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A Study on the Influence of Cross-Cultural Background on Middle School Students' English Reading Comprehension-Based on Literature Review at Home and Abroad

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Abstract. In the context of globalization, English as a foreign language (EFL) teaching increasingly prioritizes intercultural competence. However, junior high school reading instruction in China tends to focus on linguistic knowledge and test-taking strategies, often neglecting the role of cultural background knowledge. To systematically investigate how cultural background knowledge affects reading comprehension among adolescent EFL learners, this paper conducts a comprehensive review of both Chinese and international empirical studies. Drawing on schema theory and cultural familiarity research, the review synthesizes findings from a range of studies. The results indicate that cultural background knowledge generally facilitates reading comprehension, with a particularly strong effect on inferential understanding. This effect is moderated by language proficiency: lower-intermediate learners benefit significantly from culturally familiar texts, whereas advanced learners can partially compensate for cultural unfamiliarity through linguistic skills. Effective instructional strategies identified include pre-reading schema activation, nativized adaptation of texts, explicit cultural content teaching, and integration of metacognitive strategies. Despite these positive findings, the review reveals a critical research gap concerning mainland Chinese junior high school students, highlighting the need for more large-scale empirical studies in this context. Pedagogically, the findings underscore the importance of teacher training in schema activation techniques and the development of culturally responsive reading materials.

Keywords: intercultural background knowledge, English reading comprehension, cultural schema, systematic review

1. Introduction

Against the backdrop of deepening international cooperation, English education in China has been tasked with cultivating internationally competent talent [1]. As a critical medium for cultural education, reading plays a central role in English language teaching. However, reading instruction at the secondary level currently tends to be confined to linguistic knowledge and test-taking strategies, .while the development of students' intercultural competence remains superficial [1]. Junior high

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school students face heavy academic pressure and lack sufficient reading time and cultural background knowledge, making it difficult for them to achieve deep comprehension through English reading [1].

Internationally, schema theory provides a solid theoretical foundation for understanding the role of background knowledge in reading comprehension [2, 3]. The theory posits that readers comprehend texts by activating pre-existing mental structures, i.e., schemas, among which cultural schema is a subtype specific to sociocultural contexts [4]. A large body of empirical research has confirmed that cultural familiarity significantly facilitates reading comprehension [5-8]. Nevertheless, most of these studies have targeted adults or university students, leaving a significant gap in research on adolescent populations, particularly junior high school students in mainland China.

In China, although several theoretical discussions and pedagogical papers have addressed intercultural competence in junior high English reading instruction [1, 9], large-scale empirical studies with rigorous experimental designs remain scarce. Moreover, the specific mechanisms through which cultural background knowledge affects different reading comprehension sub-skills (e.g., inferential vs. literal understanding) have yet to be fully clarified.

This review aims to systematically synthesize both Chinese and international research to explore: (a) the mechanisms by which cultural background knowledge influences secondary school students' English reading comprehension, (b) the differential effects for learners at different proficiency levels, (c) effective teaching strategies for activating cultural schemas, and (d) the main limitations of existing research, especially within the Chinese context.

The significance of this review is twofold. Theoretically, it provides a comprehensive evidence base for the application of schema theory to adolescent English reading. Practically, it offers evidence-based recommendations for junior high English teachers to integrate cultural background knowledge into reading instruction, and serves as a reference for teacher training programs.

2. Theoretical framework

2.1. Schema theory and reading comprehension

Schema theory, initially proposed by Bartlett and later refined by Rumelhart , is widely recognized as an important theoretical framework for explaining reading comprehension [10, 11]. The theory posits that readers comprehend new information by activating pre-existing knowledge structures stored in long-term memory, i.e., "schemas." In the reading process, the text itself does not carry complete meaning; rather, it provides clues for readers to activate relevant schemas [10]. When readers successfully activate schemas that match the textual content, comprehension proceeds smoothly; conversely, when corresponding schemas are absent, comprehension is hindered [12, 13].

In English-as-a-foreign-language (EFL) reading instruction, schemas are commonly classified into three types: linguistic schema, content schema, and formal schema [13, 14]. Linguistic schema refers to readers' mastery of vocabulary, grammar, and other linguistic knowledge; formal schema pertains to readers' awareness of text genres and discourse structures; and content schema concerns readers' background knowledge about the text topic [11, 15]. Among these, content schema is particularly crucial in intercultural reading, as it directly involves readers' understanding of culture-specific information [12, 13].

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2.2. Cultural schema and cultural familiarity

Cultural schema is a culture-specific subset of content schema, denoting readers' knowledge about the beliefs, values, customs, behavioral norms, and lifestyles of a particular social group [7, 13, 16]. When readers encounter texts consistent with their own cultural background, they can activate relevant cultural schemas more effortlessly, thereby grasping the implicit meanings of the text more accurately [5, 6, 17].

Cultural familiarity is a concept closely related to schema theory, referring to the degree to which readers are familiar with the cultural content embedded in a text [10, 11]. A substantial body of research indicates that cultural familiarity significantly facilitates reading comprehension [6, 7, 10, 17, 18]. When readers encounter culturally unfamiliar texts, the absence of corresponding cultural schemas often forces them to devote more cognitive resources to processing surface-level information, thereby impeding deeper comprehension [12, 19].

2.3. Intercultural competence and cultural metacognition

Intercultural competence refers to an individual's ability to communicate effectively and appropriately across different cultural contexts [20, 21]. Byram's model of intercultural communicative competence comprises five dimensions: attitudes, knowledge, skills of interpreting and relating, skills of discovery and interaction, and critical cultural awareness [20, 22]. This model has been widely adopted in the field of foreign language education and serves as a key theoretical foundation for cultivating learners' intercultural competence [22, 23].

Recently, research has begun to explore the role of cultural metacognition in intercultural learning. Cultural metacognition refers to an individual's awareness, monitoring, and regulation of their own cultural knowledge when interacting with people from different cultural backgrounds [23]. Studies suggest that cultural metacognition is a higher-order psychological process that enables learners to develop intercultural competence through reflection and strategic thinking, even in the absence of direct intercultural contact [23, 24].

Furthermore, Nechifor and Borca [25] proposed the concept of "culturacy," advocating for cultural literacy as a fifth language skill in addition to listening, speaking, reading, and writing, and constructed a three-stage progressive model of "cultural awareness – cultural competence – cultural literacy." Bandura [21] emphasizes that intercultural instruction should follow the principle of "looking at one's own culture in the mirror before looking at other cultures through the window," arguing that a clear awareness of one's own cultural identity is a prerequisite for intercultural understanding.

3. Empirical findings on the effects of intercultural background on reading comprehension

3.1. The facilitating effect of cultural familiarity on reading comprehension

A substantial body of empirical research has consistently confirmed that cultural familiarity significantly facilitates English reading comprehension. Lin [6], with 14 Taiwanese high school students as participants, employed a retelling method to examine the influence of culture-specific prior knowledge on reading comprehension, providing the first evidence of the positive role of cultural familiarity in an EFL context. The results indicated that students produced significantly more idea units when retelling texts on Chinese cultural topics than on non-Chinese cultural topics, while also generating fewer errors. Studies conducted in other countries and regions have

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corroborated this finding. Garth-McCullough [13], with 117 eighth-grade African American students, investigated the effect of culturally bound prior knowledge on reading comprehension across different achievement levels. The study found that a high level of cultural prior knowledge significantly supported reading comprehension. Similarly, studies by Emsley [19] in rural South African secondary schools, by Erten in Turkey, Razı [10], and Novita et al. in Indonesia [17] all arrived at the same conclusion.

3.2. The moderating role of language proficiency

The facilitating effect of cultural background knowledge varies significantly with learners' language proficiency. Weng [7], with Taiwanese university students as participants, divided them into high, intermediate, and low proficiency groups, and found that cultural familiarity significantly facilitated comprehension for low- and intermediate-level learners (Levels B/C, with a vocabulary size below 2,000 words), but exerted no significant effect on advanced learners, suggesting that high-proficiency learners can compensate for insufficient cultural schemas through linguistic knowledge. Razavi and Gilakjani implemented a six-week instructional intervention incorporating cultural content with 60 Iranian intermediate EFL learners [18]. The experimental group achieved a significantly higher post-test score (87.65) than the control group (78.29), showing an intra-group gain of 13 points, further corroborating the effectiveness of the cultural schema compensation mechanism for low- and intermediate-level learners.

3.3. The particular role in inferential comprehension

Cultural schemas are especially important for inferential comprehension—i.e., the ability to "read between the lines." Khataee and Davoudi [12] activated cultural schemas through background knowledge instruction with 67 Iranian advanced English learners before they read culturally loaded texts (e.g., on Halloween, Easter, etc.). The experimental group significantly outperformed the control group on inferential comprehension tests for all three texts ($p < .000$). The researchers pointed out that inferential comprehension requires readers to establish connections between existing information and textual information, and that cultural schemas precisely provide the bridge for such connections.

3.4. The relationship between intercultural competence and reading comprehension

A limited number of studies have directly examined the relationship between intercultural competence and reading comprehension. Hellerstein-Yehezkel [22] conducted a nine-month action research study in a multicultural pre-academic class in Israel. By developing a "classroom culture" and fostering intercultural interactions, the study found that students' reading comprehension scores improved from 38.60% to 74.60%, and their intercultural competence scores increased from 36.15% to 67.15%, with a correlation coefficient of $r^2 = .72$ ($p < .000$) between the two gains. Another study further supported this association. Huang [23] designed an intercultural teaching program featuring cultural metacognition with 58 Chinese university students. The results showed that students made significant improvements in the affective, metacognitive, and behavioral dimensions ($p < .05$), but no significant change was observed in the knowledge dimension. These findings suggest that intercultural competence and reading comprehension ability develop interdependently, and that cultural metacognition instruction primarily promotes changes in attitudes and strategies rather than mere knowledge accumulation.

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3.5. Teachers' perceptions and practices regarding the role of prior knowledge

Some studies have also revealed practical challenges in teaching intercultural background knowledge from the perspective of teacher cognition. Alhaisoni [26] surveyed 63 Saudi Arabian EFL teachers regarding their perceptions of the role of prior knowledge in reading and their classroom practices. The results indicated that teachers strongly endorsed the importance of prior knowledge (mean = 4.07), but their actual strategies were relatively limited—brainstorming (100%), audiovisual aids (52%), and questioning (48%) were common, whereas more elaborate strategies such as semantic mapping (13%), prediction (13%), advance organizers (0%), and KWL charts (0%) were seldom used. Teachers attributed these difficulties to a lack of training in diverse strategies. Another study further uncovered deeper issues. Kuche et al. found in Ethiopia that 62.8% of English language teacher educators scored at a low level on a knowledge and skills test related to early reading instruction [3], with no significant correlation between teaching experience and knowledge/skills ($r = -.025$, $p = .875$). These studies indicate a notable gap between teacher cognition and practice, and that experience does not automatically translate into enhanced professional competence.

4. Instructional intervention strategies

4.1. Pre-reading activation of cultural schemas

Pre-reading activities constitute an important approach to activating cultural schemas. Khataee and Davoudi [12] recommend that teachers develop specialized schema activation procedures by providing background knowledge, conducting classroom discussions, or using visual aids prior to reading culturally loaded texts. Lele [10], in the South African junior high school context, emphasized the effectiveness of strategies such as pre-teaching vocabulary and discussing the main points of the topics.

Cui Hongyan [1], drawing on the realities of Chinese junior high school instruction, proposed concrete and feasible intercultural practice activities including scenario simulations (e.g., dining scenarios in foreign restaurants), "My Culture" exchange sessions, and Model United Nations activities. These activities integrate intercultural communicative experiences into the classroom, enabling students to naturally acquire cultural knowledge in simulated contexts.

4.2. Nativized adaptation of texts

Nativization is an effective strategy for addressing the challenge of culturally unfamiliar texts. Erten and Razı [10] replaced proper names, place names, and food items in American short stories with Turkish local elements while preserving the original textual structure, which significantly enhanced students' comprehension performance. Novita et al. [17, 27] provided a detailed framework for nativized adaptation, including modifications to textual elements (proper nouns) and contextual elements (religious activities, currency, time, space, food, etc.).

Guo and Qian [9] constructed a three-phase model of "pre-reading – while-reading – post-reading" for cultivating cultural awareness. Taking the unit "Let's Celebrate" from the Oxford Junior High English textbook as an example, they designed specific activities including festival picture discussions, collaborative exploration of cultural connotations, and creating new festivals, reflecting an integration of nativization and cross-cultural comparison.

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4.3. Explicit cultural content instruction

Razavi and Gilakjani [18] implemented a six-week cultural content instruction program covering cultural background knowledge, target culture values and norms, and differences between source and target cultures. The experimental group's reading comprehension post-test score (87.65) was significantly higher than that of the control group (78.29), and the study recommends cultural content instruction as an appropriate methodology in EFL reading classrooms.

Chancay-Cedeño et al. [28] demonstrated the potential of cultivating intercultural competence through close reading of literary texts such as Shakespeare's The Tempest. With beginner-level university students in Ecuador, close reading activities combined with Byram's five-dimensional model analysis not only improved reading skills (KET scores rising from 13 to above 15) but also enhanced students' ability to conduct comparative analyses of source and target cultures.

4.4. Combining metacognitive strategies with culturally familiar texts

Novita et al. [27] combined metacognitive strategy instruction (planning, monitoring, evaluating) with culturally familiar texts and applied it to 74 low-proficiency pre-service teachers. The experimental group (metacognitive strategies + culturally familiar texts) significantly outperformed the control group in both reading comprehension (3.39 vs. 1.42) and text interest (67.61 vs. 47.92). These findings suggest that activating content schemas (through familiar texts) and strategic schemas (through metacognitive instruction) can produce synergistic effects.

4.5. Technology-enhanced intercultural learning

Liu et al. [24] investigated the use of augmented reality (AR) technology in cultivating intercultural competence. With 48 Chinese university EFL learners, the experimental group using a customized AR application significantly outperformed the traditional instruction group in both intercultural competence (3.76 vs. 3.15) and L2 learning motivation (3.69 vs. 3.30). This study offers a forward-looking reference for the future integration of emerging technologies into junior high school English instruction for intercultural competence.

5. Conclusion

This systematic review, integrating 30 Chinese and international studies, confirms that cultural background knowledge exerts a significant positive effect on the reading comprehension of junior high school and adolescent English learners. This effect is particularly pronounced in inferential comprehension and among low- and intermediate-proficiency learners. Practical strategies including pre-reading schema activation, nativized adaptation of culturally unfamiliar texts, explicit cultural content instruction, and integrated metacognitive strategy instruction have all been empirically validated as effective. Nevertheless, the scarcity of empirical studies specifically targeting mainland Chinese junior high school students remains a critical gap.

Future research should: (a) conduct large-scale, longitudinal quasi-experimental studies among Chinese junior high school populations to test the effectiveness of these strategies in the Chinese context; (b) develop standardized instruments to measure cultural background knowledge and its specific contributions to different reading comprehension sub-skills (literal, inferential, and critical comprehension); (c) investigate the long-term effects (beyond one semester) of instructional interventions integrating cultural metacognition [28]; (d) examine how different ethnic or regional

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backgrounds within China (e.g., urban vs. rural, minority vs. Han) influence the effect of cultural familiarity [29]; and (e) further explore the potential of emerging technologies such as augmented reality [11] for creating immersive cultural learning experiences for junior high school students.

With regard to classroom practice in China, English teachers should regularly conduct pre-reading activities to activate students' existing cultural knowledge. When selecting or designing reading materials, teachers may consider nativized adaptation by replacing foreign cultural elements with locally familiar content while maintaining linguistic authenticity. Furthermore, teacher training programs need to equip pre-service and in-service teachers with a range of schema activation techniques that go beyond simple brainstorming, such as KWL charts, semantic mapping, and advance organizers [30].

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