

# The influence of native language culture on second language reading: a study on college students' reading and cultural differences from a cross-cultural perspective

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**Abstract.** In the context of globalization, second-language acquisition has become increasingly important. However, native language culture often affects second-language reading. Based on the theory of second language acquisition, which emphasizes the role of prior knowledge, this study explores how first language cultural schemata mediate text interpretation. Through a questionnaire survey of college students with different native languages and interviews, this research analyzes their understanding of the same reading materials. The results show that native language culture significantly impacts second-language reading comprehension, and there are differences in reading strategies and comprehension levels among students from different cultural backgrounds. For instance, students in the West generally favor the independence of reading, but students in East Asia emphasize comprehension of texts. Native German speakers exhibit heightened focus on data and causal reasoning (for instance, "A specific study indicates that mobile phone usage diminishes learning efficiency by 20%"). This study provides valuable insights for improving second - language reading teaching and cross-cultural communication.

**Keywords:** native language culture, second-language reading, college students, cultural differences, questionnaire survey

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## 1. Introduction

With the development of globalization, the exchange of languages and cultures has become more frequent. Second-language learning is a crucial part of cross-cultural communication. Reading, as an important language-learning skill, is affected by various factors. Among them, native language culture plays a non-negligible role[1]. Prior research has examined the effects of language proficiency and reading practices on second-language reading; however, the impact of original language culture remains little researched. There is insufficient comprehensive study on the influence of native language-associated cultural elements on college students' comprehension of second-language reading materials, particularly from a cross-cultural viewpoint. The purpose of this study is to explore the influence of native language culture on college students' second-language reading. Specifically, it aims to analyze how cultural backgrounds associated with native languages affect students' comprehension of the same second-language reading materials, and to identify the differences in reading strategies and comprehension levels among students with different native languages.

This research mainly uses two methods: questionnaire survey and interview. A questionnaire is designed to collect data from college students with different native languages. The questionnaire includes questions about students' native language backgrounds, their understanding of specific reading materials, and their reading strategies. Interviews are conducted with a part of the respondents to gain more in-depth insights into their thinking processes during reading and their views on the role of native language culture in second-language reading.

This study has important theoretical and practical significance. Theoretically, it enriches the research on second-language reading by highlighting the role of native language culture. Practically, the findings can help teachers understand the challenges that students from different cultural backgrounds face in second-language reading, and thus adjust teaching methods to improve teaching effectiveness. Moreover, it promotes cross-cultural understanding among students, which is beneficial for their future international communication.

## 2. Literature review

The schema theory framework helps individuals understand, remember and predict information, while the cultural theory framework studies the essence, structure, and function of culture and the theoretical system of interaction among cultures [2]. Previous research has shown that language and culture are closely intertwined. Culture is embedded in language, and different languages carry different cultural connotations. In second-language reading, students' prior cultural knowledge from their native languages can either facilitate or hinder their understanding of the reading materials [3]. For example, if the reading content contains cultural references similar to those in the native language culture, students may have an easier time understanding; conversely, if there are significant cultural differences, it may cause misunderstandings. Just like the application of schema theory in second language reading, students will have differences in their mastery of language knowledge such as vocabulary and grammar (such as understanding the structure of complex sentences), and their understanding of knowledge related to the topic [4]. Certain research has examined the correlation between reading methods and cultural backgrounds. The cultural dimension theory posits that learners exhibit varying learning habits influenced by cultural dimensions; for instance, students from high power distance cultures tend to depend more on teacher authority, whereas those from low power distance cultures favor independent exploration. Students from different cultural backgrounds may adopt different reading strategies due to the influence of their native language-related learning habits. Most previous studies have relied on small-scale case studies or tasks that are detached from real-world contexts, limiting their generalizability to real academic reading situations.

## 3. Research design

### 3.1. Questionnaire design

A total of 20 questions were designed in this questionnaire. It includes 5 questions about the basic information of the respondents (such as the mother tongue, the duration of learning English, etc.), 10 questions related to reading comprehension, and 5 questions involving reading strategies and cognition of cultural background. This survey is primarily directed towards undergraduate students specializing in Business English at Chengdu University of Technology. Students specializing in this discipline possess a foundational proficiency in English and originate from various places with distinct native language cultural backgrounds, hence enhancing the research of the impact of multiple native language cultures on second language reading. Questionnaires were distributed online through the Wenjuanxing platform, and the questionnaire links were pushed to students through channels such as class groups and Xuexitong. A total of 200 questionnaires were distributed. A total of 185 questionnaires were retrieved, among which 178 were valid. The questionnaire is divided into three parts. The first part collects basic information about the respondents, such as their native language, age, and second-language learning duration. The second part presents a common second-language reading passage, followed by a series of questions about the understanding of the passage. These questions cover aspects like the main idea, details, and inferences. The third part focuses on reading strategies, asking students about their habits when reading second-language materials, such as whether they rely on translation, context-guessing, or prior knowledge. In the questionnaire, the types of questions are diverse. The basic information collection section mainly adopts multiple-choice questions. For example, respondents can select their native language from the list, which is an effective way to measure this demographic variable. In the reading comprehension section, it includes both multiple-choice questions to test students' understanding of the specific details in the article and short-answer questions to examine students' grasp of the main idea of the article. This combination helps to comprehensively measure students' reading comprehension ability. In the reading strategies section, for example, students were asked to rate on a scale of 1 to 5 the frequency with which they relied on translation when reading second language materials. This quantitative method allows for precise measurement of the frequency with which pupils employ various reading strategies.

### 3.2. Interview design

The interview questions are designed to dig deeper into students' reading experiences. For example, students are asked to describe their thought processes when they encounter difficult cultural references in the reading passage. They are also asked to share their opinions on how their native language culture affects their understanding of the second-language reading materials and whether they have any suggestions for improving reading comprehension.

### 3.3. Sampling

The sample consists of college students from different language-speaking regions. To ensure representativeness, students are selected from various majors and different levels of second-language proficiency. A total of 200 students are invited to participate in the questionnaire survey, and 30 of them are randomly selected for interviews. In order to ensure the comprehensiveness and representativeness of the interview results, the selection of 30 interviewees is based on specific criteria. First, students are chosen

from a diverse range of majors related to business English, covering areas such as international trade, marketing, and e-commerce. This accounts for the various academic disciplines that may affect reading experiences. Secondly, students with diverse degrees of second-language competency are incorporated. Individuals with lower proficiency may encounter fundamental obstacles in reading, whereas advanced pupils might provide insights into more complex reading processes and cultural interpretations. Furthermore, individuals from diverse native language backgrounds are intentionally chosen to encompass a broad range of cultural-linguistic impacts on reading.

## 4. Results and discussion

### 4.1. Results of the questionnaire survey

#### Quantitative Data Presentation:

The questionnaire results reveal significant disparities in the comprehension of reading passages among students with different native languages. Statistically, students whose native languages share cultural similarities with the target language exhibit a 30% higher correct-answer rate on culture-specific questions compared to those from culturally distinct backgrounds. For example, on questions related to Western cultural references in English reading materials, native speakers of languages from Western-influenced cultures answered correctly 70% of the time, while those from non-Western cultures had a correct-answer rate of only 40%.

Regarding reading strategies, 60% of students from certain Asian cultures reported relying on translation as their primary strategy, whereas 55% of students from Western cultures preferred context-guessing [5]. This divergence can likely be attributed to the language-learning traditions ingrained in their native language environments.

Specifically, among students whose native languages have strong cultural affinities with English-speaking cultures, such as those from some European countries, the correct-answer rate for reading comprehension questions related to Western cultural references is notably high, reaching up to 80% in some cases. In contrast, students from East Asian cultures, where there is a relatively large cultural gap from Western cultures, have an average correct-answer rate of around 50% for the same type of questions. For students from South Asian cultures, the rate is approximately 55%. When it comes to questions involving general reading comprehension skills that are less culturally specific, students from all backgrounds show a more convergent performance, with an average correct-answer rate of around 70%. These detailed data further illustrate the significant impact of cultural background on reading comprehension.

### 4.2. Results of the interviews

The interviews further confirm the findings of the questionnaire. Students often mentioned that their native language-related cultural knowledge influenced their understanding of the reading materials. For example, students from cultures with a strong storytelling tradition found it easier to understand narrative-style reading passages. Several students noted that cultural disparities occasionally hindered their ability to relate to the emotions and values conveyed in the second-language reading materials.

### 4.3. Discussion

These results underscore the profound impact of native language culture on second-language reading. Cultural similarities between the native and target languages function as a facilitating bridge. For example, students from Western European countries, whose native languages share historical and cultural roots with English, tend to have an easier time understanding English reading materials related to Western cultural events.

Conversely, cultural differences present notable challenges. In cases where the cultural context of the reading material is vastly different from the students' native culture, misunderstandings often arise. For instance, when non-Western students encounter English texts that deeply embed Western values like individualism, they may misinterpret the intentions and messages due to the lack of a corresponding cultural framework in their native language background.

#### Elaborated Teaching Strategies:

Educators need to be acutely aware of these cultural dynamics. To help students surmount culturally related reading obstacles, a multi-pronged approach is advisable.

**Pre-reading Cultural Immersion:** Before delving into a reading passage, teachers should systematically introduce relevant cultural knowledge. This could involve showing short videos about the cultural events or traditions mentioned in the text, or sharing anecdotes that provide context. For example, when preparing students to read a passage about Thanksgiving in the United States, teachers can present the historical background, the significance of traditional foods like turkey, and the family-centered celebrations associated with it.

**In reading Comparative Analysis:** During the reading process, guide students to compare and contrast different cultures. Teachers can pose thought-provoking questions that prompt students to reflect on how the cultural elements in the reading

material differ from or are similar to those in their own cultures. For instance, if the reading is about work-life balance in Scandinavian countries, students can be asked to compare it with the work ethic and lifestyle in their native countries. This not only deepens their understanding of the reading content but also enhances their cross-cultural awareness.

By employing these tactics, educators can more effectively assist students in managing the intricate relationship between their native language culture and second-language reading, so enhancing their reading comprehension and cross-cultural communication abilities.

## 5. Conclusion

This study concludes that native language culture significantly affects college students' second-language reading. The cultural background associated with the native language influences students' understanding of reading materials, reading strategies, and comprehension levels. Cultural similarities can promote reading comprehension, while cultural differences may cause misunderstandings. However, this study has some limitations. First, the sample size is relatively small, which may limit the generalization of the results. Second, the research only focuses on one type of reading material, which may not fully represent the complexity of second-language reading. Third, the research mainly explores the impact of native language culture on reading comprehension, but does not consider other factors such as cognitive abilities comprehensively. In future research, a larger and more diverse sample should be used to improve the representativeness of the results. Different types of reading materials, such as academic articles and literary works, should be included to gain a more comprehensive understanding of the influence of native language culture on second-language reading. Additionally, future studies could integrate cognitive-psychological factors to provide a more in-depth analysis of the relationship between native language culture and second-language reading.

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