

A Review of the Impact of Native Language on Emotional Aspects of Second Language Acquisition

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Abstract: This review explores how native language affects second language learners' abilities in processing emotional information, including the cognitive processing of emotional vocabulary, emotional expression and communication, and cross-cultural understanding of emotions. The research found that native language background plays a multi-dimensional role in this process, affecting not only the processing of emotional information within the language but also individuals' cross-cultural communication skills. Furthermore, this paper emphasizes the importance of focusing on emotional vocabulary teaching and the cultivation of emotional expression strategies in second language teaching, as well as directions for further research. By deeply understanding the impact of native language on emotional processing in a second language, practical guidance can be provided for cross-cultural education, promoting effective communication and understanding among people from different cultural backgrounds.

Keywords: Native language influence, Emotional information processing, Second language acquisition, Cross-cultural communication

1. Introduction

With the development of globalization, the acquisition of a second language (L2) has become a key to cross-cultural communication. The importance of the native language in the process of second language acquisition was first recognized in the 1950s. During this period, behaviorism dominated the thought in second language teaching. This doctrine considered foreign language learning as a process of habit formation based on repetitive stimulus-response exercises and positive reinforcement. Language is not merely a product of simple imitation, nor a habit; its essence is still a set of structured rules. Second language learning is a construction formed by learners through internal regulations and prolonged exposure to the target language. Under the influence of this viewpoint, the impact of the native language on second language learning was gradually neglected by linguists. From neglect to recognition, the learner's native language (L1) has had a profound impact on their emotional cognition and expression abilities. Emotions, as an indispensable part of human communication, their role in the language acquisition process has increasingly attracted attention. How native language background shapes individuals' perception, processing, and expression of emotional information in a

second language is not only of great significance to language learners but also poses new challenges and demands for educators. This review aims to explore the impact of the native language on the emotional aspects of second language acquisition and how this impact affects the formation of cross-cultural communication abilities. In delving into the influence of the native language on the cognitive processing of emotional vocabulary in a second language, various studies provide multidimensional insights, revealing the complexity of emotional information processing in the language acquisition process.

2. Cognitive Processing of Emotional Vocabulary and the Influence of Native Language

Liu Xun's paper [1] highlights several fundamental concepts related to language teaching: L1 and L2. L1 refers to the first language a person is exposed to and acquires from birth, while L2 is any other language learned and used after acquiring L1. Furthermore, it differentiates between native and foreign languages, which are distinguished based on national boundaries. Indigenous and non-indigenous languages are classified according to linguistic communities, or in other words, regional community languages. He Ziran [2] points out that the transition between two languages is related to second language acquisition. The second chapter discusses the relationship between transitional languages and second language acquisition from the perspective of different linguistic classifications, further discussing the cognitive processing of emotional vocabulary and the influence of the native language.

Feng Yuan's research [3] delves into how a native language background affects second language learners' ability to process emotional vocabulary. He posits that understanding the emotional meaning of words is crucial for enhancing emotional communication, making the acquisition of linguistic emotional meanings a key aspect of second language learning. However, there has been little research on this topic. By comparing early and late Chinese-English bilinguals, Feng Yuan found that early bilinguals have a significantly better ability to process emotional vocabulary in a second language than late bilinguals. This finding supports the discovery by Ayinuguli Tuerxun and Guo Jingjing[4] that the degree of early exposure to Chinese affects the emotional processing effects in Uyghur-Chinese bilinguals. The difference is not only evident in the speed and accuracy of vocabulary cognitive processing but also in the understanding and use of the deep meanings of emotional vocabulary. This suggests that the influence of native language on the ability to process emotional vocabulary in a second language is closely related to the timing of bilingual acquisition, with early bilingual acquisition facilitating the formation of more flexible and efficient language processing mechanisms in the brain.

Ayinuguli Tuerxun [4] explores the cognitive mechanisms behind bilinguals' processing of emotional vocabulary, studying how native language affects the processing of emotional information in a second language. The author notes that in bilingual or multilingual communication, accurate semantic information retrieval is essential, and emotional information exchange also plays a crucial role. Extensive research in native languages has shown that emotional information contained in words can be automatically activated and influence vocabulary processing. Whether this emotional effect exists in second language processing remains a subject of considerable debate. Through meticulously designed emotional priming experiments, Ayinuguli Tuerxun found differences in brain activity patterns when bilinguals process emotional vocabulary in their native language and second language. Especially in the processing of negative emotional vocabulary in a second language, bilinguals exhibit delayed responses compared to their native language, suggesting the dominant position and influence of the native language in emotional information processing. This finding provides important clues for understanding how the bilingual brain adjusts emotional information processing in different language environments.

Cheng Qiao's study [5] focuses on the acquisition process of emotional vocabulary in a specific

language pair (Spanish-Chinese). Observing the process of Spanish native speakers learning Chinese psychological verbs, Cheng Qiao reveals the impact of structural differences between native language and second language on the acquisition of emotional vocabulary. Significant differences exist between the language structures of Spanish and Chinese in expressing emotions, requiring learners to reconstruct the cognitive framework of emotional vocabulary during the acquisition process. Cheng Qiao's research indicates that the linguistic structure and expression habits of the native language have profound effects on the learning and use of emotional vocabulary in a second language. Learners must overcome the gap between language structures to adapt to the new linguistic environment. Li Dazhong [6] combines relevant psychological knowledge to theoretically speculate on the cognitive and psychological processes occurring in the brains of learners during the error production process in learning Chinese as a foreign language.

Shen Xiaonan [7] discussed the difficulty levels of learning the four tones of Chinese for American students. However, later, Mr. Zhao Yuanren pointed out that the difficulty is not related to the tonal patterns but to the tonal domain. Due to regional differences, American students face cognitive biases in understanding Chinese tones. The variance in tonal domain also serves as one of the influences of L1 on L2. Additionally, Gui Shichun [8] has repeatedly highlighted the impact of native language transfer on foreign language learning in research on foreign language teaching. To address the difficulties that foreign students face in learning a native language, reference can be made to the practical approaches to foreign language teaching proposed by Li Jixian [9], such as marking the full phonetic intonation in textbooks. Teaching Chinese as a foreign language is a vast system. Solidifying the foundation is essential for learning Chinese, and the same principle applies to native Chinese speakers learning a foreign language.

Dai Weidong and Niu Qiang [10] in their work on the fossilization of transitional languages and its teaching implications, pointed out that foreign language learners often reach a plateau after attaining a certain level of proficiency in the foreign language. The stagnation in the structural system of the transitional language in L1 is what hinders the development of the target language. This shows that the influence of L1 on L2 is not only manifested in emotions but also in the fossilization of transitional languages. Guo Chunjie and Liu Fang [11] described the dynamic influence of L1 on L2, proposing how L1 affects various thought processes in L2 acquisition. Liao Fei [12] noted that when the rules of L1 and L2 are the same, native language transfer is positive; otherwise, it hinders the establishment of linguistic rules in L2.

Zhang Juan and others [13], as well as Zhao Qing [14], have explored how language familiarity affects the processing of emotional prosody and semantic integration from a neuroscience perspective using ERP (Event-Related Potential) technology. Zhang Juan and her team focused on the cognitive neural mechanisms of emotional words and emotionally charged words, finding that compared to neutral words, emotional words and emotionally charged words elicit stronger physiological responses in the brain. This effect also exists in a second language, but its intensity and rapid response capability are influenced by language familiarity. Zhao Qing's research further revealed the brain electric response characteristics of unbalanced bilinguals processing emotional prosodic words in a second language environment, pointing out the influence of language familiarity and task attention on emotional information processing. These studies collectively emphasize the differences between native language and second language in processing emotional information, providing neuroscience evidence for understanding how the bilingual brain adapts to emotional information processing in different language environments.

In summary, these studies from various perspectives reveal the profound impact of the native language on the cognitive processing of emotional vocabulary in a second language. By exploring the differences between early and late bilinguals, the challenges of emotional vocabulary acquisition in specific language pairs, and the influence of language familiarity from a neuroscience perspective,

we can gain a more comprehensive understanding of how native language shapes and regulates the processing of emotional information in a second language. These insights are not only significant for language learning and teaching but also provide valuable theoretical and empirical foundations for cross-cultural communication and bilingual cognitive research.

3. The Core Role of Emotions in Language Learning and Cross-cultural Communication

In recent years, numerous studies have focused on how a native language background influences second language learners' abilities in emotional expression and communication. It's not difficult to observe that English and Chinese belong to two different language families, and their syntactic structures are vastly different. Chinese does not have morphological changes; it focuses on internal meaning without being constrained by form. English, on the other hand, is characterized by grammatical inflection, where changes in the form of nouns or verbs indicate person, number, and tense, such as the past tense of verbs, third person singular forms, and present continuous tense, among others. In contrast, Chinese is an unmarked language without strict morphological changes. Some linguists and scholars have pointed out that if there are similarities between the native language of a second language learner and the vocabulary of the second language, it will be easier for the learner to assimilate new linguistic knowledge in learning the second language. However, in practical learning, English and Chinese each have their own rich connotations, and seemingly similar vocabulary can differ significantly. Due to differences in language families, compared to those whose native language is English and second language is German, learners find the learning process more straightforward. Wang Weijia's research [15] focuses on the emotional expression barriers encountered by Korean children in the process of acquiring Chinese. This study found that Korean students often struggle to accurately convey their emotional states in Chinese, which reflects not only a lack of proficiency in language skills but also, more deeply, the impact of cultural background and native language habits on ways of expressing emotions. For example, there is a clear difference between the constraints on emotional expression in Korean culture and the diversity of emotional expression in Chinese, leading to difficulties for learners in expressing specific emotions. Wang Weijia's study emphasizes the need for special attention in second language teaching to cultivate learners' abilities to use emotional vocabulary and teach appropriate emotional expression strategies to overcome obstacles created by cultural differences.

Cong Yilan's research [16] takes the perspective of Thai adolescent Chinese language learners to explore how emotional self-perception affects their learning outcomes. Through surveys and interviews, Cong Yilan found that learners who can positively handle frustrations and stress during the learning process and possess higher emotional intelligence tend to achieve better language learning outcomes. This indicates that the ability of emotional self-perception is crucial for second language acquisition, affecting not only learners' motivation and willingness to continue learning but also directly related to the choice and application of language learning strategies. Cong Yilan suggests incorporating emotional intelligence training into language teaching to help learners better manage their emotions, thereby improving learning efficiency.

Huang Yufang's study [17] explores the anchoring effect in the use of a second language, suggesting how a second language might influence emotional biases and decision-making processes. The anchoring effect, a concept in cognitive psychology, refers to the tendency of individuals to rely on (or be "anchored" to) information presented earlier when making decisions. In a second language environment, due to unfamiliarity with the language, learners processing information containing emotional content may rely more on intuitive judgments, thus being influenced by the anchoring effect. This finding is significant for understanding how a second language shapes our processing and interpretation of emotional information, especially in cross-cultural decision-making and communication.

Although the research by Wan Fang [18], Zhou Yuan [19], and Wang Lifei [20] does not directly focus on emotional information processing, they provide valuable insights into the role of emotional factors in the second language learning process. Wan Fang explores the importance of emotional vocabulary in second language acquisition, emphasizing the need for teachers to pay attention to students' emotional reactions and the teaching of emotional vocabulary during the teaching process. Zhou Yuan's study, starting from the Chinese language learning of International Baccalaureate school students, analyzes the impact of emotional resilience on learning outcomes. Wang Lifei analyzes the role of emotions in language learning from a theoretical perspective, highlighting the importance of positive emotions in enhancing learning efficiency. Together, these studies converge on a core idea: emotions are not only a factor in the language learning process but also a key resource that needs to be actively managed and utilized. In summary, emotions play multiple roles in second language learning and cross-cultural communication, influencing how learners receive, process, express, and communicate emotional information. By understanding how the native language background affects second language learners' emotional expression and communication, educators can design more effective teaching strategies to help learners overcome cultural and linguistic barriers, thereby enhancing their language learning outcomes and cross-cultural communication skills.

4. Emotions Occupy a Crucial Position in Second Language Acquisition and Communication

Understanding and expressing emotions are not only parts of language learning but also keys to cross-cultural adaptability and communication skills. In recent years, numerous studies, although primarily focused on other aspects of language acquisition, have provided valuable insights into how the native language influences cross-cultural emotional communication and understanding.

Regarding the relationship between language acquisition and emotional understanding, learners tend to apply learning methods and mental sets from their native language to assist in the acquisition of a second language. The research by Cai Hansong and Zhou Rong [21] offers insights into the phenomenon of language attrition, which inevitably occurs during the process of language acquisition, affecting how learners understand and use the second language to express emotions. Language attrition involves not only the loss of linguistic knowledge but also the ability to express emotions. This is particularly important for cross-cultural communication, as inaccurate or inappropriate emotional expressions may lead to misunderstandings and conflicts. Inspired by Western research on language transfer, Chinese linguists and scholars have started to pay attention to the role of the first language (Chinese) in acquiring a second language. In recent decades, they have conducted a significant amount of related research aimed at discovering the relationship between native language interference and language transfer. Jiang Xin's study [22] explores learners with different native language backgrounds' understanding of the relationship between the phonetic and semantic aspects of Chinese characters, hinting at the impact of the native language on the cognitive processing of second language vocabulary (including emotional vocabulary). This influence can indirectly affect cross-cultural emotional understanding, as the accurate understanding and use of emotional vocabulary are prerequisites for effective emotional communication. Tang Chengxian [23] discusses the impact of native language transfer on emotional expression and understanding from the perspective of native language transfer in second language acquisition. Native language transfer affects not only the learning of grammar and vocabulary but also the acquisition of emotional vocabulary and modes of expression. In cross-cultural communication, people from different cultural backgrounds may understand and express emotions based on their native language habits, potentially leading to misunderstandings in communication.

In terms of learning strategies and the expression of emotional information, Liu Jinkai's research [24] underscores the role of learning strategies in second language acquisition, especially in the

learning and use of emotional vocabulary. Through appropriate learning strategies, learners can more effectively acquire emotional vocabulary, enhancing their ability to communicate emotions cross-culturally. Zhang Weijia [25] investigates the nature and conditions of bilingual education, suggesting that teaching emotional expression and understanding should be incorporated into the curriculum in bilingual educational environments to promote learners' cross-cultural adaptability and communication skills. Dai Weidong and Cai Longquan's study [26] discusses how the interlanguage system established by second language learners between their native language and second language affects the processing and expression of emotional information from the perspective of interlanguage. The formation of this transitional language system is crucial for cross-cultural emotional understanding, as it reflects how learners integrate two languages to understand and express emotions.

In terms of native language transfer and emotional information processing, Deng Liming [27] and Su Liuhua's [28] research more directly focuses on the phenomenon of native language transfer, especially in the processing of emotional information. Their studies indicate that native language transfer affects not only the learning of linguistic forms but also profoundly influences the accuracy and naturalness of second language emotional expression. Zhang Bo's research [29] shows that in cross-cultural communication, such native language transfer can lead to misunderstandings or incorrect expressions of emotional information, thus affecting emotional understanding and relationships between parties.

Through Wu Qianlong's study [30], we learn that the formation and development of cross-cultural emotional understanding is a complex process, involving multiple aspects such as language learning, emotional expression, and processing. The native language background has a profound impact on the processing and expression of emotional information in a second language. These studies provide us with important perspectives for understanding and improving cross-cultural emotional communication skills. In today's globalized world, a deep understanding of these influences and their application in language teaching and cross-cultural communication practices is of significant importance for promoting effective communication and mutual understanding among people from different cultural backgrounds.

5. Conclusion

This review has explored how the native language influences the processing of emotional information by second language (L2) learners across multiple dimensions, including the cognitive processing of emotional vocabulary, emotional expression and communication, and cross-cultural emotional understanding. These influences are manifested not only in the internal mechanisms for processing emotional information in language but also more broadly affect individuals' adaptability and efficiency in cross-cultural communication.

Research shows that the native language background profoundly affects L2 learners' cognitive processing of emotional vocabulary. This influence is the result of a combination of factors, including the timing of bilingual acquisition, structural differences between languages, and variations in emotional expression habits within specific cultural contexts. Additionally, emotional self-awareness, emotional intelligence, and the application of learning strategies are crucial factors affecting L2 learners' ability to communicate emotions across cultures.

These findings offer important insights for educational practice. Firstly, they emphasize the need to focus on teaching emotional vocabulary and developing emotional expression strategies in L2 teaching, to help learners overcome the limitations brought by their native language background and improve their cross-cultural communication skills. Secondly, teaching should take into account individual differences, such as learners' native language backgrounds, levels of emotional intelligence, and their sensitivity to emotional information in the second language, to implement more personalized teaching strategies.

Future research should explore the impact of native language on L2 emotional processing across a wider range of cultural backgrounds and language combinations, especially how educational interventions can enhance learners' cross-cultural adaptability and communication efficiency. This includes developing and testing teaching methods tailored to learners from different native language backgrounds, as well as assessing the effectiveness of these methods in improving the ability to process emotional information. Furthermore, further research should investigate the mechanisms and pathways through which native language influences emotional information processing in different learning environments and teaching conditions, and how these influences evolve over time.

In summary, the impact of native language on second language emotional information processing is a complex phenomenon that spans multiple disciplines and dimensions. A deeper understanding of this phenomenon can not only advance our knowledge of language acquisition and cross-cultural communication mechanisms but also provide theoretical and methodological guidance for educational practices in a globalized context, thereby promoting effective communication and understanding among people from different cultural backgrounds.

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