A Study on the Theory and Methodology of Teaching Chinese
to Chinese American Elementary School Students Online

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Abstract. Online courses are becoming one of the most important ways of Chinese language learning for Chinese American elementary school students. At present, there are relatively few studies on Chinese language teaching for Chinese Americans, and even fewer studies on online Chinese language teaching for Chinese American elementary school students. Based on the learners' Chinese identity and country-specific characteristics, we initially explore the online Chinese language teaching for Chinese American elementary school students and draw the following conclusions. Finally, this paper briefly analyzes the problems of online Chinese language teaching for Chinese elementary school students in the United States and gives relevant suggestions.

Keywords: American, Chinese, elementary school students, online Chinese.

1. Introduction

Chinese descendants are those who have settled in another country and acquired the nationality of that country, or those who were born in another country and acquired the local nationality directly according to its laws. The Chinese community is distributed all over the world and is dominated by North America, Australia, Southeast Asia and other regions. There are more than 5.08 million ethnic Chinese in the United States [1], which is one of the ethnic groups that cannot be ignored in American society.

Chinese American children generally have the need to learn Chinese, and most of them start to learn Chinese systematically during their elementary school years. This is because, firstly, Chinese language education within the family does not allow Chinese children to master Chinese systematically, and many Chinese children's Chinese language proficiency is worrying. Secondly, many Chinese American families are "bilingual families", and in such families, there are many cases where "parents speak Chinese with their children but allow them to answer in English"[2]. Therefore, although Chinese American children have some Chinese language environment, it is very limited, and their Chinese learning is still a second language learning in a non-target language environment. Consequently, in order to seize the critical period of second language learning, Chinese Americans usually begin to learn Chinese systematically in elementary school.

In the last century, Zhao Yuanren (1987) conducted a preliminary study on Chinese language learning among Chinese American children. He argued that the environment in which Chinese American children live has caused the "bilingual phenomenon" in American society, and pointed out that it is reasonable and necessary for Chinese children to learn Chinese, and that they must learn Chinese at the same time as their first language. Otherwise, it will have negative effects on Chinese learning. Luo Qingming (1997) also conducted a study and discussion on Chinese language teaching for Chinese children in Southeast Asia, pointing out that Chinese language teaching for Chinese children should focus on listening and speaking, with reading and writing training in stages, and emphasizing the importance of contextualized teaching. In China, there are also studies on how Chinese children abroad learn Chinese. For example, Zhao Xinyan's article "Talking about some issues of teaching Chinese to Chinese children" (2000) points out that the teaching strategies adopted by teachers are crucial in the process of teaching language to Chinese children, and that the characteristics of children's learning should be fully and reasonably utilized. The article also makes detailed arguments for teaching strategies for phonics, words, and sentences, respectively.
In American society, many minorities, including Chinese, are learning English, the universal language of the United States, while speaking their own native language. According to the National Heritage Language Resource Center (NHLRC), approximately 46 million Americans speak a heritage language at home [3]. Heritage languages allow a minority group in the United States to maintain its cohesiveness, so it is generally important for Chinese people to learn Chinese for their offspring. Moreover, as China's comprehensive national power continues to develop, many Chinese Americans are choosing to return to China for work and study. If Chinese Americans do not learn Chinese from a young age, it is very likely that they will gradually lose sight of Chinese language and culture and will not be able to choose to return to China, or they will encounter obvious cultural shock when they return to China. Many reasons have led to the rising demand for Chinese language learning among Chinese American elementary school students and the increasing number of learners.

The development of online Chinese language teaching for Chinese elementary school students in the United States can be divided into three stages.

The first stage is marked by the emergence of online Chinese language teaching such as "online Confucius Institute" and "online Beiyu", in which some Chinese American elementary school students have participated in these courses. However, such online Chinese language teaching is not targeted at the Chinese community, and the level of difficulty is classified by reference to the HSK test, which lacks relevance to elementary school learners.

The second stage is that in the last decade, China's comprehensive national power has greatly increased, the demand for overseas Chinese language learning has increased, and the proportion of Chinese Americans considering returning to China has also increased. During this stage, online Chinese language courses for Chinese, especially for Chinese elementary school students, began to appear, and most of these courses were founded by private teaching institutions.

The third stage was during the Covid-19 pandemic, when the demand for online courses increased dramatically. The number of students in online Chinese language teaching institutions for overseas Chinese children, such as "JackLearn Chinese", the provider of data and cases studied in this paper, had at least doubled since the outbreak.

The online teaching format has also undergone constant renewal and change. In the first stage, it mainly relied on recorded videos. In the second stage, some online conference software emerged, and the online Chinese language teaching for Chinese elementary school students relied on the conference software for live teaching during this stage. Although this stage reached the form of live teaching, the features of the platform limited the quality of the classes. In the third stage, due to the substantial increase in demand, software platforms specifically for live classes emerged, such as ClassIn, of which, according to the feedback from the author's interviews on users, are very effective in their application. The advantages include editable course design, interactive capabilities, powerful statistics, stable systems, and the availability of related ancillary products and tools (Figure 1 and Figure 2).
2. Model assumptions and notation

2.1. Characteristics of Teaching Chinese to Chinese American Elementary School Students

2.1.1 Characteristics of Teaching Chinese as a Foreign Language to overseas Chinese

Teaching Chinese to Chinese elementary school students is the teaching of Chinese to a special group of Chinese people. Unlike other ethnic Chinese learners, the Chinese language for them cannot be simply classified as a second language or a native language, but actually a heritage language. Therefore, when the overseas Chinese starts to learn Chinese, most of them have a certain foundation. To put it simply, there are several characteristics of them.

First, their Chinese learning is a learning with language foundation. Chinese descents are often exposed to and use Chinese in their families or communities, so they usually have some speaking ability before they start formal Chinese learning. They both use Chinese to talk to their families at home, and they already have the ability to use Chinese to express themselves verbally before they engage in systematic learning.

Second, their Chinese learning is an uneven learning of basic skills. Although ethnic Chinese have a certain level of Chinese language ability, this ability is uneven, which is manifested in two aspects. One is the imbalance of language skills, usually ethnic Chinese are better at listening and speaking,
but poorer at reading and writing. The second is the imbalance in the range of ability, as ethnic Chinese generally only have a basic understanding of the Chinese that they need to use in the Chinese environment they can access, but not an overall grasp. Moreover, in oral communication, both students were petrified in vocabulary and phonetics, because what they wanted to express was not exposed to in their daily life or in an environment other than Chinese.

Additionally, it is easier to teach culture to ethnic Chinese learners of Chinese origin. Most Chinese families or communities retain many Chinese elements, and ethnic Chinese have a certain understanding of Chinese culture under the influence of their eyes and ears. Therefore, ethnic Chinese people rarely experience cultural shock when learning the language and culture.

Finally, ethnic Chinese learners are taught the language in an imperfect target language environment. From a large perspective, Chinese are still in the local common language environment, and Chinese does not dominate. From a small perspective, ethnic Chinese people usually have the phenomenon of ancestral clustering, and much of the Chinese language they are normally exposed to is disturbed by the dialect factor.

2.1.2 Characteristics of Teaching Chinese to Primary School Students of Chinese Descent

Chinese language teaching for children of Chinese descent is first and foremost a second language teaching for children and adolescents [4]. For children and adolescents, especially learners at the elementary school level, they have their own characteristics in learning a second language. These characteristics are partly conducive to language teaching and learning, while partly interfering with their language learning.

On the one hand, learners at the elementary school level are more receptive to new things, have better imitation skills, have better short-term memory and strong associative skills. Normally, the students are always interested in the new knowledge introduced by the teacher and are happy to accept the challenge. When the teachers correct the pronunciation of students, they are usually able to imitate the teacher's sample pronunciation easily, including the Vowel mouth shape and the tones of Chinese characters, and they grasp it quickly.

On the other hand, they also have problems with inattention, ignoring details, and selective memory. Students would unconsciously absent-minded and need some means for the teacher to prevent or correct them in time. In addition, some of the students would even show mischievous behaviors such as blocking the camera and leaving their seats. In the details of pronunciation and Chinese character writing, students always need the teacher's patient guidance and prompting before they could pay attention to some significant details. When learning something that they are not interested in or thought they have mastered, they often seem inattentive and reluctant to cooperate with the instruction.

2.2. Features of Online Chinese Teaching

Online Chinese language teaching generally refers to "teaching activities that use modern network technology and audio and video communication equipment as support to integrate the teaching principles and teaching methods of teaching Chinese as a second language into the online platform so as to innovate the way of promoting Chinese language"[5].

2.2.1 Online Teaching Features

First, online teaching is fragmented. Li Danmeng (2017) points out that online Chinese teaching "makes time, space, location, and distance no longer the constraints of teaching Chinese as a foreign language, and makes the promotion of Chinese as a foreign language convenient and simple. Chinese learners can experience authentic Chinese teaching without having to leave home.

Secondly, online teaching has the characteristic of relevance. This feature is mainly reflected in online live teaching. Online live teaching usually takes the form of one-to-one or small group teaching, and the specific language teaching methods and strategies can be adjusted according to the different teaching objects.
Additionally, online teaching has the characteristic of sharing. This feature is mainly reflected in the online video teaching. After the resources of online video teaching are uploaded to the Internet, most of them can be shared. Learners can buy and learn across platforms according to their needs.

Finally, online teaching has the characteristics of technology. This is the most obvious feature of online teaching. Online teaching relies on modern Internet technology and audio equipment, with online classroom software as the platform, and is a product of technological progress.

### 2.2.2 Features of Online Chinese Teaching

From the characteristics of online teaching, we can see that online Chinese teaching has many advantages. One of the most obvious advantages is that it is easier to provide a more visual and imaginative teaching of Chinese. From the perspective of psychology, people's cognitive process is generally from intuitive to abstract, and then from abstract to concrete. Since online Chinese teaching often uses relatively visual means such as showing pictures and videos, teachers do not need to spend a lot of time explaining the meaning and usage of some words in an abstract way. In addition, online Chinese teaching can also find high-quality video, animation or PPT resources, which provide learners with communication scenarios closer to reality and create a realistic Chinese learning environment in a virtual space. Finally, online teaching formats offer other possibilities for cultural teaching. In an offline environment, the classroom is usually the only place to teach, so while this mode of teaching is conducive to cultural experiences such as Chinese talents, some cultural teaching that cannot be conducted in the classroom can only be introduced verbally or with multimedia equipment. In online Chinese teaching, teachers can "establish a connection between inside and outside the classroom, so that students can experience the impact of the real cultural environment in the classroom, enrich and expand their cultural knowledge, and make what they learn in the Chinese classroom three-dimensional, realistic, lifelike, and detailed, and closely related to real life.[6]" For example, when teachers introduce Chinese ancient architecture and culture, they can live-stream the class to students in an ancient building complex, so that students' cultural experience is more realistic.

However, there are also many disadvantages of online Chinese teaching. First, online Chinese teaching lacks interactivity. This problem has attracted the attention of many scholars, for example, Ren Ying (2020) points out that how to eliminate the alienation of online teaching, improve the "temperature" of online classes, and create a collective learning atmosphere is, in his opinion, an important issue. Liu (2020) also argues that "online classes lack authentic and diverse interactivity", thus making the role of teachers "greatly diminished and unavailable."[7] Second, online Chinese language teaching is difficult to manage in the classroom, as demonstrated by the young age of the learners. Teachers and students are not in the same space when teaching Chinese online, and there are often situations such as students wandering off in the classroom, which teachers cannot detect and take effective measures in the first place, thus affecting the quality of teaching. Third, Chinese characters are an important part of Chinese language teaching, but the practice of writing Chinese characters in online courses is restricted in many ways. In the offline classroom, teachers can write the strokes of Chinese characters and check and correct students when they write Chinese characters. In contrast, in online Chinese teaching, most of them can only use the mouse or the digital board to assist in writing, which is obviously less effective than in offline classes.

### 3. Application of Theory and Methodology of Online Chinese Language Teaching for Chinese American Elementary School Students

#### 3.1. Application of Online Chinese Language Teaching Theory for Chinese American Elementary School Students

Due to the different characteristics of Chinese background, age, teaching format, and location, online Chinese language teaching for Chinese American elementary school students may have its own special characteristics.
Most Chinese students learn Chinese as an heritage language, and the research on heritage language can be traced back to the discussion of language maintenance and language transformation in the 1960s. "The term "heritage language" first appeared in the description of the Ontario Heritage language Project in Canada in 1977, but it was not until the 1990s that the term was widely used by scholars (Cummins, 2005). Among them, the term "heritage speaker" was used several times for the first time in the Standards for Foreign Language Learning in the 21st Century developed by the American Council on the Teaching of Foreign Languages (ACTFL) in 1996, marking a break from the traditional division of heritage language studies from first and second language, native and foreign language. The term "heritage speaker" was used for the first time several times, marking a new theoretical system that was officially recognized and made great progress[8].

The specificity of Chinese language learning requires us to also pay attention to the application of the following second language acquisition theories. The first one is the application of InputHypothesis theory. There are two characteristics of the input content of Chinese language teaching for Chinese American elementary school students online. One is that Chinese American Primary School Students' language understanding ability is usually different. One of these differences is that Chinese American primary school students usually have better Chinese listening and speaking skills, which do not match their reading and writing skills; The other is that in different pragmatic environments, the understandable language input level of Chinese American primary school students is different. In the occasions where Chinese is often used in daily life, the language proficiency is significantly higher than that in the occasions where Chinese is not often used. The second one is the application of error analysis theory. Chinese American elementary school students have a large range of errors, but they are less difficult to correct. Chinese American primary school students usually produce errors in language development and Interlanguage interference at the same time. The former is similar to the errors of mother tongue learners, while the latter is significantly less frequent than other Chinese learners. In most cases, teachers do not need to explain language knowledge in depth, but oral reminders, which can also correct these errors. The third is the " Interlanguage fossilization" theory. In terms of phonology, Chinese American elementary school students are also affected by their parents' dialects, which is a very common petrifaction phenomenon. In order to correct these petrified phenomena, we can use the comparative learning of near-synonyms and synonyms in vocabulary, and strengthen the learning and practice of phonics. Fourth, the application of the affective filter hypothesis. Chinese American elementary school students' learning Chinese is very much influenced by emotional factors. More precisely, under the same language environment, the emotional motivation of Chinese American elementary school students to learn Chinese is largely decisive for the speed of mastery.

3.2. Application of foreign language learning goal theory across the United States

The target audience of online Chinese language teaching for Chinese American elementary school students is Chinese descendants living in the United States, so it is not only within the scope of research on Chinese as a foreign language, but also within the scope of foreign language teaching research in the United States. Most of the teachers of online Chinese language teaching for Chinese American elementary school students do not live in the United States, so in order to better integrate the curriculum with the learning characteristics of Chinese American elementary school students, it is necessary to introduce the relevant theories in the field of foreign language teaching in the United States.

The American Council on the Teaching of Foreign Languages (ACTFL) developed the Standards for Foreign Language Learning in the 21st Century in 1996, which has become a complete system of learning objectives in the field of foreign language teaching in the United States, namely the Standards for Foreign Language Learning (SLL). The goals are subdivided into five specific objectives: Communication, Cultures, Connections, Comparisons, and Communities, also known as the "5Cs" of foreign language learning. "The 5Cs of foreign language learning [9] (hereinafter referred to as "5Cs").
In teaching Chinese as a foreign language to Chinese American elementary school students, teachers should pay attention to these goals in order to develop specific teaching objectives.

In terms of communication goals, the "5Cs" require that students be able to ask or provide information, exchange opinions, and express feelings in a conversational manner, and that they be able to demonstrate their understanding of oral and written texts on different topics and express different ideas and content through expression. In this regard, the teaching of oral language should be emphasized in the online Chinese language teaching for Chinese American elementary school students. On the one hand, teachers should imitate different life situations to allow training students' language expression skills in different contexts; on the other hand, since Chinese elementary school students usually have some basic knowledge of spoken Chinese, teachers also need to promptly correct students' errors formed in their home and Chinese community environments due to dialect and interlingual interference.

In terms of cultural goals, the "5Cs" require students to be able to express their understanding and knowledge of the cultural practices, cultural products, and cultural perspectives represented by the language they are learning. Therefore, in teaching Chinese as a second language to Chinese American elementary school students, teachers need to allow students to experience Chinese culture in the classroom, while paying attention to identifying and using resources that can be used to integrate culture into instruction [10].

In terms of coherence goals, the "5Cs" require students to be broad-minded and broad-ranging, to learn about other subjects while learning the language, and to gain special perspectives and perceptions that can only be gained by understanding the language. In teaching Chinese to Chinese elementary school students, teachers should expand students' horizons by introducing them to a wide range of subjects in Chinese and introducing them to other subjects that they can only understand through mastering Chinese, such as the 9-9 multiplication table.

In terms of comparative goals, the "5Cs" require students to compare the differences between language and culture to achieve a deeper understanding of the linguistic and cultural nature of the target language. Chinese American elementary school students are exposed to the cultures of both English and Chinese through learning Chinese. Teachers should build on this foundation and use interesting topics to allow students to construct comparisons between the two languages and cultures so that they can gain a deeper understanding of Chinese and Chinese culture.

In terms of community goals, the "5Cs" require students to be able to use the Chinese language they are learning regularly in their lives and to learn it throughout their lives. For Chinese American elementary school students, this goal does not require a great deal of effort in the classroom, but rather a combination of subtle cultural instruction and their home environment, so that students will naturally continue to use and learn Chinese.

3.3. Theory application for online Chinese courses

The theory of transactional distance (Figure 3), proposed by Michael. G. Moore, presumably refers to the potential misunderstandings that can occur in the psychological or information dissemination between teachers and students as a result of physical distance. Interaction distance involves several variables such as dialogue, structure, and autonomy of learning. At its core are interaction distance and student autonomy.

The physical distance between teachers and students in online Chinese language instruction for Chinese American elementary school students is very long. Therefore, it is important to establish a complete, sustainable, and effective communication with students in order to shorten the "interaction distance" in online instruction. In this way, the "alienation" of online teaching can be reduced or even avoided.
The audiovisual method was born in France, also known as the "integral structure method", which emphasizes the combination of auditory and visual perception in a certain situation.

The audiovisual method also plays an important role in teaching Chinese to Chinese elementary school students in the United States due to the frequent use of electronic devices and multimedia. Through the audiovisual method, students can visually go through the language points and achieve overall perception.

Allan Collins (2009) suggests that with the advent of the digital revolution, teachers have been able to design learning environments using computers, and the concept of education has shifted from teacher-centered to student-centered.

Proficiency in computer technology related to teaching and making full use of online information resources to support teaching is not just an "icing on the cake" for online Chinese language teaching, but a basic requirement. Teachers should make full use of the advantages of computer technology to make up for their shortcomings and continuously improve the teaching effect of online Chinese teaching.

3.4. An Online Chinese Teaching Method for Chinese American Elementary School Students Based on Theory Application

First, online Chinese language teaching for Chinese elementary school students in the United States needs to be taught in a composite way. Online Chinese language teaching for Chinese elementary school students in the United States is both a second language teaching and a heritage language teaching; it is both a native language teaching for Chinese and a foreign language teaching for American elementary school students; it is both a foreign language teaching and a specialized Chinese language and literature teaching. Therefore, online Chinese language teaching for Chinese elementary school students in the United States needs to be taught by a composite means, rather than by a single method.

Second, according to the characteristics of online teaching, the biggest shortcoming of online Chinese teaching compared to offline Chinese teaching is the lack of effective interactive links. This is especially true for active elementary school students. If students feel that they lack a sense of presence in the classroom, it will definitely lead to a decrease in their interest in the classroom and affect the quality of teaching. Therefore, online Chinese language teaching for Chinese American elementary school students must seize every opportunity that can be interactive and communicate more with learners.

Thirdly, most overseas Chinese children learn Chinese not only in terms of language, but also in terms of Chinese cultural heritage. The influence of culture is subtle, so teachers not only need to teach Chinese children language knowledge while carefully preparing cultural teaching content and designing cultural teaching programs, but also should reflect Chinese culture in all aspects of their own words and actions, such as mastering and displaying Chinese talents, setting up a camera.
background with Chinese characteristics, and wearing clothes that reflect Chinese cultural characteristics.

Last but not least, Chinese American elementary school students are younger and less mentally developed, making it difficult for them to fully concentrate in the online course environment. Therefore, in the online Chinese language teaching for Chinese American elementary school students, more games should be used to input language knowledge and check the feedback of teaching situation, while avoiding boring and large explanations.

4. Conclusion

Due to the objective demand of Chinese children learning Chinese and the development of Internet technology, an online Chinese teaching model for overseas Chinese children has emerged. This paper makes a preliminary analysis of the characteristics of online Chinese language teaching for Chinese American elementary school students and analyzes its applicable theories according to the characteristics, then integrates theories from different fields and elaborates the theories and methodological applications of online Chinese language teaching for Chinese American elementary school students with an interdisciplinary perspective based on second language acquisition.

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