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Multiple Intelligences in Chinese Language Teaching in the Globalized Society

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MULTIPLE INTELLIGENCES IN CHINESE LANGUAGE TEACHING IN THE GLOBALIZED SOCIETY

by

Yunfei Wang

A Thesis in Partial Fulfillment of the Requirements for the Degree of

Master of Arts in Asian Studies

College of Arts and Sciences
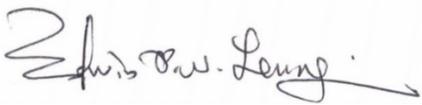
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Department of Languages, Literatures, and Cultures

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Abstract

The Theory of Multiple Intelligences (MI), first proposed by Howard Gardner in 1983, critiqued traditional IQ tests that focus on humans' logical and linguistic capabilities and listed the possibilities of human brains processing all fields of intelligence, including musical, spatial, kinesthetic, etc. The MI Theory has been recognized for its importance in foreign language teaching in a variety of languages, including ESL and Spanish. From my research, the use of Multiple Intelligences (MIs) in Chinese language teaching is not frequently discussed with the characteristics of each intelligence in the context of the different techniques in teaching Chinese. My paper aims to provide a detailed analysis of each intelligence and discuss how different MIs are effectively used in the teaching of Chinese respectively. A case study in the college Introductory Chinese class is given to investigate how students rate the different teaching activities in the context of MIs. My paper also addresses the unique significances as of the year 2020, such as the huge increased demand for Chinese language teaching, the various formats of globalization, and the diversification of language learners as well as language teachers. Under the circumstance of all the above factors, the application of MI in Chinese language teaching is still meaningful, yet challengeable, and influential.

Table of Contents

Chapter I: Introduction

In 1983, Howard Gardner initiated a new "learner-based theory" in language instruction, which contradicts with the traditional concept of intelligence as a "fixed and unitary concept" (Ahmadian and Ghasemi, 2017, pg. 758). From the eight intelligences mentioned above, language learning "reflect a pluralistic panorama of learners' differences", and were "understood as personal tools each individual possesses to make sense out of new information and to store it in such a way that it can be easily retrieved when needed for use" (Ahmadian & Ghasemi, 2017, pg. 758). The concept of Multiple Intelligences (MI) was introduced in 1983 from Howard Gardner's book, Frames of Mind, in which he suggested that all people have different kinds of "intelligence". In the MI theory, Gardner proposed eight intelligences, including musical, spatial, logical, linguistic, naturalistic, interpersonal, intrapersonal, and kinesthetic intelligences (Cherry, 2019). According to Gardner, there is "persuasive evidence of the existence of several relatively autonomous human intellectual competences, abbreviated hereafter as "human intelligences" (Gardner, 2011, pg. 8-9). The MI theory challenged traditional IQ tests that focus merely on people's linguistic and logical intelligences. Gardner's theory says that people do not have just an intellectual capacity, but have many kinds of intelligence. Figure 1 illustrates how these different types of intelligence are expressed from human minds and bodies.

The Multiple Intelligences (MI) model, proposed by Howard Gardner from the Harvard Graduate School in Education, was then integrated into language teaching and became a topic being discussed frequently. The 6th International Conference on Education Research and Innovation (ICERI 2018) released a study on orienting MI to practice in Teaching English as a Second Language in Indonesia, from which the authors, as well as researchers, argued that musical, kinesthetic, and intrapersonal intelligences are among the most possessed by the

majority of subjects of the research (Sugiarti and Margana, 2019, pg. 344), and concluded that the awareness of the uniqueness of each student is helpful for teachers and make English learning fun (Sugiarti and Margana, 2019, pg. 345).
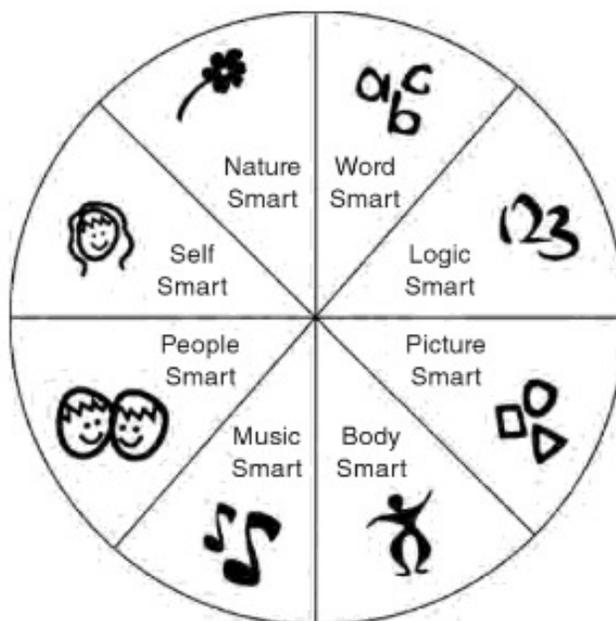
Figure 1: Gardner's Eight Types of Human Intelligences (Armstrong, 2009, pg. 46)

Wondering if all the eight MIs are used evenly in the classroom, Bernau included 127 high school Japanese teachers in the USA in his recent study (Bernau, 2016). In this study, the author released that the interpersonal intelligence is used the most while the naturalistic intelligence is used the least; other factors such as teachers' gender, years of teaching experience, and students' needs can all affect teachers' usage of different MIs. Meanwhile, participants in this study had a largely positive attitude toward MI teaching which is to meet the needs of their students' learning preferences and to create the lesson that emphasizes each student's diversity of learning (Bernau, 2016).

As one of the major teaching approaches, the MI theory was discussed by many scholars. According to J.C. Richards and T.S Rodgers, the application of MI in language teaching has been more recent, so that the MI theory was noted as lacking some of the basic elements that might link it more directly to language education (Richards and Rodgers, 2001, pg. 117). In an MI-based language teaching "syllabus" design, the sequence consists of four:

Awaken the intelligence – through multisensory experiences

Amplify the intelligence – students strengthen and improve the intelligence by volunteering objects and events

Teach with/for the intelligence – intelligence is linked to the focus of the class

Transfer of the intelligence – students reflect on the learning experiences of the previous three stages and relate those to issues and challenges in the real world stages

(Richards and Rodgers, 2001, pg. 118)

Therefore, language teaching based on the MI theory will be a student-centered approach, in which students are given abundant freedom to explore the language spontaneously. It encourages the initiative of students and let students acquire and use the language from group study or guided activities, rather than learn the language from teacher-centered instruction or repetitive pattern practice.

Another study by Paolo Torresan proposed a framework of multi-sensorial diversified teaching, meaning that the Language Teaching Method (LTM) "appeals to a variety of different types of languages that accompany the verbal language and that reflect various sub-intelligences, privileging the one that proves to be more familiar to the learner." (Torresan, 2010, pg. 29) The multi-sensorial approach aims to furnish all students with the best conditions to learn a language,

and "requires the reasoned use of non-verbal codes along with the verbal ones to promote the communicative competence of all the students without neglecting the specific profile of any individual student" (Torresan, 2010, pg. 29). Same as Richards and Rodgers, Torresan also noted the importance of multi-sensorial activities in the language classroom, while his focus is to use non-verbal bits of intelligence as stimuli to inspire and motivate students at multiple layers with their competence of verbal learning experience.

It can then be argued that traditional language learning has a focus on training one or two typical intelligence/s, mainly linguistic intelligence, and the evaluation of a language learners' performance is on his or her achievement on this typical intelligence. In traditional language classrooms, language is usually acquired from teacher-centered instruction and requires large memorization of vocabulary and grammar. This type of instruction might be efficient for students with linguistic intelligence, but students will easily forget if not practiced in time. In an MI-based language classroom, the acquirement of a language is the acquirement of skills to apply it in real life, and different bits of intelligence will be integrated into the language learning process—such as musical, kinesthetic, and visual. Linguistic intelligence will not be the only tool to assess students' capability to use the language, and learners' achievement will be evaluated from multiple facets. It also aims to guide the students to "use" the language in the face of real-life scenarios and to solve problems. This type of method requires large work on instructors in the beginning, and cooperation of language learners during the process. The advantage is also significant—it is not easy for students to forget—once they know how to use the language, it becomes a skill they have obtained.

Chinese, with its growing importance as a world language, should be discussed as an example of how MI theory can be applied in the teaching of a language. A recent study in 2007

released the use of musical intelligence in Chinese language teaching with a target of 17 third-grade elementary students, and argued that songs and background music increased students' motivation and interest, but couldn't help students to comprehend the content; therefore, it is important to employ multiple teaching strategies to teaching Chinese (Liu, 2007).

Another example of how MI theory is applied in Chinese language teaching is the study of tones—besides the teaching of tones from pronunciation, which falls into the audio intelligence, it can also be taught from musical, visual, and kinesthetic intelligence. One of the colleagues from Seton Hall University, Li Kang, developed a way of teaching Chinese tones from the traditional Chinese musical instrument, erhu (Kang, 2018). He imitated the four tones with the falling and rising of musical pitches, and made it more vivid for the students. It then became easier for students with musical intelligence to know about tones from this way.

Tones can also be taught from visual intelligence. In general, the Chinese language has four tones—the first tone shows high flat pitch level (55), the second tone is high rising (35), the third tone reveals a pitch contour from low falling-rising, and the final tone reflects high falling (51) (Rungruang and Mu, April 2017, pg. 108). Figure 2 shows an example of how students can learn about tones from visual aspects.

To teach tones from kinesthetic intelligence, the teacher may lead the students to either sit up or stand up, and to use their hands to imitate the dynamic of the four tones. For example, the first tone will be two hands flat with shoulders, while the third tone will be two hands opening overhead. This method works especially well with younger students since they have an active nature. Through the moving of body and hands, students learn tones more quickly.
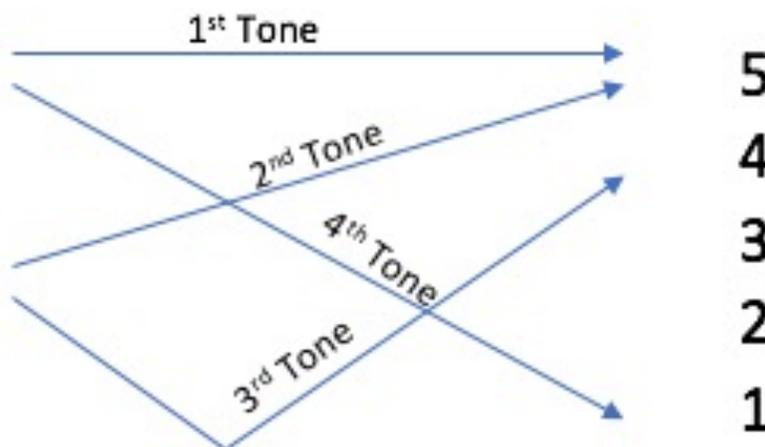
Figure 2: Illustration of the Chinese Four Tones in 5-Scale Note (created by Yunfei Wang)

My current research aims to look from a historical scope on how the theory of Multiple Intelligences was generated, developed, and applied in the area of Chinese language teaching; it also looks at the characteristics, difficulties, and breakthroughs in the new generation of Chinese language teaching; most importantly, it draws the concrete relation between the MI theory and Chinese language teaching, bringing the premise that the efficient use of the MI theory in Chinese language teaching can be achieved from factors such as teachers' understanding of the MI concepts, the varied teaching techniques attending to students' different intelligences, and a combined mastery of the Chinese language and Chinese culture.

An interesting difference in my thesis is the indication of the "globalized" era. By this, the term "globalized society" signifies that with the change of globalization, language teachers and learners are experiencing much more diversity and more cultural differences. An example of this can be found in the growing number of Chinese students studying abroad between 2007 and 2017 in thousands, as shown in Figure 3.
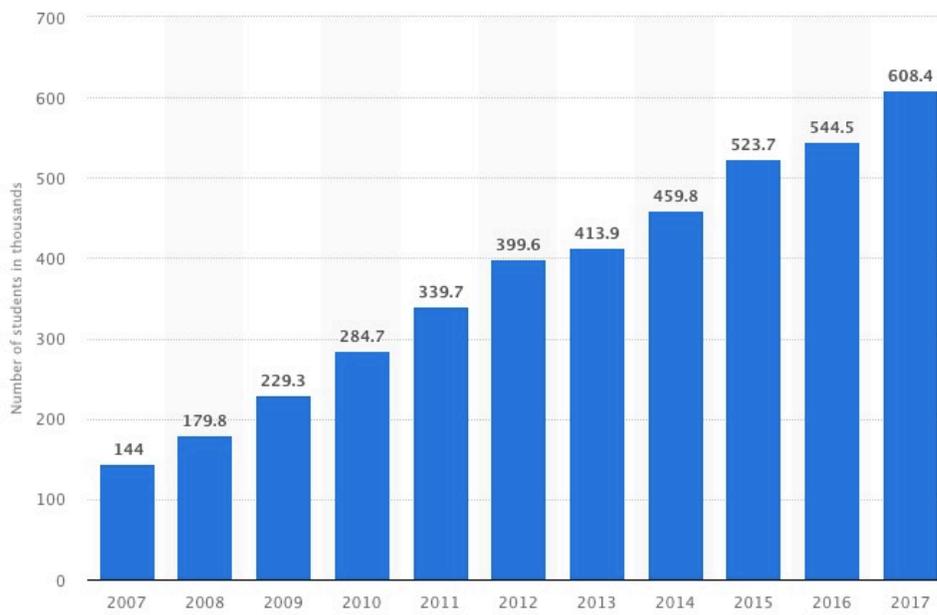
Figure 3: Numbers of Chinese Students Studying Abroad (Shu, 2019)

Meanwhile, the number of international students coming to China has reached 492,185 in 2018, making China the fifth largest country who's receiving international students ("China's foreign enrolment growth flattened out in 2018," 2019). The floating of international students into and out of China is an example of the globalized community, which creates large diversity in the language learners' studying environment. Chinese international students can be found everywhere in worldwide campuses, and it became easier for people to make friends with Chinese native speakers. The increase in international students coming to China also makes the Chinese classroom embrace more diversity. Regarding Chinese language teaching, it not only adds diversity in learners but also adds diversity in teachers. In this regard, Chinese language teaching is no longer a one-way or two-way communication of two different cultures, but a combination of at least two different cultures, from which students and teachers communicate, compare and learn from the similarities and differences of all these cultures. People from different cultures may think, react, and behave differently, and that reflects different capacities.

As cultural diversity becomes a sign of today's language learning environment, the respect of different types of intelligence is essential.

The MI theory consistently inspires me during my practice of teaching Chinese; meanwhile, I'm curious about knowing how efficient it can be from teaching toward the different aspects of human intelligence. It then gives me the idea of doing this research. My research questions include: In the age of globalization, how can the MI theory be efficiently applied to Chinese language teaching, what challenges will Chinese language teachers face and what changes should be made? As far as the MI theory and its application to Chinese language teaching, my thesis looks at research previously as well as more presently and tries to have a thorough understanding of the development of how MI is applied to Chinese language teaching. My thesis looks at the characteristics of Chinese language teaching and how the MI theory can be applied in the updating world community. A case study in the US college classroom will be given, and a conclusion will be drawn to examine the application of different aspects of MIs in Chinese language teaching. This thesis includes five chapters: 1. An introduction to the MI Theory and Chinese language teaching and explanation of my research questions; 2. A literature review on the background of MI, the use of MIs in foreign language teaching, and characteristics of Chinese language teaching; 3. An analysis of the eight aspects of MI in the context of Chinese language teaching; 4. A case study of different techniques representing Multiple Intelligences used in the US college's Chinese classroom and how Chinese learners reflect on these different techniques; 5. A conclusion that talks about my findings and suggestions for future research.

Chapter II: Literature Review on MI and Chinese Language Teaching

This chapter serves as a literature review for existing research I found on the topics of Multiple Intelligences and Chinese language teaching. It looks at the background, philosophy, and development of the MI theory and its application into the foreign language teaching field, such as its integration in ESL teaching and other languages. Meanwhile, this chapter provides analytical and historical research on the teaching of the Chinese language, regarding its unique characteristics in comparison to other languages, the scopes it relates to the MI theory, and its development in the new era.

1. Background of the MI Theory

In 1983, Dr. Howard Gardner developed the theory of Multiple Intelligences (MI). Gardner noted that "human cognitive competence is better described in terms of a set of abilities, talents, or mental skills", and called it "intelligences". Differing from the traditional view that intelligence is "the ability to answer items on tests of intelligence", the MI theory proposed that intelligence "entails the ability to solve problems or fashion products that are of consequence in a particular cultural setting or community" (Gardner, 1993, pg. 2). Gardner's theory challenged traditional beliefs in the fields of education and cognitive science; according to Gardner, each person has a unique combination, and "no two individuals have them in the same configuration—similar to our fingerprints" (O'Niel, n.d., pg. 6).

In 1992, Multiple Intelligences were categorized into seven different intelligences— verbal/linguistic, logical/mathematical, visual/spatial, body/kinesthetic, musical/rhythmic, interpersonal, and intrapersonal intelligence (Lazear, 1992, p. 8). According to Lazear, intelligence is not a "fixed or static reality"; however, it can be "learned and taught". Intelligence is noted as a multi-dimensional phenomenon that occurs at multiple levels of our

brain/mind/body system. Lazear said, "There are many ways by which we know, perceive, learn and process information." (Lazear, 1992, p. 8-9). Multiple Intelligence, meanwhile, was coined by Howard Gardner to describe these multi-knowing capacities (Lazear, 1992).

The first seven kinds of intelligence were released in Gardner's book, *Frames of Mind,* in 1983. Gardner added the eighth intelligence—naturalistic intelligence—near 1999, discussing the possibility of a ninth intelligence (Armstrong, 2018, pg. 182). In the earlier days, while MI was developed, it helped educators, psychologists, and parenting experts to better understand how children process and learn information (O'Niel, n.d., pg. 8). Dr. Renzulli, an admirer of Gardner, said that the most important thing the MI theory has done is "called attention to the ways children express themselves" (O'Niel, n.d., pg. 8).

In his book, *Multiple Intelligences: New Horizons in Theory and Practice,* Gardner discussed what he discovered after the theory was born for twenty years. He said, "What surprised me as much as the continuing attention has been the fact that the theory has taken on a life of its own. In large part that is because scholars and practitioners have taken it in directions that I could never have anticipated."(Gardner, 2006, pg. 26)

It can be noted that comparing the 1990s and 2010s, the MI theory itself has met its development, from seven main categories of Multiple Intelligences to eight. Meanwhile, the study on MI has developed as well. When MI was first introduced in 1983, it pointed out a new direction of how educators react to students with different capacities and opened the possibilities of different learners. Armstrong put the term "globe" into how MI theory influenced the world, which was an example of how MI theory has developed in the age of globalization. My thesis aims to address the significance of globalization in the current age.

2. MI and Foreign Language Teaching

To talk about MI and foreign language teaching, it is interesting to look at major language teaching approaches and methods, such as the Grammar-Translation Method, the Audiolingual Method, the Communicative Language Teaching, and the Natural Approach in comparison with the characteristics of MI in foreign language teaching. The Grammar-Translation Method dominated foreign language teaching from the 1840s to the 1940s, with its aim to learn a language to read its literature or to benefit from the mental discipline from the foreign language study; the focuses of the Grammar-Translation Method are reading and writing, and vocabulary is solely based on the reading texts (Richards and Rodgers, 1986, pg. 3-4). The Audiolingual Method was recommended in the Coleman Report in 1929 as a reading-based approach that emphasized on the comprehension of texts; teachers taught from books containing short reading passages in the target language, preceded by lists of vocabularies with the goal of rapid silent reading (Richards and Rodgers, 1986, pg. 44). The Communicative Language Teaching (CLT), dating from the late 1960s, practices basic structures in meaningful situation-based activities and is recognized for its focus in language teaching on communicative proficiency rather than on mere mastery of structures. The Natural Approach (NA) in foreign language teaching, first proposed by Tracy Terrell in 1977, focuses on observation and interpretation of how learners acquire second languages in non-formal settings. It was recognized by then Steven Krashen, who noted the importance of unconscious language acquisition (Richards, and Rodgers, 1983, pg. 128).

While the Grammar-Translation Method and the Audiolingual Method provide language learners with sufficient instruction and practice with their vocabulary, grammar patterns, and language skills, it is not guaranteed if the above methods have proven efficiency in foreign

language teaching without the use of certain texts or passages. Both the Grammar-Translation and Audiolingual Methods contain a large amount of vocabulary and grammar practice, which may work for students who are highly linguistic capable, but not for those who are slow at linguistics. CLT points out the primary function of language is for interaction and communication, providing a rich and theoretical base for successful foreign language communication (Richards and Rodgers, 1986, pg. 71). It was argued, however, that how such the CLT approach can be evaluated, how suitable it is for non-native teachers, and how it can be used in situations where students must continue grammar-based tests are unclear (Richards and Rodgers, 1986, pg. 83). Since the Natural Approach focuses on successful communication through the target language, the significant advantage of it is to expedite second language acquisition without the interference of language learners' native language, grammar corrections, and conscious learning. Meanwhile, three variables cannot be estimated when implementing NA: 1. Motivation - learners with high motivation generally go better; 2. Self-confidence - learners with self-confidence and a good self-image tend to be more successful; 3. Anxiety - low personal anxiety and low classroom anxiety are more conducive to second language acquisition (Richards and Rodgers, 1986, pg. 133).

Compared to other teaching strategies, MI pays attention to the different variables of students' personalities, intelligences, and motivations, giving language teachers a more comprehensive guide in preparing their teaching methods. It is unique when teachers face a variety of students with different backgrounds, characteristics, and learning styles, which is why I focus on MI in my study. The limitation of MI in foreign language teaching, however, is the lack of goals in MI instruction in linguistic terms (Richards and Rodgers, 2001, pg. 118). Since the MI theory puts a strong focus on language learners' capabilities and learning styles, it does

not give clear guidelines on how to evaluate the efficiency of the teaching approach in the angle of linguistics.

The use of Multiple Intelligences in foreign language teaching was recognized by Botwina, noting that the MI Theory "allows each student to draw from their own strengths to approach learning and creates an opportunity to learn a foreign language in a meaningful context wherein verbal intelligence is practiced in combination with other intelligences" (Botwina, 2010, pg. 17). Botwina advocated for the experiment of MI in foreign language teaching for three reasons—1. It establishes a student-oriented insight to teaching; 2. It provides a meaningful context for teaching; 3. It increases the level of students' motivation to learn a foreign language (Botwina, 2010, pg. 18).

Being recognized by its importance in foreign language teaching, the MI theory has been applied in a variety of foreign languages. The below research discussed the application of MIs in ESL, Spanish, and Chinese, from which I found interesting insights to my work.

It was noted by Wallace in 2010 that incorporating MI in learning second languages may "lessen miscommunications of language differences and lessen the problem of language barriers"; it also provides "better understanding of individual differences when it comes to learning and would then address those differences to help the individual development potential" (Wallace, 2010, pg. 4).

Wallace argued that ESL literacy "has developed a number of alternative orientations to teaching", including a "common education core focusing on cultural knowledge and citizenship, social and economic adaptation grounded in vocational models of learning, cognitive skills development, which is based on learning style and metacognition theory, personal relevance, built on humanistic theories of adult learning, and social change and technology orientations,

focusing on issues, and on the use of technology in facilitating development" (Wallace, 2010, pg. 66). Multiple Intelligences, at this point, is said to "draw on learners' strengths and learning styles" (Wallace, 2010, pg. 66).

According to Ghamrawi, the MI theory "enhances the teaching and learning of ESL by providing teachers with a variety of teaching strategies and approaches" (Ghamrawi, 2014, pg. 28). Ghamrawi's research was at the preschool division, from which teachers develop their own curricula in accordance with themes, goals, objectives, and learning outcomes, to examine the impact of MI utilization on vocabulary acquisition by students (Ghamrawi, 2014, pg. 29). Its results released that through MI instruction, the retention of acquired vocabulary is higher (Ghamrawi, 2014, pg. 42), proving the importance of using MIs in ESL teaching.

Another study by Esperanza focused on the learning styles and Multiple Intelligences in the teaching and learning of Spanish as a foreign language. In Esperanza's research, a group of college students with a mother tongue of English and taking Spanish as a mandatory course was examined on their performance of Spanish. Esperanza's research used a questionnaire to categorize students' different learning styles and Multiple Intelligences, as well as assessment in the evaluation of their Spanish learning, aiming to find the correlation among the theories of learning styles and Multiple Intelligences in Spanish teaching. In the below paragraph, Table 1, taken from Esperanza released the different foreign language class activities following the theory of Mulitple Intelligences.

The results of Esperanza's research revealed that the highest preference in students' Spanish learning following MI is intrapersonal intelligence, followed by spatial and linguistic, while the lowest preferences are musical and naturalist intelligence (Esperanza, 2015, pg. 94).

Table 1: Foreign Language Class Activities following MIs (Esperanza, 2016, pg. 90)

Intelligence	Class activities
Verbal-Linguistic	Listen to: Lectures, CDs, stories Speak: debates, dialogues, word games, story-telling Read/write: cards, stories, journals, magazines
Logical-mathematic	Order the sequences of a story; logical and story problems. Puzzles, computer problems. Predict: look for cause and effect in a reading. Calculate, classify, categorize.
Spatial	Use or create images, pictures, maps, posters, videos. Use colors. Relate images and meaning. Look for differences in pictures. Organize information visually: graphic organizers, schemes, diagrams.
Musical	Listen/sing/play music, rhythm and verbal/non-verbal sounds. Look for pattern in intonation and sound. Create instruments.
Bodily-Kinesthetic	Total Physical Response games. Movement, hands on, handicrafts. Sport, physical games, drama, mime, role-plays, cooking, dancing.
Interpersonal	Cooperative work, pair teaching, games. Dialogues, interviews, games, projects, drama.
Intrapersonal	Independent work: journal, reflective writing, inventories, grammar
Naturalist	Observe, describe, and classify: animals, environment, plants, weather, natural medicine. Watch natural life videos. Field trips.

In terms of the application of MIs in Chinese language teaching, Yao pointed out the application of Multiple Intelligences in language teaching has three main categories—1) the nurture of one specific intelligence, 2) the achievement of learning goals through the usage of MIs, and 3) Using one specific intelligence while integrating other intelligences to strengthen the diversification and efficiency of teaching (Yao, 2000, pg. 66).

Liu's research in 2007 focused on the use of a group of Elementary 3rd-grade students' musical intelligence in Chinese language teaching. In Liu's research, the application of musical intelligence was examined in three methods—1. Read-aloud with the natural rhythm and melody of Chinese passages; 2. Learning passage main points in the accompaniment of self-written or existing melodies, 3. Using music as background in the theme of different Chinese passages

(Liu, 2007, p. 8-10). In correspondence with these three methods, Liu's results release that—1. Read-aloud requires students to use emotional expressions, meaning they need to comprehend the passages and understand the emotion behind them, therefore, it produces positive influence in students' Chinese learning; 2. Using accompaniment melody will help students memorize the passages quickly, but does not help them in understanding the meaning of the passages; 3. Using music background sparks students curiosity as each time the music is different, making them more focused and interested in learning (Liu, 2007, pg. 16-17). Liu's research discovers the use of musical intelligence among Elementary students.

3. Characteristics of Chinese Language Teaching

In terms of Chinese language teaching and its relation to the MI theory, it is important to look at the characteristics of the Chinese language system, which makes the instruction of the Chinese language a process that integrates multiple layers of senses in listening, visualizing, speaking, writing, and reading. Besides its learning about different tones, complex language structures, perhaps one of the most difficult parts for Chinese language learners is its unique system that separates alphabetic phonetics from Chinese characters.

Earlier research by J.L. Packard compared two groups of college students studying Chinese as a second language—the lag and no-lag groups—given the same textbooks and course, the lag group did not start to learn characters until the beginning of the fourth week while the no-lag group began learning characters at the beginning of the first week (Packard, 1990, pg. 2). According to the study, the results "support the idea that providing students with a grace period before characters are introduced into the elementary Chinese curriculum is beneficial to the second language acquisition of Chinese" (Packard, 1990, pg. 8). Meanwhile, it is measurable beneficial to provide students with "time lag prior to the introduction of an unfamiliar,

nonphonetic orthography in a second language" (Packard, 1990, pg. 8)—indicating the time lag

before the introduction of Chinese characters might be beneficial for Chinese language learners

whose native language has an alphabetical system.

The discussion was on whether learning Chinese should start with learning to read and

write characters along with learning pronunciation (tones and the Romanized pronunciation

system such as Pinyin), which creates an obstacle to developing a comprehensive model for

teaching and learning the three components of Chinese characters—sound, meaning, and form

(Xing, 2006). Xing recognized Chinese characters as "the most difficult component in the

acquisition of the Chinese language by students whose native language has an alphabetical

writing system" (Xing, 2006, pg. 2). The main cause, as analyzed, was because Chinese

characters were created differently: The majority of characters have two parts—phonetic and

semantic—neither of which is categorized and learned in the "alphabetic" way; therefore, it is

difficult for students to decode this "unsystematic" Chinese writing system (Xing, 2006).

Meanwhile, reports showed the difference in character acquisition patterns among students of

Chinese as Foreign Language (FL), students of foreign-born Chinese, and native students of

Chinese. "[S]tudents' Chinese background has a direct impact on their learning patterns, and

therefore, teachers should teach them by using different strategies." (Xing, 2006, pg. 106)

Besides providing a learning gap between phonetic learning and Chinese characters,

Alison Matthews, Laurence Matthews, and Janet Jordan recognized the importance of integrating

images and using the visualization intelligence to help Chinese learners remember Chinese

characters. They proposed a character-learning strategy to study the character pictures first, to

learn the meaning of "basic building blocks" and to have it fixed in the mind, and to finally

visualize each story to successfully remember the meaning of Chinese characters (A. Matthews

et al., 2007, p. 21). Figure 4 gives an illustration of how this strategy integrates a person's capability of visualization and pictures.

The acquisition of Chinese characters is an example of how learning Chinese is different from learning other languages that have an alphabetic system. Many factors might influence students' acquisition capability of Chinese characters, including students' learning ability to listen, read, visualize, and write. Besides that, Chinese tones is a significant characteristic of Chinese language teaching as well as a challenge for Chinese language learners with a non-tonal native language. Yuan remarked that "Mastering Mandarin tones is an indispensable path to achieving high Chinese language proficiency and a headache to a lot of American learners" (Yuan, 2010, pg. iv). The different system of Chinese characters and the changes and combinations in tones are the significant characteristics that make the Chinese language different from alphabetic languages such as English, and are also two of the most difficult parts American students find in learning Chinese based on my observation. Thus, the teaching of Chinese is a comprehensive learning process that stimulates multiple layers of human intelligence, including listening, visualizing, memorizing, structuring, etc. Due to the uniqueness of Chinese language teaching, the application of MIs is essential.

To define "New Generation", I'm indicating the period of Chinese language learning and teaching in the recent two decades, dating back to the 2000s. The significant features of this new generation are the expansion of globalization, development of Internet and web-based learning resources, diversity of the learning and teaching population of the Chinese language, and integration of cultural differences. Cruickshank and Tsung remarked: "Chinese cultural spaces are flourishing on the Internet. These spaces are based both inside and outside

China, yet technologically, and to a considerable extent socially, they are linked to global networks." (Cruickshank and Tsung, 2011, pg. 5).
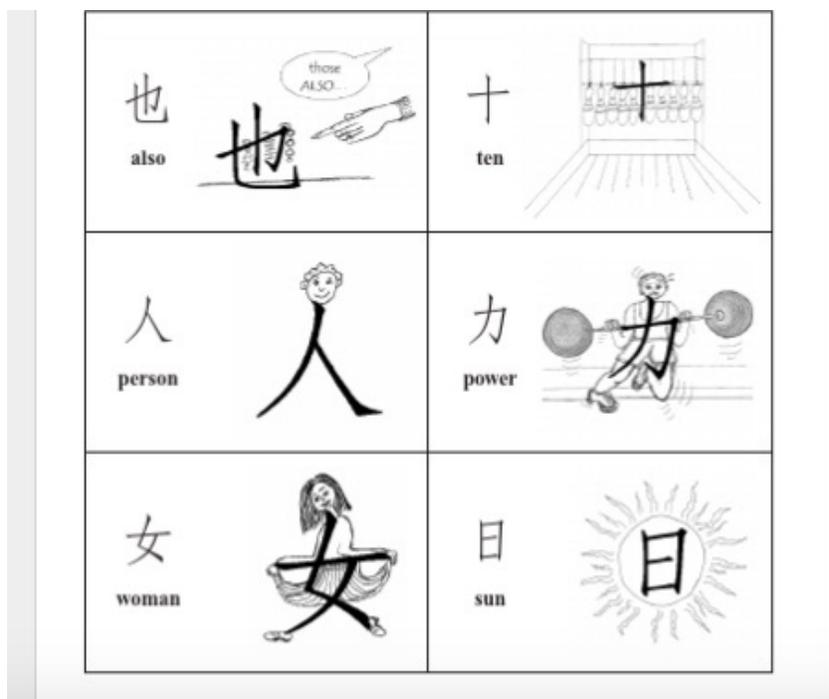
Figure 4: Learning Chinese Characters in Pictures (A. Matthews et al., 2007)

The newest publication from CLTA (Chinese Language Teachers Association) released a discussion about teaching perspective consciousness for Global Competence in face of globalization in Chinese language classrooms, and pointed out that all human beings have different world views that came from various factors such as social environment, family backgrounds, education, life experience, personal values, and beliefs; these different world views might be different from the objectives and will surely influence people's opinions on the world, countries, nations, society, and other surroundings (Gao, 2019, pg. 3). Gao discussed that inquiry-based learning, reflective thinking, and teaching through China's multi-dimensional cultures are all efficient techniques in today's Chinese language classroom.

It has been discussed that over the last decade, the demand for Chinese instruction has

dramatically increased in the United States and other parts of the world, giving rise to an extraordinary growth of the popularity of Chinese language education across the nation (Cai et al., 2010, pg. x). The enrollment of Chinese courses has risen from elementary to postsecondary institutions in the United States; Hanban (the Chinese Language Council International) released that in 2009 the total number of people studying Chinese as a second language around the world has reached more than 40 million, and the number reached 100 million in 2015 ("*Mandarin Rising", 2016*). According to the PBS News Hour, the number of American students studying Chinese could reach one million by 2020 (Mitchell, 2016). "[T]he fast growing trend in teaching and learning the Chinese language is not just a fad, but it has increasingly become a norm in a globalized world," Cai et al. noted (Cai et al., 2010, pg. x,).

While the MI theory is experiencing development in the new generation, so is the teaching of the Chinese language. Tseng and Sheen saw the importance of the communication of the Chinese culture in an age of globalization and remarked, "Chinese language teaching is not about the teaching of a linguistic code. It's about cultivating a sensibility through immersion into a cultural milieu." (Tseng and Sheen, May 2013, pg. 2)

In the age of globalization, the teaching of the Chinese language is consistent with the immersion of the Chinese culture, and the acquirement of another culture can be made through multiple media platforms, connecting to people's different capabilities of sensibility and perception. Liu remarked that language is "shared not by an individual, but by all members". "[I]t is a system of social meaning, which reflects and constructs social reality and is the foundation of human society," Liu said (Liu, 2019, pg. 1). Liu focused on the sociability of language and agreed that language teaching is involved with several factors, not merely with

language itself; Teachers, for example, should have the cultural awareness and sensibility when carrying out their teaching activities (Liu, 2019).

The immersion of Chinese culture and the sociality of the Chinese language made Chinese language teaching not only the instruction of grammar rules or linguistic knowledge but the combination of different factors and demonstration of cultural involvement. In the age of globalization, the teaching of Chinese can be achieved in multiple ways and multiple platforms. Chinese has become a communication tool that serves for personal or business purposes. Chinese language learners can obtain language skills from native peer assistants, international students, online tutors, or other resources. The requirement of a native Chinese instructor may still be important, but not necessary. Rather, the learning of the Chinese language is an immersion process that involved more than two cultures. In this way, the theory of Multiple Intelligences is applicable as it aims not only at the linguistic instruction of a language but sees it as the acquirement of a skill that combines all senses and capabilities of a human being. Culture, in this way, can be transmitted from multiple ways, such as art, music, and people.

Cruickshank and Tsung added, "The developments in technology, movement and migration and in international trade and finance all impact on how Chinese as a second/additional language is developing internationally."(Cruickshank and Tsung, 2011, pg. 5) The impact of globalization is also influencing the teaching and learning of Chinese, the Internet is an important a medium in which the language can be acquired. Teachers, learners, and educators are seeking a variety of ways of how Chinese language and Chinese culture can be taught. "There is emerging diversity in what is happening at local levels in Chinese: the experience of specific groups in terms of language context, self-identification and therefore teaching and learning of Chinese." (Cruickshank and Tsung, 2011, pg. 5)

Chinese, as a world language, is gaining prominence in the United States. It has also been brought out that many municipal and state governments recognize the study of Chinese language and culture as an economic competitiveness strategy and a way to develop the global competence of their future works (Cai et al., 2010, pg. 18). Besides the government influence, there are more language learning programs—textbooks, materials, software, dictionaries, and online programs—being produced and offered either for sharing or for profit making, "so are distance-learning and web-based materials and programs" (Cai et al., 2011, pg. 19).

The teaching of the Chinese language and Chinese culture has become a big market in the United States as well as all over the world. Chinese language teaching is not only instruction of language knowledge but covers all different factors, including the Chinese culture, international economy, and the effect of globalization. Meanwhile, language is not only taught in a traditional classroom but from varied media outlets and different platforms. Internet became an important medium for the teaching and learning of the Chinese, meeting stronger cultural diversity.

My research releases the importance of MI in foreign language teaching, for there are many class activities that foreign language teachers can integrate following the MI theory. Meanwhile, the significant characteristics of the Chinese language and Chinese culture have made Chinese language teaching a multi-way process that integrates different human intelligences, cultural tolerances, and cognitive experiences. However, there isn't enough resource that connects the different MIs and how they are applied in the process of Chinese language teaching, indicating a further investigation needs to be done. In the current Chinese classroom, a thorough study that focuses on the different characteristics of the eight MIs and how they are used efficiently or inefficiently in Chinese language teaching is necessary.

Chapter III: The Eight Aspects of MI in the Context of Chinese Language Teaching

In terms of teaching Chines through the eight different types of intelligence proposed by Howard Gardner, it is important to look at each intelligence individually and analyze what each intelligence tells about regarding language learners' different learning styles, learning patterns, and capabilities in acquiring the language. Therefore, teachers need to look from learner's angles about how language skills can be obtained.

In this chapter, we will break each of the eight Multiple Intelligences in detail and explain how people possessing these different learning capabilities may learn Chinese in different ways. To start with, Table 2 on the following page taken from Thomas Armstrong explains learning from the eight angles of the MI theory. It suggests how language can be acquired through eight different categories of capabilities and serves as a premise for Chinese teachers to find the most appropriate ways of teaching Chinese in line with those different bits of intelligence. Let us break them down and discuss each one in detail with current research on how each different intelligence is applied in Chinese language teaching.

1. Linguistic Intelligence

Linguistic intelligence can be counted as the most traditional learning method in learning a language. Language learners who are highly linguistic intelligent are quicker to pick up words and form grammatical systems. Students of this type are generally good at reading, writing, and doing written tests. The textbook is an important medium of teaching a foreign language to students of this intelligence; moreover, dictations, repetition, and memorization are common techniques for teaching with linguistic intelligence. Grammar-translation is a typical and traditional method used in teaching with this intelligence. One of the biggest difficulties for

native English-speakers to learn Chinese is its entirely different word system from English, or

any other language that has an alphabetic system different from Chinese.

Table 2: Reflection of the eight MIs (Armstrong, 2000, pg. 33)

Children who are highly:	THINK	LOVE	NEED
Linguistic	in words	reading, writing, telling stories, playing word games	books, tapes, writing tools, paper, diaries, dialogue, discussion, debate, stories
Logical-Mathematical	by reasoning	experimenting, questioning, figuring out logical puzzles, calculating	materials to experiment with, science materials, manipulatives, trips to the planetarium and science museums
Spatial	in images and pictures	designing, drawing, visualizing, doodling	art, LEGOs, video, movies, slides, imagination games, mazes, puzzles, illustrated books, trips to art museums
Bodily-Kinesthetic	through somatic sensations	dancing, running, jumping, building, touching, gesturing	role play, drama, movement, things to build, sports and physical games, tactile experiences, hands-on learning
Musical	via rhythms and melodies	singing, whistling, humming, tapping feet and hands, listening	sing-along time, trips to concerts, musical playing at home and school, musical instruments
Interpersonal	by bouncing ideas off other people	leading, organizing, relating, manipulating, mediating, partying	friends, group games, social gatherings, community events, clubs, mentors/apprenticeships
Intrapersonal	in relation to their needs, feelings, and goals	setting goals, meditating, dreaming, planning, reflecting	secret places, time alone, self-paced projects, choices
Naturalist	through nature and natural forms	playing with pets, gardening, investigating nature, raising animals, caring for planet earth	access to nature, opportunities for interacting with animals, tools for investigating nature

It had been noted by scholars such as Chao (1968), Li and Thompson (1981), and Huang (1982) that the Chinese language has many special syntactic phenomena substantially different from western languages (Lee et al., 1991, pg. 348). Examples are given in the head-initial or head-final structure. In linguistics, head directionality is a proposed parameter that classifies language according to whether they are head initial (the head of a phrase precedes its complements) or head-final (the head follows its complements). The head-final/head-initial structure indicates that most Chinese phrases and sentences are head-final, while the positions of the heads in English are freer (Example 1 and 2); on the other hand, other Chinese phrases that are not head-final are found to be almost always head-initial (Example 3), unlike English. Below, Examples 1-3 taken from Lee et al. (1991, pg. 348-49) illustrate the difference in head-final/head-initial structures.

1. 玩耍　　　　　的　　　　　　小孩

   playing　　　　(relativizer)　　children

   (the <u>children</u> who were playing)

2. 我　　那位　住　在　　美国　　　　的　　　　　好　　朋友

   I　　the　live　in　　America　　(relativizer)　good　friend

   (the good <u>friend</u> of mine who lives in America)

3. 他　　（向　你的　朋友们）　　　　　借　　　　钱

   he　　<u>from</u>　your　friends　　　　　borrow　　money

   (he borrowed money (<u>from</u> your friends))

The different formats between Chinese and English can also be found from the structure of special questions. In general, to form a special question in English, the "wh"-word is generally inverted to the front of the sentence, but in Chinese, this is not always the same—the "wh"-word

is either not inverted or inverted. Examples 4 and 5 are used to explain the different formats in special questions.

4. She is Mary. ⇒   Who is she?

    她 是 玛丽。⇒   她 是 谁？

    tā shì Mǎlì   tā shì shéi

    (She is Mary   she is   who)

5. Marry likes coffee. ⇒   Who likes coffee?

    玛丽   喜欢 咖啡。⇒   谁 喜欢 咖啡？

    Mǎlì   xǐhuan kāfēi   shéi xǐhuan kāfēi

    (Mary like   coffee   who like   coffee)

Given these examples of how sentences are structured differently in Chinese and English, the more elements added to the language, the more complicated it gets. Students with strong linguistic intelligence are quicker to understand and get accustomed to the difference, while students lower in this intelligence are slower in this process.

2. Logical-Mathematical Intelligence

Along with linguistic skills, "logical-mathematical reasoning provides the principal basis for IQ tests", noted Howard Gardner (Gardner, 1993, p. 20). Students of this intelligence are good at scientific thinking, problem-solving, figuring out large data, and programming. Even though it may not be a familiar concept in language teaching, logical-mathematical intelligence can be used in Chinese language teaching frequently.

Students of logical-mathematical intelligence are generally good at forming a well-rounded system of the knowledge they have learned, and such systemic learning is important in

language learning, too. Chinese characters have many different radicals that serve for different purposes—meaning, sound, or other. Students who like problem-solving are easy to group these different radicals, which helped them to memorize characters quickly. For example, the characters for "eat (吃)" and "drink (喝)" both have a radical of "口". Meanwhile, "口" as a character alone has a pictographic indication of mouth as its meaning. In those two characters, "口" serves as a meaningful radical indicating the actions of eating and drinking both come from the mouth. Students with strong logical skills will quickly find the systematic connection among those different elements, memorizing the meaning of difficult characters.

3. Spatial Intelligence

According to Gardner, the right hemisphere is crucial for special processing. Learners of this intelligence are visual experts—they are quick to pick up the language from PowerPoint illustration, pictures, art pieces, and other forms of activities in the use of space. In Chinese language teaching, learners with strong spatial intelligence are easy to sense the cultural elements with the language, rather than the language itself. Chinese culture is known for its reserved, humble, and community-oriented nature, and this can be learned from watching Chinese movies, wearing Chinese costumes, and visiting art museums that present traditional Chinese artworks. In nowadays, pop culture can also be a tool in learning Chinese through spatial intelligence.

4. Bodily-Kinesthetic Intelligence

Learners with strong bodily-kinesthetic intelligence like to do hands-on activities like role play, games, and activities that involve standing up and moving around the classroom. Usually, teaching aimed at this type of intelligence is efficient with younger students, for kids have an active nature that pushes them to move a lot instead of staying still. Singing, dancing, and handcrafting are all useful techniques in a kinesthetic-oriented classroom. In a Chinese

classroom inspired by kinesthetic intelligence, teachers may engage students to sing and dance in Chinese, make dumplings using playdough, and doing traditional papercuts. In this way, the language is learned and the culture is shared. The bodily-kinesthetic orientation also helps adult learners to take a break from sitting still in the classroom, standing up and moving around to get both hemispheres working.

Total Physical Response (TPR) is an example of integrating kinesthetic intelligence in the teaching of Chinese. TPR was developed in the 1960s by phycology professor Dr. James J. Asher, which incorporated language learning with physical movements. Asher noted that children tend to acquire new language quicker than adults because "the new language is learned through play activity in which the child makes action responses", in contrast to adults who manipulate the language apart from physical behavior (Asher, 1967, pg. 1219). "For the child, the second language tends to be synchronized with physical responses," Asher added (1967, pg. 1219). TPR lets students "learn language by running, jumping, and playing games instead of sitting on chairs as usual according to students' physiological features of being active and non-persistent attention" ("The TPR Method of Teaching Chinese to Students Who Learn Mandarin in China", online source, no author). A well-known game, "老狼，老狼几点了？（What time is it, Wolf）" is an example of the TPR method in teaching Chinese. In this game, one child plays the wolf and the other children play the sheep. While the children playing the sheep will ask the question of "老狼，老狼几点了？(What time is it, Wolf) ", the child who plays the wolf will answer and pretend to catch the sheep. If one child playing the sheep is caught by the "wolf", he or she becomes the next "wolf", and the game continues. From this game, the children all participate in consistently repeating the structure of "老狼，老狼几点了？(What time is it, Wolf) ", while allowing their mobility and keeping the learning process fun. While this game is

designed to help kids remember the format of special questions (What time is it?) as well as telling time in Chinese, the teaching objectives are met through repetitive practice from playing this game around and around.

5.   Musical Intelligence

Musical intelligence, as pointed out by Gardner (1993, pg. 2), "comes from many different sources", and should be considered an intellectual skill like mathematics. Using musical instruments to illustrate the different tones of Chinese pronunciation is an example of teaching through musical intelligence. According to Kang, English native speakers "are not used to changing tones in every word and that's one of the reasons why they have strong American accents when speaking Chinese." Therefore, Kang's experiment of playing the four tones with Erhu is an example of teaching the pronunciation of tones with the inspiration of learners' musical intelligence and gives the students "a tangible feeling about tones" (Kang, 2018).

Moreover, learners can acquire the language from singing-along, listening to Chinese songs, and watching Chinese movies. A Chinese teacher in the United Kingdom used popular singers in China such as Jay Chow in her Chinese teaching. She said, "I let my students watch pop TV shows in Chinese … listening to songs by Jay Chow or JJ Lin; my students like them very much. It also stimulates their interest in studying." (HUAPLUS, 2:35-2:50) She thinks that putting pop culture together with traditional culture breaks the stereotypes of the Western learners about China, and the modern atmosphere of China creates more learning interests. The importance of integrating musical intelligence into Chinese teaching is because of its relationship with pop culture and modernized learning techniques, which creates a multimedia platform that ignites learner's initiative from multiple facets.

6. Interpersonal Intelligence

Interpersonal intelligence requires the ability of a person to get along with others and to cope with other people. This happens usually among group works, peer tutoring, and special events that gather people together. Students with strong interpersonal intelligence are generally quick to react, easy to absorb language when it's taught in groups, like to speak in class, and usually most-welcomed among the learning community. Study-abroad trips also involve the use of this intelligence. In Chinese language learning, a person may experience interpersonal activities from other language learners, Chinese teaching assistants, people they have met, or friends they have met around the Chinese community or all other people that may involve them in learning about the language and the culture. As my research findings in Chapter II released the growing flow of international students coming in and going out of China, people learning Chinese as a second language embrace greater possibilities to meet native Chinese speakers in their schools, communities or workplaces. This increased interaction with Chinese native speakers gives Chinese learners more opportunities to be exposed to Chinese culture and acquiring authentic expression of the Chinese language. At this point, Chinese teachers can make use of students' connection with the Chinese community, and create in-class or out-of-class activities that encourage this interaction. Ideas include pairing up with native speakers on campus, the field trip to Chinatown or a Dim-Sum place, or encouraging volunteer tutors of native Chinese speakers. The last point of using interpersonal intelligence in teaching Chinese is from the Chinese teacher herself or himself. As Chinese is a language that is deeply rooted in its culture, the way how Chinese teachers interact with their students is a way of expressing this cultural significance. For example, Chinese culture is known for its tolerant, modest, and sometimes reserved spirit. Does the teacher represent these values? Does he or she interact with

students in the way how Chinese culture is expressed? To teach with the culture's special characteristics, the understanding and appreciation of Chinese culture and Chinese values can be obtained from the interpersonal communication between teachers and students.

7. Intrapersonal Intelligence

In describing intrapersonal intelligence, Gardner explained it as "the internal aspects of a person", which is "access to one's own feeling life, one's range of emotions, the capacity to effect discriminations among these emotions and eventually to label them and to draw upon them as a means of understanding and guiding one's own behavior" (Gardner, 1993, pg. 5).

Learners with intrapersonal intelligence are generally good at completing assignments alone, taking notes of what they learned, reviewing and memorizing them by themselves. They might also be the ones who set their own goals and keep track of their learning paths. An assignment of writing a diary in Chinese is an example of utilizing interpersonal intelligence. Distributing writing assignments is a good technique in teaching students with intrapersonal intelligence; besides, students high in intrapersonal intelligence prefer to choose from several choices in doing their assignments.

8. Naturalistic Intelligence

The naturalistic intelligence is one's capability to explore nature. In the language learning process, naturalists usually get their learning process from investigating nature and sensing the unique angles nature might bring to them. Field trip to a Chinese garden is an example of teaching toward this angle, where students may learn and compare the differences among different cultures, and to experience the Chines culture in a naturalistic way.

In conclusion, going into details of these different intelligences helps educators to analyze the most efficient methods when teaching students of different age groups, backgrounds,

and interests. The method of TPR will be efficient with kindergarten or elementary students but may not be applicable for college students. Meanwhile, we cannot expect younger learners to be good at remembering grammar rules and linguistic structures. In general, the analysis of MI is helpful for Chinese teachers to find appropriate ways to engage with their students and make the Chinese teaching process as interesting as possible.

Chapter IV: Case Study of Teaching Chinese with MIs in the US Classroom Setting

Before my case study was implemented, teaching a foreign language with MI has been discussed and recognized for its importance for successful language teaching. According to Renata, the success of a foreign language learner is determined by factors such as motivation, physical conditions, intelligences, learning styles, gender, aptitude, and age (Renata, March 2010). It is noted that "the success of a foreign language learner relies on the combination of "an academic ability with some cognitive qualities", both of which constitute necessary components of the so-called general intelligence" (Botwina, 2010, pg. 14).

From the literature review outlined in Chapter 2 and the discussion of characteristics of Chinese in Chapter 3, we can see how intelligences are strongly connected with the success of foreign language learning, which also leads to the success of foreign language teaching. Therefore, the recognition and application of the human brain's multiple intelligences are integral to achieve successful foreign language teaching. Chinese, with its profound culture and characteristics that stimulate multiple layers of human intelligence, is an example of teaching a foreign language with Multiple intelligences. Based on my limited research, I did not find sufficient relevant work that examines each of the different Multiple Intelligences and their correlation to Chinese language teaching. With the curiosity to know how different bits of intelligence in the application of Chinese language teaching, I had the idea of conducting my case study. My rationale for this research is to find out how the different types of intelligence described by Gardner may correlate to different techniques of Chinese language teaching and how efficient or inefficient each one proves to be.

The case study I present focused on my own experience of teaching two classes of college-aged students of Introductory Chinese II course at Seton Hall University. The case study

was completed while I worked as a Chinese Instructor for the 2019 Spring semester, as I was greatly inspired by Howard Gardner's theory of Multiple Intelligences and experimented with different methods under those different types of intelligence during my teaching practice. This chapter includes five parts—1. Background; 2. Research Questions of the Case Study; 3. Methodology; 4. Results; 5. Analysis.

1. Background

In the Introductory Chinese II class at Seton Hall University, I have 24 students in total and each of them differs from each other. Some students arrive at class on time, interact with the teacher and other classmates, some students are quiet, some students always submit their homework on time and make few mistakes, some students do little of their homework but still can speak well in class. With an interest in knowing their different learning capabilities and how I can improve my teaching techniques from those different angles, I started the idea of doing this survey. My survey is focused on seven of the eight Multiple Intelligences and how they are integrated into the different in-class and out-of-class activities I had with my class. Due to the limitations of college classroom instruction, which gives little access to natural elements, naturalistic intelligence was not included in this research. Table 3 shows my seven main criteria in categorizing each technique into different types of intelligence.

According to the criteria, the teaching activities I have in class and out of class can be categorized into the seven MIs I will focus on in my study. Different activities may fall into more than one intelligence. For example, explaining grammar patterns may fall into both linguistic and logical intelligences, making lectures signify both linguistic and logical intelligences. Because most of the techniques fall into more than one category, I would like to focus on the most significant ones. For example, drills include lots of pattern practice and grammar reinforcement,

plus it requires interaction with TAs, so I put them into the linguistic and interpersonal category; workbook assignments and written assignments require students to do their own work, which is different from other techniques, so I put it in the intrapersonal category. Oral assignments require pair work, which signifies interpersonal skills. In Table 4 on the following page, I give an illustration of the categorization of the different Chinese teaching techniques in regard of the different MIs that they correspond to. Given the criteria in Table 3, I also include the reason for my categorization in the description column.

Table 3: Seven Main Criteria in Categorizing Techniques of Teaching Chinese

Significance of the Teaching Technique	Type of Intelligence Correlated
The technique requires students to stand up from their seat, move around, role play, or other activities that correspond to their body	Kinesthetic
The technique requires lots of vocabulary memorization, grammar pattern usage, and practice of sentence structures	Linguistic
The technique requires students to think systematically and logically about what they learned and their real-life experience	Logical
The technique requires students' independent work	Intrapersonal
The technique requires students to interact, communicate, and work with others	Interpersonal
The technique uses provides photos, figures, and all other visual aids	Spatial
The technique uses music and sounds	Musical

Table 4: Types of Intelligences and Different Techniques in Chinese Teaching

Types of Intelligence	Techniques	Description
Linguistic Intelligence	lectures	Lectures include a lot of vocabulary, grammar usage, and pattern drill, so linguistic intelligence is expected from lectures.
	Quizzes and tests	students put a lot of work on remembering vocabulary and grammar patterns to pass quizzes and tests.
	Drill	Part of the purpose of the drill session is to reinforce students' acquirement of language skills in class.
Spatial Intelligence	Videos	Videos allow students to learn from visualizing, and spatial intelligence is reinforced.
	PowerPoint slides	PowerPoint Slides provides visual aids for students with spatial capability.
	Images	Images serve as the same function as visual aids with slides.
Interpersonal Intelligence	Oral assignments	The oral assignments require students to pair up with their classmates to do dialogues in Chinese; therefore, interpersonal skill is required.
	Drill	Drilling with Teaching Assistant is another interpersonal experience.
	Pair work and group Activities	This specifically means in-class activities that require students to interact with each other.
Intrapersonal Intelligence	Workbook assignments	Workbook assignments give the students the chance to work on their own and reflect on their progress in learning Chinese.
	Written assignments	Students' written assignments differ from each other, which creates a chance to showcase their performance of writing in Chinese.
	Quizzes and tests	To prepare for quizzes and tests, students should be aware of their own learning progress and what needs to work more on.
Kinesthetic Intelligence	Group oral project	The group oral project requires role-playing in imaginary real-life scenarios, which gives students hands-on experience of using the language.
	Pair work and group activities	Some of the activities require students to stand up and move, tailoring to kinesthetic intelligence.
Musical Intelligence	Music	Students listen to Chinese pop songs or music to reinforce their musical intelligence in learning Chinese.
	Videos	Videos with music serve for musical intelligence as well.
Logical Intelligence	Culture discussion	Culture discussion looks at the systematic connection between Chinese characters and Chinese culture; students also gain analysis in comparing Chinese culture with their own cultures, which reflects their logical skill.
	Lectures	Lectures of explaining grammar patterns require students to understand the grammatical rules of the language, integrating their logical thinking skills to apply different grammar rules with different examples

2. Research Questions of the Case Study

Chinese language teaching is a comprehensive process that involves multiple layers of senses and capabilities of the human brain, the teaching of Chinese requires a variety of techniques or projects that attend to different bits of human intelligence. It has been discussed by Wang that Chinese teaching is a cognitive linguistics process, meaning "an interdisciplinary field that persists in the philosophical concept of "experience", with physical experience and cognition as the starting point, conceptual structure and meaning research as the core in the exploring of cognitive styles behind language facts, and making unified interpretation of language through cognitive styles and knowledge structures" (Wang, 2018, pg. 1802). It brought to my attention that how those multiple layers of cognitive experience may represent the different techniques in response to the MI theory and how efficiently they are used in the teaching of Chinese. With the objectives of explaining how different techniques representing the MI theory can be applied in the teaching of Chinese, I brought out four research questions for my case study:

1. Is/are there (a) specific intelligence(s) that covers most of the techniques that students find most efficient? Why?

2. Is/are there (a) specific intelligence that has/have the techniques most students find inefficient? Why?

3. What are the limitations of my research and what needs to be developed more tomorrow?

4. What implications does my case study give for future work on MI in Chinese language teaching?

Based on these questions, my research is conducted below.

3. Methodology

The methodology I use for my case study is survey questionnaire.

Among the 24 students, 9 are male and 15 are female. Their majors include Diplomacy (the most frequent), Biology, Computer Engineering, Business, Public Relations, undecided, etc. A few of them have studied Chinese in high school, while most of them have a semester's experience in college from Introductory Chinese I before attending this class. Five of them have family members speaking Chinese who they live together or talk to during special occasions. In this regard, the demographic background of my case study participants varies in race, major, and Chinese background, while similar in age and Chinese proficiency level.

Most of my students are freshmen or sophomore in college, from which age they have obtained the maturity to develop their learning methods and recognizing their study needs. Therefore, it is appropriate for them to determine which techniques that are beneficial to their Chinese language learning, and their feedback provides teachers with a guideline of the applicability of those different techniques. So, my case study started with giving my students a Chinese language survey about their opinions about the different teaching techniques they have experienced inside and outside the classroom. Again, as a Chinese teacher, I aim to look at students' perspectives on how efficient those different Chinese teaching activities are and what indications it might bring for my Chinese teaching in the future.

The survey was distributed during the second last week of instruction with the participation of all the 24 students. Table 5 is a sample of the survey questionnaire. In this survey, given a scale of 1 to 5, they were asked to rate the extent they agree or disagree on each item that helps their Chinese learning.

Table 5: Survey Questions

Chinese Language Survey	Chinese Language Survey

Inside the classroom

Please select how you agree or disagree if the activities inside the classroom that are helpful for your Chinese language study

Outside the classroom

Please select how you agree or disagree if the activities outside the classroom that are helpful for your Chinese language study

Lectures

    1   2   3   4   5

Disagree   Agree

Drill

    1   2   3   4   5

Disagree   Agree

Videos

    1   2   3   4   5

Disagree   Agree

Workbook assignments

    1   2   3   4   5

Disagree   Agree

Pair work and group activities

    1   2   3   4   5

Disagree   Agree

Oral work assignments

    1   2   3   4   5

Disagree   Agree

Quizzes and tests

    1   2   3   4   5

Disagree   Agree

Written assignments

    1   2   3   4   5

Disagree   Agree

PowerPoint Slides

    1   2   3   4   5

Disagree   Agree

Group Oral Project

    1   2   3   4   5

Disagree   Agree

Culture discussion

    1   2   3   4   5

Disagree   Agree

Listening to Chinese songs or watching Chinese movies (if you do)

    1   2   3   4   5

Disagree   Agree

Images

    1   2   3   4   5

Disagree   Agree

Do you find any other things that are helpful for your Chinese language studying but not listed above? If so, what are they/is it?

4. Results

The results I draw are the values of median and mean for each item. The mean releases the average value of each item scored by students; the median gives a reference of how fluctuating each item is from its average to the statistic middle value, indicating the bigger difference is, the bigger diversity it contains. The result in Table 6 shows the breakdown of each item with its median and mean values.

Table 6: Results of Survey in response to Different Techniques

Activities	Mean	Median
Lectures	4.5	5
Quizzes & tests	4.3	5
Culture discussion	4.3	4
Written assignments	4.1	4
Images	4.1	4
Pair work and group activities	4.1	4
PowerPoint slides	4	4
Videos	3.9	4
Oral work assignments	3.9	4
Group oral project	3.8	4
Drill	3.7	4
Listening to Chinese music	3.5	4
Workbook assignments	3.2	3.5

From this table, we can conclude four points:

1. Lectures, quizzes and tests, culture discussion, pair work and group activities, images, and written assignments receive the highest scores both in the median and mean as teaching techniques evaluated by the students. The reason for this can be since most students in this

group are in their first year of studying Chinese, the reinforcement of visualization, repetitive practice, and teachers' instruction are considered the most efficient tools in helping their Chinese language studying.

2. Using PowerPoint slides has a relatively higher score of 4 in both median and mean. While most teachers use PowerPoint Slides as one of the most important techniques in their teaching, it can be counted as a safe and stable tool with satisfactory feedback.

3. Workbook assignments score the lowest in the median and mean. The possible reasons can be the fact that the students all have other majors and are studying Chinese as a supplementary course, and they may find doing lots of homework assignments is taking too much of their time.

4. Videos, oral work assignment, group oral projects, drill, and listening to Chinese all have a median of 4 and means below 4 (from the highest to the lowest). The reason why videos are less efficient than images can be the reason that first-year learners might find it hard to catch information and follow through videos presented in class, while images give them more time to absorb the information. Both oral work assignments and group oral projects require students to innovate their projects with little given instructions compared to other techniques such as in-class pair work and group activities, and written assignments, therefore, first-year learners find it more challenging to apply what they have learned in class into these projects. The reason why listening to Chinese music has a lower mean than drill can be the difference between unguided learning and guided learning because students in this group compare guided learning as more efficient than unguided learning.

Again, the average values of each of the seven intelligence are shown in Table 7.

Table 7: Average Values of Different Intelligences

Intelligence	Mean	Median
Logical	4.4	4.5
Linguistic	4.2	5
Spatial	4	4
Bodily-kinesthetic	4	4
Intrapersonal	3.9	4.2
Interpersonal	3.9	4
Musical	3.7	4

Based on the above table, another summary can be added:

1. Both linguistic and logical intelligences are the highest in the median and mean, therefore, the teaching of Chinese can be best conducted through both linguistic and logical aspects. They can also be counted as the dominant approaches in Chinese language teaching.

2. Both spatial and bodily-kinesthetic intelligences have moderately higher scores in the median and mean, meaning that Chinese language teaching can be conducted through those two aspects with the implementation of appropriate techniques.

3. The scale in intrapersonal intelligence has a higher value in the median and a relatively lower scale in mean, indicating the students' varied personalities, e.g., introverted people may find it efficient with intrapersonal intelligence while extroverted people prefer the interpersonal aspect.

4. Both the interpersonal and intrapersonal bits of intelligence have lower scores compared to linguistic and logical intelligences, meaning that the interpersonal and intrapersonal

aspects of studying Chinese are considered stimuli rather than dominant intellectual scopes in Chinese language teaching.

5. The musical intelligence is the least favorite aspect by students, part of the reason can be that beginners find it hard to catch the lyrics and rhythms in Chinese music, therefore not efficient to help their Chinese learning. Another reason might be the less frequency of exposure to Chinese songs and Chinese music from classroom materials or textbooks, meaning that most of their experience with Chinese from musical intelligence is from their out-of-class experience, which differs person from person.

Participating students also mentioned items that are helpful to their Chinese study but not listed in my survey. Table 8 shows each one of them and the categorization of their corresponding intelligence:

Table 8: Items not included in the Survey and Their Corresponding MIs

Activity	Intelligence	Rationale
YouTube, Movies	Spatial, Musical	Youtube and movies have images, sounds, and music that intrigues the spatial and musical types of intelligence
Flashcards	Spatial, Linguistic, Intrapersonal	Flashcards provide visual aids as well as help for vocabulary and grammar memorization; it is usually done individually
Duolingo, Hello Chinese App	Spatial, Musical, Intrapersonal	Duolingo and Hello Chinese app provides images, sounds, and music and lets students practice on their own
Chinese friend, Professor's Help	Interpersonal	Having a Chinese friend and getting a professor's help both require students' interpersonal skills

The above elements suggest that Chinese learning can be obtained out of class from spatial, musical, intrapersonal, and interpersonal intelligence. Flashcards are the most traditional learning method of using visual aids to remember words and phrases, and one can do this at his

or her own pace. YouTube is an example of new media resources that provides visualization of their learning patterns, serving at similar function as Flashcards. Duolingo and Hello Chinese App are examples of interactive learning apps that students can access anytime and everywhere from computers, tablets, and phones. From them, students don't need to acquire language skills in a traditional classroom, but rather can study at their own pace with interaction.

5. Analysis

My results reminded me of an earlier study by my professor, Dr. Dongdong Chen, who conducted a study among CFL (Chinese as Foreign Language) students at Seton Hall University, in response to a questionnaire that aims to examine the students' perceptions on which activities they regard as both effective and enjoyable. These activities include doing quizzes and assignments, giving presentations, writing compositions, participating in speech contests, etc. (Chen, 2007, pg.262). Her research released that playing games was considered the most efficient activity in teaching Chinese among introductory, intermediate, and advanced Chinese language learners, while some of other highly scored techniques included in-class presentation, cultural performance, pair-work, and discussion on grammar and the least favorite items include quizzes and workbook (Chen, 2007, pg. 264). Chen's research noted that Chinese can be taught from a variety of different activities and most efficiently through cognitive learning processes that involve lots of interaction, cultural exchange, and interpersonal communication.

In response to the research question for the case study above, an analysis is provided:

1. Is/are there (a) specific intelligence(s) that covers most of the techniques that students find most efficient? Why?

Based on the results, the logical intelligence scores the highest mean of 4.4. It indicates that Chinese can be efficiently taught through the logical aspect of human intelligences. It had been confirmed by Yao that mathematical logical intelligence is largely related to learning a language (Yao, 2000, pg. 67). According to Yao, the purpose of learning and using a language is to communicate with others—if we speak illogically, the person who listens does not understand; therefore, the goal of communication cannot be achieved. With logical thinking, students can also associate Chinese characters that have the same meanings and same sounds and categorize the words that describe the same content, such as fruits, weather, and drinks (Yao, 2000, pg. 67-68).

After the logical intelligence, the linguistic intelligence scores the second most efficient with a mean of 4.2 with a higher median. It indicates that most students regard linguistic intelligence as efficient in their Chinese learning, while students differ from each other in their opinions. Yao's study said that the linguistic intelligence covers all aspects of language learning, including listening, speaking, reading, and writing (Yao, 2000, pg. 66-67). To efficiently teach Chinese, linguistic intelligence is utilized everywhere inside and out of the classroom.

The significant contribution of linguistic and logical intelligences in Chinese language teaching can be due to the systematic learning of Chinese vocabulary, grammar pattern, and different structure than English that most students put effort into. Besides, students' age, gender, and years of experience in Chinese can all contribute to this result. In my class, students are mostly first and second-year college students with introductory levels of Chinese proficient, indicating they are at the phase of building up a language system that is entirely different from their native language. To achieve that, linguistic

intelligence is necessary; meanwhile, to understand others and communicate in Chinese, students need to use their logical intelligence.

2. Is/are there (a) specific intelligence that has/have the techniques most students find inefficient? Why?

Besides logical and linguistic intelligences, all the other five types of intelligence prove to be almost equally efficient in their application of Chinese language teaching. The musical intelligence scores the lowest of 3.7 in mean; however, it had the same value in the median with the interpersonal intelligence, meaning that students differ from each other in terms of integrating music in their Chinese language study.

I'm surprised that musical intelligence was the least favorite intelligence from students' angle. Part of the reason might be that the change of tones in music is confusing for second-language learners if their native language system does not have a tone system. In my earlier discussion about Liu's research on students' musical intelligence in Chinese language teaching, Liu pointed out using musical intelligence is helpful for students' study motives, interests, and memorization of text contents, however, it is not clear if it's helpful for students to comprehend text contents (Liu, 2007, pg. 21). Interestingly, Liu's research focused on a group of elementary students, and my research focused on college students, indicating they have different purposes for studying Chinese. For college students, they need to understand and communicate in Chinese instead of remembering the language. When musical intelligence does not guarantee their need to understand or use the language, they don't think it is efficient.

3. What are the limitations of my research and what needs to be developed more tomorrow?

There are three limitations in my research: 1) the survey is focused on college-aged students, who are mature enough to build their study initiative, and have a judgment of the different techniques applied in class. How MI is applied for learners at a relatively immature age and need passive incentive is not included; 2) the data of natural intelligence was not given. These are the areas that need further exploration in future studies; and 3) the criteria and categorization I created were based mainly on my own pragmatic teaching experience, which may contain bias and incomprehension. In general, my case study provides guidelines for teaching Introductory Chinese to college students with specific techniques following the linguistic, logical, interpersonal, intrapersonal, spatial, musical, and kinesthetic intelligences following the MI theory. However, it does not provide solid data for teaching K-12 students with multiple levels of Chinese proficiency, including intermediate and advanced levels of Chinese, which call for further research.

4. What implications does my case study give for future work on MI in Chinese language teaching?

The Chinese language can be taught with a focus on the human mind's linguistic and logical intelligences; meanwhile, all the other bits of intelligence can serve as a combination that stimulates students' interest and keeps the learning/teaching process engaging, efficient, and interactive.

It had been recently argued that educators face new challenges to "revisit curricular in order to bring the projected objectives closer to learners' actual needs in their professional field" (Dmitry et al., 2015, pg. 216). In this regard, new teaching approaches, such as content-based instruction, focusing on the topic (content) that

students study and aiming at developing their linguistic ability, are considered to promote content knowledge and foreign language acquisition concurrently (Dmitry et al., 2015, pg. 216). Such innovation is important in teaching Chinese with MI since students tend to favor activities that have themes, such as role-play, cultural discussion, and vocabulary with content.

Again, what does this research bring in the aspect of teaching Chinese with Multiple Intelligences in the globalized age? The first implication we can draw is that traditional teaching practice with a focus on vocabulary, grammar patterns, and language structure will still be the most important strategy in efficiently teaching Chinese. Teachers can use lectures, official assessments like quizzes and tests, and occasional assessments from communication with students to solidify their Chinese teaching. Besides, to make the Chinese classroom more engaging and appealing, teachers can use different types of activities inside and outside the class to enhance students' learning capabilities from all different angles. For example, group oral project, oral, and written assignments proved to be more efficient than workbook assignments. Therefore, Chinese teachers need to create innovative homework projects that not only reinforce students' language skills but also serve as a stimulus in students' learning interests. Finally, the digital age of globalization brings plenty of opportunities for free or low-cost education channels that language learners can access everywhere outside the traditional classroom, and its convenience is becoming a trend in foreign language learning in today's busy environment. Teachers with the adaptability from traditional classroom teaching to multimedia teaching will grab the opportunities today, and have a greater chance of integrating different human capabilities into their Chinese language teaching.

Chapter V: Conclusion

The conclusion of my thesis includes three parts—1. Background of the MI Theory and Chinese language teaching; 2. Findings from my case study and its implications; 3. Findings to my thesis research questions.

1. Background of the MI Theory and Chinese Language Teaching

The MI theory that analyzes eight types of human intelligence generates a huge impact when it was first introduced by Howard Gardner in 1983, proposing a new concept of evaluating students' intelligence by their different capabilities and talents. Gardner was followed by educators such as Dr. Renzulli, O'Niel and Lazear, who agreed with human's different capabilities in receiving, processing information, and solving problems, and that human brains possess a multidimensional phenomenon that directs people's work at multiple levels. The recent follower of Howard Gardner is Thomas Armstrong, who expanded the MI theory in his book, *Multiple Intelligences in the Classroom,* providing educators of all levels with everything about the application of the MI theory to curriculum development, lesson planning, assessment, special education, cognitive skills, career development, education policy, etc.

The first significant characteristic of teaching Chinese in the globalized era is its involvement with Chinese culture. The teaching of Chinese language and Chinese culture in the globalized era is recognized by Guijie Liu as a sociability process that is involved in several factors, not only the language itself but also the cultural awareness and sensibilities that are all evolving around Chinese language teaching. Another important factor is its unique system of Chinese characters that are different from the alphabetic system. It was first researched on a case study by Jerome Packard in 1990, proposing the benefit of a lag time before the

introduction of Chinese characters for learners with a native language of an alphabetical system. The discussion of the phonetic and semantic parts of Chinese characters continued through 2010, during which time Janet Zhiqun Xing recognized it as the most difficult part of Chinese language acquisition in *Teaching Chinese as A Foreign Language: A Pedagogical Grammar* (2006). The third factor of teaching Chinese in globalized age is the changing medium and platforms of teaching Chinese. Researchers like Cruickshank, Tsung, and Cai analyzed that different factors bring the teaching of Chinese into a multimedia, multidimensional, and diversified process, including technology development, increased diversity, China's economic status in the world, government influence, new language learning programs, and more.

2. Findings from My Case Study and Its Implications

The case study of this research focused on a group of college students in the Introductory Chinese course, who were given a survey to rate their experience about different activities inside and outside the Chinese classroom, which represent different categories of the Multiple Intelligences. The results show that Chinese can be most efficiently taught from strategies that are in line with the linguistic and logical intelligences. Meanwhile, teaching techniques with a focus on kinesthetic, interpersonal, intrapersonal, spatial, and musical intelligence can serve together as multiple platforms to enhance the Chinese teaching process and to stimulate students' learning interests. It is also important to note that, with the introduction of new media platforms of teaching Chinese, it is important for teachers to utilize the development of technology following the MI theory into their Chinese language and culture teaching.

There are weaknesses in my case study. A significant weakness is the small pool of the subjects because they are the subjects I used in a small portion of students, not randomized subjects selected from a large pool of subjects. This fact inevitably contributes to possible bias

and unequal representation of my data, which can be only used to evaluate small groups of first-year Chinese learners in their opinions of different teaching techniques following the MI theory. In this regard, future research is called for.

3. Findings to My Thesis Research Questions

As my research questions stated: In the age of globalization, how can the MI theory be efficiently applied to Chinese language teaching, what challenges will Chinese language teachers face and what changes should be made?

To answer my research question, given the above evidence and results, Multiple Intelligences will serve as an important approach to Chinese language teaching in the new age of globalization, multimedia, and multicultural diversity. Teachers who can efficiently use MI in Chinese language teaching are expected to be open-minded, culturally-sensitive, and have sufficient skills in developing and using multimedia learning channels that are outside traditional classroom teaching. This requires teachers' fluent knowledge in all different categories of human intelligence and make their teaching tailored toward the students' interests. A big challenge for Chinese teachers today is that increasing online learning sources may replace the role of traditional classroom teachers. At this point, versatility is essential for Chinese teachers in all aspects including lesson plan, curriculum development, media design, language skills, cultural understanding, and more.

My contributions to this field are to discuss the application of the MI theory in Chinese language teaching in an age full of free or low-cost online resources, people of diversity, and multicultural societies. As the MI theory was first proposed more than 30 years ago, it brought to my attention that some of the traditional MI values may have changed in the new era. My

research emphasizes the fact that even in today's world, the MI theory is not outdated and can be applied in even more multimedia and multicultural channels.

Since my case study is focused on a smaller group (24 participants) with similar variables—beginner level of Chinese proficiency, aged 18-21, and taking Chinese as a selective course, etc.—future research is called with a focus of teaching Chinese to students of other age groups and different Chinese proficiencies. Meanwhile, my case findings suggest linguistic and logical intelligences are most efficiently used in teaching Chinese to beginner level, it might be curious for future researchers to investigate if it is the same for Chinese learners at intermediate or advanced levels. As far as my research goes, future study is called to focus on how the different bits of intelligence can be applied differently per students' different levels of Chinese language proficiency and age groups.

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