THE ACQUISITION OF MULTIPLE WH-QUESTIONS BY NATIVES AND NON-NATIVES

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ABSTRACT

This paper was an attempt to investigate the acquisition of English multiple wh-questions by natives and non-natives of English. Persian grammar is known to license a wider range of multiple wh-questions, whereas this is not the case for English grammar. It means that such questions are not all grammatically acceptable in English. Acceptability judgments were obtained on six different types of multiple wh-questions by natives and non-natives of English. The findings revealed that the Persian learners’ knowledge of multiple wh-questions is completely different from that of native speakers. Further, the high proficiency level learners outperformed the other group (intermediate level students) in accepting English multiple wh-questions. Moreover, the present study examined the role of transfer in these kinds of questions and the consequences of this finding for the theory of Universal Grammar in second language acquisition.

KEYWORDS: multiple wh-questions, Universal Grammar, full-access hypothesis, non-access hypothesis, partial-access hypothesis.

I. INTRODUCTION

How an individual acquires a language has always been an interesting and motivating question for many researchers in various fields of study, especially applied linguistics. It seems that discussions concerning first language acquisition process have been formulated within the theory of Universal Grammar (UG) (Chomsky, 1980). At the same time, many second language acquisition (SLA) researchers debating the status of UG in second language acquisition (Özçelik, 2009) have been trying to test whether L2 acquisition follows the same procedures or not.

However, some SLA researchers argue that UG is directly available in L2 acquisition (Dekytspotter et al., 2004; Mazurkewich, 1988; White, 2003). Since native speakers end up with a highly complex unconscious mental representation of their language even though many properties of language are not explicit in the input, it seems most unlikely that L2 input will contain explicit information about these kinds of properties in the L2; thus, if L2 learners attain unconscious knowledge of the L2 which goes beyond the input in similar ways, “it suggests that UG must still be involved” (White, 1989). This is called full-access hypothesis (Epstein et al. 1996; Schwartz & Sprouse, 1996).
Some others believe that UG does not play any role in an L2 acquisition process (e.g. Bley-Vroman, 1990; DeKeyser, 2000). They emphasize difficulties faced by L2 learners and differences between L1 and L2 acquisition. This is also called non-access hypothesis (Bley-Vroman & Yashinaga, 2000). For L2 learners, it is claimed that more general cognitive mechanisms are responsible for acquisition rather than language-specific guidance provided by UG.

Between the two extreme positions, researchers such as Flynn (1984) and White (1988) have assumed an active role for UG but one which also involves the L1, i.e. principles and parameter settings from L1 are sometimes assumed by the L2 learner and then can be reset to the values of the second language. This is called partial-access hypothesis in which the initial state for SLA is first language (L1) grammar (Schwartz & Sprouse, 1996; Eubark, 1996).

On the other hand, some second language learners have been evidenced to stumble into rogue or wild grammars on the road to the L2 (Klein, 1995). A wild grammar does not conform to UG, by breaking the principles or having illicit parameter settings not permitted in L1 and L2.

To investigate UG claims, the present study attempted to test L2 learner’s innate knowledge of UG and to offer potential evidence for wild and transfer grammars in the interlanguage (IL) of Persian learners of English perceiving multiple wh-questions.

2. REVIEW OF LITERATURE

Movement seems to be one of the most important principles of the theory of Principles and Parameters according to which a category can be moved to a target position (Chomsky & Lasnik, 1993). Also, in the minimalist program the operation Move plays a very important role and together with the operation Merge are two important structure builders (Uriagereka, 1998).

Although in early 1980s, models assumed movement to be an optional phenomenon, Pesetsky and Torregro (2001) believe that movement must be triggered, and it seems that the existence of an uninterpretable feature is the triggering force.

Within the minimalist framework, wh-movement can be defined as the operation according to which the wh-phrase moves to the specifier of CP to check a wh-feature in C (Carnie, 2003). Similarly, Denham (1997) points out that wh-movement is a parameterized fact about language, according to which whether a language has overt wh-movement or not is invariant in a language. Radford (1997) believes that in order to interrogate a statement, the wh-element moves and occupies the specifier position within CP (Spec-CP). Unlike English ones, Persian wh-questions involve the movement of wh-phrases to a preverbal focus position (Kahnemuyipour, 2001). This movement is different from syntactic wh-movement in that it does not involve movement of wh-phrase to [Spec, CP], triggered by a [+wh] feature in C.

Bley-Vroman and Yoshinaga (2000) dealing with sentences such as: (1) Who ate what? (2) Who sat where? (3) Who sang where? (4) Who went when? (5) Who came how? (6) Who cried why? assume that (1) and (2) are more acceptable than (3) and (4), but (5) and (6) are not acceptable because of the standard account in the Principles and Parameters framework relying
on the Empty Category Principle (ECP) and on the fact that complements but not adjuncts are lexically governed. Haegeman (1994) believes that the trace of the subject wh-word (who) is antecedent-governed from the Spec of CP at LF. The traces of objects in (1) and (2) are in lexically governed positions, but the traces of adjuncts in (5) and (6) are not; hence, it violates the ECP. On the other hand, the split in grammaticality at the adjunct-complement divide, which is present in English, seems to be missing in Persian. They are all natural in Persian (Kahnemuyipour, 2001).

Huang (1982) argues that the traces of whereA and when can be lexically governed by null prepositions, whereas traces of how and why cannot. So adjuncts whereA and when seem to be more acceptable than adjuncts how and why.

Aoun et al. (1987) attribute the differences in acceptability of adjuncts to differences in the referentiality of whereA/when vs. how/why, saying that locational and temporal adjuncts are referential (as suggested by the existence of pronouns that can be used coreferentially: here, there, then, now), whereas manner and reason adverbs are less likely to be referential.

Kuno and Takami (1993) attribute the special characteristics of how and why in part to functional and discourse-based effects. They propose that syntax requires how and why to be base-generated left-most in questions. However, sentences like these are ruled out by additional, functionally based Sorting Key Hypothesis.

From an empirical point of view, one can argue that although many studies have been conducted dealing with wh-movement or multiple wh-movement it seems that more studies are needed, since this principle is quite central in the theory, as Yusa (1999) points out “wh-movement has been at the forefront of generative grammar since its beginning” (p. 289). At the same time, considering second language acquisition, it is even more significant because there are many languages which do not observe wh-movement. Studies are needed to see whether learners whose languages do not observe wh-movement acquire these principles (Bley-Vroman et al. 1988), or they transfer from L1 (Yusa, 1999).

The present study is an attempt within the same line of inquiry, i.e., to see to what extent Iranian L2 learners of English whose L1 (Persian) is neither a language with syntactic wh-movement nor a wh-in-situ language perceive the knowledge of multiple wh-questions.

3. METHODOLOGY

3.1. PARTICIPANTS

The overall population in this study consisted of 40 participants. On one side, 30 participants were a small population of Mazandaran University, Iran studying English as a foreign language (EFL) who were randomly selected. They were junior and senior students of the university. English proficiency of these learners was measured by the grammar section of the test of OPT (Oxford Placement Test). Because these students had different levels of English we grouped them according to the results of a placement test they took. As a result of this grouping,
we had two levels of L2 students: the students at the advanced level who were half standard deviation above the mean and the rest were called the intermediate level students.

On the other side, there were 10 native speakers who were randomly selected from internet or among those coming to the country, Iran as tourists or those living here as residents. Because of the difficulty in finding native speakers of English, the number of this group is ten and they were selected according to the stratified sampling.

3.2. INSTRUMENTS

To begin with, the 30 Persian participants were administered the standard test of English grammar (Oxford Placement Test-Grammar). On the basis of the results obtained on this test, they were divided into two groups: the advanced and the intermediate groups. Those who were half standard deviation above the mean were grouped as advanced and the other as intermediate. This test consisted of 100 multiple-choice grammar items. The other test material which was a test of multiple wh-questions consisted of four tokens of each of six types of multiple wh-questions (a total of 24 items). There were two translation-equivalent versions of this test embodying grammaticality judgment items: one in English and one in Persian. The test consisted of some instructions followed by some pages of test materials. At the end, there was a space for voluntary comments or opinions. All of the Persian and English participants were asked to rate the acceptability of the English sentences. Besides, Persian learners were required to rate the acceptability of the Persian equivalent of the test. In this test, a seven-point rating scale was used, ranging from -3 to +3, completely impossible to completely possible.

3.3. PROCEDURE

Near the end of the spring semester of 2011, two weeks before the final exams at Mazandaran University, the three tests were administered to those two advanced and intermediate level students.

To begin with, the proficiency test of English was administered to the participants during the first session. Instructions were carefully read and explained to the participants before the test was taken. On the next stage and during the next session, tests of multiple wh-questions first the English equivalent of the test and next the Persian one were administered to the Persian learners of English. The English equivalent test of the multiple wh-questions was administered to native speakers of English; all Persian speakers completed both the English and Persian test. Following the standard practice, the Persian participants took the English test first, then the Persian test. This avoided any direct carry-over from Persian judgments to English. There was no time limit.

4. RESULTS

At the start of the experiment, the mean and standard deviation of the multiple-choice test of proficiency – grammar were calculated in order to divide the Persian learners of English into two groups of advanced and intermediate.
To address hypotheses 1 and 2, a one-factor repeated-measures analysis of variance (ANOVA) was performed for each set of native-language data, both English and Persian ones in order to determine whether there were significant differences between the natives’ results and the theoretical linguistics. The one within-subjects factor was sentence (what, whereC, whereA, when, how and why).

For testing hypothesis 3, a two-tailed t-test was performed to determine the significance of the overall differences between the advanced and the intermediate students’ performances in judgments of English multiple wh-questions.

Moreover, to determine the significance of the overall differences between English native speakers’ performances and Persian subjects’ performances in judgments of English multiple wh-questions, a two-factor repeated-measure of ANOVA was also performed. The alpha decision level was set at .05 for all inferential statistics, with adjustments for multiple comparisons as appropriate.

The results of the ANOVA indicated that the effect of sentence type was statistically significant for English – F(5, 9) = 0.304* (*significant at p< 0.05), p = 0.171, reflecting the fact that there was a clear decline of the acceptability from what type to how and why types (Table 1 and Figure 1). The effect of sentence type was also statistically significant for Persian – F(5, 29) = 0.533*, p = 0.115. Although there was no slope as the one in English, all sentence types were close to intermediate acceptable and even the lowest was 0.6 (Table 1 and Figure 1).

From this result our first and second research questions that native speakers of English and Persian distinguished among the six types of English multiple wh-questions were confirmed. Since English natives accepted all but those with subject who and how or why as ungrammatical, Huang (1982), Aoun et al. (1987) or Kuno and Takami (1993) are correct in their theoretical background.

### TABLE 1: DESCRIPTIVE STATISTICS FOR ENGLISH RATINGS (EE) AND PERSIAN RATINGS (PP)

<table>
<thead>
<tr>
<th>Wh-questions</th>
<th>English(EE)</th>
<th>Persian (PP)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Mean</td>
</tr>
<tr>
<td>What</td>
<td>10</td>
<td>2.775</td>
</tr>
<tr>
<td>WhereC</td>
<td>10</td>
<td>1.550</td>
</tr>
<tr>
<td>WhereA</td>
<td>10</td>
<td>0.625</td>
</tr>
<tr>
<td>When</td>
<td>10</td>
<td>0.05</td>
</tr>
<tr>
<td>How</td>
<td>10</td>
<td>-2.275</td>
</tr>
</tbody>
</table>
The results indicate that for English the what type is nearly perfect; the whereC type is clearly on the acceptable side; and the whereA type, though lower, is also on the acceptable side and finally when type is acceptable and close to the border line, and the how and why types are on the unacceptable side. For Persian, every type is very close to intermediate possibility, with means never lower than 0.6.

The results of a two-factor repeated measures of ANOVA indicated that there was a significant interaction of language with sentence type, F(5, 239)=1.691*, p=0.013. This reflects the fact that the non-natives rated six types of multiple wh-questions differently from native speakers of English. As Table 4 shows the major break lies between the what type and the other sentence types, reflecting the fact that Persian non-native speakers rated the what type as being of low acceptability, but they rated the rest as unacceptable.

The values of the t-test offer evidence that the difference between the performances of the advanced and the intermediate groups on the test of multiple wh-questions was statistically significant, that is, the level of proficiency has a statistically positive effect on the acceptability judgments of multiple wh-questions at the significance level of 0.5 (Table 3).

**FIGURE 1.1 MEAN DIFFERENCES AMONG 6 TYPES OF MULTIPLE WH-QUESTIONS IN ENGLISH BY NATIVE SPEAKERS.**
Concerning transfer, since our study is based on Huang, Aoun et al.’s or Kuno and Takami’s theoretical account, we focus on how and why type sentences. Table 4 shows the numbers and percentages of the learners accepting the English how and why type sentences as correct like the ones in Persian.

**TABLE 2: SUMMARY OF THE PLANNED COMPARISON FOR LEARNERS’ DATA IN COMPARISON TO NATIVE ENGLISH DATA**

<table>
<thead>
<tr>
<th></th>
<th>English learners</th>
<th>F-value</th>
<th>P-value</th>
<th>F-value</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>What vs. whereC</td>
<td>0.337</td>
<td>0.883</td>
<td>1.185</td>
<td>0.383</td>
<td></td>
</tr>
<tr>
<td>WhereC vs. when</td>
<td>2.418</td>
<td>0.462</td>
<td>2.984</td>
<td>0.022</td>
<td></td>
</tr>
<tr>
<td>WhereA vs. when</td>
<td>6.686</td>
<td>0.074</td>
<td>7.562</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>What vs. how</td>
<td>2.177</td>
<td>0.208</td>
<td>3.303</td>
<td>0.020</td>
<td></td>
</tr>
<tr>
<td>How vs. why</td>
<td>0.816</td>
<td>0.566</td>
<td>1.713</td>
<td>0.166</td>
<td></td>
</tr>
</tbody>
</table>

Note: *p <0.05
# TABLE 3: RESULTS OF TWO-TAILED T-TEST FOR THE ENGLISH MULTIPLE WH-QUESTIONS JUDGED BY PERSIAN L2 LEARNERS OF ENGLISH

<table>
<thead>
<tr>
<th>Wh-questions</th>
<th>Levels</th>
<th>Means</th>
<th>SD</th>
<th>t-test</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>What</td>
<td>Advanced</td>
<td>0.812</td>
<td>1.466</td>
<td>1.358</td>
<td>0.202</td>
</tr>
<tr>
<td></td>
<td>Intermediate</td>
<td>-0.208</td>
<td>1.528</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WhereC</td>
<td>Advanced</td>
<td>-0.083</td>
<td>1.756</td>
<td>-0.041</td>
<td>0.968</td>
</tr>
<tr>
<td></td>
<td>Intermediate</td>
<td>0.319</td>
<td>1.192</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WhereA</td>
<td>Advanced</td>
<td>-0.208</td>
<td>1.356</td>
<td>0.604</td>
<td>0.558</td>
</tr>
<tr>
<td></td>
<td>Intermediate</td>
<td>0.694</td>
<td>0.932</td>
<td></td>
<td></td>
</tr>
<tr>
<td>When</td>
<td>Advanced</td>
<td>-0.020</td>
<td>1.367</td>
<td>-0.666</td>
<td>1.098</td>
</tr>
<tr>
<td></td>
<td>Intermediate</td>
<td>1.540</td>
<td>0.152</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How</td>
<td>Advanced</td>
<td>-0.041</td>
<td>1.591</td>
<td>0.316</td>
<td>0.758</td>
</tr>
<tr>
<td></td>
<td>Intermediate</td>
<td>-0.472</td>
<td>1.621</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Why</td>
<td>Advanced</td>
<td>-0.625</td>
<td>1.737</td>
<td>-0.627</td>
<td>0.548</td>
</tr>
<tr>
<td></td>
<td>Intermediate</td>
<td>-0.38</td>
<td>1.133</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

# TABLE 4: THE NUMBERS AND PERCENTAGES OF ENGLISH LEARNERS ACCEPTING THE ENGLISH WHY AND HOW TYPE SENTENCES AS CORRECT LIKE THE PERSIAN HOW AND WHY TYPE SENTENCES

<table>
<thead>
<tr>
<th>Wh-questions</th>
<th>Intermediate</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>How</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>Percent</td>
<td>50%</td>
<td>33.3%</td>
</tr>
</tbody>
</table>
Then the collected data shows that generally 33.3 and 50 percent of the learners (advanced and intermediate) accepted the English why and how type sentences correct like the ones in Persian. This is called native-like transfer. Of course, it is not quite clear whether they have transferred from their mother tongue or they have overgeneralized the L2 rules.

5. CONCLUSION

The purpose of the current study was to investigate to what extent Persian learners of English have perceived knowledge of English multiple why questions and to see whether the level of proficiency has any effect in answering these sorts of questions. The results of the study revealed that the subjects’ knowledge of multiple why-questions is completely different from that of native speakers considered as an experimental group in this study. The high proficiency level learners outperformed the other group (intermediate level students) in accepting English multiple why-questions.

5.1. THEORETICAL IMPLICATIONS

According to White (1995), an interlanguage grammar is a linguistic system constrained by Universal Grammar. UG contains some fixed principles (Chomsky, 1981b; 1986a) as well as parameters “with a limited number of values, known as parameter setting” (White, 1992: 217), and as UG contains many parameters, it is quite likely that they will not be reset at the same time, resulting in interlanguages which are neither like the L1 nor the L2.

At the same time, White (1998) argues in current debates on the nature of interlanguage grammars and the extent to which UG is involved in L2 mental representation, it is frequently assumed that where L1 and L2 acquisition differ, L2 learners are at disadvantage (p. 425).

Although in this study it was concluded that Iranian L2 learners of English do not have direct access to UG, it does not mean that UG is dead for these learners; however, whether UG is absent or indirectly available is beyond the scope of this study and requires further investigations.

But it should be pointed out, however, that the approach towards UG availability has changed in more recent years. While White (1989) proposes “pure UG hypothesis”, “UG is dead hypothesis” and “partial availability of UG” in second language acquisition as the ways of accessibility to UG, some researchers adopt a different approach (Freidin, 1996; Yusa, 1999).

Yusa (1999) indicates that, within the minimalist program framework and as far as second language acquisition is concerned, “the UG is dead hypothesis” cannot be formulated because “everyone who has acquired a single language has internalized the CHL that underlies any other language including the L2 language” (p. 295).

5.2. PEDAGOGICAL IMPLICATIONS

It could be possible to include recent SLA research findings in language teaching strategies because as Sharwood-Smith (1993) indicates language teaching cannot be scientifically based unless SLA research comes to help it.
As far as UG principles are concerned, neither is explicit teaching of principles possible nor is it acceptable. However, language teachers can adopt other strategies in order to teach L2 learners.

The findings of this study show that Persian speaking L2 learners of English have problems learning multiple wh-question because they do not distinguish among the six different types of multiple wh-questions. Since Persian is neither a wh-in-situ nor a wh-movement language and the fact that it is not quite clear whether these structures are transferred from their mother tongue or not, one can conclude that Iranian L2 learners of English might overgeneralize L2 rules for perceiving multiple wh-questions.

Although explicit teaching of multiple wh-movement is not possible and acceptable, English language teachers can include, in their input, negative evidence for the purpose of teaching (multiple) wh-questions. They can give their students some ungrammatical instances of (multiple) wh-questions, and show them that ungrammaticality exists in both statements and (multiple) wh-questions. Of course, it should be pointed out that these suggestions require further investigations. However, many studies have shown the importance and effectiveness of providing negative evidence in L2 acquisition process (White, 1991; Izumi & Lakshmanan, 1998; Hino, 2006).

REFERENCES


