Universitat Autònoma de Barcelona

Dipòsit digital de documents de la UAB

This is the **published version** of the bachelor thesis:

Zheng Yang, Jie; Llinàs-Grau, Mireia , dir. The Acquisition of the wh-movement Parameter by Chinese Learners of English. Bellaterra: Universitat Autònoma de Barcelona, 2022. 38 pag. (1482 Grau en Estudis Anglesos)

This version is available at https://ddd.uab.cat/record/264614

under the terms of the  license

Universitat Autònoma de Barcelona

DEPARTAMENT DE FILOLOGIA ANGLESA I DE GERMANÍSTICA

The Acquisition of the *Wh*-movement Parameter by Chinese Learners of English

Treball de Fi de Grau/ BA dissertation

Author: Jie Zheng

Supervisor: Mireia Llinàs Grau

Grau d'Estudis Anglesos/Grau d'Estudis d'Anglès

June 2022

ACKNOWLEDGEMENTS

First of all, I would like to express my sincere gratitude to my supervisor, Dr Mireia Llinàs, for her patience in guiding me through this thesis and for leading me in exploring SLA.

I would also like to thank my family, especially my grandparents, my parents and my cousins, Chun and Jie, not only for listening to my ideas during writing the thesis, but also for their support in every decision I made.

Finally, I would like to thank myself for always believing in myself. On the road ahead, please do remember to “stay hungry, stay foolish” (Steve Jobs).

TABLE OF CONTENTS

INDEX OF FIGURES

Abstract

Over the past decades, SLA researchers have drawn much attention to the issue of L1 transfer and UG accessibility. Full Transfer/Full Access is one of the hypotheses they have put forward in this regard. Adopting the generative approach as its framework, this paper aims to explore the Full Transfer/Full Access model by investigating the acquisition of the *wh*-movement parameter by Chinese learners of English. This study was conducted by using the Grammaticality Judgement Task. In order to compare the performance of English learners at different levels of English proficiency, 41participants and 3 native speakers were divided into three groups: beginners, intermediate learners, as well as the control group. The results suggested that Chinese learners of English could reset the *wh*-movement parameter setting at an early stage. Furthermore, we could observe L1 transfer in the process, although this phenomenon is more often found in learners' initial state. Regarding the acquisition of different *wh*-items, the data indicated that the object questions were more challenging for learners to acquire possibly due to the interpretability factor.

Keywords: SLA, L1 transfer, UG access, interlanguage, *wh*-movement, parameter resetting

1. Introduction

Over the decades, the generative approach has been one of the most fundamental approaches to Second Language Acquisition (SLA). Such a theory stems from Chomsky's (1965) attempt to explain the mismatch between the input received and language knowledge attained in First Language Acquisition (L1A). He developed the theory of Universal Grammar (UG), which holds that "human beings are innately endowed with a system of richly structured linguistic knowledge, which guides infants in analysing incoming linguistic stimuli" (Guasti, 2002: 1). Within the framework of UG, Chomsky introduced the two main concepts of *principles* and *parameters* in 1981. He argued that principles are universal to all languages, whereas parameters reflect the differences between languages. In other words, when second language (L2) learners are acquiring an L2, there is no need for them to acquire principles as their Language Faculty is already equipped with them. However, they have to reset the values of parameters that are different from those of their native language. This process is known as *parameter resetting*.

What has to be mentioned is that the above theories proposed by Chomsky account for L1A while it remains debatable whether UG is equally applicable to SLA. The discussion centres on two issues: the possible influence of L2 learners' existing language knowledge and the availability of UG. In this regard, Selinker (1972) coined the concept of "interlanguage", stating that "this language was neither the L1 nor the L2 but was reflective of how the learner moved from one toward the goal of another" (VanPatten et al., 2020: 37). According to White (2003), this concept shed new light on the area of SLA because it viewed language acquisition as systematic developmental sequences. During these stages, learners are expected to reset parameters.

The current paper aims to examine L1 transfer and the accessibility of UG by assessing the acquisition of the *wh*-movement parameter. The *wh*-movement parameter consists of two movements: the movement of *wh*-words to Specifier of CP and I to C movement. It is a binary parameter with positive and negative values. Languages like English that move the *wh*-element to the beginning of the sentence are [+*wh*-movement] languages. In contrast, *wh* in-situ languages are [-*wh*-movement] languages where the *wh*-item remains in its original position.

Although the study of *wh*-movement acquisition has received much attention, the vast majority of it has focused on L1A While in the field of SLA, research on this topic has placed more emphasis on the aspects of the Empty Category and Subjacency Principles (Xu, 2003; Juffs, 2005; Tayyebi, 2012). In addition, very few studies have been conducted to compare the second language acquisition of interrogatives with different *wh*-items.

In view of the foregoing, this paper seeks to explore whether Chinese learners of English are influenced by their L1 in the acquisition of the *wh*-movement and whether they can manage to reset the parameter. For the purpose of describing the acquisition of the *wh*-movement parameter by learners with different English proficiency, this study will compare the performance of beginner and intermediate learners using a Grammaticality Judgement Task.

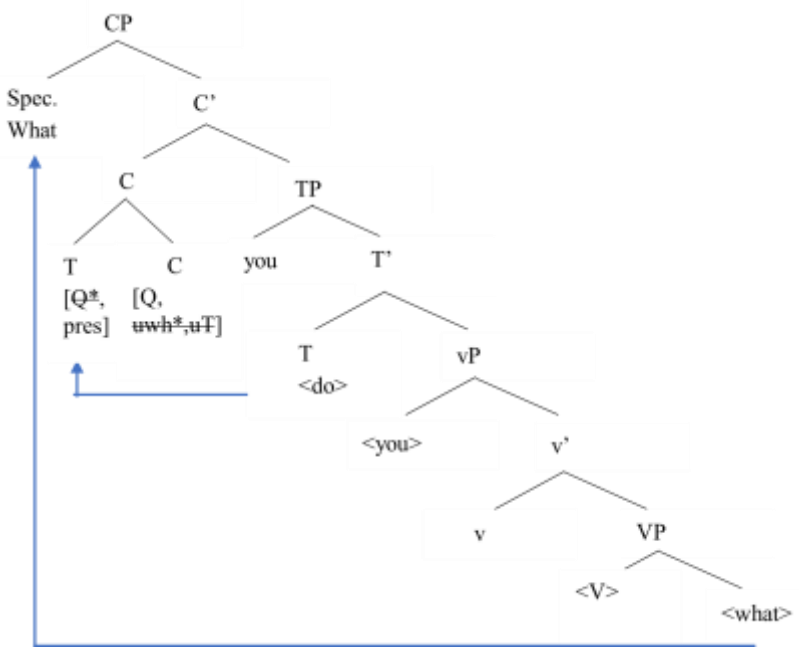
The dissertation has been organised in the following way. The first part deals with the literature review of the *wh*-movement parameter and SLA. Then the research questions will be presented in Section 4. Subsequently, Section 5 is concerned with the methodology used for this study. The following two sections are dedicated to an

analysis of the results and a discussion of them. Finally, this paper will end with a brief conclusion.

2. The *Wh*-movement parameter

The acquisition of the *wh*-movement parameter is a significant topic of interest within the field of language acquisition. It is a binary parameter characterised by moving *wh*-items to the initial position of the clause. A generativist account of this construction incorporates two strong features which implies that there are two movements involved: the movement of *wh*-words to Specifier of CP and the movement of an auxiliary element in I (or T) to C. From a minimalist perspective, it is assumed that the complementizer C [Q] always bears an uninterpretable strong feature [uwh*] which should be checked by the movement of the *wh*-element from its original position to [Spec, CP]. Meanwhile, the strong feature [Q*] triggers I to C movement. As a consequence, the subject and the auxiliary apparently invert positions. The operational process is illustrated in (1):

(1). What do you want?



Despite the fact that interrogative questions can be found universally in all languages, not all languages display explicit *wh*-movement as English does. For example, in languages like Chinese, *wh*-expressions can remain in their initial position as in the case of their non-*wh*-equivalents in declarative sentences. Such languages are also known as *wh* in-situ languages. To illustrate the differences, an example of Chinese interrogatives is shown below (2):

(2). ni xiangyao **shenme** (ne)**?**

You want what *wh*-particle

"What do you want?"

In order to explain the difference between [+*wh*-movement] and [-*wh*-movement] languages, James Huang (1982) claimed that the key reason does not lie in the presence or absence of *wh*-movement, but rather in the fact that the operation is implemented at different levels. Before diving into more details, the concepts of Phonetic Form (PF) and Logical Form (LF) need to be clarified. In a pre-minimalist framework, according to Crain and Lillo-Martin (1999), the term Phonetic Form "can be considered as an interface between language and pronunciation, Logical Form is the interface between language and thought" (203). In *wh*-fronting languages, the operational process is through a series of transformations from Deep Structure to Surface Structure and finally to PF. In other words, the movement of the *wh*-word is completed when the *wh*-word is pronounced in initial position. In contrast, the movements of *wh* in-situ languages only occurs between Surface Structure and LF level, which renders this operation "invisible."

Wh-movement is assumed to be part of UG, but it allows parametric differences. Guasti (2002) posited that the *wh*-movement parameter consists of two parts:

"P1: Overt movement vs. in-situ placement of the *wh*-element

P2: Application or nonapplication of I-to-C movement"

(190).

In this case, as we explained before, English and Chinese are two languages that differ in the value of the *wh*-movement parameter. This paper will focus on P1, the behaviour of the *wh*-element. With respect to P2, Chinese generally uses aspect markers rather than grammatical tense to express the temporal meaning, as illustrated in (3). For this reason, there is no implementation of I-to-C movement in Chinese *wh*-questions.

(3). Ni mai-**le** shenme (ne)?

You buy-aspect marker what *wh*-particle

"What did you buy?"

There are various classifications of interrogative sentences from different perspectives. Syntactically speaking, questions can be categorized into *argument* questions and *adjunct* questions. For example, in English questions that contain the *wh*-elements *what* and *who* are argument questions, while those that contain *why, when* and *where* are usually adjunct questions. This categorisation is the same in Chinese. Some instances are shown in (4a, b).

(4) a. Ni xihuan **shenme** (ne)?

You like **what** *wh*-particle

"**What** do you like?"

b. Women **shenmeshihou** qu lundun?

We **when** go London?

"**When** do we go to London?"

In addition, there are subject and object questions, depending on the nature of the argument as a subject or an object. This difference will determine where the *wh*-phrase is extracted from, as illustrated in (5a, b). We are not going into more details here because a more thorough explanation of English and Chinese *wh*-questions will be presented in sections 2.2 and 2.3 respectively.

(5) a. **Shui** qin-le Yuehan (ne)?
Who kiss-aspect marker John *wh*-particle
"**Who** kissed John?"

b. Yuehan qin-le **shui** (ne)?
John kiss-aspect-marker **who** *wh*-particle
"**Who** did John kiss?"

2.1 *Wh*-movement in English

Many linguists agree that English is a [+*wh*-movement] language, meaning there is overt *wh*-movement involved in forming *wh*-questions. The operation can be illustrated in the following example (6a,b):

(6) a. **What** did you buy?

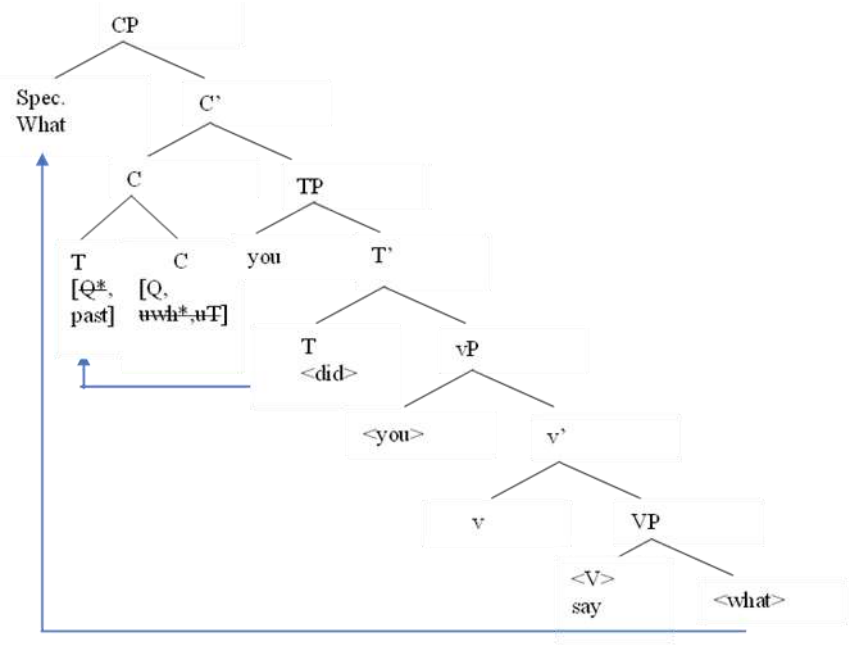
b. *You bought **what**?

Based on comparing sentences (6) a and b, the existence of *wh*-movement can be clearly observed, by moving the interrogative word *what* from its complement position of the verb *buy* to the very front of the sentence. At the same time, the auxiliary *did* which carries the past tense feature is moved to the head Complementizer position.

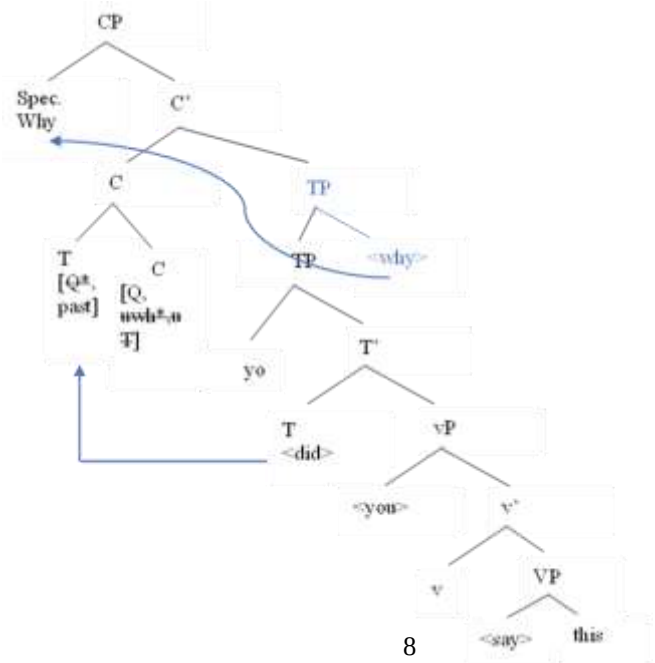
However, "within English, not all wh-questions behave identically" (Stromswold, 1995: 8). Information required questions in English are characterised by beginning with *wh*-items, such as *what, who, when, where,* etc. From a syntactic view,

what and *who* are arguments whereas, *where*, *when*, and *why* are adjuncts. The former is required to complete the meaning of the sentence. In this case, *what* acts as a complement of the verb *say*. While the adjunct is optional for the predicate, so the *wh*-word is adjoined to TP. The difference between these two kinds of interrogative words is illustrated in (7) and (8):

(7). What did you say?



(8). Why did you say this?



Furthermore, it is also possible to find subject questions and object questions in argument interrogatives depending on their base position. For instance, as presented in (9a,b), *who* is a subject and the interrogative does not need an auxiliary, *do*. Whilst in (10a,b), the *wh*-word acts as an object, and *do*-support is required to make the sentence grammatical, so there is a subject-object asymmetry (Chomsky, 1981, 1986).

(9) a. Who met Mary?

b. *Who **did** meet Mary?

(10) a. Who **did** Mary meet?

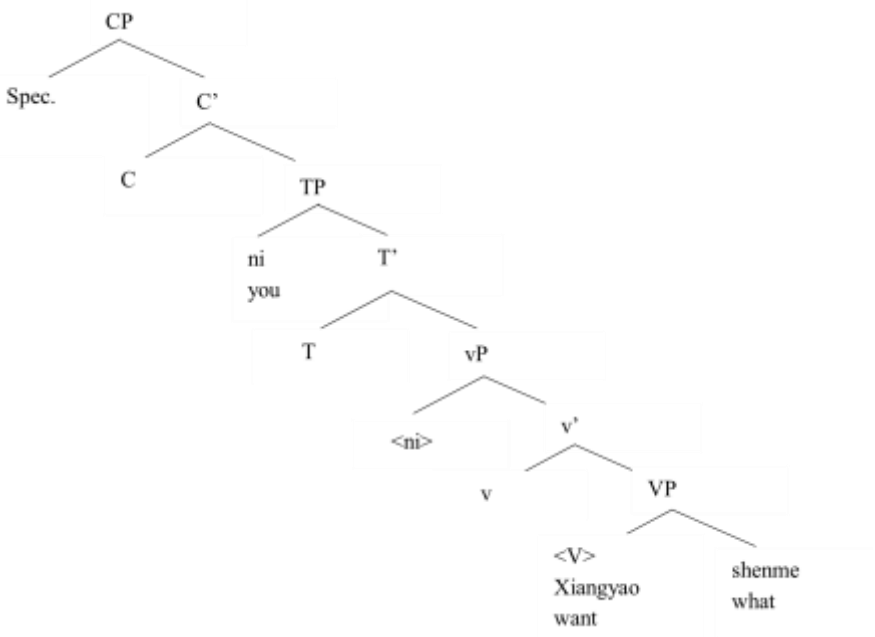
b. *Who Mary met?

To sum up, in the formation of English direct questions, the question word needs to be moved to the position [Spec, CP], along with the application of I to C. Secondly, on the basis of the distinct syntactic roles played by *wh*-expressions, they can be categorised as *subject* questions, *object* questions, and *adjunct* questions. These syntactic differences may result in asymmetries regarding whether an auxiliary is required.

2.2 *Wh*-movement in Chinese

In contrast to English, the movement of interrogative words cannot be explicitly observed at the PF level in Chinese. For this reason, Chinese is also known as a [-*wh*-movement] language. Nevertheless, this does not mean that there is no *wh*-movement in Chinese. In (11) the *wh*-element *shenme*, which surfaces in its original position, is assumed to move at LF to [Spec, CP]:

(11). Ni xiangyao shenme?



James Huang (1982) believed that Mandarin *wh*-items move covertly because the movement is performed between Surface Structure and LF. Thus, as in English, the *wh*-phrase *shenme* is moved to the Specifier of CP to check a [uwh*] feature in C. However, this movement operates at LF, hence the *wh*-word is pronounced in the position where it is Merged. Cheng & Rooryck (2000) argued that the explanation for the difference between English and Chinese in the *wh*-movement parameter comes from the fact that Chinese interrogatives contain a *wh*-particle *ne*. Although the particle is not always pronounced, it helps to check the strong feature Q of C.

With respect to the classification of Chinese *wh*-questions, they can also be divided into *argument* questions (*shenme* - *what* and *shui* - *who*) and *adjunct* questions (*weishenme* – *why*, *shenmeshihou* – *when*, and *nali* – *where*). Some examples are presented in (12a, b, c).

(12) a. Ni faxian-le **shenme** (ne)?

You find-aspect marker what *wh*-particle

"What did you find?"

b. Women bangzhu-le **shui** (ne)?

We help-aspect marker who *wh*-particle

"Who did we help?"

c. Ni zai-**nali** zhaodao-le zhe-ben shu (ne)?

You preposition-where find-aspect marker this book *wh*-particle

"Where did we find this book?"

In comparison to other question words that generally stay in-situ, the placement of the adjunct *wh*-expressions *why* and *when* is more flexible in Chinese, as illustrated in (13a, b) and (14a, b):

(13) a. ta **weishenme** ku (ne) ?

She why cry *wh*-particle

"Why does she cry"

b. **weishenme** ta ku (ne) ?

why she cry *wh*-particle

"Why does she cry"

(14) a. ta **shenmeshihou** yao-lai (ne) ?

She when aspect marker-come *wh*-particle

"When will she come?"

b. **shenmeshihou** ta yao-lai (ne) ?

when she aspect marker-come *wh*-particle

"When will she come ?"

In summary, Chinese displays a negative value in the parameter setting of *wh*-movement. However, some linguists (e.g., Huang, 1982; Cheng & Rooryck, 2000) suggest that there is *wh*-movement in Mandarin Chinese, but this operation is covert.

Moreover, different *wh*-expressions also behave differently. The argument *wh*-words usually stay in their original position, whereas the adjunct *wh*-words (in this case *weishenme* and *shenmeshihou*) can selectively precede or follow the subject.

2.3 Summary of differences between English and Chinese *wh*-movement

Overall, in the formation of English *wh*-questions, the overt movement of the *wh*-element and the application of I-to-C movement are vital to display. In contrast, covert *wh*-movement and non-application of I-to-C movement are the main characteristics of Chinese *wh*-questions.

In terms of the various types of *wh*-interrogatives, argument questions, including subject and object interrogatives, and the adjunct questions can be found in both English and Chinese. Due to the subject-object asymmetry in English, object questions are more restrictive, since *do*-support is required to make sentences grammatical. In contrast, this is not the case with Chinese. Additionally, when questions with *weishenme* (*why*) and *shenmeshihou* (*when*) in Mandarin, the *wh*-items can be either placed before or after the subject. When they appear at the beginning of the sentence, they apparently behave as English *wh*-questions, but without the auxiliary.

3. Second language acquisition

How humans acquire language has been a classic problem in the area of Applied Linguistics (AL) over the decades. In the 1950s, B.F. Skinner (1957) introduced behavioural psychology to explain language acquisition. He regarded language as behaviour and argued that children reproduce language as a response by receiving the stimulus and positive reinforcement from their surroundings (VanPatten et al., 2020). However, children acquire far more linguistic knowledge than they are actually exposed

to. In response to this issue, Noam Chomsky (1965) hypothesised the theory of Universal Grammar referring to the fact that "children are generally endowed with a Language Faculty which provides them with innate knowledge of universal aspects of grammar" (Radford, 2004: 30). Chomsky (1981) then proposed that UG contains both principles and parameters. Principles are aspects of grammar that are common to all languages. That is, children do not need to learn them. In turn, parameters reflect the variation between languages and have to be fixed on the basis of input. In other words, the same parameter may present different parameter settings in different languages.

Building on the theories of L1A, SLA was also heavily influenced by behaviourism at the outset. Mimicry and memorisation were constantly emphasised in the teaching of second languages because they considered the acquisition of language to be the formation of habits. Later, with the introduction of Chomsky's innatist perspective, linguists began to wonder whether the theory of UG was applicable in SLA. Nonetheless, many issues remain controversial. In 1972, Selinker introduced the notion of *interlanguage* as the reflection of the mental process in which L2 learners acquire a second language (VanPatten et al., 2020). This concept provides a systematic framework to view L2 learners' linguistic development and these developmental stages can be seen as *parametric changes* (Slabakova, 2006: 172).

3.1 Full Transfer/Full Access model

Informed by Chomsky's (1981) principles and parameters framework, linguists formulated different hypotheses to address the initial and final state of SLA. In this regard, L1 transfer and the accessibility of UG are the main variables. With respect to L1 transfer, L2 learners have already acquired linguistic baggage that they need to surpass in non-primary learning. Meanwhile, the extent to which established linguistic

knowledge affects SLA is still open to discussion. As for UG access, it is about whether the parameters can be reset in the acquisition process. If UG fully constrains interlanguage grammar, then parameters can be reset. Conversely, if UG partially constrains the interlanguage grammar, it is impossible for L2 learners to reset parameters and acquire new functional categories. This paper will mainly discuss the Full Transfer/Full Access model and adopt it as the theoretical framework.

The Full Transfer/Full Access model was firstly introduced by Bonnie Schwartz and Rex Sprouse in 1994. It argues that "the initial state of L2 acquisition is the final state of L1 acquisition (Full Transfer) and that failure to assign a representation to input data will force subsequent restructurings, drawing from options of UG (Full Access)" (Schwartz & Sprouse, 1996: 40). In other words, at the beginning of their acquisition process, L2 learners will first assume that the parameter values of L2 are the same as those of their L1. When they fail to apply a parameter, they proceed to a subsequent resetting which takes different amounts of time in different cases. As mentioned in section 3, this restructuring process is also known as *interlanguage*. Interlanguage grammar is independent of L1 and L2 grammar. Schwartz and Sprouse (1996) further suggested that understanding this assumption requires the clarification of two claims. The first claim refers to the fact that although there is a superficial match between interlanguage and the target language to some extent, this does not imply that the analysis of these two languages is equivalent. The second claim is that, due to the learnability factor, L2 learners may not be able to be native-like in the final stage, a state also named fossilization. As a consequence, it can be concluded that within the Full Transfer/Full Access model, the starting point of the second language acquisition

process is L1 and UG is fully accessible in the interlanguage grammar, but there is no guarantee that the final state of L2 will be the same as L1.

3.2 The acquisition of *wh*-movement

Research into the acquisition of *wh*-movement has a long history. Previous studies investigated the order of *wh*-word occurrence in child speech, and also the *wh*-movement parameter setting. In relation to the developmental sequences of *wh*-items, evidence shows that *what* is the first *wh*-expression acquired by children. This is closely followed by *who* and *where* since these two types of questions occur frequently in the early ages of language acquisition. *Why* usually comes at the end of two years. This is because children at that age are curious about everything. The last *wh*-words to be acquired are *how* and *when* (Lightbown & Spada, 2006).

With respect to the acquisition of the *wh*-movement parameter, *wh*-fronting is a process that is acquired early. Yet at the same time, I to C does not always successfully apply. As noted by Crain and Lillo-Martin (1999), "there is no evidence that children learning English go through a stage at which they leave the *WH*-element in its Deep Structure position" (210). In other words, as early as children begin to produce simple *wh*-questions, they move the *wh*-phrase to the initial position of the sentence. Nonetheless, in the case of the I to C movement, children sometimes fail to invert the subject and auxiliary, as indicated in (15) :

(15) *What you will do?

But this does not mean that "a child systematically fails to invert in all *WH*-questions" (Crain and Lillo-Martin, 1999: 213), because examples of correct inversion are also found in the data. In addition, research also revealed that the presence of *do*-support and adjunct questions could make children take longer to acquire SAI at early stages.

4. Research questions

In light of the different *wh*-movement parametric settings between English and Chinese and the Full Transfer/Full Access hypothesis, this paper seeks to explore the possible influence of L1 transfer and access to UG in the process of L2 acquisition by Chinese learners of direct *wh*-questions. In particular, we aim to answer the following research questions:

RQ1: Do Chinese learners of English reset the *wh*-movement parameter?

RQ2: If so, does parameter resetting differ for participants of different English proficiency?

RQ3: Do Chinese learners behave differently when acquiring various *wh*-items?

Based on the previous studies, our hypothesis is that although Chinese learners will be able to reset the parameter because we assume UG access, beginners will be more influenced by their L1 than intermediate learners. Furthermore, we predict that there may be a variability in the acquisition of different *wh*-words because of their different syntactic properties.

5. Methodology

5.1 Participants

This study recruited 41 Chinese native speakers as participants and 3 English native speakers. They were divided into three groups based on their English proficiency: beginner, intermediate, control group. Owing to the pandemic, participants did not do a placement test prior to the pilot study and their English level was determined by their grades.

The first group consisted of 20 Year Seven (the first year of junior high school) students. Even though they studied English for more than one year, their English levels ranged from beginners to elementary due to their limited exposure. The data from these participants was meant to see if parameter resetting was found in early stages.

On the other hand, in an attempt to compare the performance of English learners at diverse levels of parameter resetting, 21 Chinese university students were selected to participate in the study. They were considered intermediate learners of English because they had been exposed to English for a longer time and had passed Chinese College English Test Band 4 (CET-4).

The last group was the control group consisting of three adult native speakers. They were all from the UK and worked part-time on an online English tutoring platform.

5.2 Tasks and the research procedure

Due to the pandemic, all participants were asked to complete an online Grammaticality Judgement Task (GJT) in accordance with their ages and English levels (see Appendix 1). The questions were in random order. To make it easy for the participants, the instructions were in Chinese, and they had no time limit to answer the tasks. The first step in this process was to answer several relevant sociolinguistic questions, for example, *How long have you been studying English*? Once they had completed these basic information questions, they were asked to decide whether each sentence was grammatical or not. When they thought the sentence was ungrammatical, they needed to indicate the bad part of the sentence. Given the cognitive capacity of the participants, Group A was given binary options, right or wrong, whereas Group B was

provided scale questions. In other words, they had to grade a sentence on a scale from 1 to 5.

Concerning more details of the task, the task for Group A consisted of ten experimental items, including four ungrammatical sentences and six grammatical sentences, as well as four distractors. Since this group of students had not yet studied adjunct questions, the experimental items were argument questions, that is, *what*, subject *who* and object *who*. Some examples are illustrated in (16a, b, c).

(16) a. *Mary loves who?

b. What do you need?

c. Who can play basketball?

When it comes to Group B and the control group, in view of the fact that they had studied all types of *wh*-questions, their task included a total of 19 experimental items, containing eight ungrammatical sentences, eleven grammatical sentences, and six distractors. As for experimental items, the task examined the acquisition of *what*, subject *who*, object *who*, *when*, *where*, and *why*. Some instances are shown in (17a, b, c, d):

(17) a. *Kenya announced what?

b. *Why you choose this university?

c. Who is going to take the photo?

d. When did Bill go to Beijing?

6. Results

A total of 44 valid tests were received for this study, with 20 for Group A, 21 for Group B, and 3 for the control group. Simple statistical analysis was used to evaluate our participants' acquisition of the *wh*-movement parameter.

Figure 1 provides an overview of beginners' performance of acceptability in *wh*-movement. According to the pie chart on the left, 89% of the participants in Group A thought the ungrammatical sentences were incorrect. They believed that it was the *wh*-items causing the sentences to be ungrammatical. Some participants' corrections are illustrated in (18a, b, c, d). It can be observed that although learners moved the *wh*-phrases to the beginning of the sentence, they had difficulty with I to C movement and understanding the object *who*. With respect to the grammatical items, most participants (89%) found the sentences acceptable, whereas a small minority found them incorrect, and the reasons for their selection mainly centred on the morphology of auxiliary. For example, for the sentence *What does Lily drink*, they argued that *does* should be replaced by *do*.

Figure 1. Acceptability of ungrammatical and grammatical items by Group A

(18) a. I have what? → What I have?

b. John eats what? → What does John eats?

c. Susan sees who? → Who sees Susan?

d. Mary loves who? →Who does Mary love?

Regarding the results of Group B, Figure 2 compares the performance of intermediate learners on ungrammatical and grammatical items. As this task adopted scale questions, this study regarded those who chose 4 and 5 as accepting the sentence and those who chose 1, 2, or 3 as not accepting the sentences. Bearing this in mind, for ungrammatical items, more than two-thirds of Group B participants considered the sentences to be bad, while the rest tended to accept the items. From their corrections which were presented in (19a, b, c, d, e), we can see that Group B can successfully apply not only *wh*-movement but also SAI. When it comes to the grammatical items, almost 95% of the participants felt the sentences were good.

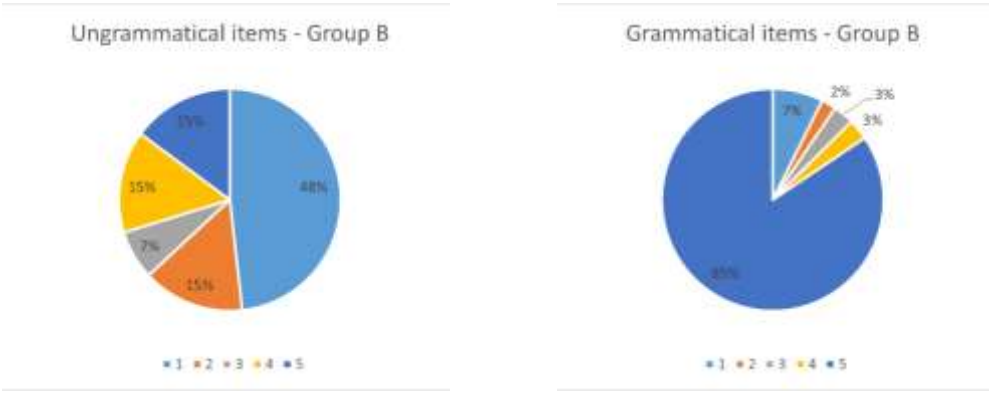


Figure 2. Acceptability of ungrammatical and grammatical items by Group B

(19) a. You have found what? →What have you found?

b. Mike told who that he was going to Singapore? → Who told Mike that he was going to Singapore?

c. Lily why is angry? → Why is Lily angry?

d. John discovered the gold where? → Where did John discover the gold?

e. We are going to meet when? → When are we going to meet?

The data of the control group are summarised in Figure 3. It is clear to see that the results for Group B are generally in line with the results for the control group. To be precise, most *wh* in-situ sentences were not accepted by native speakers.

Figure 3. Acceptability of ungrammatical and grammatical items by native speakers

In order to assess the acceptability between different *wh*-items by Chinese learners, a detailed analysis of Group A and B is shown in Figures 4 and 5 respectively. According to Figure 4, beginners' mastery of *what*, the subject *who*, and the object *who* is roughly consistent. However, taking a closer look at their corrections, it can be observed that the difficulty of comprehension increases when *who* refers to the object, as presented in (20).

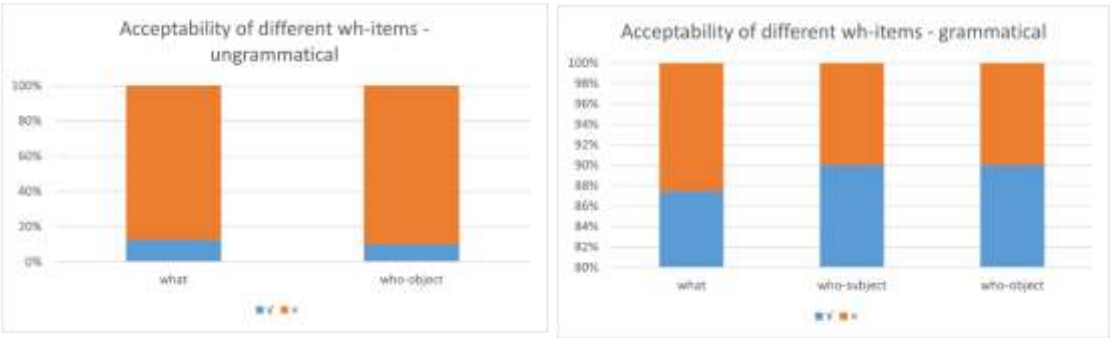


Figure 4. Acceptability of different *wh*-items by Group A

(20) a. Mary loves who? → Who loves Mary?

In group B, the results for *what*, *where*, and *when* are similar, as shown in Figure 5. Most participants were able to distinguish ungrammatical and grammatical items. However, for sentences containing the object *who* and *why* there is some divergence among the participants. In particular, regarding the ungrammatical items, approximately 60% of participants could not accept sentences when they are *why* and object questions.

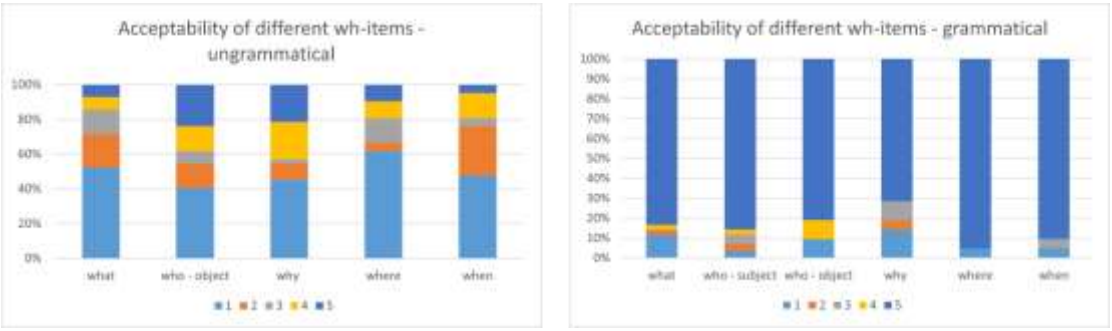


Figure 5. Acceptability of different *wh*-items by Group B

Interestingly, Chinese learners behaved differently with regard to the position of *why* before and after the subject, as shown in Figure 6. The results shows that nearly 80% of participants were not able to accept that *why* was not at the beginning of the sentence. While more than 60% of them could accept the absence of I to C movement in the sentence.

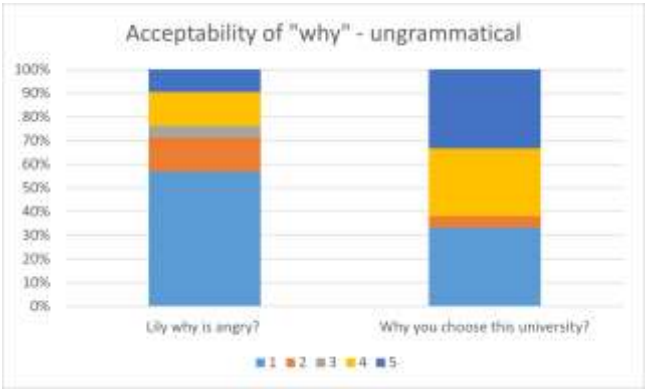


Figure 6. Acceptability of *why* when it is placed in different positions

7. Discussion

These results confirm our predictions mentioned in section 4 that the *wh*-movement parameter resets at an early stage of second language acquisition. However, in relation to SAI, the interference of L1 is more evident for beginners than for intermediate learners. Additionally, different *wh*-elements affect L2 learners, especially in cases where the *wh*-item refers to the object.

With respect to the first research question, on the basis of Group A's data, it was found that the majority of lower-proficient learners could identify that a lack of *wh*-movement was unacceptable in English. A possible explanation for this might be a large amount of input learners received in the classroom and textbooks about *wh*-questions. For instance, every unit in the textbooks they use is headed with a question. Moreover, the interaction pattern between the teacher and students in class is also mainly question-answer-feedback. Therefore, even if learners are in the English as a Foreign Language (EFL) context, such input is sufficient to make them notice the main structure of *wh*-questions. This finding also supports the assumption that UG is accessible in SLA. Thus, learners at the initial state are already able to reset the parameter.

Nevertheless, what needs to be highlighted is that although beginners are aware of the necessity to move the *wh*-element to the beginning of the sentence, the lack of I to C movement can be observed in their production. In contrast, the probability of this phenomenon decreases substantially in the intermediate group. For example, (21a, b) are corrections on ungrammatical sentences extracted from groups A and B. This difference indicates that L2 learners are more likely to transfer their L1 at an early stage in SLA.

(21) a. *I have what? (the original ungrammatical sentence)

What I have? (the correction)

b. *Kenya announced what? (the original ungrammatical sentence)

What did Kenya announce? (the correction)

It should be mentioned that even for intermediate speakers at the interlanguage stage, traces of L1 transfer can still be found in their results. The current study identified that learners behaved differently as to whether the *wh*-item *why* was at the beginning of a sentence or not. As explained in section 2.2, in Chinese, *why* can be placed either before or after the subject. After comparing the acceptability of the two sentences (22a, b), it was noted that less than 40% considered the second sentence to be unacceptable.

(22) a. * Lily why is angry?

b. * Why you choose this university.

This contrast shows that I to C movement is more challenging to acquire than *wh*-movement for Chinese learners of English. Meanwhile, part of this difficulty stems from the influence of L1. To be precise, as mentioned in section 2, language tenses are expressed by attaching linguistic components in Chinese, such as *le*, before and after the predicate verb. In other words, there is no I to C movement in Chinese interrogatives. For this reason, SAI errors have become one of the major mistakes made by Chinese learners of English (Hou & Na-Thalang, 2013).

The third question in this study seeks to explore the acquisition of different *wh*-words. This study suggests that there is no significant difference in the acquisition of argument and adjunct *wh*-elements. Still, the difficulty of comprehension increases when the *wh*-word is in the object position of the sentence. Even though they can successfully move the *wh*-item to the initial position of the sentence, there seems to be an interpretability problem with their corrections, as illustrated in (23a, b).

(23) a. Mary kissed who? → Who kissed Mary?

b. Susan sees who? → Who sees Susan?

In the two examples above, the questioning part of the original sentence is the object, whereas, in the corrected version, the participants changed it to the subject. In addition, it is interesting to mention that some participants understood the sentences correctly, but they tended to use more complex structures to avoid making mistakes, such as using relative clauses or passive sentences. Some examples are presented in (24a, b)

(24) a. Mary kissed who? → Who was kissed by Mary?

b. Susan sees who? → Who is the people that Susan sees?

Overall, our results are generally in line with our predictions. The *wh*-movement parameter is reset early in the L2 acquisition process, suggesting the UG may be fully accessible for L2 learners. Furthermore, due to L1 transfer, SAI is a common issue for Chinese learners of English. This interference is more often seen at the initial stage than at the interlanguage stage. Regarding the acquisition of specific *wh*-items, the object question word *who* is the most difficult one to acquire.

8. Conclusion

This paper set out to examine the role of L1 and the accessibility of UG in the process of L2 acquisition of English by Chinese learners analysing their comprehension of direct *wh*-questions. By means of the GJT for beginner and intermediate learners, our findings are in agreement with the Full Transfer/Full Access model. The first finding of this study was that participants from both Group A and Group B considered the absence of *wh*-movement to be unacceptable in English, indicating that they had reset the *wh*-movement parameter at these stages. This result also confirmed that parametric resetting

is available for L2 learners in SLA. On the other hand, L1 transfer was more often observed in the early stages compared to the interlanguage stage. The impact of L1 here was primarily reflected in the fact that L2 learners failed to apply I to C movement in completing the task. Moreover, the study also revealed that the object *who* takes longer time to acquire than other *wh*-items. Taken together, the findings of this research provide insights that can help improve teaching methodologies, namely that Chinese learners of English should be provided with more instruction on SAI and object *who* when being taught English questions.

However, several limitations of the current study should be noted. Firstly, only 41 Chinese speakers and 3 native speakers were recruited for the study. The small sample size may lead to a reduction in the credibility of the research. Furthermore, the study is limited by the lack of detailed information on participants' English levels. It is thus possible to lead to a neglect of the relative differences in language proficiency. Another critical shortcoming is the use of scale questions in Group B. This format also increased the difficulty of evaluating sentences for Chinese learners to some extent, as they were not familiar with such a pattern.

Finally, the acquisition of the *wh*-movement parameter is a fruitful area for further work. For instance, the current study concentrated on simple direct interrogatives, and further research could assess the acquisition of the *wh*-movement parameter in embedded questions. In addition, our findings also suggest that SAI is an intriguing topic which could be explored in further study. Regarding the methodology, we see a need for more work on using either a production task or a combination of both

comprehension and production tasks since participants may perform differently in various task settings.

References

Crain, Stephen & Diane Lillo-Martin. (1999). *An Introduction to Linguistic Theory and Language Acquisition*, Oxford: Blackwell.

Guasti, Maria Teresa. (2017). *Language acquisition : The Growth of Grammar.* MIT press.

Haegeman, Liliane & Jacqueline Guéron. (1999). *English Grammar, a generative perspective*, Oxford: Blackwell.

Hou, Kun, & Na-Thalang, Sanooch Segkhoonthod. (2013). The role of grammar awareness in learning English wh-movement by Chinese L2 learners. *English Language and Literature Studies*, 3(3), 56-68.

Huang, C.T. James. (1982). Move WH in a language without WH Movement. *The Linguistic Review,* 1(4).

Lightbown, Patsy M., & Spada, Nina. (2006). *How languages are learned.* Oxford University Press.

Schwartz, Bonnie D., & Sprouse, Rex A. (1996). L2 cognitive states and the Full Transfer/Full Access model. *Second Language Research*, 12(1), 40-72.

Slabakova, Roumyana. (2016). *Second language acquisition*. Oxford University Press.

VanPatten, Bill, Benati, Alessandro G., & Smith, Megan. (2020). *Key questions in Second language acquisition: An introduction.* Cambridge University press.

White, Lydia. (2000). Second language acquisition: From initial to final state. *Second language acquisition and linguistic theory*, 130-155.

Appendix

Appendix 1

Group A

年级/Grades：_____ 母语/native languages：

请仔细阅读下列句子，并判断它们是否正确，如果正确请选择√，如果错误请选择×并指出错误部分。

Please read the following sentences, and identify if the following sentences are correct or not. If it is right, then select √. If it is not, then select × and indicate the incorrect part of the sentence.

范例/Example:

Red my bike is. × 错误部分是 **red**

My bike is red. √

1. **Where is Gina's pencil?**

√ ×

2. **What do you need?**

√ ×

3. **Who can play basketball?**

√ ×

4. **Susan sees who?**

√ ×

5. **Mary loves who?**

√ ×

6. I have what?

√ ×

7. Who does Jack help?

√ ×

8. Who does Tom like?

√ ×

9. Is John a teacher?

√ ×

10. Who plays the guitar?

√ ×

11. Do you like watching TV?

√ ×

12. John eats what?

√ ×

13. Your birthday is when?

√ ×

14. What does Lily drink?

√ ×

Group B

Instructions:

请仔细阅读下列句子，并判断它们是否正确。然后在 1 到 5 的范围内给句子进行打分。“1” 表示这个句子是完全错误的。“5” 表示这个句子完全正确。如果你并不确定，请选择 3。如果你认为这个句子基本错误，请选择“2”。如果你认为这个句子基本正确，请选择“4”。当你选择“1、2、3、4”的时候，请指出你认为造成这个句子错误的部分。

Please read the following sentences and consider if they sound like English sentences. Then grade it on a scale from 1 to 5. 1 means 'is completely bad'. 5 means 'is completely good'. If you are unsure, you can circle 3. If you feel that a sentence is almost, but not quite, bad circle 2, and if you feel that a sentence is almost, but not quite, good circle 4. where you circle 1, 2, 3, or 4, indicate the part of the sentence which is making it 'feel' bad.

1	2	3	4	5
Completely bad	Almost, but not quite bad	unsure	Almost, but not quite good	Completely good

范例/Example:

Red my bike is. **1** 错误部分是 red

My bike is red. **5**

- **Grades:**
- **What is your degree:**
- **What language do you speak:**

1. You have found what?
   1 2 3 4 5
2. When Karen arrived, we were having dinner.
   1 2 3 4 5
3. Who closed the window?
   1 2 3 4 5
4. We are going to meet when?
   1 2 3 4 5
5. Why did you arrive late?
   1 2 3 4 5
6. The girl who I met yesterday was John's girlfriend.
   1 2 3 4 5

7. Mike told who that he was going to Singapore?
   1 2 3 4 5
8. What did Bell invent?
   1 2 3 4 5
9. Lily why is angry?
   1 2 3 4 5
10. John discovered the gold where?
    1 2 3 4 5
11. Kenya announced what?
    1 2 3 4 5
12. Who is going to take the photo?
    1 2 3 4 5
13. Who created this document?
    1 2 3 4 5
14. Which colour do you like?
    1 2 3 4 5
15. Mary kissed who?
    1 2 3 4 5
16. Where did you park the car that you bought last week?
    1 2 3 4 5
17. Why you choose this university?
    1 2 3 4 5
18. I don’t know what to do this weekend.
    1 2 3 4 5
19. Who organized yesterday’s ceremony?
    1 2 3 4 5
20. Who have you invited to tomorrow’s party?
    1 2 3 4 5
21. How long has your mother been in Spain?
    1 2 3 4 5
22. When did Bill go to Beijing?
    1 2 3 4 5
23. Who did you meet last week in London?
    1 2 3 4 5
24. What will you send to Lily?
    1 2 3 4 5
25. Has Sally won the final prize?
    1 2 3 4 5