Markedness Theory and Universal Grammar in Chinese Language Acquisition

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Abstract: In the field of international Chinese language education, the study of markedness theory and universal grammar is crucial for a deeper understanding of the Chinese language acquisition process among learners from different native language backgrounds. Markedness theory posits that linguistic structures can be categorized into marked and unmarked based on their frequency and regularity in language. Marked structures are typically more complex and less frequently used, whereas unmarked structures are relatively simpler and more commonly used. This study investigates Chinese language learners from various native language backgrounds, employing a mixed-methods approach that combines quantitative and qualitative research methods. Data were collected from learners whose native languages include English, Japanese, Korean, Thai, and Vietnamese. The findings reveal that the parameter settings of learners' native languages significantly influence their acquisition of Chinese parameter settings. When the parameter values of learners' native languages align closely with those of Chinese, their performance in Chinese parameter settings is notably better. Therefore, educators can tailor teaching content and methods based on learners' native language backgrounds. Additionally, marked structures present greater difficulty in Chinese language acquisition compared to unmarked structures. Unmarked structures, being simpler, more basic, and more common, are acquired more quickly by learners. In contrast, marked structures, due to their complexity and rarity, pose significant challenges for learners. This insight is particularly important in teaching practice, as educators need to pay greater attention to marked structures to help learners overcome these difficulties.

Keywords: Markedness Theory; Universal Grammar; Chinese Language Acquisition; Second Language Acquisition

1.Introduction

Language acquisition is a critical area of research in linguistics and psychology, addressing fundamental questions about the nature, development, and mechanisms of human language ability. Within the study of language acquisition, markedness theory and universal grammar are two influential yet contentious theoretical frameworks that seek to explain how learners acquire infinite linguistic output from finite input, as well as the universal rules and individual variations that guide this process. Markedness theory posits that linguistic structures can be distinguished as marked or unmarked, with marked structures being more complex and less frequent compared to their unmarked counterparts, leading to differences in acquisition difficulty and sequence (Xia, 2022). Universal grammar, on the other hand, proposes that language learners are innately equipped with a universal set of grammatical knowledge, encompassing principles and parameters that enable them

to extract target language features from input through parameter setting (Wang, 2015). These two frameworks are, to some extent, complementary, as they both reflect the choices and constraints faced by language learners during the acquisition process.

Chinese, as a prototypical isolating language, exhibits unique markedness features in its phonology, lexicon, and syntax, such as tones, classifiers, particles, and null anaphora. These features present both challenges and opportunities for Chinese language learners, as they reflect the markedness choices and universal grammar parameter settings made during the acquisition process (Wang, 2024). Therefore, exploring markedness theory and universal grammar in the context of Chinese language acquisition not only deepens our understanding of the structural properties of Chinese but also sheds light on the psychological and cognitive mechanisms of learners. This has significant implications for Chinese language teaching and assessment. This paper aims to analyze the markedness features and adherence to universal grammar rules in Chinese learners' phonology, lexicon, and syntax from the perspectives of markedness theory and universal grammar. By collecting and analyzing oral and written data from Chinese learners of different native language backgrounds, proficiency levels, and age groups, this study employs statistical and content analysis to provide a comprehensive and in-depth exploration of Chinese language acquisition.

2.Theoretical Framework

Markedness theory, proposed by Chomsky in the 1960s, is a linguistic theory that posits a distinction between marked and unmarked structures in language. Marked structures, in contrast to unmarked ones, exhibit greater complexity and lower frequency, leading to differences in acquisition difficulty and sequence. The concept of markedness refers to an asymmetry within a linguistic category, where one member of an opposition is unmarked (or less marked), while the other is marked (or more marked) (Yuan, 2023). The value of markedness theory lies in its ability to explain patterns of errors and developmental trajectories in language learners across different proficiency levels, as well as the universals and variations among languages. However, the theory has limitations, as it does not provide a clear definition of what constitutes markedness or unmarkedness (Wang, 2021), nor does it offer a systematic method for determining the markedness of a structure. Additionally, it fails to account for individual differences among learners and the influence of contextual factors on language acquisition.

Universal grammar, introduced by Chomsky in the 1980s, is a theory of language acquisition that posits an innate, universal set of grammatical knowledge in learners. universal grammar comprises a set of principles and parameters, and through parameter setting, learners are able to extract the features of the target language from input. The strength of universal grammar lies in its capacity to explain how learners generate infinite linguistic output from finite input, as well as the universal rules and individual variations that guide this process (Wu, 2013). However, universal grammar has its limitations, as it does not sufficiently consider the role of external factors such as input, output, interaction, and feedback in language acquisition. Furthermore, it lacks robust empirical evidence to fully support its theoretical assumptions.

3.Research Methodology

This study aims to investigate the setting of universal grammar parameters by international students from different native language backgrounds in the process of Chinese language acquisition, as well as the influence of markedness theory on parameter setting. Four universal grammar parameters were selected as the focus of this study: the subject position parameter, the null anaphora parameter, the null subject parameter, and the verb movement parameter. Specifically, the subject position parameter refers to whether the subject can be omitted or must be overtly expressed; the verb movement parameter refers to whether the verb can be fronted or must remain in a post-verbal position; the null anaphora parameter refers to whether an anaphoric element can be null or must be explicitly realized; and the null subject parameter refers to whether the subject can be null or must be overtly expressed (Sun, 2020).

To achieve the research objectives, this study employs a mixed-methods approach, systematically integrating quantitative analysis and qualitative inquiry to comprehensively reveal the patterns of Chinese parameter setting among learners from different native language backgrounds. In terms of research design, the quantitative method focuses on collecting quantifiable data on the frequency of parameter-setting errors, while the qualitative method delves into the cognitive mechanisms and

native language transfer pathways underlying these errors through textual analysis. These two approaches complement each other, ensuring both the breadth and depth of the data. The participants include 11 learners whose native languages are English, Japanese, Korean, Thai, and Vietnamese, aged between 21 and 28, all with Chinese proficiency levels of HSK 3-4. This ensures a consistent gradient of language ability and diversity in native language types within the sample. Data were collected through simple essay writing tasks, yielding a total corpus of 6,774 Chinese characters. The integration of results is achieved through triangulation: quantitative data reveal macro-level error distribution patterns, while qualitative analysis explains their underlying causes. The error examples in Table 1 and the statistical results in Table 2 corroborate each other, collectively constructing an evidence chain of "phenomenon-frequency-mechanism." This approach not only highlights the prevalence of specific errors but also provides insights into the cognitive and linguistic factors driving these errors, offering a robust foundation for understanding the complexities of Chinese parameter setting among diverse learners.

Tables 1 Examples of Parameter Setting Errors

Native Language	Subject Position Parameter	Null Referential Parameter	Null Subject Parameter	Verb Movement Parameter
English	* 昨天去了北京。(*Went to Beijing yesterday.)	* 我把书放在桌子上，你可以拿走他。(*I put the book on the table, you can take him.)	* 今天天气很好，一起去公园吧。(*Today's weather is great, let's go to the park together.)	* 她听音乐喜欢。(*She listens to music likes.)
Japanese	* 是我最好的朋友他。(*Is my best friend he.)	* 她把钱包忘在了出租车上，司机把这个还给了她。(*She left her wallet in the taxi, and the driver returned this to her.)	* 今天很冷，要多穿点衣服。(*Today is cold, wear more clothes.)	* 他吃苹果喜欢。(*He eats apples likes.)

Table 2. Statistical Analysis of Parameter Setting Errors

Native Language	Subject Position Parameter	Null Referential Parameter	Null Subject Parameter	Verb Movement Parameter
English	2	5	5	7
Japanese	2	4	3	1
Korean	2	3	3	3
Thai	3	4	3	7
Vietnamese	2	3	5	6

4.Discussion and Implications

4.1 The Influence of Native Language Parameter Values on Chinese Parameter Setting

This study reveals that international students from different native language backgrounds exhibit variations in setting universal grammar parameters during Chinese language acquisition, which is closely related to the parameter values of their native languages. Specifically, students whose native language parameter values align with or are similar to those of Chinese demonstrate higher accuracy in setting Chinese parameters, whereas those whose native language parameter values diverge from or contradict those of Chinese show lower accuracy. This indicates that native language parameter values significantly influence the acquisition and mastery of Chinese parameter settings. To illustrate this, the study focuses on two representative universal grammar parameters: the subject position parameter and the verb movement parameter.

First, Chinese is a language that permits null subjects, meaning subjects can be omitted or filled by null pronouns. In contrast, English and Vietnamese are languages that do not allow null subjects, requiring subjects to be overtly expressed or filled by explicit pronouns. Japanese and Korean, on the other hand, occupy an intermediate position, allowing subjects to be omitted or expressed depending on context or topic. The study finds that students whose native languages are English and Vietnamese exhibit higher accuracy in the subject position parameter, correctly using or omitting Chinese subjects. In contrast, students whose native languages are Japanese and Korean demonstrate lower accuracy, often misusing or omitting Chinese subjects. This is related to whether their native languages permit subject omission. Students from English and Vietnamese backgrounds, accustomed to the rule of disallowing null subjects, only need to adjust their parameter values from "no" to

"yes" when acquiring Chinese, which permits null subjects. However, students from Japanese and Korean backgrounds, accustomed to the intermediate rules of their native languages, must consider contextual or topical factors more carefully when acquiring Chinese, rather than simply adjusting their parameter values.

Second, Chinese is a language that disallows verb movement, requiring verbs to follow objects. In contrast, English, Thai, and Vietnamese are languages that permit verb movement, allowing verbs to precede objects. Japanese and Korean again occupy an intermediate position, where verbs can precede or follow objects depending on sentence structure or modality. The study finds that students whose native languages are Japanese and Korean exhibit higher accuracy in the verb movement parameter, correctly using Chinese post-verbal structures. In contrast, students whose native languages are English, Thai, and Vietnamese demonstrate lower accuracy, often incorrectly using Chinese pre-verbal structures. This is related to whether their native languages permit verb fronting. Students from Japanese and Korean backgrounds, accustomed to the rule of disallowing verb fronting, do not need to adjust their parameter values when acquiring Chinese, which also disallows verb movement, maintaining the "no" setting. However, students from English, Thai, and Vietnamese backgrounds, accustomed to the rule of permitting verb fronting, must adjust their parameter values from "yes" to "no" when acquiring Chinese.

4.2 The Difficulty of Marked Structures in Chinese Parameter Setting

This study finds that markedness theory has a significant influence on the setting of universal grammar parameters, as marked structures are more challenging to acquire in Chinese language learning compared to unmarked structures. Markedness theory posits that linguistic structures can be categorized into marked and unmarked, with marked structures being more complex, less frequent, and more difficult to acquire than their unmarked counterparts. Generally, unmarked structures are the simplest, most basic, and most common structures, aligning with human cognitive strategies and communicative needs, making them easier to acquire. In contrast, marked structures are relatively complex, specialized, and rare, often violating cognitive strategies and communicative needs, thus posing greater challenges in language acquisition. To illustrate this, the study focuses on two representative universal grammar parameters: the null anaphora parameter and the null subject parameter.

First, Chinese is a language that permits null anaphora, meaning pronouns can be omitted or replaced by abstract pronouns. In contrast, English, Japanese, Korean, Thai, and Vietnamese are languages that do not allow null anaphora, requiring pronouns to be explicitly realized or replaced by concrete pronouns. The study finds that, in the null anaphora parameter, international students exhibit higher accuracy in using unmarked structures such as " 他 " (he), " 她 " (she), and " 它 " (it), correctly employing or omitting these concrete pronouns in Chinese. However, they demonstrate lower accuracy in using marked structures such as " 其 " (his/her/its) and " 之 " (it/them), often misusing or omitting these abstract pronouns. This aligns with markedness theory, as unmarked structures are easier to acquire than marked structures.

Second, Chinese is a language that permits null subjects, meaning subjects can be omitted or replaced by abstract subjects. In contrast, English, Japanese, Korean, Thai, and Vietnamese are languages that do not allow null subjects, requiring subjects to be explicitly realized or replaced by concrete subjects. The study finds that, in the null subject parameter, international students exhibit higher accuracy in using unmarked structures such as " 我 " (I), " 你 " (you), and " 他 " (he), correctly employing or omitting these concrete subjects in Chinese. However, they demonstrate lower accuracy in using marked structures such as " 咱们 " (we/us) and " 大家 " (everyone), often misusing or omitting these abstract subjects or null subjects. This also aligns with markedness theory, as unmarked structures are easier to acquire than marked structures.

4.3 The Connection and Distinction Between Markedness Theory and Universal Grammar

Markedness theory and universal grammar are, to a certain extent, complementary, as both reflect the choices and constraints faced by international students during the process of Chinese language acquisition. These choices and constraints arise not only from the parameter values of the students' native languages but also from the marked structures inherent in Chinese. When acquiring Chinese, students must adjust their parameter values to align with the features of the target language. Simultaneously, they must overcome the challenges posed by marked structures in Chinese to master its complexity and diversity. The connection between markedness theory and universal grammar lies in their shared foundation in generative grammar theory, which emphasizes the innate abilities and creativity of learners. Generative grammar theory posits that language is a complex system generated by a set of abstract rules, rather than a simple list of concrete facts (Xia, 2022).

Therefore, when acquiring Chinese, students do not merely imitate or memorize input; instead, they analyze, reason, hypothesize, verify, and revise through their innate abilities and creativity, thereby generating their own output.

The distinction between markedness theory and universal grammar lies in their focus on different aspects. Markedness theory primarily addresses the varying degrees of complexity and difficulty within linguistic structures, while universal grammar focuses on the core features and variations shared by human languages. Markedness theory posits that linguistic structures can be categorized into marked and unmarked, with marked structures being more complex and challenging to acquire than unmarked ones. As a result, markedness theory helps identify the difficulties and error-prone areas in Chinese language acquisition, as well as the patterns of errors and developmental trajectories among students from different native language backgrounds. Universal grammar, on the other hand, asserts that humans are innately equipped with a universal set of grammatical knowledge, comprising principles and parameters that enable them to extract target language features from input through parameter setting. Thus, universal grammar helps determine the universal rules and individual variations in Chinese language acquisition, as well as how students from different native language backgrounds set Chinese parameter values (Zhang, 2022).

4.4 Practical Applications of Research Findings

Drawing on the conclusions derived from markedness theory and universal grammar, the practical optimization of international Chinese language education can be systematically advanced through three interconnected dimensions—teaching strategies, textbook development, and assessment tools—to form a synergistic and efficient application framework.

Instructional approaches must be closely aligned with learners' native language backgrounds, incorporating differentiated training modules tailored to distinct native language parameter features. For instance: English and Vietnamese speakers, whose native languages permit verb fronting, require contrastive analysis and high-frequency practice to reinforce the "verb-final" rule in Chinese (e.g., correcting *"她听音乐喜欢" to "她喜欢听音乐"). Japanese and Korean speakers, despite sharing a subject-omission tendency with Chinese, rely heavily on contextual cues for subject omission in their native languages. Thus, they need explicit training through situational tasks (e.g., designing "self-introduction" dialogues to avoid errors like *"是朋友他"). Additionally, hierarchical instruction for marked structures necessitates prioritizing unmarked foundational elements (e.g., "他," "在") as core content at the elementary level, reinforced through repetitive input to solidify linguistic foundations. Marked complex structures (e.g., "其," "咱们") should be introduced progressively at advanced stages, integrating stylistic comparisons and contextual simulations. For example, specialized training on the formal usage of the abstract pronoun "其" could be embedded in business negotiation scenarios.

Textbooks should integrate native language contrast modules to mitigate negative transfer effects. This can be achieved through: Visualized parameter comparison charts (e.g., contrasting Chinese and English "subject omission" rules). Cross-linguistic cognitive scaffolds (e.g., explaining Chinese null subjects using Korean topic markers). Furthermore, guided by markedness theory, textbooks should adopt a scaffolded exercise system, progressing from elementary mechanical sentence construction (e.g., linking words into sentences) to advanced classical text rewriting tasks, gradually enhancing learners' ability to apply complex structures. Supplementary "language tips" (e.g., noting the formal register of "之") can clarify usage boundaries.

Assessment mechanisms should incorporate dynamic diagnostics and weighting adjustments: Native language-specific online testing platforms can generate targeted error corpora (e.g., verb position correction exercises for Thai speakers), with error pattern analysis producing personalized feedback reports. Standardized tests (e.g., HSK) can increase the score weight of marked structures (e.g., correct usage of "咱们" or "之") to more accurately reflect learners' linguistic depth.

5.Conclusion

This study, from the perspectives of markedness theory and universal grammar, analyzed the markedness features and adherence to universal grammar rules in the Chinese language acquisition of international students from different native language backgrounds. By collecting oral and written data from students of varying proficiency levels and age groups, and conducting statistical and content analysis, the study reached the following conclusions: (1) Native language parameter values significantly influence the setting of Chinese parameters; (2) Marked structures are more challenging to acquire in Chinese

parameter settings compared to unmarked structures; and (3) Markedness theory and universal grammar are, to a certain extent, complementary.

The findings of this study have important implications for Chinese language teaching and assessment. They can help educators and assessors understand the difficulties and error-prone areas encountered by students from different native language backgrounds during Chinese language acquisition, as well as the universal rules and individual variations they follow. This understanding can inform the development of more reasonable, effective, and targeted teaching and assessment strategies. Additionally, the study enriches and deepens our understanding of the psychological processes and cognitive mechanisms of Chinese language learners, as well as the structural characteristics and developmental trends of the Chinese language itself. However, this study also has certain limitations, such as a relatively small sample size and a limited range of data sources. These issues need to be addressed and improved in future research to further validate and refine the findings.

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Conflict of Interests

The author(s)declare(s) that there is no conflict of interest regarding the publication of this paper.

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