Survey on the Demands for Intelligent Teaching in Catering from the Perspective of International Chinese Education and Tool Design: A Case Study of Southeast Asian International Students

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Abstract: In international Chinese education, the teaching of food culture for Southeast Asian students studying in China (such as Thailand, Myanmar, Vietnam) faces problems such as shallow vocabulary cognition, cultural adaptation challenges, and single teaching methods. This article conducts a literature review to analyze the current situation of international students in terms of difficulty in adapting to diet, teaching needs (diverse methods such as situational teaching and vocabulary interpretation), and preferences for intelligent tools (AI assisted personalized learning). Based on this, an intelligent teaching tool for catering was designed, including a vocabulary learning module (AI generated flashcards, providing pinyin, explanations, example sentences, and cultural background), a scenario simulation module (virtual restaurant dialogue and AI role-playing feedback), a cultural comparison module (personalized explanations of differences in Chinese Thai/Sino Vietnamese cuisine), and a personalized push module (recommending vocabulary based on progress). Research has shown that this tool framework can basically meet the goal of improving international students' Chinese communication skills and cross-cultural adaptation, filling the intelligent gap in the existing teaching system, and providing practical reference for international Chinese education.

Keywords: International Chinese Education; Catering Teaching; Southeast Asian International Students; Intelligent Tools; Requirement

1. Introduction

As an interdisciplinary subject [1], international Chinese education aims to achieve the synchronous improvement of language skills acquisition and cultural abilities. Under this framework, food culture is regarded as an important carrier of cultural education due to its high degree of embedding in daily life, cross-cultural comparability, and strong sensory experience characteristics. Existing research has shown that diet related topics can not only significantly stimulate learners' intrinsic motivation, but also provide authentic contexts for language and cultural practices [2], thereby effectively promoting the improvement of communication skills [3].

As the largest country in Asia, China has a profound influence on neighboring countries in the fields of politics, economy, and culture, and the same goes for Southeast Asia. In recent years, since the implementation of the "The Belt and Road Initiative", the number of foreign students from this region has continued to grow, and many countries have incorporated Chinese into the national

education system [1]. However, cultural distance theory [4] and cross-cultural adaptation research have shown that differences in dietary habits often constitute an important source of early cultural shock among international students [5]. Southeast Asian international students often face adaptation challenges in terms of taste, seasoning, cooking methods, etc. in the Chinese food environment, while also showing a high curiosity and willingness to accept Chinese food culture. This contradictory phenomenon provides a unique research entry point for international Chinese education: how to strengthen the authenticity of language input and output, then resolve cultural adaptation barriers through systematic food themed teaching.

In recent years, the application of artificial intelligence technology in the field of international Chinese education has developed rapidly, covering multiple levels such as intelligent vocabulary push, situational dialogue simulation, and personalized learning path design [6-8]. The introduction of intelligent teaching tools not only fills the gap of insufficient language environment in traditional classrooms, but also provides technological possibilities for national and regional teaching. However, the development of intelligent teaching tools for the theme of food culture is still in its early stages, especially lacking in demand analysis and targeted design for the specific group of Southeast Asian international students.

Based on the above background, this article starts from the perspective of international Chinese education, takes Southeast Asian international students as the research object, sorts out empirical findings related to food culture adaptation and teaching needs in existing literature, and then explores the potential application of artificial intelligence technology in catering themed teaching, and proposes a design framework for targeted intelligent teaching tools. The research aims to provide theoretical references and practical paths for the nationalization and intelligent development of international Chinese education.

2. Literature Review

2.1 The Characteristics of Chinese Language Learning for Southeast Asian International Students

The motivation for Chinese language learning among Southeast Asian students studying in China, such as those from Thailand, Vietnam, Myanmar, etc., exhibits diverse characteristics and is generally above average, mainly influenced by community attitudes, ideal second language selves, and second language learning experiences. Tool based motivation (such as practical value) is strong, but research literature is relatively scarce and uneven, mainly concentrated in Thailand and Vietnam. Their learning psychology, motivation, and methods are different from those of European, American, Japanese, and Korean students. Their listening and speaking abilities are generally better than their reading and writing abilities. Therefore, in courses such as newspaper reading, emphasis should be placed on communicative practice and authentic expression. The teaching mode is unique, with both Chinese language education as the mother tongue and foreign language education as the second language, emphasizing emotional learning motivation, assisting language ontology teaching through cultural knowledge [9], and introducing Chinese resources through distance education to break through the limitations of teachers and textbooks.

2.2 The Application of Intelligent Teaching in International Chinese Education

In the field of International Chinese Language Education, the application of intelligent teaching has evolved from a simple auxiliary tool to a core driving force for the high-quality development of the discipline. The current application status can be summarized into the following three academic

dimensions:

(1) The digital transformation and intelligent construction of teaching mode

Intelligent teaching not only changes the teaching media, but also reconstructs the teaching process. Researchers have proposed smart teaching models such as the "three-stage nine step" approach, which utilizes big data and AI algorithms to achieve precise teaching. Based on platforms such as “yu ke tang (Rain Classroom)” or “guo ji zhong wen zhi hui jiao xue xi tong3.0 (International Chinese Smart Teaching System 3.0)” of Beijing Language and Culture University, teachers can monitor students’ language learning progress in real time through knowledge graphs and learning behavior analysis [10].

(2) Personalized learning path and intelligent interaction

Artificial intelligence (AI) has played a crucial role in addressing communication gaps among international students in non-target language environments. Application manifestation: Intelligent dialogue system: using generative AI (such as ChatGPT) to simulate real social scenarios (such as ordering and interviews), providing a personalized speaking production environment. Speech evaluation and correction: Through speech recognition (ASR) technology, fine diagnosis of tone and flow changes in international students is carried out, effectively alleviating pronunciation disorders [11].

(3) Intelligent integration of teaching resources and cross-cultural simulation

Intelligent technology has enhanced the dynamism of textbooks and the immersion of culture. With the help of multimodal resource generation technology, AI is used to assist in writing reading materials that are easy to read and meet the cognitive characteristics of international students, and matching generated images with audio tracks. Even by combining virtual reality technology, Chinese catering culture and social etiquette can be visualized, enhancing cross-cultural communication skills [12].

3. The Investigation and Analysis of the Demand for Intelligent Teaching in Catering

The demand for catering teaching in international Chinese education mainly stems from the dual drive of international students’ adaptation challenges to Chinese food culture and their interest in learning. Existing empirical studies have shown that dietary differences often pose significant obstacles for international students studying in China during cross-cultural adaptation, and also become an important entry point for stimulating language practice motivation. This section is based on survey data and case analysis from public literature, and summarizes the specific manifestations, teaching preferences, and potential needs for intelligent tools of Southeast Asian international students (and broadly speaking, international students studying in China) in terms of dietary adaptation.

3.1 Assessment of Dietary Adaptation Challenges and Difficulty

After entering China, international students may experience confusion, anxiety, or resistance due to regional and cultural differences, which can be reflected in food taste, ingredients, methods, and table manners, leading to cultural shock. This study conducted a questionnaire survey among international students in Guangzhou and found that they adopted an "integrated" strategy in their dietary practices, which they adapted to the best; I have a certain understanding of the food culture in China and Guangzhou, but still need to deepen my knowledge; I tend to have a neutral and conservative attitude towards Chinese food culture.

Regional difficulty assessment shows that students from the United States and Eastern Europe have the best adaptation, followed by Vietnamese students, while students from the Middle East and Thailand have the worst adaptation. This study further points out that dietary adaptation is one of the easier aspects of cross-cultural adaptation, which is the result of the combined effects of internal driving forces (such as personal preferences) of international students and external selectivity of Guangzhou's dietary diversity. Based on this, a model is constructed in which internal driving forces and external selectivity promote cross-cultural adaptation. Overall, the literature suggests that the difficulty of dietary adaptation is lower than other cross-cultural aspects such as learning or interpersonal communication, but it needs to be alleviated through targeted teaching.

3.2 Teaching Needs and Preferences

The literature generally points out that the teaching needs of food culture in international Chinese education focus on vocabulary, cultural connotations, festival cuisine, and practical applications, with a preference for diverse and situational methods to enhance the interest and understanding of international students. The demand originates from the current teaching situation problems, such as lack of systematization and single methods; Preference emphasizes the combination of cultural and communicative functions.

The teaching needs for primary stage dietary vocabulary include systematic classification of vocabulary (such as food names, places, cooking methods, sensations, actions, utensils), and emphasis on communicative and cultural functions; The current problems include unsystematic teaching, difficulty in teaching abstract vocabulary, inadequate explanation of paraphrasing, and single methods. The reasons include unscientific curriculum design, incomplete evaluation system, mismatched cognitive levels of students, and low teacher expectations [13]. Because international students' cognition tends to stay at the surface level, unable to understand the deeper meanings, and have insufficient understanding of traditional festivals; The preference principles and strategies include designing lesson plans represented by dietary materials, flavors, and sensations [14].

3.3 Demands for Intelligent Teaching Tools

Existing research has not directly mentioned or discussed the demand for intelligent teaching tools, such as AI assisted tools and digital platforms. These papers are mainly based on traditional methods such as questionnaires, interviews, lesson plan design, and situational teaching, with a focus on improving manual teaching strategies and evaluation systems, and do not involve the application or needs assessment of intelligent tools. The rapid development of Artificial Intelligence Generated Content (AIGC), represented by the universal big language model, this year has led to a widespread use of them by international students for language learning, favoring various apps and virtual interactions to compensate for the lack of language environment. The requirements mainly include personalized vocabulary review and cultural interpretation (such as regional taste differences). Virtual ordering simulation, role-playing, providing real-time feedback. Nationalized content (such as Southeast Asian language assisted interpretation). These demands stem from the need to adapt to initial obstacles and maintain motivation, and intelligent tools can bridge real-life limitations through virtual experiences.

The characteristic of Chinese cuisine teaching lies in its high integration of language learning and cultural immersion. For international students studying in China or students from specific countries (such as Thailand and Myanmar), it emphasizes stimulating learning interest and improving Chinese

proficiency and cross-cultural communication skills by comparing the differences in Chinese and foreign cuisine (such as comparing Chinese and Thai cuisine); The teaching content focuses on graded design (such as intermediate and high-end cuisine, local snacks, cooking methods), combined with vocabulary, cultural connotations, and aesthetic art analysis from the perspective of integrating examination and education; Diversified methods, including the integration of explanatory and experiential approaches, task-based practice, localization of classroom design, and maximization of resource utilization, aim to promote Chinese culinary culture in a vivid and efficient manner while addressing the cognitive and adaptation challenges faced by international students.

4. Design Suggestions for Intelligent Teaching Tools

We believe that the intelligent catering Chinese teaching tool should include four modules, as shown in Figure 1.

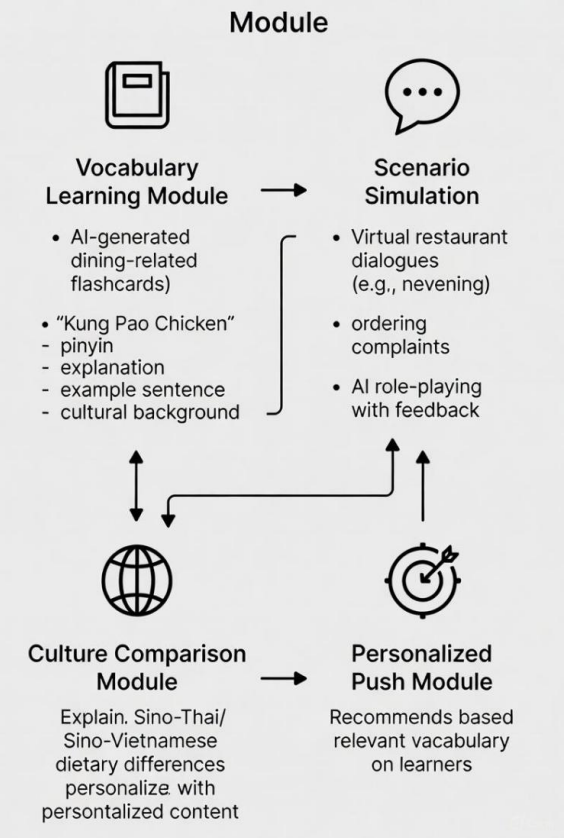

Figure 1: Four Modules of Chinese Teaching Tools for Catering.

The vocabulary learning module generates flash cards related to catering through AI, such as the spelling, explanation, example sentences and cultural background of "gong bao ji ding(Kung Pao chicken)", to help learners systematically master the basic meaning, meaning transfer and cultural connotation of Chinese food vocabulary, and to improve the cognitive depth of foreign students at the primary stage by combining the vocabulary classification (such as food names, cooking methods, feelings) and teaching problems (such as abstract words are difficult to teach, meaning transfer explanation is not in place) emphasized in the literature. The scenario simulation module utilizes virtual restaurant dialogue to simulate real-life scenarios such as ordering and complaints, and

provides real-time feedback through AI role-playing to promote language practice applications. The "exam teaching combination" perspective and scenario teaching strategy referenced in the literature solve the adaptation challenges of international students, such as taste differences and table etiquette confusion. The cultural comparison module explains the dietary differences between China and Thailand or China and Vietnam, and generates personalized content to stimulate cross-cultural understanding. It integrates literature such as comparative research on Chinese and Thai cuisine and holiday food teaching for Southeast Asian international students, highlighting comparative methods to alleviate cultural shock. The personalized push module recommends relevant vocabulary based on learners' progress to achieve customized learning. Drawing on literature on cognitive surveys and teaching preferences of international students (such as diversified methods and interest stimulation), the teaching evaluation system is optimized to match the adaptation difficulty of students from different countries (such as Thailand and Myanmar).

5. Conclusion and Prospection

This study takes the perspective of international Chinese education and focuses on Southeast Asian international students. Through literature review, demand investigation, and tool design, it systematically explores the demand and application of intelligent teaching in catering. The survey results show that the main challenges faced by Southeast Asian international students in adapting to food culture include taste differences, shallow vocabulary cognition, and cultural shock, but the overall difficulty of adaptation is relatively low, influenced by internal driving forces and external diversity; Diversified teaching methods such as scenario simulation and cultural comparison are preferred to enhance interest and communication skills; Although the demand for intelligent teaching tools has not been explicitly emphasized in existing literature, by designing vocabulary learning modules (AI generated flashcards, providing pinyin, explanations, example sentences, and cultural backgrounds), scenario simulation modules (virtual restaurant dialogues and AI role-playing feedback), cultural comparison modules (Sino Thai/Sino Vietnamese difference explanations and personalized content generation), and personalized push modules (based on progress recommended vocabulary), teaching pain points can be effectively addressed, achieving deep integration of language and culture. In the future, AI based cross-cultural adaptation platforms can be further developed to expand to more international student groups, promoting the development of international Chinese education towards intelligence and personalization.

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