



The Mechanism of Cultural Awareness in English Learning Effectiveness: A Theoretical Exploration Based on Tolerance of Ambiguity

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Abstract: Against the backdrop of increasing globalization and cross-cultural communication, the importance of Cultural Awareness in English learning has become increasingly prominent. However, traditional test-oriented education often neglects the cultivation of Cultural Awareness, and existing research predominantly focuses on the direct relationship between cultural awareness and English learning effectiveness, paying insufficient attention to its underlying mechanism of action. This study aims to construct and explore a theoretical model of the ‘Cultural Awareness--Tolerance of Ambiguity--English Learning Effectiveness’ mechanism. By integrating constructivist learning theory, Krashen’s input and affective filter hypotheses, cognitive load theory, and intercultural communication theory, this paper proposes that cultural awareness can not only directly promote English learning effectiveness by providing cultural schemata but also indirectly influence learning effectiveness by enhancing learners’ Tolerance of Ambiguity. As a crucial psychological variable, Tolerance of Ambiguity plays a mediating role between cultural awareness and learning outcomes by reducing learning anxiety and optimizing the allocation of cognitive resources. This study provides a novel theoretical perspective for understanding the interaction between affective and cognitive mechanisms in English learning, offering implications for future empirical research and the reform of English teaching practices.

Key words: Cultural Awareness; Tolerance of Ambiguity; English learning effectiveness

1.Introduction

Against the backdrop of globalization, nations have placed increasing emphasis on second language education, with English established as a global lingua franca. However, an exclusive focus on the acquisition of linguistic knowledge, while neglecting the learning of the target language’s culture, is increasingly inadequate to meet contemporary demands. Language serves as a carrier of culture; thus, cultural awareness largely determines a learner’s ability to accurately comprehend and flexibly employ the language they are learning. Learners deficient in cultural awareness are often prone to pragmatic failures and may even experience confusion and aversion towards the target language, consequently hindering their learning effectiveness.

Concurrently, encounters with ambiguous, uncertain, or polysemous phenomena are inevitable in the process of English learning. Learners’ psychological responses to such ambiguous contexts directly impact their learning efficiency and ultimate achievement. As a crucial individual difference variable, Tolerance of Ambiguity reflects a learner’s attitude and coping capacity when confronted with uncertainty. Existing research indicates that a higher level of Tolerance of Ambiguity can help reduce learning anxiety, foster motivation, and thereby enhance language learning effectiveness. Nevertheless, the relationship between Cultural Awareness and Tolerance of Ambiguity, and how they interact to

jointly influence English learning, remains relatively underexplored.

In light of this, this paper aims to construct a theoretical model illustrating the mechanism of ‘Cultural Awareness--Tolerance of Ambiguity--Learning Effectiveness’ based on a review of relevant theories. It seeks to explore the interactive effects of cultural and psychological factors in English learning from a theoretical perspective, thereby providing a reference for future empirical research and pedagogical practices.

2. Research Background

2.1 The Need for Cultural Exchange in the Context of Globalization

In recent years, rapid economic and technological prosperity, along with profound changes in social life, have increasingly interconnected nations worldwide. Under the influence of globalization, exchanges and cooperation between different countries have grown significantly, naturally leading to strengthened cultural interactions. English has now become a global lingua franca. However, due to differences in lifestyles, geographical environments, historical backgrounds, and value systems across nations, cultures around the world vary greatly. In this context, when people use English for communication, focusing solely on superficial linguistic symbols and mechanically applying language knowledge and grammatical rules—while neglecting the underlying cultural connotations—can lead to communication barriers, misunderstandings, and even conflicts. Language cannot exist independently of culture [47]. Yet, due to the cultural gap between Chinese and English, pragmatic or semantic errors are likely to occur frequently, hindering effective output of native culture and inevitably leading to intense cultural clashes. Thus, the cultivation of cultural competence is a crucial process [17]. To better adapt to the development of the information age, contemporary students should possess a certain level of cultural literacy.

2.2 The Need for Cultivating Cultural Awareness in Exam-Oriented Education

English culture teaching operates at two levels: cultural knowledge and cultural understanding. It must transcend the former and achieve the latter, with cultural awareness education serving as the bridge between these two levels [7]. However, English instruction in exam-oriented education is predominantly test-driven, prioritizing the acquisition of knowledge and skills over the cultural nurturing role of education.

For instance, English teaching in China primarily employs the grammar-translation method, emphasizing the learning of vocabulary and grammatical knowledge while neglecting the acquisition of cultural knowledge of the target language country [39]. Senior high school English instruction in China still focuses mainly on the transmission of linguistic knowledge and the practice of language skills. There is a lack of awareness and practice in integrating culture into the classroom, a neglect of guiding cultural appreciation and dissemination, and an oversight of the educational role of culture, manifesting as an emphasis on knowledge imparting over cultural connotation [33]. Some teachers themselves have deficiencies: insufficient personal reserve of cultural knowledge and a need to enhance their own sensitivity to Cultural Awareness [15]. Therefore, the traditional teacher-centered instructional model can no longer meet the students’ need to develop Cultural Awareness.

2.3 The Need for Enriching Foreign Language Learning Theory Research

Most current research focuses on the relationship between Cultural Awareness and students’ English reading scores, or discusses the problems and countermeasures in cultivating Cultural Awareness, while paying less attention to whether mediating variables influence the relationship between Cultural Awareness and English reading performance. For example, a significant positive correlation exists between the Cultural Awareness of senior high school students and their overall English performance

[26]. Teaching that integrates Cultural Awareness can improve students' English reading scores [43]. The cultivation of Cultural Awareness is positively correlated with the English reading scores of senior high school students; such cultivation has been shown to enhance students' performance in English reading comprehension. In reading instruction, improving Cultural Awareness can motivate students' enthusiasm for English learning, foster a broad interest in the cultural concepts behind the language, thereby elevating cultural literacy, which in turn promotes the improvement of language knowledge and learning ability, leading to a significant increase in reading scores [18].

In summary, to comply with the needs of cultural exchange under globalization, meet the students' need to develop Cultural Awareness, and explore more effective pathways for cultivating students' Cultural Awareness, this paper will introduce Tolerance of Ambiguity as a mediating variable to investigate the specific mechanism through which Cultural Awareness influences English learning effectiveness.

3. Research Objectives

To enrich the theoretical research on the relationship between Cultural Awareness and foreign language learning: While existing studies predominantly focus on the direct relationship between Cultural Awareness and English achievement, this research introduces Tolerance of Ambiguity as a mediating variable, thereby further deepening the understanding of the mechanism through which cultural factors and cognitive factors operate in English learning.

4. Literature Review

4.1 Core Concepts

4.1.1 Cultural Awareness

Scholars from various fields and disciplines hold different understandings and perspectives on this concept. For instance, Cultural Awareness refers to sensitivity to cultural components in cross-cultural communication[44]. It is 'the knowledge, skills, and attitudes that foreign language learners must master to understand a specific culture and communicate across different cultures' [6]. Other scholars have proposed more concrete definitions: awareness of cultural diversity and tolerance toward cultural differences, empathy for people from different cultures, and cognition and reflection on one's own language, cultural values, and behavioral patterns [21]. China's Ministry of Education, in the newly promulgated English Curriculum Standards for Ordinary Senior High Schools, defines Cultural Awareness as the understanding of Chinese and foreign cultures and the identification with excellent cultures, manifested as students' cross-cultural cognition, attitudes, and behavioral orientations in the context of globalization.

This paper posits that Cultural Awareness constitutes the knowledge, skills, and attitudes that learners must master to communicate effectively in different cultural contexts.

4.1.2 Tolerance of Ambiguity

Research on Tolerance of Ambiguity originated from psychological studies on intolerance of ambiguity. Intolerance of ambiguity is a tendency to perceive ambiguous situations—those that are novel, complex, or insoluble—as sources of threat [3]. Individuals who are intolerant of ambiguity tend to view ambiguous, incomplete, uncertain, incoherent, or contradictory information as causes of potential psychological threat [40]. In ambiguous situations, individuals with high Tolerance of Ambiguity can accept unclear matters, whereas those with low tolerance cannot endure such ambiguities, as these often cause them discomfort[9]. Individuals with high Tolerance of Ambiguity are more willing to take risks and more readily accept change [35]. This paper adopts the definition by Zhang Qingzong (2004), which characterizes Tolerance of Ambiguity as a learning style primarily reflecting a learner's attitude

toward learning materials or objects that are ambiguous, unfamiliar, or heterogeneous. This attitude encompasses a spectrum from active acceptance to passive resistance[61].

4.1.3 English Learning Effectiveness

Learning Effectiveness refers to the gains learners achieve after a period of study or completion of a specific instructional unit [49]. Evaluating whether learning is effective involves assessing whether expected outcomes are met. Learning is considered effective when preset learning objectives are achieved, learning efficiency is reasonable, and learners experience comprehensive development during the process. The result of effective learning is learning effectiveness [34]. It represents the ratio of the comprehensive learning outcomes of students' learning behaviors to the comprehensive learning costs incurred to achieve these outcomes—i.e., the comprehensive learning results per unit of learning cost [51]. Extensive literature review reveals that the influence of Cultural Awareness and Tolerance of Ambiguity on English learning effectiveness is primarily manifested in reading and listening competencies.

4.2 Current Research Status

4.2.1. Research on the Relationship Between Cultural Awareness and English Learning Effectiveness

Current research on the relationship between Cultural Awareness and English learning effectiveness is relatively scarce and primarily focuses on the impact of Cultural Awareness on English reading scores. Researchers have found that Cultural Awareness has a significant positive influence on learners' English performance. For example, a significant positive correlation exists between senior high school students' English Cultural Awareness and their overall English performance [26]. Instruction integrating Cultural Awareness can enhance students' English reading scores [43]. The cultivation of Cultural Awareness is positively correlated with senior high school students' English reading scores; such cultivation has been shown to improve students' performance in English reading comprehension [18]. Intercultural awareness, as a component of Cultural Awareness, can enhance students' English reading ability and performance when fostered[42].

4.2.2. Research on the Relationship Between Tolerance of Ambiguity and English Learning Effectiveness

Since Budner's 1962 publication "Intolerance of Ambiguity as a Personality Variable," research on tolerance of ambiguity has spanned five decades, yet overall remains relatively underdeveloped.

The question of whether Tolerance of Ambiguity positively influences English performance has garnered significant academic interest. Oxford (1990) emphasized a positive correlation between Tolerance of Ambiguity in language learning and academic achievement [1][22][41]. Students with high Tolerance of Ambiguity are more willing to experiment with new knowledge, particularly when encountering new vocabulary, and their learning efficiency surpasses that of learners with low tolerance [50]. When faced with diverse learning content, learners with high Tolerance of Ambiguity can selectively employ learning strategies, whereas those with low tolerance cannot endure ambiguities in language learning and apply strategies indiscriminately, with considerable blindness and randomness [61]. One study surveyed 193 English majors to measure the impact of Tolerance of Ambiguity on their TEM-4 scores. The results indicated a significant correlation between students' TEM-4 scores and their Tolerance of Ambiguity[11]. Compared to students with low tolerance, those with high Tolerance of Ambiguity performed significantly better, while students with moderate tolerance also outperformed those with low tolerance [63].

An increasing number of researchers are focusing on the relationship between Tolerance of Ambiguity

and specific English skills.

Tolerance of Ambiguity and English Listening:

Studies have found a positive correlation between senior high school students' Tolerance of Ambiguity and their use of listening strategies [10]. Students with high Tolerance of Ambiguity are more adept at using listening strategies than those with low tolerance [32]. Another study tested first-year English majors and found that, at the beginning of the semester, there was no significant correlation between Tolerance of Ambiguity and overall listening comprehension ability or specific sub-skills. After a semester of training, by the end of the semester, participants with high Tolerance of Ambiguity showed greater improvement in overall listening comprehension scores and in skills such as post-listening question answering, inference, and gist listening than those with low tolerance [68].

Tolerance of Ambiguity and English Reading:

Students with high Tolerance of Ambiguity often possess stronger reading comprehension abilities [24]. The higher students' Tolerance of Ambiguity in English reading, the more frequently they employ English reading strategies [58].

Some researchers have explored mediating variables between Tolerance of Ambiguity and English reading performance. For example: Tolerance of Ambiguity and reading anxiety are negatively correlated, reading anxiety and reading performance are negatively correlated, but Tolerance of Ambiguity and reading performance are positively correlated. Reading anxiety plays a partial mediating role between Tolerance of Ambiguity and reading performance [28]. Both Tolerance of Ambiguity and reading self-efficacy positively influence English reading performance, and together they can positively predict 41.5% of the variance in English reading scores. Additionally, reading self-efficacy partially mediates the effect of Tolerance of Ambiguity on English reading performance [29].

However, excessive Tolerance of Ambiguity can hinder language learning, as it may prevent effective organization and absorption of useful information cognitively, leading to taking information out of context and rote memorization without comprehension. This results in imprecise language acquisition and is thus detrimental to foreign language learning. Therefore, Tolerance of Ambiguity should be moderate [23][56][62].

In summary, Cultural Awareness is positively correlated with learners' English reading performance, and Tolerance of Ambiguity has a significant positive impact on English learning effectiveness—learners who can tolerate uncertainty acquire language more easily. However, no existing research has integrated 'Cultural Awareness' and 'Tolerance of Ambiguity' within a causal pathway. Therefore, this paper introduces Tolerance of Ambiguity as a mediating variable to further explore the specific mechanism through which Cultural Awareness influences English learning effectiveness.

5.Theoretical Foundation

5.1 Constructivist Learning Theory: How Does Cultural Awareness Influence English Learning Effectiveness?

Constructivism emphasizes that learners have already formed rich experiences through daily life and previous learning. When presented with a problem, they can often draw upon relevant experiences and their knowledge abilities to formulate certain explanations for the problem. This is not random guessing but rather logical hypotheses derived from their experiential background. Furthermore, learning is not the mere transmission of knowledge from teacher to student but a process where students construct their own knowledge. Learners are not passive absorbers of information; instead,

they actively construct the meaning of information, a process that cannot be replaced by others [55]. In English learning, learners need to understand new knowledge through existing experiences and multiple perspectives.

Cultural awareness helps learners understand linguistic phenomena from different cultural perspectives, reducing confusion and resistance towards new language phenomena, thereby enhancing their Tolerance of Ambiguity. More importantly, it provides learners with the necessary cultural schemata, enabling them to more easily construct meaning when encountering target language discourses, directly promoting English learning effectiveness.

Taking the English greeting ‘How are you?’ as an example, native Chinese speakers often rely on their original pragmatic experience, interpreting it as a substantive concern and expecting to give a specific response. However, in British and American cultures, this expression primarily serves a ritualistic phatic function rather than a genuine inquiry. Without corresponding Cultural Awareness, learners are prone to cognitive conflict and pragmatic negative transfer, leading to confusion and resistance towards the target language phenomenon. When teachers clarify its social function as a greeting rather than a question, learners can reintegrate their cognitive schemata, transforming literal ambiguity into conventionalized communicative routines. This enhances their tolerance for pragmatic ambiguity and facilitates the construction of meaning for new knowledge.

5.2 Krashen’s Input Hypothesis and Affective Filter Hypothesis: How Does Tolerance of Ambiguity Influence English Learning Effectiveness?

Comprehensible input refers to language data that learners read or hear which is understandable and slightly more difficult than their current level. Krashen argued that merely increasing the amount of language input is insufficient; second language learners need comprehensible input. Only then can the learner’s internal processing and acceptance mechanisms for language materials truly operate [70]. The affective filter is a psychological barrier that prevents language acquirers from fully absorbing the comprehensible input they receive. When learners lack motivation, experience excessive anxiety, or have insufficient self-confidence, the filter is raised, hindering language input from being absorbed. Conversely, when learners are highly motivated, confident, and have low anxiety, language input passes through the filter smoothly and is acquired [45].

When learners possess corresponding Cultural Awareness, they can better infer and understand ambiguous contexts, thereby more effectively receiving input that is slightly above their current level. Learners with high Tolerance of Ambiguity experience less anxiety when facing ambiguous contexts, resulting in a lower affective filter and more efficient absorption of language input. Existing research has proven: a negative correlation exists between Tolerance of Ambiguity and reading anxiety [40].

5.3 Cognitive Load Theory: How Does Tolerance of Ambiguity Optimize Cognitive Resource Allocation?

Cognitive Load Theory was first proposed by cognitive psychologist John Sweller (1988). The theory has two theoretical foundations: the limited capacity theory and schema theory. The basic premise of limited capacity theory is that the overall resources available for cognitive activities are limited. Therefore, the total amount of allocable resources is fixed. When handling multiple activities simultaneously, if one activity requires more cognitive resources, others will consequently receive less. Thus, based on this, Cognitive Load Theory posits that the overall cognitive resources available to students during learning are limited. The total cognitive resources required for a student’s learning activities cannot exceed the total resources they possess. If cognitive resource allocation is insufficient, the student’s learning efficiency decreases, hindering effective completion of the current learning

task—this state is considered cognitive overload [50].

Based on schema theory, Cognitive Load Theory holds that knowledge should be stored in long-term memory in the form of schemata. A schema is a knowledge structure composed of a certain category of information, an information unit formed by relevant data. When learning new knowledge, students can efficiently extract schemata related to this information from their brains. The construction of schemata enables students to input and extract information effectively. Therefore, schema construction can reduce cognitive load. Through sufficient practice, students can achieve schema automation—meaning learning activities practiced extensively can be mastered proficiently. Consequently, new learning tasks, being allocated more cognitive resources, can be completed efficiently.

Learners with high Tolerance of Ambiguity can allocate cognitive resources more efficiently (e.g., by ignoring secondary ambiguous information), reducing cognitive overload caused by cultural differences. Existing research has proven: learners with high Tolerance of Ambiguity can selectively employ learning strategies when faced with different learning content [61].

5.4 Intercultural Communication Theory: How Does Cultural Awareness Enhance Tolerance of Ambiguity?

The term "intercultural communication" was first introduced and used by Edward Hall (1959), simply defined as communication between people from different cultural backgrounds [25]. Intercultural communication occurs when a member of one culture generates a message for consumption and use by a member of another culture. It includes international, inter-ethnic, and inter-regional communication. Byram's model of intercultural communicative competence (ICC), comprising five dimensions—knowledge, skills of interpreting and relating, skills of discovery and interaction, attitudes, and critical Cultural Awareness—is one of the most influential theoretical models [4].

- **Knowledge:** Understanding of one's own and other countries' cultures and social interaction rules.
- **Skills of Interpreting and Relating:** Ability to interpret cultural phenomena and relate them to another culture.
- **Skills of Discovery and Interaction:** Ability to learn about new cultures and interact flexibly in new situations during communication.
- **Attitudes:** Openness, curiosity, and respect for other cultures.
- **Critical Cultural Awareness:** Ability to critically analyze cultural differences and make value judgments.

The ICC model emphasizes that learners must approach cultural differences with attitudes of openness, curiosity, and respect. This Cultural Awareness helps students perceive 'ambiguous' or 'uncertain' expressions as normal cultural differences rather than errors or threats. Therefore, enhancing Cultural Awareness can increase a learner's Tolerance of Ambiguity.

6.Theoretical Framework and Mechanism of Action

Supported by the aforementioned theoretical foundations, this study constructs a mechanistic framework of 'Cultural Awareness → Tolerance of Ambiguity → English Learning Effectiveness.' Overall, Cultural Awareness may not only indirectly promote English learning effectiveness by enhancing learners' Tolerance of Ambiguity but also directly impact English learning effectiveness by providing cultural schemata and improving intercultural communication competence. Tolerance of ambiguity plays a mediating role in this process; its enhancement can reduce learners' anxiety levels and optimize the allocation of cognitive resources, thereby facilitating the absorption and processing of language input. Consequently, the theoretical framework of this study comprises two pathways:

Cultural Awareness → Tolerance of Ambiguity → English Learning Effectiveness

Cultural Awareness → English Learning Effectiveness (Direct Effect)

The mechanism of action is illustrated in the following figure(Figure 1):

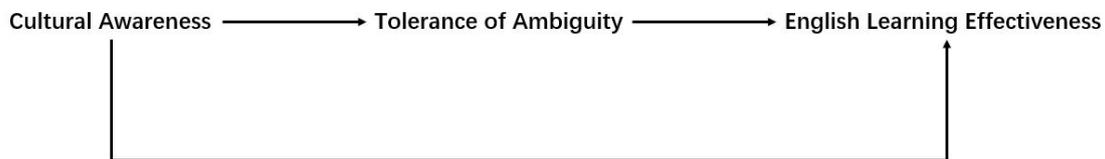


Figure 1

7. Conclusion

7.1 Research Findings

This study aimed to theoretically explore the mechanism through which Cultural Awareness influences English learning effectiveness, introducing Tolerance of Ambiguity as a mediating variable for analysis. By reviewing constructivist learning theory, the input hypothesis and affective filter hypothesis, cognitive load theory, and intercultural communication theory, this paper has constructed a theoretical framework linking Cultural Awareness, Tolerance of Ambiguity, and English learning effectiveness.

7.2 Research Innovation

This study proposes that Cultural Awareness not only directly influences English learning effectiveness but also indirectly enhances language learning performance by improving learners' Tolerance of Ambiguity. This inference provides a new perspective for explaining the affective-cognitive mechanisms operating in the English learning process.

7.3 Limitations and Future Research Directions

As primarily a theoretical deduction, this study lacks empirical support. Future research should empirically investigate or experimentally validate the proposed mechanistic model, and further examine its applicability across different learner populations.

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