

Article and Preposition Use in Interlanguage Development: A Case Study Based on Two Access Positions of UG Perspective

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Abstract. The theory of Universal Grammar (UG) has aroused intense research interest in language acquisition. However, scholars hold different positions on the accessibility of UG in second language acquisition (SLA). The aim of the case study was to identify a L2 learner's patterns of preposition and article use and determined the accessibility of UG in interlanguage development. Two assumptions of research design were raised based on the indirect access position and full access position of UG. 7 patterns of preposition and article use were eventually identified by error analysis. 6 patterns were categorized as L2 grammatical overgeneralization while 3 patterns were considered as L1 transfer. The final results therefore presented that UG was generally available and directly accessible in the L2 learner's preposition and article acquisition. The research method provided a potential framework for future study on UG through error analysis. Moreover, this work also implied that UG may show different accessibility in different word classes. Future work should focus on the determination of UG's accessibility in different lexical categories.

Keywords: Accessibility; Universal Grammar (UG); Second Language Acquisition (SLA); Interlanguage; Case Study.

1. Introduction

The theory of Universal Grammar (UG) has attracted widespread research interest in the field of language acquisition since the concept of UG was developed by Chomsky and other linguists in the 1980s. It assumes that children have the innate knowledge of the principles of universal grammar which helps them learn the language in their environment during a critical period and provides a new perspective in interpreting the "logical problem of language acquisition" [1-3]. Even though the UG theory achieves great success in explaining children language acquisition and has been considered as one of the formal approaches in the research of second language acquisition (SLA), the accessibility of UG in SLA has been difficult to confirm as there are significant differences between the learning processes of second language (L2) and first language (L1) [2, 4].

Linguists endeavored to figure out the accessibility of UG in SLA and held different access positions, which generally fall into three main categories: 1) No access position, 2) Indirect access position and 3) Full access position [5-7]. Given that there are different views on the use of linguistic terminologies, this paper classified such positions based on the accessibility of UG's innate knowledge [8]. No access position maintains that the innate knowledge of UG is neither available nor accessible in L2 acquisition while other psychological and cognitive mechanisms promote the L2 acquisition of learners [5, 9, 10]. Clahsen and Muysken conducted a comparative analytical study on the acquisition of German word orders between native and non-native learners [9]. They found that native German speakers acquire SOV structure first and then gradually learn SOV structure while non-native speakers acquire SVO structure first and then learn SOV structure gradually. Hence, they argued that UG only plays a role in L1 acquisition, while in L2 acquisition, learners use both information processing principles and problem-solving strategies to formulate their own grammatical system of L2. Indirect access position stresses that the innate knowledge of UG is available and has indirect access to learners' L2 acquisition via L1 [4, 6, 11, 12]. Bley-Vroman mentioned the necessity of explaining the "logical problem of foreign language learning" that how foreign language acquisition takes place considering the limitation of the data [13-14]. In the Fundamental Difference Hypothesis, he argued that children language learning and adult foreign language acquisition are two different processes and the influence innate system in adult L2 acquisition may be much weaker and

imperfect than that in L1 acquisition. Some scholars categorized the Fundamental Difference Hypothesis as no access position [5, 8, 15]. However, the Fundamental Difference Hypothesis likewise concentrates on the indirect accessibility of UG mediated by L1. Since the availability of UG still exists in the Fundamental Difference Hypothesis, this paper classified this hypothesis as indirect access position. Full access position believes that the innate knowledge of UG is directly available and accessible in both L1 and L2 acquisition and is considered as one of the significant approaches in SLA [6, 8, 16]. Epstein, Flynn and Martohardjono argued that the linguistic term “full access” should be only used to present the influence of UG on interlanguage grammar which is independent of the influence imposed by L1 grammar [17]. However, as the influence of L1 grammar and UG are compatible in L2 acquisition, it is possible that one linguistic pattern could be influenced by both sides [18]. Hence, the term “full access” stresses the direct availability and accessibility of UG within the combined influence of UG and L1. White outlined 5 hypotheses of full access position according to the different priorities between L1 and UG [8]. Gass and Selinker classified such hypotheses based on the starting points of L2 acquisition [4]. Full Transfer/Full Access Hypothesis, Minimal Trees Hypothesis and Valueless Features Hypothesis are categorized as L1-based hypotheses while Initial Hypothesis of Syntax and Full Access/No Transfer Hypothesis are classified as UG-based hypotheses. Even though such hypotheses held different views on which of L1 and UG playing a more significant role, all of them maintain that UG is available and directly accessible enough in L2 learning to restrict the learner’s interlanguage grammar [8].

Although various views and hypotheses on the accessibility of UG have been raised, little research has addressed the problem that which of the access positions provides a more persuasive interpretation of L2 learners’ linguistic patterns of function word use. This paper focused on how an individual L2 learner uses articles and prepositions in interlanguage development and to what extent UG is directly accessible in SLA. In this work, the accessibility of UG was evaluated based on the indirect access position and full access position of UG. Both positions argue that UG is available in L2 acquisition but the accessibility is different. Indirect access position maintains UG has no direct access while full access position believes that UG is directly accessible to L2 learners. This case study discussed which of such two access positions can provide a more convincing interpretation of the article and preposition patterns in a L2 learner’s interlanguage development. It analyzed the errors and linguistic patterns of preposition and article use through the written material of the learner. Two assumptions of the research design were consequently raised: (1) The full access position offered a more persuasive interpretation about patterns of overgeneralization of L2 grammatical rules. (2) The indirect access position provided a better explanation about patterns of L1 transfer. On the basis of such assumptions, the linguistic patterns were categorized as L1 transfer or L2 grammatical overgeneralization. According to the number of patterns in two categories, this paper argued that the full access position offered a more convincing explanation for the accessibility of UG in the preposition and article use of L2 learners.

2. Methods

The case study involved analyzing the written materials of a Chinese learner who learned English as a second language (ESL) and identifying the noteworthy linguistic patterns of article and preposition use in the learner’s interlanguage development. The L2 learner has been learning English for more than 10 years. English was his first and only foreign language before entering university. All samples were extracted from the primary English written materials of the Chinese ESL learner in his two years of campus life with a total number of 24,222 words, including class assignments, school essays, course papers and speech drafts. Since the L2 learner learned English in China, he seldom communicated with others in English and most of the English input he received came from specialized courses. By contrast, he wrote English essays and assignments in all semesters. Hence, written materials were of greater significance than speech materials in reflecting the learner’s language competence of articles and prepositions use. The research methods obtained case study and

grammatical error analysis through which the L2 learner's errors of preposition and article were collected to identify possible interlingual patterns. With longitudinal data, case study has an advantage in identifying specific linguistic patterns through qualitative descriptions and narrative comments [4]. In this work, all linguistic patterns were interpreted based on two qualitative assumptions of research design: (1) The full access position of UG perspective provided a more persuasive interpretation about patterns of overgeneralization of L2 grammatical rules. (2) The indirect access position of UG perspective provided a better explanation about patterns of L1 transfer. According to the first assumption, patterns of L2 overgeneralization corresponded to the direct accessibility of UG. Overgeneralization of L1 grammatical rules is common in L1 acquisition and is considered as the direct influence of UG [19]. The full access position argues that UG is directly available and accessible in both L1 and L2 acquisition and predicts that L1 and L2 acquisition will proceed in the same way [4]. As L2 learners also make errors of overgeneralization, given the similarity between L1 and L2 acquisition, this paper considered L2 overgeneralization as the influence of UG's direct accessibility. According to the second assumption, patterns of L1 transfer corresponded to the indirect accessibility of UG. The indirect access position maintains that the nature of UG has been modified by L1 grammar and is not directly accessible in L2 acquisition. However, learners rely on the principle of UG in L1 to help them learn L2. Hence, the research considered L1 transfer as the influence of UG's indirect accessibility. Based on such two assumptions, all interlingual patterns were categorized as L2 grammatical overgeneralization or L1 transfer. The conclusion was eventually drawn according to the number of patterns in two categories. Although this research endeavored to categorize these prominent interlingual patterns as the specific influence of L1 or L2, some patterns could be interpreted by both sides. Hence, such patterns were recorded in both categories of L2 grammatical overgeneralization and L1 transfer.

3. Results

3.1 Interlanguage Development

According to the time of data collection, the written materials were divided in 4 periods to present the interlanguage development of the L2 learner.

Table 1. Learner's performance of preposition use in interlanguage development

Data	Period 1	Period 2	Period 3	Period 4
Error Rate	4.20%	3.42%	2.04%	1.35%
Frequency (Per 1000 words)	127.62	117.23	143.33	128.12
Error Frequency (Per 1000 words)	5.36	4.00	2.92	1.72

Table 2. Learner's performance of article use in interlanguage development

Data	Period 1	Period 2	Period 3	Period 4
Error Rate	12.26%	12.14%	7.62%	7.39%
Frequency (Per 1000 words)	108.22	96.94	89.78	84.84
Error Frequency (Per 1000 words)	13.27	11.77	6.84	6.27

Tables 1-2 illustrate the general performance of the L2 learner in two years. Periods 1-4 correspond to four successive semesters of the learner in chronological order over two years. The error rate is the ratio of the number of errors to the number of corresponding word classes. Frequency and error frequency represent the occurrence number of certain word classes and errors. According to the L2

learner's performance in two tables, the error rates of preposition and article use has been decreasing for two years. When the learner began to receive specialized English classes including rhetoric writing class in period 3, a dramatic decline in error rate of both preposition and article was observed. Frequency of article and error frequency of both article and preposition presented a decreasing trend over time. While the frequency of preposition fluctuated during periods 1 to 4 markedly but eventually regressed to the initial level of period 1.

3.2 Error Analysis

The learner's errors of preposition and article were divided into 3 categories, misuse, redundant use and omission. Samples (1) to (12) presented a brief description of the learner's errors.

- (1) get a research finished
- (2) he occupies the Egypt
- (3) in the social development
- (4) kept the goodness in human nature
- (5) such (an) idea
- (6) such (an) event
- (7) a turning point of the relationship between God and humans
- (8) changes of surrounding environment
- (9) has a profound impact for college student volunteers
- (10) has a far-reaching influence in the Chinese modern history
- (11) He visited Guo for several times
- (12) British officers visited him for many times

The learner's errors of article were mainly shown as redundant use and omission. Samples (1) to (6) provided some examples of the learner's article errors. Samples (1) to (4) were redundant use while samples (5) to (6) were omission. In samples (1) to (2), it revealed that the learner mistook "research" as the countable noun and overused "the" before "Egypt". Samples (3) to (4) implied that the learner overused "the" before "social development" and "goodness". As samples (5) to (6) presented, the indefinite article "an" in constructions of "such" was omitted.

The learner's errors of preposition were mostly observed as misuse. Samples (7) to (12) showed different error types of preposition use. Samples (7) to (10) were misuse and (11) to (12) were redundant use. Samples (7) to (8) revealed that the learner misused "of" and the correct preposition was "in". Samples (9) to (10) showed that the preposition "on" following the construction of "have an impact/influence" was replaced by other prepositions. Samples (11) to (12) suggested that the preposition "for" was added to express the frequency.

3.3 Pattern Analysis

7 patterns of preposition and article use were identified from the learner's errors, including 3 patterns of article use and 4 patterns of preposition use. Samples (13) to (30) were listed to explain the learner's linguistic patterns.

- (13) the self-perception is primarily determined by one's nature ...
- (14) the technology advancement now has a profound influence ...
- (15) the higher education indeed achieves its purpose of ...
- (16) God created the heaven
- (17) beams of hazy light illuminated the Fifth Avenue ...
- (18) the kids with different personalities
- (19) In addition to teaching students the practical skills, ...

Samples (13) to (19) presented 3 patterns of article use, covering the learner's redundant use of "the". Pattern 1 was revealed by samples (13) to (15) that the definite article "the" was overused before abstract nouns. The learner tended to add "the" before abstract nouns such as "development", "education" and "technology". Pattern 2 was indicated by samples (16) to (17) that "the" was overused before proper nouns. The learner was inclined to add "the" before proper nouns like country

names, location names and religious vocabulary. Pattern 3 was illustrated by samples (18) to (19) that “the” was overused before the plural forms of nouns. The learner tended to add “the” before plural forms of nouns even if such nouns had no particular meaning in context.

(20) their desire of fame and wealth

(21) my belief of this hope

(22) gain a deeper understanding in the greatness of Diogenes and Alexander

(23) has an understanding in western practical thoughts

(24) makes no contribution in solving social issues

(25) I held the hope to get it

(26) Guo Songtao contacted with the British diplomats

(27) the relevant researches concerning about the development of Chinese science culture

(28) adapt (to) such changes

(29) a genuine warrior who insists (on) his free will rebelling against destiny

(30) staring (at) the sky

Samples (20) to (30) revealed 4 patterns of preposition use. Pattern 4 was presented by samples (20) to (21) that the preposition “of” was overused between two nouns. The learner tended to overuse the preposition “of” to combine two nouns without considering that some nouns had specific prepositional collocations. Pattern 5 was illustrated by samples (22) to (24) that “in” was misused following some verb constructions, replacing other prepositions like “of” and “to”. The learner was inclined to use “in” following the verb constructions related to comments or influence. Pattern 6 was shown by samples (25) to (27) that some prepositions collocating with certain nouns and verbs were misused with words in other word classes. The correct forms of samples (25) to (27) were individually “held the hope of getting it”, “contacted the British diplomats” and “concerning the development”. It suggested that the learner confused the prepositional collocations of words containing different meanings or multiple word classes. Pattern 7 was revealed by samples (28) to (30) that the prepositions following intransitive verbs such as “adapt to”, “insist on” and “stare at” were omitted in verb constructions. The learner was prone to omit some meaningless prepositions after intransitive verbs concerning actions or changes.

4. Discussion

As the L2 learner’s linguistic patterns have been identified in the previous section, this section tried to categorize these patterns as either L2 grammatical overgeneralization or L1 transfer. Ambiguous patterns which could be interpreted by two sides were sorted in both areas.

4.1 Overgeneralization of L2 Grammatical Rules

Patterns 1 to 3 of article use were categorized as the overgeneralization of L2 grammatical rules. According to patterns 1 to 3, the L2 learner tended to add “the” before abstract nouns, proper nouns and plural forms of countable nouns. Such 3 patterns were considered as the overemphasis of definiteness in English. Fan argued that the definiteness in English is marked by the definite article “the” [20]. As there is no article in Chinese, it is impossible for this L2 learner to obtain knowledge of English definiteness from Chinese (L1). The concept of definiteness in Chinese is largely conveyed by the context, which means Chinese people don’t add any markers of definiteness before nouns. When the L2 learner used the definite article, he tended to add “the” to emphasize the definiteness of nouns and even overused it before abstract nouns, proper nouns and the plural forms of countable nouns.

Patterns 4 to 6 of preposition use were generally categorized as the overgeneralization of L2 grammatical rules. According to patterns 4 to 6, the L2 learner was prone to overuse “of”, misuse “in” and confuse some prepositional collocations. For pattern 4, according to the entries in Collins English Dictionary, “of” can be used to combine two nouns in which the second noun provides additional information about the first noun. When the L2 learner generated noun groups like samples (20) to

(21), a prepositional preference for “of” was observed, reflecting the learner’s incomplete knowledge of English prepositions. For pattern 5, according to Collins English Dictionary, the preposition “in” can be used “to specify a general subject or field of activity”. Therefore, the preposition “in” showed in samples (22) to (24) may be encoded as the shortened form of “in the field/aspect of” in the learner’s mind. One evidence was that the learner used correct prepositions in similar verb constructions when the objects after prepositions were animate nouns. For pattern 6, according to the Oxford English Dictionary, “to” should collocate with the verb form of “hope”, “with” should collocate with the noun form of “contact” and “about” should collocate with “concern” instead of “concerning”. However, as samples (25) to (27) indicated, the learner overgeneralized such grammatical rules and used these English prepositions improperly.

4.2 L1 Transfer

Patterns 4, 5, 7 were identified as the results of L1 transfer. As English has a more complex preposition system than Chinese, it reveals that Chinese learners are less sensitive to various English prepositions in L2 acquisition. Under the circumstances, the concepts and constructions of L1 influence the construction of L2 and cause L1 transfer [21]. According to patterns 4 to 5, the L2 learner tended to use prepositions “of” and “in” in noun groups and verb constructions, which was considered as the conceptual transfer of Chinese prepositions.

Table 3. A correspondence between English prepositions “of/in” and Chinese prepositions “dui/duiyu”

Pattern Number	Preposition Constructions in Chinese (L1) and English (L2)		
Pattern 4	dui	mingli de	ke wang
	of	fame and wealth	desire
Pattern 5	dui	jiejue	meiyou zuochu gongxian
	in	solving	make no contribution

Table 3 illustrates a correspondence between English prepositions “of/in” and Chinese prepositions “dui/duiyu”. In pattern 4, when nouns before “of” contained strong subjective willingness like “belief” and “desire”, the function of English preposition “of” partially corresponded to that of “dui” or “duiyu”, a kind of Chinese prepositions used to introduce the objects of behaviors or actions. Similarly in pattern 5, when the verb constructions before “in” were connected with comments or influence, the preposition “in” likewise corresponded to Chinese prepositions “dui” and “duiyu” in the aspect of grammatical functions. Hence, the L2 learner’s use of “in” and “of” was partially influenced by the concept of Chinese prepositions “dui” or “duiyu”.

Table 4. A Comparison between intransitive and transitive verb constructions in English and Chinese

Pattern Number	Verb Constructions in Chinese and English			
Pattern 7	stare	-ing	at	the sky
	ningshi	zhe	-	tiankong
	adapt	to		such changes
	shiyong	-		zhexie bianhua

As pattern 7 revealed, the learner was inclined to omit prepositions collocating with intransitive verbs. Table 4 presents a comparison between intransitive and transitive verb constructions in English (L2) and Chinese (L1). Even though transitive verbs and intransitive verbs both exist in Chinese and English, the division of such two categories is not the same in two languages, which means the transitive verbs in Chinese may correspond to the intransitive verbs in English with similar meanings and vice versa. As there is no preposition in corresponding Chinese expressions of “adapt to”, “insist

on” and “stare at”, it revealed that the L2 learner tended to omit the meaningless prepositions following verbs concerning actions or changes under the influence of L1.

In this paper, 7 interlingual patterns were eventually identified through the error analysis of the learner’s written materials. Patterns 1-6 were categorized as the overgeneralization of L2 grammatical rules while patterns 4, 5, 7 were categorized as L1 transfer. Hence, the full access position offered a more convincing explanation of UG’s accessibility in the L2 learner’s interlingual patterns, implying that UG was generally available and directly accessible in the L2 learner’s acquisition of preposition and article. Specifically speaking, as there is no concept of article in Chinese, patterns 1-3 of article use were identified as the overemphasis of English definiteness. With regard to patterns of preposition use, both L2 grammatical overgeneralization and L1 transfer took place. Patterns 4-6 were considered as the overgeneralization of English prepositional grammar while in patterns 4, 5, 7, the influence of Chinese preposition transfer and expression transfer was explicitly observed.

5. Conclusions

Previous study on the accessibility of UG mainly focuses on the accessibility of certain principles of UG in learners’ L2 system where judgment of grammaticality and cross-sectional study are widely used to evaluate the gap of language competence between L2 learners and native speakers. However, little case study has been done to evaluate UG’s accessibility based on L2 learners’ interlingual patterns of function word use. As the interlanguage is independent of both L1 and L2, it should not be considered as an imperfect L2 system. This case study concentrated on the interlingual patterns of preposition and article use and evaluated the accessibility of UG based on two different access positions. 7 linguistic patterns were identified based on the L2 learner’s written materials. Since 6 patterns of article and preposition use were categorized as L2 grammatical overgeneralization and 3 patterns of preposition use were considered as L1 transfer, this paper argued that the full access position offered a more convincing explanation of the UG’s accessibility in the L2 learner’s interlanguage development. The findings lend support to the Full Access/No Transfer Hypothesis that L2 acquisition is similar to L1 acquisition with UG as the starting point. In this work, different access positions of UG were associated with specific error types based on the two assumptions of research design, which provides a potential methodology for further study on UG with error analysis. Additionally, as the UG’s accessibility is mostly evaluated based on different principles, this paper expands the previous work and provides insight into the diverse accessibility of UG in different word classes. The results may offer an understanding of L2 learners’ interlanguage development and should be replicated and validated in a larger group of samples. Since this paper only studied the interlingual patterns of prepositions and articles, further work is needed to determine the UG’s availability and accessibility in different lexical categories. Specifically, with explicit grammatical functions but few identifiable meanings, function words remain to be a promising research topic of UG and L2 acquisition.

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