

# A Study on the Acquisition of English WH-question by Chinese Beginning Learners\*

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**Abstract**—The study mainly adopted the quantitative approach. The participants were 30 pupils in 6<sup>th</sup> Grade Primary School. The WH-questions were collected from a spoken elicitation test—participants were required to produce WH-questions based on specially designed pictures. All audio files obtained were converted into text file in order to better understand the acquisition of the simple English WH-questions by Chinese English beginning learners. The results showed various errors exist in the process of acquiring English WH-questions by Chinese English beginning learners and the causes behind these errors is mainly native language negative transfer, which has both theoretical and pedagogical implications.

**Index Terms**—English WH-questions acquisition, contrastive analysis between English and Chinese WH-questions, error analysis, negative transfer

## I. INTRODUCTION

### A. Types of WH-question

WH-question, as a very important type of English sentences, covers kinds of questions beginning with simple interrogative words like *what*, *where*, *who*, *which*, and *how*. According to Curme (1931), WH-questions are so called in that they typically involve the use of an interrogation WH-word at the beginning, *how* is also classified as a WH-word because it exhibits the same syntactic behavior as other members of this class. Since a variety of constituents can be queried in WH-questions. WH-question can be categorized into the following types according to the grammatical function that WH-words playing:

Subject NP:

(1) *Who will take away the basket?*

Object NP:

(2) *What will other candidates say?*

Adverbial of time, place, reasons and manner:

(3) *When have you fulfilled your task?*

(4) *Where are you from?*

(5) *Why can you win the first prize without Tom's involvement?*

(6) *How did Mary and Jessie get along each other?*

Attributives:

(7) *Whose car in red is parking on the yard? (Attributive subject)*

(8) *Whose dress was designed by famous designer Cathy? (Attributive object)*

Predicative:

(9) *What is William's wish according to your predication?*

(10) *Who is your sister you have never seen her before?*

As can be seen, the scope of *what* can be queried ranges from a noun to a whole verb phrases. Compared these sentences with their underlying structure, we can see that several changes have been taken place: WH-Replacement (replace the corresponding sentence constituent being questioned with wh-phrase); WH-Fronting (move wh-phrase to the beginning of the sentence); DO-Support (insert auxiliary verb into the sentence to fulfill the function if no auxiliary verb or copula *be* is present); Subject-Auxiliary Inversion (invert the subject noun phrase position and the first auxiliary verb position when wh-phrase itself is not the subject of the sentence).

### B. WH-movement in English

According to the position of WH-words, languages can generally be categorized as WH-in-situ languages and movement languages. English, along with Spanish and Italian, belong to the movement languages, in which WH-words invariably occur at the sentence-initial position. (Huang 1982) This can be illustrated in (11) as follow:

(11) a. *What is he doing?*

b. *He is doing what?*

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The WH-word *what* originally occupies complement position after the verb, and then moves to the initial position of the sentence. It can be seen that English WH-questions involve fronting of WH-words, and the movement of WH-words in English is called WH-movement.

### C. *WH-questions in Chinese*

Chinese and English differ in the formation of WH-questions. To get a clear understanding of Chinese WH-questions, sentence (12) is adopted.

(12) a. *Li Ming zai zuo shenme?*

b. *Li Ming is doing what?*

As can be seen above, the WH-phrase *shenme* “*what*” does not move to the beginning of the sentence, but stays in situ, so that *shenme* “*what*” as the complement of the verb *zuo* “*doing*” occupies the position after the verb. Since Chinese does not involve overt WH-movement, it is termed a WH-in-situ language.

### D. *Differences between English and Chinese WH-questions*

There is one major account to explain the typological differences between Chinese and English WH-questions, proposed by Huang (1982). Huang’s proposals were originated under the Principle and Parameters framework of Chomsky’s universal grammar (UG). Huang (1982) made a seminal comparative study of English and Chinese WH-questions and maintained that English WH-questions are formed by overt WH-movement, while Chinese WH-questions are formed by covert WH-movement.

### E. *Previous Studies on the Acquisition of WH-questions*

The study on the acquisition of wh-question has always been a hot topic. Research topics include issues like the factors contribute to the difficulty connected with acquisition order (Saunders 1983), the acquisition order of WH-words both in L1 and L2, inversion errors related to different grammatical functions (Rowland & Pine 2000), and argument /adjunct asymmetry and subject / object asymmetry (Ervin-Tripp 1970; Stromswold 1988; Wilhelm & Hanna 1992; Cheung & Lee 1993; Kim 1995; Stromswold 1995; Yoshinaga 1996).

A number of researchers have investigated the acquisition of WH-questions, with focus on subject and object WH-questions or argument and adjunct WH-questions. Ervin-Tripp (1970) investigated how children respond to subject *who*-questions and object *who*-questions. He found that most of the children acquired both types of *who*-questions before 3; 1, object *who*-questions should not be regarded as a late acquisition. As a result, the syntactic distinction between subject and object *who*-questions was acquired early, but temporarily confounded by a processing strategy before age 4. But as O’Grady (1997) pointed out, Ervin-Tripp’s study contains a potentially serious flaw. Questions such as *who is feeding him?* or *who is he feeding?* were asked and the inclusion of the pronominal case (him vs. he) might provide children a secondary clue about the syntactic function of the WH-word.

The study of Cheung & Lee (1993) tested the subject / object asymmetry in the relative difficulty of WH-questions. The subjects were Cantonese children and a comprehension task had been applied. The study result showed that subject *who*-questions were significantly more difficult than object *who*-questions. However, as to *what*-questions, there was no statistical significance between the subject pattern and object pattern although the subject pattern seems to be slightly easier than the object pattern. Yoshinaga (1996) examined the development of WH-questions by English-speaking and Japanese-speaking children and focused on two types of WH-questions: simple and multiple WH-questions. The simple WH-questions investigated in Yoshinaga’s (1996) study were subject WH-questions and object WH-questions and she tried to test whether subject WH-questions are easier than object WH-questions. The production task designed by Yoshinaga was adopted in the study. Twenty-three English-speaking children and thirty Japanese-speaking children were the subjects in the study. The results showed that children tended to substitute object WH-questions with subject WH-questions in English more frequently, and subject WH-questions were less difficult than object WH-questions for English-speaking children. Therefore, Yoshinaga adopted O’Grady’s account, which predicted that English subject questions should be acquired earlier and there would be no differences in the relative difficulty between subject and object questions in Japanese.

There are researchers who have studied modal particles, internal types, doubt focus of questions and the way to answer questions as well in China. They have also studied WH-questions and the non-interrogative usage of WH-questions. The researches highlight the features of WH-questions and moreover, the acquisition of WH-questions reveals the mysteries of WH-questions.

Xu Jie (1999) found children know how to move wh-words ahead in questions earlier than how to inverse the auxiliaries with subjects in the process of acquiring English grammar. Children at the age of 28 months would move the wh-words ahead as soon as they notice them. However, children do not inverse the auxiliaries with subjects until they are 38 months old. The grammaticalization of focus and that of doubt are treated as different conceptions in the process of acquiring English for English-speaking children.

Cao Lijiao (2007) studied a group of bilingual children on the acquisition of wh-questions and found there are obvious differences between the children aged 4 to 5 years and the children aged 6 to 7 years. The number of errors committed by the children aged 4 to 5 years is larger than by the children aged 6 to 7 years. The main problems happen

among bilingual children are the problems of inappropriate collocation, overgeneralization, delay in language acquisition compared with monolingual children and language transfer. The formation between Chinese questions and English questions is quite different due to the differential grammatical systems. Chinese does not involve the movement of do support as well as the movement of wh-words. In a word, the errors made by children in acquiring Chinese are mainly inappropriate collocation and unclear relationship among words; errors in English acquisition appear to be influenced by the characteristic of Chinese verb's un-markedness.

Deng Jinlei (2009) found that different wh-questions have different distributional patterns. The percentage of what questions, accounting for 60% of all wh-questions, remains stable throughout the study. Where and who questions are of high proportion at the beginning but show a decrease tendency over time, while how, when and why questions show exactly opposite developmental pattern, which are of low proportion at the beginning but show increase tendency with children's age.

## II. RESEARCH METHODOLOGY

### A. Research Questions

1. What kinds of errors will be made by Chinese English beginning Learners' acquisition of WH-questions?
2. What are the causes of these errors in the acquisition of WH-questions for Chinese beginning learners?

### B. Methods

#### 1. Participants

The participants were 30 pupils in Grade 6<sup>th</sup> in a Primary School. The reasons for choosing them as the subjects are as follows:

Firstly, as the Grade 6 students, they are in the interface between primary school life and middle school life. During English learning process, Chinese is the dominant language in their daily life and English classes. Accordingly, students are accustomed to Chinese thinking pattern in English speaking. In this test, all the participants had been called without consideration over their exam grades. The test was accomplished in the 12<sup>th</sup> week of the second semester over their last year of primary school study, for the pupils had learned the simple comprehensive English grammar during primary school period, their English level is relative more stable than other grades and can best present their real English level in beginning level.

Secondly, through interview with English teachers in the school and browse over their text books, the author knew that Grade 6<sup>th</sup> students were exposed to WH-questions for a short time since they entered into sixth grade. Therefore, these participants could be seen as beginning learners on the acquiring of WH-questions.

#### 2. Research Design

The present study adopted the elicitation task to ask the participants to produce WH-questions based on specially designed picture because such elicitation task tends to truly reflect their mastery of WH-questions. The test contains 16 specially designed colorful picture items.

Each subject was given about 3 minutes to ask three questions according to 16 colorful pictures with three different WH-words chosen from *what*, *where*, *when*, *who* and *how*. In the testing process, there were no instrument and suggestion from the teacher, neither could they discuss with their classmates nor consult a dictionary. 30 audio files were collected. 90 WH-questions were collected during this test.

To better analyze the collected transcription corpus, each subject was numbered as No.1, No.2, No.3 ... No.28, No.29, and No.30 based on the order recorded in record cassettes. Besides, the three questions each subject asked were marked as ①②③.

## III. DATA ANALYSIS AND DISCUSSION

### A. Results of the Test

#### 1. The Percentage of Correct Questions

In accordance with the experiment design, 90 WH-questions had been collected in total. As can be seen from the following table, 29% questions were right. Within 29% correct questions, 27.6% correct questions were the sentence type as "*What is she/ he doing*" or "*What are they doing?*"; 31% correct questions were the sentence type as "*Where is she/he?*" or "*Where are they?*". Therefore, the percentage of 29% correct questions actually are made of two main sentence types—"what + be + sb +doing" and "where + be + sb", in proportion of 59%.

The present study calculated the accuracy rate of the WH-questions by Chinese primary level English learners and found that majorities of the participants have acquired WH-questions unsuccessfully.

TABLE I  
PERCENTAGE OF CORRECT QUESTIONS

Questions	Correct Questions	Incorrect Questions
Percentage	29%	61%

Note: 90 WH-questions were collected in total.

## 2. The Preference and Frequency of WH-words Type

To verify EFL beginning learners tend to choose what kinds of WH-words, the present experiment figures out the frequency of every WH-word subjects used. From the table below, it can be seen that subjects prefer to use “*what*” to ask objects in pictures and to use “*where*” to ask places where activities happened. Besides, subjects tend to ask the way people do their task by using “*how*” to ask questions.

TABLE2  
FREQUENCY OF WH-WORDS

WH-words	What	Who	Where	When	How
Frequency	37	6	18	12	16
Percentage	41%	6%	20%	13%	18%

Note: 90 WH-questions were collected in total.

### B. Errors Analysis

In order to know what kinds of errors will be made in the process of acquiring English WH-questions by Chinese English beginning learners, the present study classifies all the errors into four types on the basis of subject-auxiliary inversion errors, lack of *do*-support, lack of articles and lack of vocabulary.

#### 1. Subject-auxiliary Inversion Errors

Results showed 9 interrogative sentences have subject auxiliary inversion errors. For example, *what color it is*, *what I can get coin*, *what they are watching*, *where it is* etc. Above these interrogative sentences should be moved auxiliary verbs in front of the subject.

A little part of subjects can correctly speak out WH-questions like No.7 ① *Where is she from?* No.10 ① *How old is she?*, No.12 ③ *What are they doing?*. These questions were frequently asked by subjects who speak these questions without hesitation. Once they try to create some new interrogative sentences, errors occur.

(13a) *What color it is?* (No.2 ③)

(14a) *What flower it is?* (No.11 ③)

(15a) *What dance it is?* (No.27 ③)

From above examples, we can conclude that subjects were highly influenced by Chinese sentence structure for they are used to say *ta shi*. Therefore, when they want to ask something they do not know, they would like to say *what... it is?*

#### 2. Lack of Do-support

About 15 interrogative sentences are lack of *do*-support, occupying a major proportion in all WH-questions asked by subjects. Questions like “*what class he have?*” “*Where I buy paopao?*” “*When JieMu begin?*” *Do* play an important role in these questions. Without *do*-support, these sentences are grammatically wrong.

There are 15 questions that are lack of *do*-support, accounting for 23% of the total. Therefore, lacking of *do*-support is the most serious problem.

(16) *What box look like?* (No.3 ③)

(17) *How often they play?* (No.14 ②)

(18) *When show begin?* (No.20 ①)

In English, there are obvious grammatical markers. But Chinese does not have strict forms, so it is easy for beginning learners to ignore the use of auxiliary words. In addition, Chinese verbs do not have any changes in its forms or some sentences do not need any verbs. Therefore, beginning learners will sometimes miss verbs or auxiliary verbs. It can be seen that subjects ignored using “*do*” to support the whole sentence.

#### 3. Lack of Articles

12 interrogative sentences are lack of articles “*the*” or “*a/an*”. To ask questions according to pictures, “*the*” is supposed to be used in front of nouns while nearly all subjects ignore or have no idea about articles. For instance, *how old is boy?* *Where is boy in?* *Who teach boy?* *Where is show?* The correct way is to add *the* before “*boy*” and “*show*”.

12 interrogative sentences are lack of articles “*the*” or “*a/an*”. Examples are listed below.

(19) *Who have money box?* (No.1 ②)

(20) *How about pizza?* (No.10 ②)

(21) *What JieMu is?* (No.21 ③)

The above three examples are the instances of “lacking of articles”. English determiners are the articles *the* and *a(n)*, which indicate the presence or absence of definiteness of the noun. However, in Chinese, people do not have this habit. So subjects, especially for beginning learner, usually ignore the use of articles.

#### 4. Lack of Key Vocabulary

Sometimes, subjects forget some key words resulted in the ambiguity of sentence meaning. “*What day is? What they look? What game is?*” are examples of lacking key vocabularies. Moreover, subjects would choose Chinese words in place of English words, like “*Xiao Chou*” in “*What is Xiao Chou doing?*” and “*GangQin*” in “*When you study GangQin?*”, when subjects do not know related English words.

In this situation, subjects sometimes have no idea about vocabularies they want to express but are eager to say something in English which leads to preference to using Chinese words and phrases to replace related English lexical.

(22) *Where I buy paopao?* (No.13 ③)

(23) *What is Xiao Chou doing?* (No.19 ②)

(24) *What JieMu is?* (No.21 ③)

*Paopao, Xiao Chou and JieMu* are examples subjects used to replace English words *bubbles, clown and programme*. They have learned these words in class but forget them or cannot remember them immediately when in need.

### 5. Ambiguous Questions

Besides the four main error types discussed above, the study has found some special errors not belonging to the above conditions. First, “*when it snow*” should be “*when it snows*”, “*what can help he?*” should be “*what can help him*”. Second, “*what color boy cloth*” is an ambiguous sentence but we can induce the subject was trying to ask the color of the cloth that the boy wears. Therefore, the correct way is “*what the color of the cloth that boy wear?*” which is a complex WH-questions. Third, “*how much pizza*” obviously was asking the prize of the pizza in the picture and we can easily get the meaning the subject was trying to express but “*how much pizza*” is an incorrect interrogative sentence from the perspective of grammar. Last but not the least; “*who is play Xiao Chou?*” is hard to understand. The author interviewed the subject who produced the question. He wanted to ask who acted as a *Xiao Chou*. But the sentence he uttered turned out to be very ambiguous.

## IV. CONCLUSIONS

### A. Major Findings

In accordance with the experiment design, 90 WH-questions had been collected in total. The percentage of correct questions is 29%, which shows these Chinese English beginning learners haven’t had a good command of simple WH-questions for 71% were wrong. Subjects prefer to use “*what*” to ask objects in pictures and to use “*where*” to ask places where things happened. Besides, subjects tend to ask the way people do their task by using “*how*”. Respectively, “*what*”, “*where*” and “*how*” is in proportion of 41%, 20% and 18%.

After classifying all the WH-questions, the thesis finds out that there are mainly four patterns of errors—subject-auxiliary inversion errors, lack of do-support, lack of articles and lack of key vocabularies—in the process of acquiring English WH-questions by Chinese English beginning learners. And if beginning learners would like to express multiple meanings in one WH-question, it can easily produce many errors.

Several factors are found to account for these errors. Main factors are negative transfer, over generalization and developmental factors. Chinese is topic-prominent language while English is subject-prominent language. This phenomenon is caused by transfer from learner’s first language. Chinese learners are especially influenced. “*When show begin?*”(No.20①) is a good example to explain this. Subject No.20 tried to ask the beginning time of the show but he just used three words to express his idea. In Chinese, the question should be “*JieMu shenme shihou kaishi?*” Obviously, subject No.20 was influenced by Chinese, for his use of word-to-word to ask questions in English. Generally speaking, learners with low proficiency level generate more meanings than a simple question can express. “*When baby birth?*” (No.28①) is a typical example on over generalization. Subject No.28 expressed his idea about baby’s birthday with only three single words. The last one is developmental factor. With the development of learners’ primary level and learners’ gradual perception and understanding of the L2 rules, learners begin to try to employ various sentence structures.

### B. Implications

On one hand, Spoken English should be paid more attention in teaching. As to negative transfer, teachers should warn students to identify the differences between English and Chinese WH-questions and guide them to produce correct WH-questions. Complex sentence types like WH-questions should be instructed more carefully and patiently. Grammatical items could be taught through in-class activities. English teachers should adjust their teaching methods and adopt different methods to make grammar class lively and interesting. Besides, English teaching materials should be authentic and interesting. Students should be exposed to more authentic WH-questions situation to get sufficient language input.

### C. Limitations

Obviously, there exist a few limitations in the study and they remain to be improved in the future research.

Since the present study only recruited 30 pupils in Grade 6 from one primary school, the findings of this study are not a reflection of the characteristics in whole groups of Chinese EFL beginning learners, and the tentative explanations in this study may not be able to apply to problems of other beginning learners. The experiment design of future study could be more diversified such as puppet show and situation record. Besides, elicitation test is relatively subjective compared with corpus-based approach. With a combination of corpus-based approach, the study would be more objective and convincing.

#### REFERENCES

- [1] Adger, D. (2003). *Core Syntax: A Minimalist Approach*. Oxford: Oxford University Press.
- [2] Cao Lijiao. (2007). *The Acquisition of WH-questions by English and Chinese Bilingual Children*. Master Dissertation. Beijing Language and Culture University.
- [3] Cheung, Alice S.-Y. and Lee, T. (1993). Cantonese-speaking Children's comprehension of Wh-questions. *Proceedings of the 25th Annual Child Language Research Forum*, Stanford: Center for the Study of Language and Information, 106-117.
- [4] Curme, George O. (1931). *Syntax*. Printed in the United States of America.
- [5] Deng Jinlei (2009). *The Acquisition of WH-questions by English-speaking Children*. Ph D dissertation. Shanghai International Studies University.
- [6] Ervin-Tripp, S. (1970) "Discourse Agreement: How Children Answer Questions." *Cognition and the Development of Language*. New York: Wiley.
- [7] Hawkins, R. (2001). *Second Language Syntax*. Oxford: Blackwell.
- [8] Hawkins, Poger. (2001). *Second Language Syntax: A Generative Introduction*. Oxford: Blackwell.
- [9] Huang, J. (1982). Move WH in a language without WH movement. *Linguistic Review*, 1(4), 369-416.
- [10] Huang, J. (1982). *Logical Relations in Chinese and the Theory of Grammar*. Ph D dissertation, MIT. .
- [11] Kim, J. T. (1995) *The Acquisition of WH-questions in English and Korean*. Ph D dissertation. University of Hawaii.
- [12] Lado, R. (1957) *Linguistic Across Cultures: Applied Linguistics for Language Teachers*. Michigan: University of Michigan Press.
- [13] Quirk, R., et al. (1985). *A Comprehensive Grammar of the English Language*. London: Longman.
- [14] Rowland, C. F., J. Pine. (2000). Subject-auxiliary Inversion Errors and Wh-question Acquisition: "What Children Do Know?". *Journal of Child Language* 27.1: 157-181.
- [15] Saunders, N. J. (1983). "Will You Get Off This Plane Somewhere? Form and Function in the L2 Acquisition of English by Japanese." *Occasional Papers-Applied Linguistics Association of Australia* 6: 66-83.
- [16] Stromswold, K. (1988).Linguistic Representations of Children' s WH-questions. *Papers and Reports on Child Language Development*. 27: 107-114.
- [17] Tsai, W.-T. D. (1999). On Lexical Courtesy. *Journal of East Asian Linguistics* 8.1:39-73.
- [18] White, L. (1990).Second Language Acquisition and Universal Grammar. *Studies in Second Language Acquisition* 12.2:121-133.
- [19] Wilhelm, A., K. Hanna. (1992). On the Acquisition of WH-questions. *Calgary Working Papers in Linguistics* 15: 89-98.
- [20] Xu Jie. (1999). The Category and Pattern of Interrogatives. *Studies in Language and Linguistics* 2:22-36.
- [21] Yoshiaga, Naoko. (1996).WH-questions: A Comparative Study of Their Form and Acquisition in English and Japanese. Ph D dissertation. University of Hawaii.

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