does he want?

5. I am fine.

6. Where is your friend going?

7. My name is Buhle.

8. Which country is she from?

9. What do you study?

10. He is American.

11. Which car does your sister like?

12. Where is your home?

13. She has six dogs.

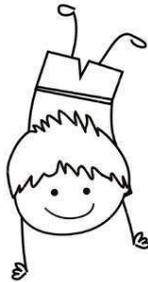
14. What does she want?

15. That is not my mother.

You are finished!

Thank you for your effort and participation in this research
study! ☺

Xièxiè!
谢谢！



English ST task MEMORANDUM

1. Where are you?

Nǐ zài nǎr?

2. My home is in China.

Wǒ jiā zài Zhōngguó?

3. What is your father's name?

Nǐ bàba jiào shénme?

4. Which one does he want?

Tā yào nǎ gè?

5. I am fine.

Wǒ hěn hǎo.

6. Where is your friend going?

Nǐ de péngyou qù nǎr?

7. My name is Buhle.

Wǒ jiào Buhle.

8. Which country is she from?

Tā shì nǎ guó rén?

9. What do you study?

Nǐ xuéxí shénme?

10. He is American.

Tā shì Měiguórén.

11. Which car does your sister like?

Nǐ jiějie xǐhuan nǎ liàng chē?

12. Where is your home?

Nǐ jiā zài nǎr?

13. She has six dogs.

Tā yǒu liù zhī gǒu.

14. What does she want?

Tā yào shénme?

15. That is not my mother.

Nǎ bù shì wǒ māma.



isiXhosa sentence translation task

Participant number

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INSTRUCTIONS

Translate the following isiXhosa sentences into Mandarin. Write your translations on the lines provided. You only need to write the pinyin NOT the Mandarin characters.

1. Molo, unjani?

2. Ufuna eyiphi ipensile?

3. Uhlala phi?

4. Ikhaya lakhe liseMzantsi Afrika.

5. Ngutata wam lowa.

6. Ngubani igama likadadewenu?

7. Uya phi ubrada wakho?

8. Igama lam linguSam.

9. Ufuna eyiphi?

10. Usuka kweliphi ilizwe?

11. Iphi indlu yakulotshomi wakho?

12. Ungowalapha eMzantsi Afrika

13. Unazo izinja ezintathu.

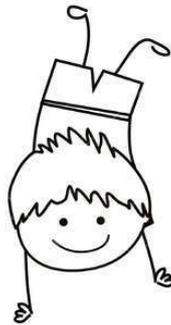
14. Ufundela ukuba yintoni udadewenu?

15. Ufuna ntoni yena?

You are finished!

Thank you for your effort and participation in this research study! ☺

Xièxiè!
谢谢！



isiXhosa ST task MEMORANDUM

1. Molo, unjani? (Hello, how are you?)

Nǐ hǎo, nǐ hǎo ma?

2. Ufuna eyiphi ipensile? (Which pencil do you want?)

Nǐ yào nǎ zhī qiānbi?

3. Uhlala phi? (Where is her home?)

Tā jiā zài nǎr?

4. Ikhaya lakhe liseMzantsi Afrika. (His [parental] home is in South Africa.)

Tā jiā zài Nánfei.

5. Ngutata wam lowa. (That is my father.)

Nǎ shì wǒ bàba.

6. Ngubani igama likadadewenu? (What is your sister's name?)

Tā jiějie jiào shénme?

7. Uya phi umntakwenu? (Where is your brother going?)

Nǐ gēge qù nǎr?

8. Igama lam linguSam. (My name is Sam.)

Wǒ jiào Sam.

9. Ufuna eyiphi? (Which one do you want?)

Nǐ yào ne gè

10. Usuka kweliphi ilizwe? (Which country are you from?)

Nǐ shì nǎ guó rén?

11. Iphi indlu yakulotshomi wakho? (Where is your friend's house?)

Nǐ de péngyou jiā zài nǎr?

12. Ungowalapha eMzantsi Afrika. (She is South African.)

Tā shì nánfeirén.

13. Unazo izinja ezintathu. (He has three dogs.)

Tā yǒu sān zhī gǒu.

14. Ufundela ukuba yintoni udadewenu? (What does your sister study?)

Nǐ jiějie xuéxí shénme?

15. Ufuna ntoni yena? (What does he want?)

Tā yǒu shénme?
