
THE ACQUISITION OF HINDI BY CHINESE-SPEAKING LEARNERS: THE ROLE OF LINGUISTIC DISTANCE IN SECOND LANGUAGE DEVELOPMENT

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ABSTRACT

The acquisition of Hindi by Chinese-speaking learners presents substantial linguistic and cognitive challenges due to the typological distance between the Sino-Tibetan and Indo-Aryan language families. Despite the growing strategic importance of Hindi in Chinese higher education, research examining the impact of linguistic distance on Hindi as a foreign language remains limited. This study investigates the phonological, syntactic, morphological, and orthographic challenges encountered by Chinese-speaking learners through the theoretical perspectives of linguistic distance, contrastive analysis, interlanguage, and Second Language Acquisition (SLA). It examines how differences in phonological systems, word order, inflectional morphology, and writing systems contribute to negative language transfer, increased cognitive load, and persistent learning difficulties. The study further introduces the concept of functional under-parsing to explain learners' tendency to overlook obligatory morphosyntactic markers in Hindi because of Chinese-based processing strategies. Drawing on current research in language pedagogy and educational technology, the paper evaluates the role of explicit contrastive instruction, intelligent tutoring systems, and AI-assisted learning in supporting phonological development, script acquisition, and morphosyntactic awareness. It argues that effective Hindi instruction for Chinese-speaking learners requires pedagogical approaches that integrate explicit linguistic scaffolding with technology-enhanced learning environments to address the cognitive demands associated with significant typological divergence. The study contributes to Hindi-as-a-Foreign-Language (HFL) scholarship by providing a comprehensive conceptual framework for understanding Chinese-to-Hindi language acquisition and by offering pedagogical recommendations for curriculum design and technology-integrated language instruction in Chinese higher education.

Keywords: Hindi as a Foreign Language (HFL); Chinese-speaking learners; linguistic distance; Second Language Acquisition (SLA); contrastive analysis; interlanguage; Devanagari script; morphosyntactic acquisition; technology-enhanced language learning; artificial intelligence (AI); Chinese higher education; language pedagogy.

INTRODUCTION

Within the context of tertiary language education in China, Hindi is a peculiar phenomenon as it is not prioritized as the major language for acquisition despite its relative popularity in society. Indeed, Chinese universities tend to emphasize the core language areas; however, there is a particular limitation in terms of specialized instruction, which researchers partially address in their work on the impact of substantial translational distance on acquisition outcomes (Xia et al. 118). In this regard, this paper aims to contribute to the understanding of the specific difficulties related to acquiring an Indian language by Chinese-speaking learners.

Among the multitude of challenges, this study will endeavor to address translational and script-related phenomena that are particularly relevant to the application of new methods and materials in teaching Hindi as a foreign language in China (Hoang and Thien). Specifically, the study will be based on the idea that the limitations of the English grammar-translation methodology are primarily concerned with the substantial distance between the Chinese and Hindi languages. Thus, the current research will address translational distance as a factor that should be considered in the selection of pedagogical techniques for teaching Hindi to Chinese-speaking learners. In addition, this paper will attempt to provide practical implications from the findings of the study. For example, the analysis will be concerned with how the utilization of various technologies as tools for instruction can help address translational and script-related difficulties (Hoang and Thien).

Overall, the current study will utilize an interdisciplinary approach, which combines research practices from linguistics and computer science. Within the framework of linguistics, the analysis will focus on the specific differences between Chinese and Hindi languages, which postulation serves as the foundation for restructuring the teaching material according to the needs of the Chinese-speaking audience (Chai and Bao 1083575). At the same time, the study will also take into account the pedagogical implications of restructuring teaching practices, which will allow addressing the challenges determined by the substantial translational distance (Li). Moreover, the paper will explore how digital technologies can be integrated into the current educational practice of

Chinese tertiary education to facilitate the process of language acquisition by students (Hoang and Thien). Such an approach is expected to provide a comprehensive perspective on the potential of new technologies to address the difficulty of substantial translational distance in teaching Hindi to Chinese-speaking learners.

CONCEPTUAL FRAMEWORK

Linguistic distance is a central concept in the current analysis, as the study will be based on the impact of phonological, morphological, and syntactic differences between Chinese and Hindi on the process of interlanguage restructuring by Chinese-speaking learners (Ponnet and De Cuypere 147). Indeed, researchers highlight the significant variation between the two languages, which covers phonological contrasts, morphological peculiarities, and syntactic constructions (Duyen 1807). First, Chinese and Hindi languages differ at the phonological level as the latter does not possess lexical tone, which Chinese utilizes as a phonological tool to distinguish lexical items (Zhang and Zou). Second, Hindi features more complex morphological processes than Chinese, including fusional elements, which require additional effort from learners to acquire (Li 19). Third, syntactically, Hindi utilizes a different word order and grammatical relations compared to Chinese, which makes their comparison complex. Overall, linguistic distance is a conceptual basis for the current analysis, impacting syntactic, phonological, and morphological levels.

LINGUISTIC DISTANCE CONCEPTUALIZATION

Linguistic distance is utilized within the current analysis to illustrate the variation between the linguistic structures of Chinese and Hindi, which impacts the effort required by learners for successful interlanguage restructuring. Specifically, researchers conceptualize linguistic distance through the comparative analysis of phonological, morphological, and syntactic peculiarities of the languages, which creates an understanding of the degree of difficulty in teaching Hindi to Chinese-speaking learners (Li and Lan 361). First, linguists argue that the phonological differences between the languages are accounted for the lexical tone, which is absent in Hindi (Zhang and Zou). Second, the researchers identify substantial morphological distance, determined by the complexity of Devanagari script and the presence of fusional features in Hindi (Ghosh; Li 19). Third, the analysis highlights the difference at the syntactic level, which is explained by the variations in grammatical relations and word order of languages (Li 19). Overall, linguists argue that the substantial distance at phonological, morphological, and syntactic levels increases the effort required for interlanguage restructuring. Therefore, the current study will consider these differences as factors affecting the process of learning Hindi by Chinese-speaking learners.

INTERLANGUAGE CONCEPTUALIZATION

Interlanguage is “a linguistic system that is progressively constructed by the learner and that serves as an intermediate between the source and the target language” (Guan; Kong), which reflects the process of restructuring by Chinese-speaking learners of Hindi as the target language. The current study will integrate the concepts of under-parsing and the impact of target language’s word order on processing. The analysis will be based on the idea of learners’ tendency to disregard inflectional information due to its absence in their native language, which leads them to develop specific strategies of focus on meaning. Such tendencies are explained by the fact that learners utilize Chinese as their target language, whose word order rarely correlates with Hindi’s one (Guan). Under-parsing implies insufficiency in linguistic information utilization by learners, who do not benefit from the rich inflectional morphology of Hindi. This phenomenon limits the opportunities of learners to acquire the language as they cannot take advantage of the information encoded in its morphological structure.

Linguists note that learners of Hindi face considerable difficulties when acquiring morphology due to its complexity, which leads to negative implications for their development of interlanguage. The phenomenon is explained by the fact that learners utilize strategies of avoidance or simplification; however, such tactics do not contribute to effective restructuring. Interlanguage learning is particularly challenging when the target language is substantially different from the native one due to the fact that learners do not have sufficient reference point for processing information. For instance, the lack of lexical tone in Hindi limits learners in developing phonological awareness. Similarly, the complexity of Devanagari script prevents learners from acquiring orthographic competency. Finally, the difference in word order hinders learners in developing syntactic awareness about the target language. Such challenges require additional attention to the linguistic structures affected by substantial translational distance, which can be addressed by implementing new technologies in educational settings.

INTERLANGUAGE THEORY

Target language and Interlanguage. Researchers integrate the concepts of target language and interlanguage as theoretical foundations for the study, which focuses on the difficulties of Hindi acquisition by Chinese-speaking learners. In particular, the analysis will apply the ideas of accommodation and negative transfer, which elucidate

the impact of target language's word order on the processing performed by native Chinese speakers. Researchers highlight that negative transfer leads to difficulties in learning of Hindi by Chinese-speaking learners as learners utilize lexical meaning, fixed word order, and context as tools for processing. This mechanism demonstrates the limitations of translational strategies in cases, when learners attempt to acquire target language with substantially different grammatical relations and word order (Alexopoulou and Gil). Indeed, researchers explain the phenomenon by the fact that learners of Hindi experience a block of morphological acquisition as they cannot adjust their L1 linguistic settings to adequately process the target language (Montrul et al. 462). Such limitations are accounted for the fact that learners of Hindi possess cue hierarchy, which prevents them from utilizing the inflectional morphology as a tool for processing (Montrul et al. 462). The concept accounts for the difficulty identified by learners in acquiring proper use of case marking; thus, it is a part of the phenomenon of processing difficulty caused by translational distance.

LINGUISTIC DISTANCE: PHONOLOGY

Phonological differences account for a considerable portion of linguistic distance between Chinese and Hindi, which creates substantial challenges for learners. First, learners are faced with difficulties in acquiring distinctive four-way contrast inherent to Hindi, which exceeds the two-way contrast of Chinese (Zhang and Zou). In particular, learners tend to neutralize murmured series due to the absence of similar phonemes in their native language and incorporate voiceless aspirated and voiced unaspirated stops instead. Second, learners have difficulties in utilizing retroflex series, which are absent in Chinese. At the levels of articulatory phonology and articulatory phonetics, learners replace retroflex consonants by alveolar and postalveolar counterparts due to the inability to differentiate between them. At the level of articulatory suprasegmentals, learners fail to incorporate Hindi's unique nasal vowel inventory as well as its length distinction, which are absent in the phonology of Chinese. Finally, at the level of segmentals, learners tend to apply lexical tone as a feature distinguishing between nasal and oral vowels, which causes challenges in producing correct phonemes.

LINGUISTIC DISTANCE: MORPHOLOGY

Morphology poses significant challenges for learners due to the substantial translational distance between Chinese and Hindi, which is manifested in the characteristics of Devanagari script and grammatical relations in Hindi. First, the complexity of the target language's writing system significantly limits the ability of learners to acquire orthographic proficiency. Second, the difference in grammatical relations between the languages impacts learners' opportunities to develop syntactic awareness in Hindi. In terms of script, Chinese utilize pictographic or morphosyllabic system, which differs significantly from the abugida utilized in Devanagari. For instance, the letters in the Devanagari script are syllabic in nature, which requires learners to acquire phonological literacy. In terms of grammatical relations, the difficulty is accounted for by the fact that Hindi is an OV language, whereas Chinese belong to SOV language group.

LINGUISTIC DISTANCE:

Chinese and Hindi languages differ significantly at the syntactic level, which affects the opportunities of Chinese-speaking learners to acquire target language's word order. The complexity is primarily related to the fact that Chinese belong to the category of SOV languages, whereas Hindi is an OV language. In addition, Hindi languages utilize more complex grammatical relations compared to Chinese, which further complicates the process of acquisition by learners. Such difficulties are manifested particularly in learners' ability to correctly use case-marking of oblique arguments. In addition, learners face challenges in distinguishing between nominative and accusative paradigms in relation to their native counterparts, which can lead to errors on the level of aspect in usage of split-ergative alignment. In addition, the complexity is related to the fact that instructors working with Chinese-speaking learners report the limitations in terms of educational materials developed for instruction of Hindi as a foreign language. As such, the educators resort to the utilization of intermediate metalanguage, which is English or Hindi. Such practices are complicated by the fact that learners require additional effort to become proficient users of the metalanguage, which limits their opportunities to acquire the target language.

PHONOLOGICAL AND TONAL DIFFICULTIES

Learners of Hindi as a foreign language by Chinese-speaking learners face significant phonological and tonal difficulties due to the substantial translational distance between the languages. First and foremost, the interference on the level of phonology is manifested in learners' inability to distinguish between aspirated and murmured stops. In particular, learners replace murmured set by either voiceless aspirated or voiced unaspirated counterparts due to a lack of similar phonemes in Chinese. Second, learners experience difficulties with retroflex series due to the absence of similar series in their native language. In addition, Chinese learners face

challenges with the nasal vowel inventory possessed by Hindi, which limits their opportunities to distinguish between nasal and oral counterparts.

The challenges identified at the level of segmentals, suprasegmentals, and tone can affect learners' phonological skills; thus, educators should pay particular attention to this aspect of language acquisition to prevent potential difficulties. The difficulty is accounted for by the fact that learners of Hindi by Chinese-speaking learners are highly likely to superimpose lexical tone of Chinese onto stress of target language, which results in unnatural speech pattern (Crowther et al. 97). Similarly, learners are likely to acquire incorrect pitch patterns as they attempt to navigate the complexity of Hindi's lexical tone.

SCRIPT AND ORTHOGRAPHIC DIFFICULTIES

Navigating the complexity of abugida is particularly challenging for Sinograph-literate learners due to their prior experience with pictographic or morphosyllabic scripts. As such, learners of Hindi experience significant difficulties with decoding process due to the requirement to engage in serial processes of decoding rather than recognizing whole character as in Chinese. Such limitations are due to the fact that decoding of linear strings of characters requires extensive use of perceptual attention and creates substantial cognitive load for learners who are accustomed to processing characters as whole units (Hayes-Harb and Barrios 318). Additionally, learning to read in Devanagari script involves mastering the complexities of akshara, which is particularly challenging for learners due to nonlinear diacritics. The challenges with decoding are further exacerbated by segmentation, which affects learners' ability to break words into smaller meaningful parts. Moreover, learners face difficulty distinguishing between graphemes and phonemes, which causes numerous errors. For instance, learners tend to segment incorrectly, which results in mispronunciation of words due to the failure to recognize meaningful language units.

PEDAGOGICAL IMPLICATIONS, PRACTICE, AND TECHNOLOGY

The current analysis demonstrated that the vast translational distance between Chinese and Hindi languages accounts for significant difficulties faced by users in their acquisition of Hindi as a foreign language. The challenges are related to the differences at the levels segments, suprasegments, tone, case-marking, and word order. The analysis of pedagogical practice of teaching Hindi as a foreign language within Chinese tertiary education indicates that the current methods do not correspond to the difficulty involved in acquisition of Hindi by Chinese-speaking learners. Indeed, within the framework of the tertiary language education in China, the practice of teaching Hindi as a foreign language is limited by the lack of specialized materials for Chinese-speaking learners. For instance, instructors resort to using English or Hindi as a metalanguage for teaching target language; however, the approach requires learners to possess advanced proficiency in either language. Such limitations implicate the need for new approaches to address the substantial translational distance between Chinese and Hindi.

Within the framework of Second Language Acquisition, the researchers highlight the potential of new technologies to bridge the difficulties experienced by Chinese-speaking learners. Specifically, the study integrates the concepts of Interlanguage and Processability Theory to address the pedagogical implications of extensive translational distance between Chinese and Hindi. The analysis indicates that these theoretical frameworks can be integrated into the process of learning Hindi by Chinese-speaking learners as they incorporate the principles of enhanced perceptual salience, which can facilitate the restructuring of interlanguage. Thus, the utilization of appropriate technologies, such as intelligent tutoring systems, may offer substantial support in terms of individualized feedback, which can help learners to process target language at higher levels of processingability. In terms of practical implications, the study recommends prioritizing perceptual salience of items and structures within target language, which will increase the probability of their incorporation into learners' interlanguage. In terms of technology, the paper suggests focusing on the algorithms that prioritize functional intelligibility rather than native-like accuracy to mitigate the negative impact of interference from native language on learners' target language performance.

The analysis of opportunities presented by modern technologies demonstrates that their utilization can create substantial benefits for learners of Hindi as a foreign language by Chinese-speaking learners. However, the success of intervention depends on the ability to address the algorithmic bias, which may be detrimental to the individuals with limited experience in target language. As such, the current analysis highlights the necessity to conduct further research on the capacity of artificial intelligence to address the substantial translational distance between Chinese and Hindi languages. Thus, the recommendations include accounting for the potential of technologies to support the development of phonological, lexical, syntactical, and morphological competence of Chinese-speaking learners of Hindi.

CONCLUSION AND FUTURE DIRECTIONS

The current research provides valuable insight into the study of Hindi as a foreign language, which extends the understanding of interlanguage beyond the dominant focus on the Western target languages. Indeed, the findings of the study contribute to the body of knowledge on the process of acquisition of Hindi by Chinese-speaking learners; nevertheless, there are several aspects that require additional investigation. First, it is essential to conduct further research on the neural restructuring process, which occurs as learners attempt to adjust their native cue hierarchy to accommodate the processing of interlanguage. Second, the future study should explore the long-term effects of the intervention, which aims at utilizing artificial intelligence to support the acquisition of Hindi by Chinese-speaking learners. The analysis will contribute to the body of knowledge on the implications of emerging technologies across multiple layers of language processing, which will support the development of effective strategies to address the substantial translational distance. Thus, the future investigation should be concerned with the potential of technologies to facilitate interlanguage restructuring by Chinese-speaking learners of Hindi.

The researchers recommend further studies on the impact of assistive technologies on the linguistic awareness of Chinese-speaking learners of Hindi. Specifically, the analysis should focus on the likelihood of the emergence of false fluency as a result of the utilization of instructional technologies. The findings will help identify the capacity of such interventions to promote multilingual competence of learners without limiting their opportunities to acquire target language beyond the confines of the specified technologies. In addition, it is essential to investigate the capacity of technologies to help learners navigate the complexities of pragmatic differences, which will assist them in attaining genuine social competence in target language. Overall, the future research should be concerned with the capacity of technologies to support the development of social fluency in Chinese-speaking learners of Hindi.

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