

The University of San Francisco  
**USF Scholarship: a digital repository @ Gleeson Library |  
Geschke Center**

---

Master's Projects and Capstones

Theses, Dissertations, Capstones and Projects

---

Spring 5-18-2018

# Mandarin Chinese Tone Identification Training: Developing Materials for Second and Third Grade Classes in Mandarin Chinese Immersion Programs

Xiaoyi Zhang  
[xzhang154@dons.usfca.edu](mailto:xzhang154@dons.usfca.edu)

Follow this and additional works at: <https://repository.usfca.edu/capstone>

 Part of the [Bilingual, Multilingual, and Multicultural Education Commons](#), [Curriculum and Instruction Commons](#), [Elementary Education Commons](#), and the [Language and Literacy Education Commons](#)

---

## Recommended Citation

Zhang, Xiaoyi, "Mandarin Chinese Tone Identification Training: Developing Materials for Second and Third Grade Classes in Mandarin Chinese Immersion Programs" (2018). *Master's Projects and Capstones*. 764.  
<https://repository.usfca.edu/capstone/764>

This Project/Capstone is brought to you for free and open access by the Theses, Dissertations, Capstones and Projects at USF Scholarship: a digital repository @ Gleeson Library | Geschke Center. It has been accepted for inclusion in Master's Projects and Capstones by an authorized administrator of USF Scholarship: a digital repository @ Gleeson Library | Geschke Center. For more information, please contact [repository@usfca.edu](mailto:repository@usfca.edu).

University of San Francisco

**Mandarin Chinese Tone Identification Training: Developing Materials  
for Second and Third Grade Classes in Mandarin Chinese Immersion Programs**

A Field Project Proposal Presented to  
The Faculty of the School of Education  
International and Multicultural Education Department

In Partial Fulfillment  
Of the Requirements for the Degree  
Master of Arts in International and Multicultural Education

By  
Xiaoyi Zhang  
May 2018

**Mandarin Chinese Tone Identification Training: Developing Materials  
for Second and Third Grade Students in Mandarin Chinese Immersion Programs**

In Partial Fulfillment of the Requirements for the Degree

MASTER OF ARTS

in

INTERNATIONAL AND MULTICULTURAL EDUCATION

by  
Xiaoyi Zhang  
May 2018

UNIVERSITY OF SAN FRANCISCO

Under the guidance and approval of the committee, and approval by all the members, this field project (or thesis) has been accepted in partial fulfillment of the requirements for the degree.

Approved:

  
Instructor/Chairperson

5/21/18  
Date

## TABLE OF CONTENTS

	Page
LIST OF TABLES.....	iv
CHAPTER I – INTRODUCTION.....	1
Statement of the Problem.....	1
Purpose of the Project.....	6
Theoretical Framework.....	6
Significance of the Project.....	11
Definition of Terms .....	13
CHAPTER II – REVIEW OF THE LITERATURE.....	14
Introduction.....	14
Mandarin bilingualism and bilingual education in the United States.....	14
Tone identification and training on tone identification.....	22
CHAPTER III – THE PROJECT AND ITS DEVELOPMENT.....	32
Brief Description of the Project.....	32
Development of the Project.....	33
The Project.....	34
CHAPTER IV – CONCLUSIONS AND RECOMMENDATIONS.....	47
Conclusions.....	47
Recommendations.....	48
REFERENCES.....	50
APPENDIXES.....	55

## LIST OF TABLES

	Page
Table 1 - Tested Tonal Contrasting Syllables in Lee, Tao, & Bond (2010)'s Research...	25
Table 2 - Stimuli Used in Condition One in Lin, Wang, and Shu (2012)'s Research.....	28

## CHAPTER I INTRODUCTION

### **Statement of the Problem**

Sapir (1949) claims that language is a purely human and non-instinctive method of communicating ideas, emotions and desire by means of voluntarily produced symbols. Human language, as a symbolic communication system, is learned in a human community instead of biologically inherited. Language is a tool to transmit information; express feelings, emotions and ideas; learn knowledge; and construct social identity. As a tool of communication among the members of a human community, language is influenced by the very community where it functions. Additionally, being one of the most significant tools of communication, when a language is mastered only by some people, it has often been the determining factor in turning these people into a separate group as a people, a nation or a state.

There are thousands of living languages over the world. They are divided into different language families. A language family is a group of languages related through descent from a common ancestral language or parental language. According to the data from Simons and Charles (2017), Indo-European languages family has the largest population of native speakers by far. The Indo-European language family includes about 446 living languages, while about 46% of the human population speaks an Indo-European language as a first language. English is one of the most widely spoken Indo-European languages by native speakers, other than Spanish, Hindustani, Portuguese, and Russian, and so on. As a feature of the Indo-European language family, phonetically, stress plays an important role in the speech sounds of the Indo-European languages.

In English, certain syllables are stressed, while others are unstressed. Stress changes the duration and intensity of words. Stressed syllables are pronounced longer and louder than unstressed syllables. It also changes vowel quality, which means vowels in unstressed syllables are frequently reduced while vowels in stressed syllables are not. Sometimes stressing a certain position in a sentence changes the pitch of the whole sentence, which can change the emotions that the speaker wants to express.

Stress in English can be used to distinguish between words and phrases. A compound word has one stress unit, while the corresponding phrase has two, for example “some time” versus “sometime.” Stress can also be used to distinguish some pairs of words. For instance, the word “record” is stressed on the first syllable when used as a noun, but on the last syllable when used as a verb. Here, stress is also connected to vowel reduction. When it changes the vowel quality: in the noun "record" the first syllable is stressed and has the unreduced vowel /e/, but in the verb "record" the first syllable is unstressed, and its vowel is reduced to /ɪ/. However, the change of stress in English does not change the meanings of words or phrases.

This field project is going to be mainly about another language, Mandarin Chinese, and teaching English-native-speaking students Mandarin Chinese. Mandarin Chinese belongs to the Sino-Tibetan language family. There are about 455 living Sino-Tibetan languages (Simons & Charles, 2017). In terms of the number of native speakers, the Sino-Tibetan language family is second only to Indo-European language family. As a feature of the Sino-Tibetan languages, compared to the Indo-European languages, the Sino-Tibetan languages are all tonal languages phonetically, which means they all have tones and tones play an important role in the speech sounds of the Sino-Tibetan

languages. Taking Mandarin Chinese as an example, in addition to consonants and vowels, the pitch contour, also known as tone, of a syllable is used to distinguish words from each other. Correct tonal pronunciation is important for intelligibility because of the great amount of words in Mandarin Chinese that only differ by tone. The change of tones can completely change the meanings of the words or phrases.

Mandarin Chinese, as a tonal language, has five lexical tones in total, which are first tone, second tone, third tone, fourth tone, and neutral tone. First tone, or high-level tone, labeled on the vowels in Mandarin Pinyin, which is the Romanization system for Mandarin Chinese, with “-,” is a steady high sound, produced as if it were being sung instead of spoken. Second tone, also called rising tone, or more specifically high-rising, labeled on the vowels in Pinyin with “/,” is a sound that rises from middle to high pitch. Third tone, low or dipping tone, labeled on the vowels in Pinyin with “v,” descends from mid-low to low. This tone is often demonstrated as having a rise in pitch after the low fall; however, when a third-tone syllable is not said in isolation, this rise is normally heard only if it appears at the end of a sentence or before a pause, and then usually only on stressed monosyllables. The third tone without the rise is sometimes called half third tone. Third tone syllables that include the rise are significantly longer than other syllables. Fourth tone, also called falling tone, or high-falling, which is labeled on the vowels in Pinyin with “\,” features a sharp fall from high to low. When followed by another fourth-tone syllable, the fall may be only from high to mid-level. Neutral tone, also called fifth tone or zeroth tone, which does not have a label and just leaves the vowels alone in Pinyin, is sometimes thought of as a lack of tone. It is associated with



weak syllables, which are generally somewhat shorter than tonic syllables. The pitch of a syllable with neutral tone is determined by the tone of the preceding syllable.

The same syllable with different tones can have different meanings. For example, the syllable “ma” can have five meanings with five tones. When it is first tone “mā,” it can be “妈,” which means “mother.” When it is second tone “má,” it can be “麻,” which means “hemp.” When it is third tone “mǎ,” it can be “马,” which means “horse.” When it is fourth tone “mà,” it can be “骂,” which means “scold.” When it is neutral tone “ma,” it can be “吗,” which is an auxiliary word that is used in the end of sentences to form a question.

Tones are one of the most distinctive differences between Chinese and English. Chinese is a tonal language while English is a non-tonal language. According to Ding et al. (2003), native Mandarin Chinese speakers and native English speakers use their brain’s left hemisphere differently in their activity of speaking. Chinese and English speakers both use three regions in the left hemisphere: the inferior frontal gyrus, the anterior superior temporal gyrus, and the posterior middle gyrus. However, Chinese speakers show activity in an extra area other than these three: the superior temporal gyrus. With Mandarin Chinese speakers, the region for processing music via pitch and tone, from the right hemisphere, plays an important role.

Additionally, the meaning of a Chinese word depends not only on the phonemes which make up the word's pronunciation, but also the pitch variations of the syllables or words. In Mandarin Chinese, the same sounds, pronounced with different tones, can refer to different things. On the contrary, in a non-tonal language such as English, tone might

express different emotions of the speaker, but indicates nothing about the meaning of the word that is pronounced.

As there is such a big difference between Mandarin Chinese and English about tones, when teaching English-native-speaking students Mandarin Chinese, tones should have been paid much more attention, since the tones play such an important role in Mandarin Chinese. However, in the school where I am working, which is a Mandarin Chinese dual immersion elementary school, the current condition of Mandarin Chinese tone identification and pronunciation training is that neither teachers nor students pay much attention to it. Even though most of the teachers are Chinese whose first language is Mandarin Chinese, they learned it in China where people pick up tone skills in that environment by mimicking instead of specific training. For the students, since most of them have English as their first language, which is a non-tonal language as I mentioned in previous paragraphs, they do not know about the importance of tones. Lack of attention has led to a lack of specific materials for teachers to use and assist in tone teaching. When the teachers teach tones, they usually only briefly introduce them orally, using a few self-created materials, and go through them with students shortly without many specific instructions or follow-up practices.

What I noticed was that many students, who are Mandarin Chinese beginning learners, have difficulties differentiating the tones when they are listening, speaking or reading. After they learned Mandarin Chinese for several years in Mandarin Chinese immersion programs, they can read Mandarin Chinese words with perfectly correct Pinyin pronunciations since they have practiced so much about the pronunciations, but unfortunately, with wrong tones, because they have never actually paid attention to them.

Wrong tones caused a lot of misunderstanding while they communicate with others in Mandarin Chinese. Thus, there is an urgent need of a specific curriculum for teaching Mandarin Chinese tones.

### **Purpose of the Project**

The purpose of this project is to design a lesson plan and reference materials for second and third grade teachers of Mandarin Chinese immersion programs in San Francisco to utilize in their classroom. I chose second and third grade teachers and students as my participants because Pinyin is usually introduced to students by the end of second grade along with tones and practiced more in third grade. In addition to teaching students how to pronounce tones, this project will assist teachers in scaffolding instruction for Mandarin Chinese tone learning as they also teach them how to distinguish different tones by listening, reading and speaking with correct tones. Particularly focused on the Mandarin Chinese immersion program in elementary school, the current materials being used are not visual enough to be able to hold students' interest. They are also too brief for students to understand and remember. Therefore, this project also aims to revise Mandarin Chinese immersion program's self-created lesson plans for second and third grade. This field project provides lesson plans of tone teaching along with related practice work sheets, homework, activities, and assessments, which is practical. This field project also encourages teachers to utilize musical instruments in class to demonstrate the changing process of different tones' sounds, which helps students understand how to pronounce better and makes the class more interesting.

### **Theoretical Framework**

#### **Second Language Acquisition Theory**

Since language exists in a social world, and communication is the primary reason for language, “communicative needs and functions” (Abrar-Ul-Hassan, 2011, p. 511) are the main motivation of second language acquisition. Krashen (1981) believes that language acquisition “requires meaningful interaction in the target language –natural communication— in which speakers are concerned not with the form of their utterances but with the messages they are conveying and understanding” (1981, p. 1). In simple terms, it has to make sense: speakers need to deliver certain information using words and sentences with the correct meaning, while the listeners need to understand what they heard.

Tones in Mandarin Chinese can totally change the meaning of a word, while meaning is what allows language users to monitor their comprehension and language use. Krashen (1982) proposed “monitor hypothesis,” which requires that the speaker knows the linguistic rules and use the rules to “monitor” their own output (p. 15). The monitoring can also be for their comprehension during reading or listening. When the students know clearly about the Mandarin Chinese tone rules, they will be able to monitor their output: their own speaking, whether they are using the correct tones and whether they have other people understand their meaning. They can also monitor their comprehension: whether they can understand other people’s meaning; if not, whether it is because they thought it was a different word with different tones.

### **First and Second Language Acquisition Theory**

When two languages are not learned together from birth, as is often the case for students in my field school, the second language (L2) may develop differently than the first (L1) (Cook, 2002; Vygotsky, 1986). An L1 is learned orally, in a natural context,

while an L2 is often learned through rules in a classroom. The relationship between L1 and L2 can be either transfer or interference, or both. For transfer, Vygotsky (1986) concluded:

The child can transfer to the new language the system of meanings he already possesses in his own. The reverse is also true—a foreign language facilitates mastering the higher forms of the native language. The child learns to see his language as one particular system among many, to view its phenomena under more general categories, and this leads to awareness of his linguistic operations (pp. 195-196).

In other words, the development of the L1 and the L2 work together symbiotically to enhance both languages. Lindholm-Leary (2001), Thomas and Collier (2002) did their research on Dual Immersion programs, showing that students in Dual Immersion programs perform better on both language arts tests than their peers in English-only classes, and they believe it may be due to the cross-linguistic transfer of L1 knowledge to L2.

In contrast to transfer, it has also been found that an L1 can interfere with L2 acquisition (Krashen, 1981). L1 interference usually happens to word order and in foreign language classrooms where an L2 needs to be learned through rules and translation instead of acquired naturally through meaningful conversation as L1. Krashen (1981) argued that the main reason for L1 interference is because students' L2 is insufficient, causing them to rely on L1 too much.

In my case, I have noticed that students consciously or unconsciously compare their L2, Mandarin Chinese, with their L1, English. In this project, it would be important

for the students to learn about the role tones or stress plays in Mandarin Chinese and English and acknowledge the differences between the two languages.

### **Cognitive Theory**

Learning Mandarin Chinese tones can be view as cognitive skills acquisition, which described by Anderson (1996, 2005) as a “three-stage” process, using a “production systems” notation to specify the transformation of knowledge representations during the skill acquisition process.

Anderson (1996) claims that there are two types of knowledge: declarative knowledge and procedural knowledge. Declarative knowledge refers to knowledge about what we know about things, which can usually be expressed verbally. It is easy for people to describe the content of declarative knowledge, which can be the definition of words, facts, rules, and our memory for images and sequences of events. On the other hand, procedural knowledge is how to do things, or “perform tasks” (Anderson, 1996), such as our ability to generate language, making decisions, solving mathematical problems, coding computer programs, and so on.

By comparing these two types of knowledge, it is easy to see that acquiring declarative knowledge may be faster, while acquiring procedural knowledge, such as learning a foreign language, is a longer, slower and gradual process and requires more time and practice. In this project, learning Mandarin Chinese tones, as a part of learning a foreign language, is a skill acquisition process for the students. Anderson (1996, 2005) used the “three-stage” model to describe the general characteristics of skill acquisition: the cognitive, associative, and autonomous stages.

**Cognitive stage.** In Anderson's theory, skill learning starts from the cognitive stage. During this stage, learners acquire declarative knowledge of a skill by memorizing a set of facts related to the skill. Learners need to know about the rules so that later, they can rehearse these facts and apply the rules when they perform the skill. Although this knowledge enables learners to verbally describe how to perform the skill, it is still only rule-based paper talk and deficient for actual operation and skilled performance, which usually happens with many errors.

In this project, the cognitive stage includes introduction of Mandarin Chinese tones, with facts and rules about the pronunciation of different tones, such as different features of each tone. Instead of having to pronounce all of the different tones correctly at once, students first memorize these facts and rules during this stage.

**Associative stage.** During the second stage, which is the associative stage, two major changes occur in relation to the development of skill proficiency. First, learners are able to gradually detect and eliminate the errors that showed up in the performance from the first stage. Second, the connections among the various components of the acquired skill get strengthened. As a result, the performance of the skill should be able to succeed at the end of this stage, and the declarative knowledge acquired from the first stage transforms into its procedural form. For language learners, sometimes both of the two forms of knowledge can coexist, as they still remember many rules of the target language even after they can speak the language fluently (Anderson, 2005).

In this project, students start trying to pronounce different tones, following the rules that they have memorized in the cognitive stage. Students are expected to be able to determine whether their pronunciations are correct or not; they are expected to be able to

pronounce all tones correctly and label correct tone symbols on the Mandarin Pinyin for heard pronunciations by the end of associative stage.

**Autonomous stage.** The autonomous stage, as the third stage of skill acquisition, is usually where improvement of the skill continues, and the performance becomes increasingly fine-tuned. After the first and second stages, learners have practiced the central cognitive component of a skill enough that they no longer need to pay much attention. Skilled performance requires gradual and continued improvement, and mastering a skill demands a relatively long period of practice.

In this project, the autonomous stage includes practicing tones not only in Mandarin Pinyin settings, but also with real Mandarin characters. Students are expected to be able to distinguish the tones of Mandarin characters they have learned and read them aloud with the correct tones. The final goal is for students to speak with correct tones without looking at the Mandarin characters or Mandarin Pinyin.

In this case, this project should support students go through all these three stages of acquiring Mandarin Chinese tone skills from the first stage, introducing the rules, and as a goal, in order for the students to be able to get to the third stage where they can have correct autonomous skilled performance on Mandarin Chinese tones.

### **Significance of the Project**

Mandarin Chinese bilingualism has become a global phenomenon because of the development of China's economic and political power. Globalization provides a lot of opportunities to promote Mandarin bilingualism in the United States, though transnational migration, cultural hybridization, trade market, and the Internet, which also promoted the development of Mandarin bilingual education in the United States.



Different models of Mandarin bilingual education, especially the two-way dual language immersion program, were shown in different research as good ways to promote additive Mandarin bilingualism and where students would benefit of both language proficiency and culture competence.

According to the data from the American Council on the Teaching of Foreign Languages, the number of elementary and secondary school students studying Chinese in 2007 might have been as much as 10 times higher than it was in 2000. The number of grade 12 and below public-school students in the United States, learning a Chinese language, rose to nearly 60,000 in 2008, from about 20,000 in 2005. There is a prediction that by 2020, there will be one million American students learning Mandarin Chinese. In 1981, the oldest Mandarin Chinese immersion elementary school program in the United States was launched in San Francisco, named Chinese American International School (CAIS). According to the data provided by the school website, this private school began with four students and now has 520 students from preschool through eighth grade. According to the data provided by Weise (2017), there are at least 241 Chinese-language immersion programs at U.S. schools for children in grade 12 and below in 2017, compared to about 12 in 2005.

However, since Mandarin bilingual education has only been created for less than 40 years in the United States, clearly, even though there are theoretical foundations adapted from programs of other languages and western scholars, there is still great need for research that builds up more professional and concrete materials to be used in Mandarin bilingual education programs, which includes professional tone identification training materials. Mandarin Chinese tone learning is very important for Mandarin

Chinese learning students. By learning to identify different tones while listening, they can have less misunderstanding caused by inaccurate tone perception and get a better understanding of what others are talking about. By learning to pronounce tones clearly, they can express their own ideas more clearly and more easily for other people to understand.

### **Definition of Terms**

L1: One's first language or native language.

L2: A second language. Participants in this study may have more than one language learning experience. For the purpose of this study, L2 refers to Mandarin Chinese other than their native language English.

Mandarin Pinyin: Hanyu Pinyin Romanization. It is written with the Latin alphabet, referring to the official Romanization system for Mandarin Chinese.

## CHAPTER II REVIEW OF THE LITERATURE

### **Introduction**

Since this project is going to be a lesson plan and reference materials about Mandarin tone identification and pronunciation training, which is specifically designed for second and third grade teachers of Mandarin immersion programs in San Francisco to utilize in their classrooms, this literature review will first provide an overview of the current situation of Mandarin bilingualism in the United States, which is closely connected to globalization, and Mandarin bilingual education in the United States, in my field project particularly about the two-way dual immersion programs. The second part of this literature review will be related research about ability testing and training on Mandarin tone identification. For each of these studies, I will in turn analyze their strong points and their weak points, and then utilize both of the strong and weak points to enrich my own project.

#### **Mandarin Bilingualism and Bilingual Education in the United States**

In only about 190 countries worldwide, Ethnologue's data (Simons & Fennig, 2018) shows that 7097 known living languages are spoken today. According Crystal's estimation (2003), about one-third of the people are in the world monolingual. Millions of Americans identify as monolingual. However, there are about two-thirds of the people in the world bilingual or multilingual.

Many scholars such as Weinreich (1968), Mackey (1968), and Fishman (1968), approached bilingualism by analyzing how different languages perform different social functions. Weinreich (1968) argued that any proper study of language contact had to take into account not only linguistically internal facts, but also descriptions of the

communities in which two or more languages were spoken, while Mackey (1968) and Fishman (1968) are also devoted to sociology of language. Heller (2007) believes that the structural-functional approaches have been extremely productive, analyzing advantages and disadvantages of specific forms of bilingualism for specific groups. Structural-functionalism revealed how languages are understood as whole systems associated with whole societies. For this project, I am focusing on Mandarin bilingualism and Mandarin bilingual education: how Mandarin bilingualism is influenced by globalization; what Mandarin bilingual education's current situation is in the United States.

### **Mandarin Bilingualism and Globalization**

In the United States, globalization plays an important role in Mandarin bilingualism. With globalization and the new economy, migration and the expanded and rapid circulation of information have made bilingualism a crucial topic of economic, political, social and educational concerns (Heller, 2007). This section will analyze globalization that has particular significance to bilingualism from four perspectives: transnational migration, cultural hybridization, international trade market and the Internet.

**Transnational migration.** Globalization brings significant shifts in population. There are more and more people moving from one country to another for a better life, which include immigrants, migrant workers, refugees, asylum seekers, international students, tourists, and others. Chinese immigrants are the third-largest foreign-born group in the United States, after Mexicans and Indians. In 2016, the U.S. population of Chinese immigrants reached 2.3 million, which is approximately five percent of the whole immigrant population (U.S. Census Bureau, 2010). This field project will collect data

from the city of San Francisco. For example, San Francisco is home to at least 240,000 Chinese American residents, which is about 5.3 percent of the total population Chinese in San Francisco. San Francisco has the highest percentage of Chinese-American residents and the second largest Chinese-American population in the United States (U.S. Census Bureau, 2011).

The motivation of transmigration is a variety of economic, political, and educational factors in the host and home countries. The first boom of Chinese immigrants coming to the United States was during the California Gold Rush in 1850's. They were eager to leave their impoverished homeland for the chance of riches across the Pacific Ocean, so they came to the United States (Meissner, 2013). Most of them entered the United States through San Francisco and worked in agriculture and mining during the Gold Rush. Thus, California, especially the Bay Area, as the entry point to the U.S., has a large population of Chinese immigrants.

As population shifts, language also shifts and maintains among immigrants and their next generations (Shin, 2013). Immigrants bring their home languages to their new country, which promotes the spread of languages and additive bilingualism for other people. Additionally, in order to maintain their next generations' bilingualism, they build educational institutions to teach their home languages. This explains why the first Chinese immersion school in the U.S. was established in San Francisco in 1981, called Chinese American International School (Weise, 2013).

**Cultural hybridization.** Popular culture, such as music and movies, flows easily across national boundaries in a globalized world (Shin, 2013). Pennycook (2007) agrees that popular music is a clear illustration of transcultural flows where global and local

languages mix to create new language and art forms. McKay and Bokhorst-Heng (2008) also believe that music can be an aspect of the mass media that provides motivation for learning a language. In the United States, Chinese singers, such as Leehom Wang, Wilber Pan and Coco Lee, are influential, spreading their music with Mandarin lyrics, which can encourage people to learn Mandarin and, therefore, promote Mandarin bilingualism.

When Victoria's Secret 2017 fashion show in Shanghai invited the Chinese singer Jane Zhang to perform, she appealed to many fans from the United States (Haddad, 2017), which is also a good opportunity to promote additive Mandarin bilingualism in the United States. Chinese movie actors and actresses, such as Zhang Ziyi, and Jackie Chan who received an Honorary Award at the 2016 Governors Awards, also promote Chinese culture, as well as Mandarin bilingualism.

**International trade market.** Robertson (1995) defines "glocalization" as the combination of globalization and localization, a term used to refer to the modification of a global product to meet local needs and norms, thereby making it more marketable in various parts of the globe. Shin (2013) claims that bilingualism sells. People try to sell goods and services in more than one language, so they need bilingual advertising. With the significant development of China's economy, many American companies, want to enter China's market, sell their goods and services to Chinese people, and profit from them, so these companies hire more Mandarin-speaking employees and offer Mandarin classes for non-Mandarin speakers. Additionally, many stores in the United States, such as Macy's and Bloomingdales in San Francisco, especially in the cosmetics department, have at least one Mandarin-speaking staff at each counter, while non-Mandarin-speaking

staff also learn some key words or phrases in Mandarin, to sell goods to Chinese customers, particularly Chinese tourists in San Francisco who go shopping there.

**The Internet.** Fairclough (2006) claims that an important part of contemporary globalization is the globalization of modern information and communication technologies and new media. The new technologies and new media include television, video, the Internet and mobile telephones, and so on, out of which the Internet has boomed rapidly. People communicate on the Internet in various languages. According to the data of Miniwatts Marketing Group (2017), English is used most often, 25.3% of total Internet use in the world, while Chinese, also known as Mandarin, follows behind, 19.8% of total Internet use. However, between 2000 and 2017, Mandarin-use growth on the Internet was 2,286.1 %, while English was only 599.6%. While about 54.1 % of Mandarin speakers use the Internet, they communicate with people of other languages in Mandarin, which indeed helps some non-Mandarin speakers learn Mandarin and become Mandarin bilingual.

### **Mandarin Bilingual Education in the United States**

Academic and mass media headlines and reports commonly reference the phrase “China rising” (Kang, 2007), which reflects the increasing economic power and influence of China. From perspectives of China’s population, geography, economic growth and military power, China had become a major actor in the world. Duff (2013) claims that the Chinese language, Mandarin, also has been rising in visibility and importance due to its emerging status as a powerful, global language worldwide in recent years. More and more people, not only Chinese, but also speakers of other languages, want to learn Mandarin. The boom in learning Mandarin has led to Mandarin bilingual education.

The traditional definition of bilingual education is, in general, using two languages in education to make students bilingual and biliterate, while for language minoritized individuals, the purpose is to enhance comprehension and develop linguistic competence in a dominant language (Baker, 2011). However, García and Lin (2017) prefer to define bilingual education as the use of diverse language practices to educate. They claim that it is “diverse language practices” instead of “diverse languages,” because they believe that bilingual education is supposed to aim for citizens’ practical usage rather than simply for the bound languages. As its social justice purpose, bilingual education enables students to use the languages they learn for communicating and to be equal participants in multiple contexts and societies of practice. Fishman (1976) claims that bilingual education is good for majorities, minorities, language learning, and education. In this case, Mandarin bilingual education is good for both English-native-speaking students and Mandarin-native-speaking students, and also good for the acquisition of both.

Mandarin bilingual education in North America had the fastest growth in the past decade (Jiang, 2014). There are two main educational models in the United States to promote Mandarin bilingualism: developmental bilingual education and two-way dual language immersion programs.

**Developmental bilingual education.** Developmental bilingual education has students who are all native speakers of other languages, schooled in a majority language environment: English. In this school setting, students receive instruction in both majority language and minority language. This model enables language minority students to continue developing their home languages while learning a second language and



academic content (Shin, 2013). Language minority students receiving instruction in both their native language and English do better on English reading assessments than languages minority students instructed only in English at both the elementary and secondary levels (Francis, Lesaux, & August, 2006). However, students enter these programs with varying proficiencies in Mandarin and English. Some students can only speak Mandarin, but no English, while others were born in the United States and are already bilingual. This model cannot be counted as additive for promoting Mandarin bilingualism.

**Two-way dual language immersion programs.** Two-way dual language immersion programs in the United States typically involve both language majority students and language minority students, educating these students both in majority language and minority language (Baker, 2006), which is also what my field project is going to focus on. Lindholm-Leary (2016) claims that while Spanish-English dual language immersion programs are far more common than other language combinations, there is increasing interest in Mandarin-English programs in the United States. The goals of different programs are similar, which is to promote bilingualism, biliteracy and biculturalism, both academic achievement and cross-cultural competence for all students.

Lindholm-Leary (2016) introduces two major models of typical two-way dual language immersion programs, which is a 50/50 model and a 90/10 model. In the 50/50 model, students receive 50% of their instruction in the target language and the other 50% in English throughout all grades. In 90/10 programs, the target language is used for 90% and English for 10% of the instructional day in kindergarten. Later, instruction in English gradually increases through the grades until both languages are used for about half the

instruction, similar to a 50/50 program eventually. Specifically, about the Mandarin two-way dual immersion programs, Lindholm-Leary (2016) noticed that the ratio in kindergarten is usually 80/20 rather than 90/10, though they still add English during the instructional day through grades K-6 until reaching 50/50.

Lindholm-Leary (2016) researches on students' perceptions of bilingualism in Spanish and Mandarin two-way dual language immersion programs to ascertain student outcomes in these programs. Students rated their language proficiency skills in both languages and also indicated how bilingual they perceived themselves to be. They were also asked about how they regard their bilingualism, to study their perspectives on bilingualism and cognition. In terms of students' perspectives on bilingualism and social relationships, they were also asked about this and also how comfortable they are speaking Spanish/Mandarin in public.

The results show that students in two-way dual language immersion programs had developed language proficiency skills in both languages, view themselves as somewhat or very bilingual. In terms of bilingualism and cognition, they contend that they can think about information across languages; they can translate from one language to another; they can think in different or more creative ways across languages because they are bilingual; and their bilingualism gives them more confidence to do well in school. They have positive attitudes toward the languages and speakers of the target language and enjoy participating in the programs (Lindholm-Leary, 2016).

Mandarin bilingualism has become a global phenomenon because of the development of China's economic and political power. Globalization provides a lot of opportunities to promote Mandarin bilingualism in the United States, through

transnational migration, cultural hybridization, trade market, and the Internet, which also promoted the development of Mandarin bilingual education in the United States.

Different models of Mandarin bilingual education, especially the two-way dual language immersion program, were shown in different research as good ways to promote additive Mandarin bilingualism and where students would benefit in both language proficiency and culture competence.

However, since Mandarin bilingual education has not been implemented for long in the United States, clearly, even though there are theoretical foundations adapted from programs of other languages and western scholars, there is still great need for research that builds up more professional and concrete materials to be used in Mandarin bilingual education programs.

### **Tone Identification and Training on Tone Identification**

#### **Tone Identification Ability**

In the study of Lee, Tao, and Bond (2010), forty adult Mandarin Chinese language students participated, and all of them were non-native speakers taking Mandarin classes at Ohio University. They were divided into groups based on the years of Mandarin learning. There were 24 first-year students, which included 10 females and 14 males. There were 10 second-year students, which included three females and seven males. There were six third-year students, which included two females and four males. They were asked to listen to a recording in standard Mandarin which included twelve minimal tone pairs of syllables with all six tonal contrasts as shown in Table 1.

While the participants were listening individually, they were also asked to identify the tone of each syllable by pressing buttons “1”, “2”, “3”, and “4”, which represented

the four Mandarin tones. The researchers collected data on the participants' accuracy and reaction time.

Tonal contrasts	Syllables
1-2	星 xīng, 行 xíng; 喝 hē, 合 hé
1-3	西 xī, 洗 xǐ; 妈 mā, 马 mǎ
1-4	司 sī, 四 sì; 高 gāo, 告 gào
2-3	完 wán, 晚 wǎn; 由 yóu, 有 yǒu
2-4	十 shí, 是 shì; 人 rén, 任 rèn
3-4	打 dǎ, 大 dà; 美 měi, 妹 mèi

Table 1 - Tested Tonal Contrasting Syllables in Lee, Tao, & Bond (2010)'s Research

According to the results, tone 2 identification accuracy was lowest among all three groups, compared to tone 1, tone 3, and tone 4. Additionally, tone 2 had the longest average reaction time compared to others. Lee et al. (2013) claims that both the accuracy and reaction time analyses showed that Tone 2 was the most difficult tone to identify for these participants. The data also revealed that for all three groups, the most common error was to identify tone 2 as tone 3, which is called tone 2-tone 3 confusion. However, there was not much error in identifying tone 3 as tone 2. According to previous studies, tone 2-tone 3 confusion has been noted for both native and non-native listeners (Blicher et al., 1990; Shen & Lin, 1991; Whalen & Xu, 1992; Gottfried & Suiter, 1997; Wang et al., 1999). In Lee et al.'s study (2013), for the first-year and second-year groups, there is also tone 1-tone 2 confusion, which means identifying tone 1 as tone 2, but not vice versa.

The reaction time data improved the validity of the study, and the materials covering all different tone contrasts were very complete. However, there were some weaknesses in this study. The size of the second-year group and the third-year group was too small and the ratio of the females and males was not balanced in each group nor consistent among the three groups, which made it hard to generalize their conclusion. The number of syllables in the materials is not big enough, either. Additionally, in the materials, there were two pairs of same onset “x”, two pairs of same onset “m”, two pairs of same rhyme “a”, three pairs of same rhyme “i”, which gave the study more variables than tones. For example, the reaction time might also be influenced by the participants’ understandings of different onsets and rhymes. For this reason, the materials could be simplified into single onsets and single rhymes, which controls the other variables. Or, the materials could cover different pairs of syllables, which could be pairs with same onsets and same rhymes, pairs with same onsets and different rhymes, pairs with different onsets and same rhymes, and pairs with different onsets and different rhymes.

Lin, Wang, & Shu (2012) consider these different conditions in their study, which took place in China with 83 young Chinese children who are monolingual native Mandarin speakers. They were separated into two groups by age, including a five-year-old group with forty-three participants (19 boys and 24 girls) and a seven-year-old group with forty participants (17 boys and 23 girls). In this study, the participants were asked to listen to materials which had many syllables and covered four conditions as mentioned in the paragraph above: same onsets and same rhymes, same onsets and different rhymes, different onsets and same rhymes, and different onsets and different rhymes. The participants would hear three syllables at one time and they needed to pick out which one

of them did not share the same tone with the other two by pressing the buttons “1”, “2”, and “3”, which stood for the order of the syllables. The researchers collected the data of participants’ accuracy and calculated means, SD, *p*, and Cohen’s *d*.

According to the results, both groups performed best on same onsets and same rhymes condition, compared to the other conditions. Both groups had the lowest accuracy on the same onsets and different rhymes condition, compared to the other conditions. To make the interaction among three variables (age, onsets, and rhymes) clearer, researchers paired the conditions and had the comparisons between them for each age group.

The results showed when the rhymes were the same, accuracy was significantly higher when the onsets were the same than when the onsets were different; when the rhymes were different, there was no significant difference in performance whether the onsets were the same or not. When the onsets were the same, children performed significantly better when the rhymes were the same than when the rhymes were different; when the onsets were different, there was no significant difference in accuracy regardless of whether the rhymes were the same or not. These comparisons revealed that the rhymes are more important than the onsets in facilitating tone processing for young Chinese children, which was mentioned by Tong et al. (2008) as “vowel interference effect.” In this study, it was also called “rhyme interference effect.” A similar pattern of results was observed in both the five-year-old group and the seven-year-old group. However, the seven-year-old group outperformed the five-year-old group across all conditions, which showed that the growth of metalinguistic awareness and exposure to literacy might play an important role in the development of tone processing skills.

In the study by Lin, Wang, and Shu (2012), compared to the study by Lee, Tao, and Bond (2010), there were more participants, which made this study more valid. The materials also considered the different conditions of onsets and rhymes and researched the effects of onsets, rhymes, and ages, the three-way interaction on tone identification. However, the stimuli used in the tone identification test was not broad enough. There were 12 items under each condition. An example of condition 1 is shown in Table 2.

Target (To pick)	Disturbances (Out of)	Number
Tone 1	Tone 2	2
Tone 1	Tone 3	0
Tone 1	Tone 4	1
Tone 2	Tone 1	2
Tone 2	Tone 3	1
Tone 2	Tone 4	0
Tone 3	Tone 1	0
Tone 3	Tone 2	1
Tone 3	Tone 4	2
Tone 4	Tone 1	1
Tone 4	Tone 2	0
Tone 4	Tone 3	2

Table 2 - Stimuli Used in Condition One in Lin, Wang, and Shu (2012)'s Research

Similar issues were noticed in Condition Two, Condition Three, and Condition Four. Apparently, the items were not balanced under each condition and they did not include all different kinds of tone contrasts which the study of Lee, Tao, and Bond (2010) did. They were not consistent among different conditions.

The study by Ding, Liu, McBride, & Zhang (2014) also shows that the Pinyin invented spelling task can be used to distinguish students with reading disabilities from those without reading disabilities and syllables with tone sandhi are more difficult for students than those without tone sandhi.

In the studies about tone identification, there are several different research methods that can be applied to a practical field of work. Teachers can use them to simply test students' tone identification abilities, or to determine students' confusion among different tones, or to connect tone identification to onsets and rhymes, so that teachers will be able to evaluate how students perform and which tones need training. After this, teachers can focus on the most confusing and challenging part while teaching and providing more related practice for students to do the specialized training.

### **Training on Tone Identification**

In Wang's study (2013), the experiment examined whether training is effective on perceptual learning of Mandarin tones for beginning level Mandarin learners and whether trainees' L1 background influences the effects of training. The same student population that took the perception test in the first experiment was separated into three groups of their own choice. Ten students were in the A group, which received perception training with auditory input only, using four-way forced-choice identification tasks with immediate feedback. Eight students were in the AV group, which received perception and production training with auditory and visual input. Besides perception training, trainees in this group recorded their own production of the target tone, saw the visual pitch contour instantly displayed, and compared their output with the target sound. Ten students were in the C group, which did not receive any training but took the same Chinese language course during the time of the study and served as the control group. Their performance in the first experiment was regarded as their pretest. After a week of training, all groups took a posttest and a generalization test.



The tone identification scores showed significant differences on the posttest and generalization test between the AV and C groups, and between A and C groups, but not between the A and AV groups. Both training groups improved significantly from pretest to posttest and outperformed the control group on the posttest and generalization test in their perceptual accuracy of the four Mandarin tones. However, the differences between the A group and AV group were not significant.

To further investigate the effect of training and L1 background, Wang (2013) organize the data by separating 15 trainees into two groups, which was H group formed by eight Hmong speakers and JE group formed by three Japanese speakers and four English speakers. Individual trainees' data suggested the overall majority of the trainees improved at identifying Mandarin tones after training regardless of their L1 background. From pretest to posttest, the H group had significant improvement for tone 1 only, while the JE group had significant improvement for tone 1 and tone 2.

Wang's study (2013) presents two different training methods of Mandarin tone identification and showed evidence that they were effective for learning Mandarin tones regardless of the trainees' L1 backgrounds. However, the sizes of the groups in this study were too small. The participants were not randomly separated. The comparison between the H group and the JE group was questionable, since the H group performed much better than the JE group in the pretest. The two groups started from different standards that had a gap, so most of the data was not comparable.

Liu et al. (2011) conduct a study which was also about training listeners to perceive tones. Thirty-five non-native speakers who were enrolled in their first semester of an introductory Chinese language course at a U.S. university were the participants in

this study. They were separated into three training conditions: 10 trainees in the Contour + Pinyin condition, 16 trainees in the Number + Pinyin condition, and nine trainees in the Contour Only condition. In the Contour + Pinyin condition, trainees received visual pitch contours that depict the acoustic information of the tones, together with Pinyin spelling of the spoken syllable. In the Number + Pinyin condition, trainees received numerical numbers that represent type tones as used in many online interfaces, together with Pinyin spelling of the spoken syllable. In the Contour Only condition, trainees received visual wave forms but without Pinyin spelling. The materials used in this study were three types of syllable pairs: same onsets and rhymes, same rhymes and tones, different onsets and rhymes.

According to the learning curves and model estimates of the learning curves, the mean errors showed a pattern of Contour Only > Number + Pinyin > Contour + Pinyin. Trainees under the Contour Only condition made significantly more errors compared to the Contour + Pinyin condition. Absolute slope values were ordered as Number + Pinyin > Contour + Pinyin > Contour Only. There was a significant difference between the slopes of Contour + Pinyin condition and the Contour Only condition. By comparing the accuracies of tone judgment task between the Contour + Pinyin method and the Number + Pinyin method, the pretest accuracy of the Contour + Pinyin condition was lower than the Number + Pinyin condition and the posttest accuracies of both conditions were about the same. For different types of stimuli, students had the highest accuracy rates on the syllables with same onsets and rhymes. This was the same conclusion as Lin, Wang, & Shu's study (2012). The data also showed that the participants had higher

accuracy across all different types of onset and rhyme arrangement on the posttest than the pretest.

This study showed three methods of training on Mandarin tone identification and also mentioned online tutor and the hint system and feedback. The three methods will all be utilized in my project. This study assessed not only the training methods, but also analyzed the different types of onset and rhyme arrangement. However, there was only the same onset and same rhyme type, different onset and same rhyme type, and different onset and different rhyme type. The same onset and different rhyme type was not presented. The number of participants in each group was small. Finally, the participants were not randomly assigned to training conditions.

Even though there have not been many studies directed at training listeners to perceive tones, the methods of Mandarin tone identification training provided by these studies are very valuable and can be applied to a practical field of work. After teachers determine how well students perceive Mandarin tones or specific tones that need training, they can use these methods to provide training.

So far, all the studies indicated Mandarin tone identification is important for Mandarin Chinese language learners. As shown in the reviewed studies, L1 backgrounds, confusion among different tones, and onset and rhyme arrangement are all factors which affect students' performance on Mandarin tone identification. To solve these issues, training on tone identification have been shown to be effective and helpful in these studies. Specific methods of training can be chosen from the ones provided by the studies depending on the resources available in specific environments, which is a very valuable

point to consider for my own project. Ideally, I will utilize the resources I have available to make my own project complete and comprehensive.

## CHAPTER III THE PROJECT AND ITS DEVELOPMENT

### **Brief Description of the Project**

This field project is a curriculum of Mandarin tone teaching. This project is for second grade and third grade teachers who teach Mandarin Chinese as a foreign language in immersion programs in the Bay Area. For second grade teachers, this project can be utilized when the students start learning Mandarin Pinyin. Third grade teachers can use this project when the students need to review Mandarin tones. The curriculum is a handbook aimed at teaching Mandarin tones as a cognitive skill, which would help the teachers support students' tonal speaking and listening abilities. The handbook includes lesson plans, homework, extension work, and assessment. Art and musical elements, such as pictures, musical instruments, rhyming songs, hand gestures and body languages, are built into this project.

This curriculum consists of five sample lesson plans. Following Anderson (1996, 2005)'s "three-stage" model of cognitive theory, these five lesson plans include introducing Mandarin tones; presenting characteristics, facts and rules of each tone; practicing pronouncing each tone; and connecting to Mandarin characters to distinguish their tones. Students are expected to be on the cognitive stage in Lesson One and Lesson Two, where students are expected to memorize the rules and facts of different tones. Students then get to the associative stage in Lesson Three and Lesson Four, where they are expected to identify different tones and pronounce all tones correctly. Finally, students will reach the autonomous stage by the end of Lesson Five, where they are expected to connect tones with Mandarin characters and distinguish tones of the characters they have learned. However, this curriculum is just a sample. I only made five

sample lessons because this proposed field project is only an introduction to Mandarin tones, along with the most basic six Mandarin Pinyin vowels, a, o, e, i, u, ü. To make the final goal for students to naturally speak with correct tones without looking at the Mandarin characters or Mandarin Pinyin, more practice is definitely required. Practice and relevant activities should be repeatedly operated in the classroom through the whole process of learning Mandarin Pinyin.

### **Development of the Project**

The main reason to create this project is to draw more attention to the importance of Mandarin tones in teaching Mandarin Chinese as a foreign language. I decided to focus on this aspect of Mandarin teaching because of my personal experiences as a teacher. As a teacher in a Mandarin immersion school, I have witnessed many students speaking Mandarin Chinese with wrong tones. The inaccuracy of Mandarin tones leads to a lot of misunderstandings, because, as stated before, in Mandarin, the same Mandarin Pinyin spelling spoken with different tones can indicate completely different Mandarin characters with totally different meanings. One tonal mistake of a character can change the meaning of the whole sentence. In this field, whether students can learn about tones also depends on which class they are in and which teacher they get. Some teachers mention tones in second grade, while some teachers do not. Some students in the field never learn about tones until third grade or might not ever get a chance to learn about them.

In the spring 2017 semester, I enrolled in a seminar in the School of Education at the University of San Francisco, called Research in First and Second Language Acquisition. During this seminar, I conducted research on the Mandarin tone

identification abilities of third grade students. Participants included 22 third-grade students enrolled in a Mandarin immersion program at Presidio Knolls School in San Francisco. These participants had English as their L1 (first language). Some of the participants spoke Spanish or Cantonese as an L2 (second language) at home. I conducted an assessment as a pre-test. The assessment had 24 syllables pronounced on audio tape. Students were asked to listen to the audio tape and identify the tone of each syllable they heard. Results indicated that almost 60% of participants did not identify all tones correctly in the pre-test. The low scores implied that students did not get specific training and resources about Mandarin tones, which could be linked to an incomplete curriculum of Mandarin Chinese tone teaching in the field.

As part of my research in the seminar, I provided short-term training, including reading together with hand gestures and watching relevant videos, to half the participants over the course of three days. After the training, I then conducted a post-test with exactly same content as the pre-assessment. Post-test results revealed that the training group had more significant improvement than the controlled group, which indicated that training was necessary and helpful. The decision to create this field project originated from the realization of how poorly students performed the Mandarin tonal skill, the lack of Mandarin tone teaching within the curriculum; and the potential improvements that could be made with Mandarin tonal skill training could make. Therefore, I created a specific Mandarin tone teaching curriculum for classrooms to support students' Mandarin tonal speaking and listening abilities.

### **The Project**

(The project in its entirety can be found in the appendix.)

## Components of the Lesson Plan

**Learning goals.** Learning Goals presented at the start of each lesson plan is for teachers to keep in mind as they move through all lesson plans. As Anderson's "three-stage" model describes, Learning Goals refer to the cognitive, associative and autonomous stages of students' tonal skill acquisition. From the Learning Goals section, teachers can get a clear understanding of the expectations and also easily determine students' learning progress, so that teachers can decide whether they need to quicken the teaching pace and proceed to the next stage or slow down and build up more from the previous stage.

For example, the Learning Goals of Lesson Five is, "students will connect the learned vowels to characters they know; students will be able to distinguish the tones of the characters." By the end of this lesson, students are expected to be able to reach the autonomous stage. Through practicing tones not only in Mandarin Pinyin settings, but also with real Mandarin characters, students will be able to distinguish the tones of Mandarin characters they have learned and will read them aloud with the correct tones. With this expectation, teachers should observe students' progress with this lesson. If students are unable to reach the autonomous stage, teachers should provide more practice to build up on their associative stage and then try again for the autonomous stage later.

Therefore, the Learning Goals section is a very important part of the lesson plans I created. If more relevant Mandarin tone teaching lesson plans are created, the Learning Goals section should also be put at the start of each lesson plan. Moreover, when teachers set the learning goals for these lessons, it is strongly recommended that they follow



Anderson's "three-stage" model. For additional resources of Learning Goals, see appendix Lessons One to Five.

**Materials and preparation.** I placed the Materials and Preparation section at the start of every lesson plan so that teachers can prepare materials before class starts. Some materials must be printed, cut or sorted in advance, and tools are not always found in a regular classroom setting and must be borrowed from other places before class. If teachers can get all materials prepared before class, they will be able to go through each section more smoothly and save time, instead of making everything from scratch.

Taking the Materials and Preparation section of Lesson Two as an example, "pictures, cards and musical instruments (better with string instruments, such as violin or Erhu), or online or computer music software (e.g., Apple Garage Band) if musical instruments not available," are required for this lesson. Pictures need to be color-printed or drawn on a poster in advance. Cards are for activities during class, that need to be printed, cut, and sorted by sets. Musical instruments are usually not in a regular classroom setting, so teachers need to borrow them from a music class. If teachers are unable to get the musical instruments, an alternative solution could be to get several iPads and download the App "Garage Band" before class. With these materials prepared, teachers can use the picture for the Review section. When transitioning to the Demonstration section, teachers can quickly pick up the musical instruments or iPads and demonstrate with them. There are also enough devices for teachers to hand out to students and have the students play with them. When entering the Activity section, students can quickly start doing the activity with the sets of cards ready to be handed out quickly.

The clear list of materials and preparation can really help the lesson transition from section to section quickly and save time. If more relevant lesson plans are created, the Materials and Preparation section is recommended to be put at the front of each lesson plan to help the lesson go more smoothly and save time. For additional resources of Materials and Preparation, see appendix Lessons One to Five.

**Review.** Starting class with the Review section enables teachers to help students quickly transition from prior class into the Mandarin session and focus their attention. Additionally, reviewing what students have previously learned, at the beginning of the class, is also helpful for laying a good foundation for beginning the new learning goal. Since the learning goals of classes are usually buckled ring by ring, the new learning goals for this lesson usually need to be built up on what students have learned previously, which students might have forgotten and, therefore, need to be reminded. The Review section is a good chance for teachers to remind students of these.

Take the Review of Lesson One as an example. “Ask students if they remember how to read and write Mandarin vowels: a, o, and e. Ask students to read the vowels together.” Students are assumed to have learned the vowels a, o, and e, in the previous lesson. During this lesson, Mandarin tones are going to be introduced for the first time. Mandarin tones have to go with the vowels in Mandarin, because the tones are always attached to the vowels in Mandarin Pinyin. Therefore, getting familiar with the vowels can be a very good foundation for learning tones. It is crucial that students review the vowels, so that when the tones are introduced, they can feel comfortable focusing on pronouncing the tones without hesitating at the pronunciations of the vowels.

The Review section is an essential part of the entire lesson plan, because it builds the foundation for the new learning goals of the lesson. The Review section gets students emotionally and academically ready for class. If more relevant lesson plans are created, the Review section is definitely necessary at the beginning of each lesson. For additional resources of the Review section, see appendix Lessons One to Five.

**Introduction.** After the Review section, teachers should introduce what students are going to do and learn during this lesson. As the Review part has already helped students settle down and get ready for the lesson, the Introduction section is for teachers to help students clearly understand what they are going to do and learn and, at the same time, to attract students' attention and interests to focus and engage.

In the Introduction section of Lesson Two, teachers should tell students that for this lesson, they will use their own hands to play the musical instruments (or iPads) and make the different sounds of the different tones. With the introduction, students are able to know what is happening and what they are expected to do during this lesson. They will first watch and listen to the teachers' demonstration and then each get a musical instrument (or iPad) to explore. Students should remember that what they need to pay attention to is the key changing process of each tone, whether the key is going higher, lower, lower then higher, or not changing at all. After these, students will do group activities for 10 minutes, and then reconvene to close the lesson. Thus, students will be able to go through sections smoothly. At the same time, this introduction also sounds interesting to students, since the activity they are going to do is creative and fun. Many students will be interested in exploring the musical instrument (or iPad), so they will look forward to the activity, focus on teachers' instructions and engage in the lesson.

The Introduction section is a necessary part for teachers to keep students interested in the lesson and motivate them to engage in it. The Introduction section helps students understand the lesson plan and go through sections smoothly. If more relevant lesson plans are created, the Introduction section is recommended at the beginning of the lesson. For additional resources of the Introduction section, see appendix Lessons One to Five.

**Demonstration.** Demonstration is the most important part of the whole lesson plan, because it is when students really learn the new skill. Only when students understand the demonstrations, will they be able to practice the skill and apply it to the next sections, such as group activities and homework. What teachers need to keep in mind is that Mandarin tone teaching is very phonetic. This project for Mandarin tone teaching curriculum is written in words, without sounds to be heard or movements to be seen, so the teaching effectiveness can be limited to a great extent. However, teachers who want to apply this project to the field, must not only utter the written words. Lecturing only by speaking is definitely not enough. Instead, in the Demonstration section, teachers should take advantage of multimedia to make the lesson more interesting and also, more importantly, easier for students to understand. The sounds of different tones are absolutely the main part for students to pay attention to. For students who prefer visual learning or who are not able to tell the difference only by hearing, pictures are helpful for them to see how the sounds change during pronunciation. Hand gestures and body languages are also recommended for teachers to demonstrate with, since they are visual and dynamic also. Moreover, teachers should encourage students to

try the hand gestures and body languages together, in order to support students to feel and remember the changes of the sounds of different tones, with their own body.

For example, in the Demonstration section of Lesson One, this is the first time that Mandarin tones are introduced to students. According to Anderson's "three-stage" model, this is the cognitive stage when students learn about the facts and rules of the skill. As stated previously, teachers should keep the learning goals in mind while going through the lesson plan. Learning goals for Lesson One include students getting a preliminary understanding of Mandarin tones: what Mandarin tones are; how they sound like; what the characteristics of each tone are. Students do not have to remember all the facts and rules of Mandarin tones, but this lesson should introduce them to students and help students become a little familiar with Mandarin tones.

The demonstrations of Mandarin tones start from Tone 1: "When pronouncing Tone 1, try using your highest key to read and keeping it until the end. Reading Tone 1 is like a soprano singing." Merely reading the text description can make the instructions very dry and difficult to understand. Thus, teachers need to use the picture to show what "using highest key and keeping it until the end" means. In the picture, Tone 1 starts from the highest key level five and stay on level five until the end. There is no key changing process in Tone 1, so the key changing process manifests as a flat line in the picture. Teachers should also use hand gestures going flat to reveal this line as the key changing process. To make the demonstration more interesting and impressive, teachers can also imitate sopranos singing the vowels "ā, ō, ē" with the hand gestures. This action can be a little exaggerated, but it will make the demonstration easier for students to remember.

After the demonstration, teachers should certainly invite students to try pronouncing Tone 1 by themselves, while teachers can check and correct the flawed pronunciations.

Take the demonstration of Tone 4 in Lesson One as another example. The text description of Tone 4 in this project reads, “This tone is going down, which is like when you say “no!” or “hey!” in English. The tones are similar.” In the picture, Tone 4 starts from the highest key level five and then quickly descends to the lowest key level 1. The key changing process is observed as a steep line going down from left to right in the picture, so when teachers demonstrate with hand gestures, they can do it from top left to bottom right to show the key changing process of Tone 4. Teachers can ask students to say “no!” and “hey!” because Tones 4 sounds very similar to them. Teachers then can ask students to close their mouths and use “hmm” to retry, so that they can feel only the tone. Finally, teachers should encourage students to try pronouncing the Tone 4 with the vowels “a, o, e,” while teachers can check and correct the weak pronunciations.

Through the Demonstration section in Lesson One, students should be able to have a preliminary understanding of Mandarin tones and know how the tones sound like and what characteristics each tone has. Therefore, students can smoothly go into the next section, such as group activity, to apply what they have just learned and practice. The preliminary understanding they acquire from the Demonstration section should also be able to support them when they are doing their homework.

The Demonstration section as the core of the whole lesson plan, utilizes multimedia, such as lectures, pictures, hand gestures and body language, to teach students the skill in an interesting and impressive way. The Demonstration section helps students learn the skill and also be able to proceed to the next sections. If more relevant lesson

plans are created, the Demonstration section is strongly recommended for teachers to give the most attention to. For additional resources of the Demonstration section, see appendix Lessons One to Five.

**Activity.** The Activity section is a quick follow-up of the Demonstration section. It is a chance for students to apply what they have just learned from the Demonstration section and practice the skill. In the field of this project, students have a daily routine of reading assigned books or writing weekly characters, so I only added one activity related to Mandarin tone practice. During the Activity section, students are divided into two or three groups, of which one group does the Mandarin tone-related activity, while the other groups do the daily routine task. Groups rotate every day, so that every student can get a chance to do each group activity at least once in three days. The activities I created for this project are primarily very basic practice. Teachers can differentiate the work if needed.

There are three activities in Lesson Three: Group One reads assigned books; Group Two practices writing weekly characters; Group Three does Mandarin tone practice activity, which requires students to be paired up. Each pair of students get one a-o-e blank sheet and one deck of a-o-e cards. Players first shuffle the cards and then take turns to draw the cards. Players read aloud the vowels with tones on the cards they draw and put the same vowels together in tone order. This game can be played either collaboratively as introduced, or competitively, if each player gets one a-o-e blank sheet and races to the first one completing the sheet with cards. It is recommended that teachers pair up students who are at about the same level, so that they can enjoy the game better. Lower-level students should start from the collaborative version and practice for several

times, while higher-level students are recommended to challenge the competitive version of this game.

The Activity section as the Demonstration section's follow-up, is designed to provide students a chance to "strike while the iron is hot," which means to practice right after learning a new skill. The Activity section helps students use the skill in a practical way. If more relevant lesson plans are created, the Activity section is recommended to be designed in a practical, fun manner and to follow the Demonstration section. For additional resources of the Activity section, see appendix Lessons One to Five.

**Closing.** The Closing section is the last section of a lesson, where teachers bring students back together and review what they have learned. By reconvening students, teachers can get them ready for transition to the next class. By reviewing what students have learned in this lesson, teachers can determine how much this lesson has been taken in by students and whether students make the learning goals for this lesson. Teachers then can decide whether they should give students more time to practice or students are ready to move on to the next learning goals.

For example, in Lesson Two, the Closing section reads, "Bring students together" and then "Give students clues of a tone and ask students to try to guess which tone it is," such as "Which tone is it that goes up, climbing a hill?" "Which tone is it that falls down all the way?" "Which tone is it that first down, then goes up?" and "Which tone is it that is flat, high, left to right?" By the end of Lesson Two, students are expected to be on the "cognitive stage" and close to the "associative stage" (Anderson, 1996, 2005). Students should be able to memorize all the facts and rules of the skill at this time. Here, students should be able to distinguish different tones' characteristics. Thus, teachers can review



these characteristics of different tones with students to see how much they have memorized and whether they are ready to proceed to the next stage. If students are ready, teachers can continue the lesson and go to Lesson Three. However, if students are not yet ready for the next stage, teachers should pause and give them more time to practice this stage.

The Closing section is the final section of a lesson and also a chance for teachers to determine students' learning effectiveness and whether this lesson has achieved the learning goals. If more relevant lesson plans are created, the Closing section is recommended to be designed as the end of a lesson, brief but with key points of the lesson. For additional resources of the Closing section, see appendix Lessons One to Five.

**Homework.** Homework, as an after-school activity, is also a reinforcement of what students have learned during classroom lessons. Furthermore, homework can help students self-reflect on how much they have learned and understood from the lesson. At the same time, when teachers collect homework before the next lesson, they can also determine how much of last lesson has been taken in by students and whether they should move on to the next lesson or pause and practice this lesson more.

For example, the homework of Lesson Three is “Color the characters that are Tone 1 in red. Color the characters that are Tone 2 in green. Color the characters that are Tone 3 in yellow. Color the characters that are Tone 4 in blue.” After Lesson Three, students are expected to be on the “associative stage.” This homework is for students to practice the skill, reading the Mandarin characters with correct tones and identify each of their tones. Moreover, all Mandarin characters in this homework are from the lesson.

Their tones have been discussed and identified during the lesson. Students are going to do these again by themselves to reinforce the skill and self-reflect on their learning effectiveness.

The Homework section is the reinforcement of a lesson and also another chance for teachers to determine students' learning effectiveness and whether this lesson has reached its learning goals. If more relevant lesson plans are created, the Homework section is recommended to be designed closely connected to what was taught in the lesson. For additional resources of the Homework section, see appendix Lessons One to Five.

### **Extension Work**

The Extension work is provided as challenging work for differentiation of activity during class or homework, if needed. This section is called "extension" because the work is extended from the regular work in lessons. Since the regular worksheet includes basically only single syllables, one of the extension work has words instead of single syllables. For this extension work, students need to identify the tone combination of each word.

Since the Extension Work section is optional, teachers can decide whether to use them depending on students' needs. If more relevant lesson plans are created, the Extension work section is optional but recommended to make the lesson more progressive and able to meet different students' individual needs. For additional resources of the Extension work section, see appendix Extension work.

### **Assessment**

The Assessment section is designed for teachers to assess students' performance of the learned skill. The assessment provided in this project was adopted from Lee, Tao, and Bond's research (2010), which is easy to operate and also includes six different tonal contrasts. This assessment can show teachers how well students can perform the skill related to Mandarin tone identification. This assessment can also detect the weakness of students' performance, such as the confusion of contrasting two specific tones.

The Assessment section is also optional. The assessment is helpful for teachers to determine how well students can perform the skill and decide what the next step should be. If more relevant lesson plans are created, the assessment section is optional but recommended. For additional resources of the Extension work section, see appendix Assessment.

## CHAPTER IV CONCLUSIONS AND RECOMMENDATIONS

### **Conclusions**

Mandarin is more and more popular nowadays, worldwide, as influenced by China's increasing economic and political power. Mandarin bilingualism has become a global trend. In the United States, Mandarin bilingual education has also boomed in recent years. However, since the Mandarin bilingual education system in the United States has been founded for only 37 years, as stated earlier, there is still a great need for research that builds up more professional and concrete materials to be used in Mandarin bilingual education programs.

Among all the different perspectives of Mandarin teaching, Mandarin tone teaching and practicing has been largely ignored, which means some teachers do not cover tones during class at all. Many teachers want to introduce tones but lack materials to support such lessons. The lack of attention and materials for Mandarin tone teaching is why many students speak, read and listen without the correct tone pronunciation, which leads to a lot of misunderstanding. These factors informed my decision to create Mandarin-tone-focused linguistics materials. This curriculum will enable students to speak and read Mandarin with correct tone pronunciation and distinguish different tones while listening. Moreover, it will equip Mandarin teachers in the United States with more complete and effective sources and ease their mission to teach Mandarin. With this in mind, my expectations are that this Mandarin tone curriculum will fill in the gaps of tone teaching, which is currently lacking in the Mandarin teaching curriculum; eventually, everyone will be able to learn and teach Mandarin with enough attention to correct tones.

### **Recommendations**

This Mandarin tone teaching curriculum is recommended to teachers and administrators of Mandarin teaching programs in the United States, who have not taught about tone teaching during Mandarin teaching, or whose current curriculum does not contain tone-focused sources. My recommendation is that teachers who use this curriculum to teach students about tones and the role that they play in Mandarin. Teachers can do this through giving examples of Mandarin Pinyin spelling with different tones and different meaning. Since tone teaching and learning are very phonetic, musical elements will be very helpful in supporting this curriculum. This element can be incorporated through demonstrating the change of the key with musical instruments, preferably string instruments such as violin, erhu, etc. During this phonetic process, in order to help students learn how to distinguish different tones, it is recommended that teachers who use this curriculum encourage students to read aloud and think aloud while practicing different tones' pronunciation and trying to label given characters' tones. Teachers and curriculum developers can further develop and add to this curriculum through the addition of more lessons, and activities.

Mandarin tone teaching is a crucial part of Mandarin teaching. Correct Mandarin tone pronunciation is the foundation of correct Mandarin speaking for Mandarin learners. In order to end the misunderstanding caused by incorrect tones, educators who teach Mandarin as a foreign language in the United States should pay attention to students' Mandarin tone identification and pronunciation abilities. This field project is designed for supporting those educators. As a sample, this field project is strongly recommended to be utilized in Mandarin classrooms. The practice of Mandarin tone identification and pronunciation should be extended from this field project and be operated repeatedly so

that Mandarin learners can achieve the final goal: naturally speaking with correct tones without looking at the Mandarin characters or Mandarin Pinyin.

## REFERENCES

- Abrar-UI-Hassan, S. (2011). Language development hinges on communication: An emergentist perspective. *TESOL Journal*, 2(4), 510-520.  
doi:10.5054/tj.2011.269749
- Anderson, J. R. (1996). *The architecture of cognition*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Anderson, J.R. (2005). *Cognitive psychology and its implications* (6th ed.). New York: Worth Publishers.
- Baker, C. (2011). *Foundations of bilingual education and bilingualism* (5th ed.). Bristol: Multilingual Matters.
- Best, C. T. (1995). A direct realist view of cross-language speech perception. In W. Strange (Ed.), *Speech Perception and Linguistic Experience*. Baltimore, MD: York Press.
- Best, C. T., McRoberts, G. W., & Sithole, N. M. (1988). Examination of perceptual reorganization for nonnative speech contrasts: Zulu click discrimination by English-speaking adults and infants. *Journal of Experimental Psychology: Human Perception and Performance*, 14, 45–60.
- Cook, V. (2002). Background to the L2 user. In V. Cook (Ed.), *Second language acquisition: Portraits of the L2 user* (pp. 1-28). Clevedon, Great Britain: Multilingual Matters, Ltd.
- Crystal, D. (2003). *English as a global language*. Cambridge, UK; New York: Cambridge University Press, 2003.

- Ding, G., Perry, C., Peng, D., Ma, L., Li, D., Xu, S., ... Yang, J. (2003). Neural mechanisms underlying semantic and orthographic processing in Chinese–English bilinguals. *NeuroReport*, (12), 1557.
- Ding, Y., Liu, R., McBride, C., & Zhang, D. (2015). Pinyin invented spelling in Mandarin Chinese-speaking children with and without reading difficulties. *Journal Of Learning Disabilities*, 48(6), 635-645. doi:10.1177/0022219414522704
- Duff, P. (2013). *Learning Chinese: Linguistic, Sociocultural, and Narrative Perspectives*. Berlin: De Gruyter Mouton.
- Fairclough, N. (2006). *Language and Globalization*. New York, NY: Routledge.
- Fishman, J. A. (1968). *Readings in the sociology of language*. The Hague, Paris: Mouton, 1968.
- Fishman, J. A. (1976). *Bilingual education: An international sociological perspective*. Rowley: Newbury House.
- Flege, J. E. (1995). Second language speech learning: Theory, findings, and problems. In W. Strange (Ed.), *Speech Perception and Linguistic Experience* (pp.233–272). Baltimore, MD: York Press.
- Francis, D.J., Lesaux, N.K., & August, D.L. (2006). Language of instruction for language minority learners. In August, D.L. & Shanahan, T. (eds.), *Developing literacy in second-language learners: Report of the National Literacy Panel for Language-Minority Children and Youth* (pp. 365-414). Mahwah, NJ: Lawrence Erlbaum.
- García, O., & Lin, A. Y. (2017). Extending Understandings of Bilingual and Multilingual Education. *Bilingual & Multilingual Education*, 1.



- Hakuta, K. (2011) Educating language minority students and affirming their equal rights: Research and practical perspectives. *Educational Researcher*, 40(4), 163-174.
- Heller, M. (2007). *Bilingualism: a social approach*. Basingstoke [England]; New York: Palgrave Macmillan, 2007.
- Johnson, R., & Swain, M. (1997). *Immersion education: international perspectives*. Cambridge: Cambridge University Press.
- Kang, D. C. (2007). *China rising: peace, power, and order in East Asia*. New York: Columbia University Press, ©2007.
- Krashen, S. (1981). Second language acquisition and second language learning. Retrieved from:  
[http://www.sdkrashen.com/SL\\_Acquisition\\_and\\_Learning/index.html](http://www.sdkrashen.com/SL_Acquisition_and_Learning/index.html)
- Krashen, S. (1982). Principles and practice in second language acquisition. Retrieved from: [http://www.sdkrashen.com/Principles\\_and\\_Practice/index.html](http://www.sdkrashen.com/Principles_and_Practice/index.html)
- Lee, C., Tao, L., & Bond, Z.S. (2010). Identification of Acoustically Modified Mandarin Tones by Non-native Listeners. *Language and Speech*, 53(2), 217-243.
- Lin, C. Y., Wang, M., & Shu, H. (2013). The Processing of Lexical Tones by Young Chinese Children. *Journal Of Child Language*, 40(4), 885-899.
- Lindholm-Leary, K. J. (2001) *Dual language education*. Tonawanda, NY. Multilingual Matters.
- Lindholm-Leary, K. J. (2016). Students' Perceptions of Bilingualism in Spanish and Mandarin Dual Language Programs. *International Multilingual Research Journal*, 10(1), 59-70.

- Liu, Y., Wang, M., Perfetti, C. A., Brubaker, B., Wu, S., & MacWhinney, B. (2011). Learning a Tonal Language by Attending to the Tone: An in Vivo Experiment. *Language Learning*, 61(4), 1119-1141.
- Mackey, W. (1968). *The description of bilingualism. Readings in the sociology of language*, 554-584. The Hague, Paris: Mouton, 1968.
- Meissner, D. J. (2013). *Chinese Immigration to California*. Salem Press Encyclopedia.
- McKay, S.L. & Bokhorst-Heng, W.D. (2008). *International English in its sociolinguistic contexts: Towards a socially sensitive EIL pedagogy*. New York and London: Routledge.
- McMahon, A. S., & McMahon, R. (2005). *Language Classification by Numbers*. Oxford: OUP Oxford.
- Pennycook, A. (2007). *Global Englishes and transcultural flows*. London and New York: Routledge.
- Robertson, R. (1995). Glocalization: Time-Space and Homogeneity-Heterogeneity. *Theory Culture and Society*, 25-44.
- Sapir, E. (1949). *Language: an introduction to the study of speech*. New York: Harcourt Brace Jovanovich.
- Sebastian-Galles, N. (2005). Cross-language speech perception. In D. B. Pisoni & R. E. Remez (Eds.), *The Handbook of Speech Perception*. Malden, MA: Blackwell Publishing.
- Shin, S. J. (2013). *Bilingualism in schools and society: language, identity, and policy*. New York: Routledge, 2013.

- Simons, G.F., & Fennig, C.D. (2018). *Ethnologue: Languages of the World Twentieth edition*. Dallas, Texas: SIL International. Retrieved from:  
<http://www.ethnologue.com>
- Thomas, W. & Collier, V.P. (2002). *A national study of school effectiveness for language minority students' long-term academic achievement*. UC Berkeley: Center for Research on Education, Diversity and Excellence. Retrieved from:  
<http://escholarship.ucop.edu/uc/item/65j213pt>
- Vygotsky, L. (1986). *Thought and language*. Cambridge, MA: The MIT Press.
- Wang, X. (2013). Perception of Mandarin Tones: The Effect of L1 Background and Training. *The Modern Language Journal*, (1), 144. doi:10.1111/j.1540-4781.2013.01386.x
- Wang, X. (2013). Perception of Mandarin Tones: The Effect of L1 Background and Training. *The Modern Language Journal*, 97, 1, (2013), 144-160
- Weinreich, U. (1968). *Languages in contact: findings and problems*. The Hague; Paris: Mouton & Co., 1968.
- Weise, E. (2013). Mandarin Immersion School in the United States. Retrieved from  
<https://miparentscouncil.org/2013/11/20/mandarin-immersion-schools-in-the-united-states-in-2014/>
- Weise, E. (2017). Full U.S. Mandarin immersion school list. Retrieved from  
<https://miparentscouncil.org/full-mandarin-immersion-school-list/>

## APPENDIXES

Mandarin Chinese Tone Identification Training: a handbook for  
Second and Third Grade Teachers in Mandarin Chinese Immersion Programs

## Lesson One

### Materials and Preparation

Pictures and cards.

### Learning Goals

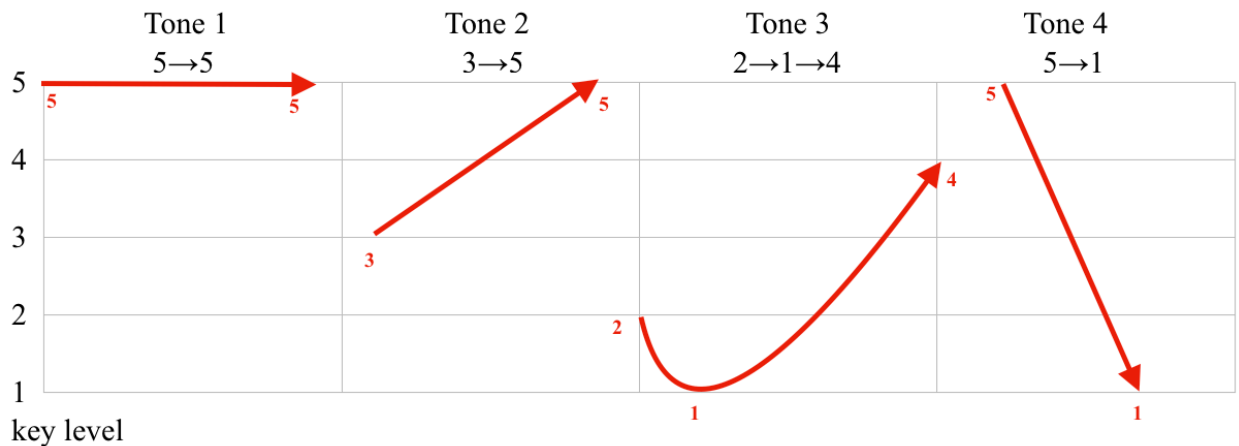
Students will have preliminary understanding of Mandarin tones.

### Lesson

#### Review and Introduction (10 minutes)

1. Ask students if they remember how to read and write Mandarin vowels: a, o, and e. Ask students to read the vowels together.
2. Introduce that besides the pronunciation, there is another big difference between English vowels and Mandarin vowels, which is tones.
3. Tell students that today they will learn how to read Mandarin vowels with their tones.

#### Demonstration (30 minutes)



1. Tone 1: When pronouncing Tone 1, try using your highest key to read and keeping it until the end. Reading Tone 1 is like a soprano singing. (Teacher

imitates sopranos singing “ā, ō, ē” with hand gesture going flat and invites students to try.)

2. Tone 2: This tone is going up, which is like when you say “what?” in English. The tones are similar. (Teacher models “á, ó, é” with hand gesture going up and invites students to try.)
3. Tone 3: When reading Tone 3, you should be careful that this tone has two parts. As shown in the picture, first part is going down from key level two to one. Second part is going up from key level one to four. (Teacher model “ǎ, ǒ, ě”. Hand gestures are strongly recommended for this tone demonstration. After modeling, teacher invites students to try reading with hand gestures.)
4. Tone 4: This tone is going down, which is like when you say “no!” or “hey!” in English. The tones are similar. (Teacher models “à, ò, è” with hand gesture going down and invites students to try.)

#### Activity (10 minutes)

Group one: a pair of students get one a, o, e blank sheet and one deck of cards, which has two sets of a, o, e with four tones; shuffle the cards and take turns to draw the cards; read aloud the vowels with tones on the cards and put the same vowels together in tone order.

Group two: Read assigned books.

Group three: Practice writing daily characters

#### Review and closing (10 minutes)

1. Bring students together.
2. Read the vowels with tones together.

Material for Group Activity:

ā	á	ǎ	à
ō	ó	ǒ	ò
ē	é	ě	è

Material for Group Activity:

*a*

--	--	--	--

*o*

--	--	--	--

*e*

--	--	--	--



## Lesson Two

### Materials and Preparation

Pictures, cards and musical instruments (better with string instruments, such as violin or Erhu), or iPads with the App garage band if musical instruments not available.

### Learning Goals

Students will be able to remember the characteristics of different tones and understand the difference among tones.

### Lesson

#### Review and Introduction (10 minutes)

1. Read the vowels with tones together.

ā , á , ǎ , à ,

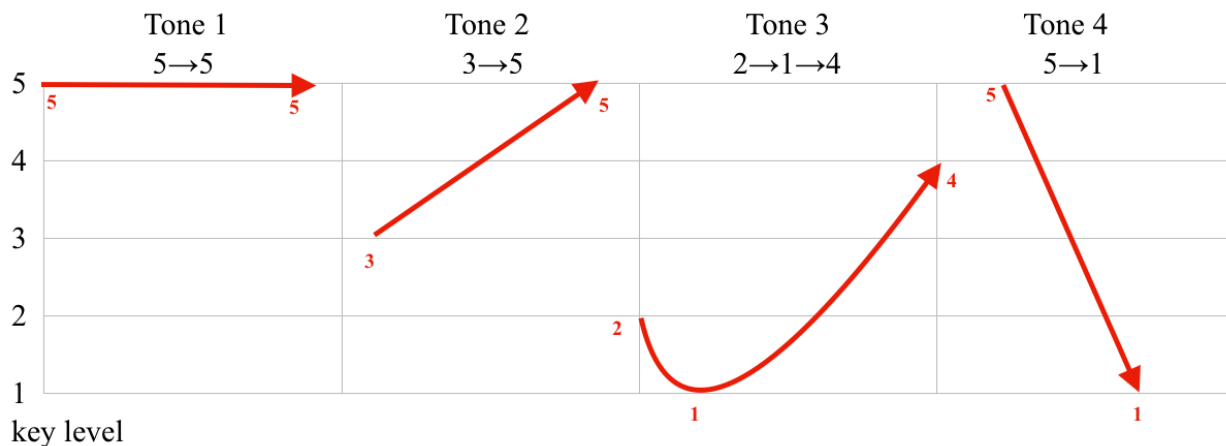
ō , ó , ǒ , ò ,

ē , é , ě , è .

2. Tell students that today they will use their own hands to make and hear the sounds of different tones.

#### Demonstration (30 minutes)

1. Use the musical instruments or the garage band on iPad to demonstrate the changing process of the sounds of each tone. Put high-key part on the top and the low-key part on the bottom. Invite students to try and hear by themselves.



2. Read the tone song together with the vowels. (This is a Mandarin song whose lyrics describes the features of different tones. The song is rhyming so it is easier for students to remember.)

第一声起音高高一路平，ā，ō，ē，

第二声由低到高往上升，á，ó，é，

第三声先降然后再扬起，ǎ，ǒ，ě，

第四声从高降到最底层，à，ò，è，

ā，á，ǎ，à，

ō，ó，ǒ，ò，

ē，é，ě，è。

Translation:

Tone 1 flat, high, left to right, ā, ō, ē,

Tone 2 goes up, climbing a hill, á, ó, é,

Tone 3 first down, then goes up, ǎ, ǒ, ǔ,

Tone 4 falls down all the way, à, ò, è,

ā, á, ǎ, à,

ō, ó, ǒ, ò,

ē, é, ǔ, è.

### Activity (10 minutes)

Group one: Practice writing daily characters

Group two: a pair of students get one a, o, e blank sheet and one deck of cards, which has two sets of a, o, e with four tones; shuffle the cards and take turns to draw the cards; read aloud the vowels with tones on the cards and put the same vowels together in tone order.

Group three: Read assigned books.

### Review and closing (10 minutes)

1. Bring students together.
2. Give students clues of a tone and ask students to try to guess which tone it is.

Which tone is it that goes up, climbing a hill? Tone 2. “á, ó, é” (Read together)

Which tone is it that falls down all the way? Tone 4. “à, ò, è” (Read together)

Which tone is it that first down, then goes up? Tone 3. “ǎ, ǒ, ǔ” (Read together)

Which tone is it that is flat, high, left to right? Tone 1. “ā, ō, ē” (Read together)

### Homework

(See following page.)

Think about what characters you know that have the vowels “a,” “o,” or “e” with different tones. Write them down in the charts as many as you can. We will share them during class tomorrow.

a

ā	
á	
ǎ	
à	

o

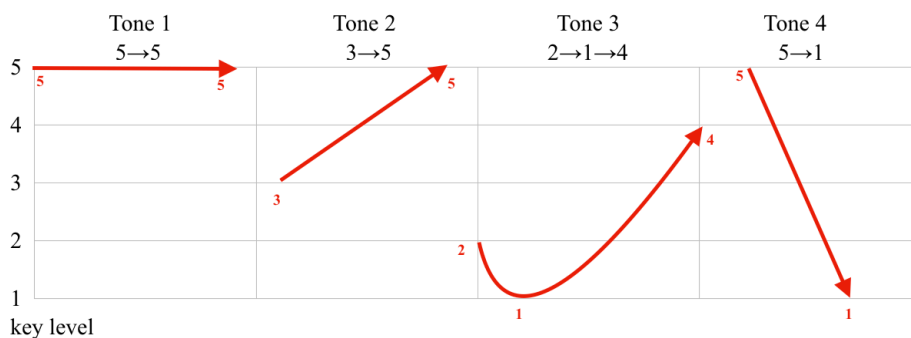
ō	
ó	
ǒ	
ò	

e

ē	
é	
ě	
è	

Poster:

# 声调歌



第一声起音高高一路平，

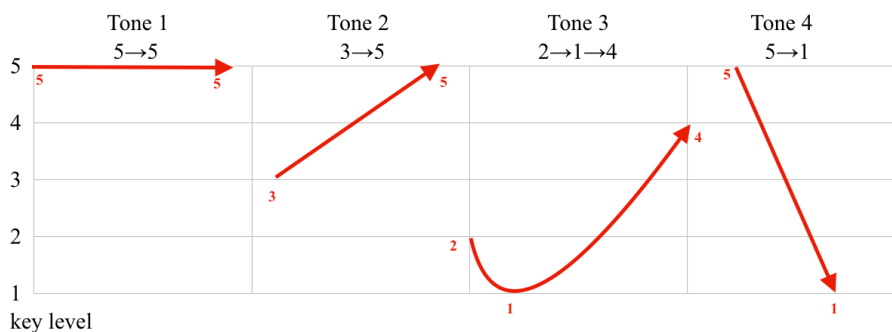
第二声由低到高往上升，

第三声先降然后再扬起，

第四声从高降到最底层。

Poster:

# Tone Song



Tone 1 flat, high, left to right,

Tone 2 goes up, climbing a hill,

Tone 3 first down, then goes up,

Tone 4 falls down all the way.

## Lesson Three

## Materials and Preparation

Pictures, cards.

## Learning Goals

1. Students will connect the learned vowels to characters they know.
2. Students will distinguish their tones.

## Lesson

## Review and Introduction (30 minutes)

1. Read the tone song together with the vowels.
2. Tell students that they will connect these vowels to characters they know.

## Demonstration (20 minutes)

1. What characters do you know that have the vowel “a” with different tones?

(Teacher writes them in the chart.)

ā	mā 、 fā 、 tā 、 tā 、 tā 、 lā 、 hā 妈、发、它、她、他、拉、哈
á	ná 、 chá 、 yá 拿、查、牙
ǎ	fǎ 、 dǎ 、 nǎ 、 kǎ 法、打、哪、卡
à	bà 、 pà 、 dà 、 nà 、 yà 爸、怕、大、那、亚

2. What characters do you know that have the vowel “o” with different tones?

(Teacher writes them in the chart.)

ō	mō 、 duō 、 tuō 、 guō 、 zhuō 、 shuō 摸、多、脱、锅、桌、说
ó	bó 、 pó 、 duǒ 、 huó 、 zuó 脖、婆、朵、活、昨
ǒ	guǒ 、 huǒ 、 zuǒ 、 suǒ 果、火、左、所
ò	pò 、 guò 、 huò 、 zuò 、 zuò 、 cuò 破、过、或、做、坐、错

3. What characters do you know that have the vowel “e” with different tones?

(Teacher writes them in the chart.)

ē	gē 、 gē 、 hē 、 gē 、 chē 哥、歌、喝、胳膊、车
é	hé 、 hé 、 shé 、 shé 和、盒、折、蛇
ě	zhě 、 kě 、 kě 者、渴、可
è	tè 、 lè 、 gè 、 zhè 、 rè 、 sè 、 kè 特、乐、个、这、热、色、课



Activity (10 minutes)

Group one: Read assigned books.

Group two: Practice writing daily characters

Group three: a pair of students get one a, o, e blank sheet and one deck of cards, which has two sets of a, o, e with four tones; shuffle the cards and take turns to draw the cards; read aloud the vowels with tones on the cards and put the same vowels together in tone order.

Review and closing (10 minutes)

1. Bring students together.
2. Read together the characters students put in the chart related to the specific vowels with correct tones.

Homework

(See following page.)

Color the characters with Tone 1 in red.

Color the characters with Tone 2 in green.

Color the characters with Tone 3 in yellow.

Color the characters with Tone 4 in blue.

这	活	朵	娃	破
八	打	妈	马	多
昨	爸	拿	乐	查
火	说	把	他	左
大	和	哥	牙	怕

Answer:

Color the characters with Tone 1 in red.

Color the characters with Tone 2 in green.

Color the characters with Tone 3 in yellow.

Color the characters with Tone 4 in blue.

这	活	朵	娃	破
八	打	妈	马	多
昨	爸	拿	乐	查
火	说	把	他	左
大	和	哥	牙	怕

## Lesson Four

## Materials and Preparation

Pictures, cards.

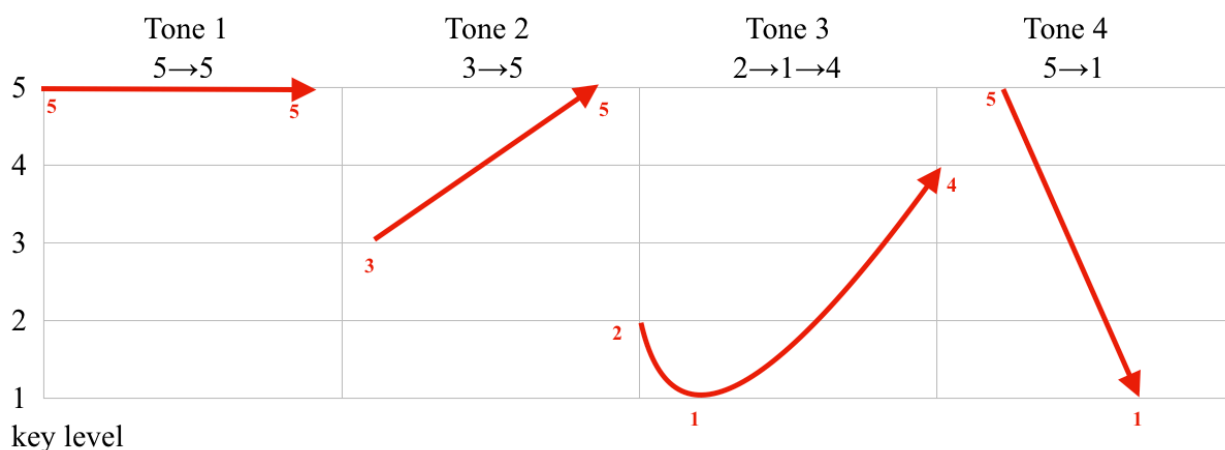
## Learning Goals

Students can pronounce six Mandarin Pinyin vowels with different tones correctly.

## Lesson

## Review and Introduction (10 minutes)

1. Ask students if they remember how to read and write Mandarin vowels: i, u, and ü. Ask students to read the vowels together.



2. Read the tone song together with the vowels.

第一声起音高高一路平，ā，ō，ē，ī，ū，ǔ，

第二声由低到高往上升，á，ó，é，í，ú，ǘ，

第三声先降然后再扬起，ǎ，ǒ，ě，ǐ，ǚ，ǜ，

第四声从高降到最底层，à，ò，è，ì，ù，ǜ，

ā , á , ǎ , à ,

ō , ó , ǒ , ò ,

ē , é , ě , è ,

ī , í , ĭ , ì ,

ū , ú , ů , ù ,

ũ , ů , ů , ù.

Translation:

Tone 1 flat, high, left to right, ā, ō, ē, ī, ū, ũ,

Tone 2 goes up, climbing a hill, á, ó, é, í, ú, ů,

Tone 3 first down, then goes up, ǎ, ǒ, ě, ĭ, ů, ů,

Tone 4 falls down all the way, à, ò, è, ì, ù, ù,

ā, á, ǎ, à,

ō, ó, ǒ, ò,

ē, é, ě, è,

ī, í, ĭ, ì,

ū, ú, ů, ù,

ũ, ů, ů, ù.

3. Tell students that today they will learn gestures for the tone song.

Demonstration (30 minutes)

1. We are going to use our arms to make some gestures to help us understand the tones better.

2. Tone 1: Put your arms out and hold them flat on the sides of your body. Now, imagine the sound is a ball. Put it on your left hand, and then let the ball roll from your left hand through your arms and shoulders to your right hand. Follow the ball rolling with your eyes while you read this tone. Make it faster.
3. Tone 2: From the Tone 1 gesture, lower your left arm and raise your right arm up. Put the ball back to your left hand and roll it to your right hand. Try to read it. It might be hard to climb the hill. Try your best, and then speed it up!
4. Tone 3: From the Tone 2 gesture, keep your right arm where it is now and raise up your left arm. Put the ball back to your left hand and roll it to your right hand. Try to read it. This is fun! It is like roller coaster going down and up! Now, read it faster.
5. Tone 4: From the Tone 3 gesture, keep your left hand where it is now and lower your right hand. Put the ball back to your left hand and roll it to your right hand. Try to read it. The ball is going down the hill. This trip should be the fastest. Can you read it faster?
6. (Teacher can model two of these tone gestures and invite students to create the rest.)

#### Activity (10 minutes)

Group one: a pair of students get one i, u, ü blank sheet and one deck of cards, which has two sets of i, u, ü with four tones; shuffle the cards and take turns to draw the cards; read aloud the vowels with tones on the cards and put the same vowels together in tone order.

Group two: Practice writing daily characters

Review and closing (10 minutes)

1. Bring students together.
2. Practice the tone song together with gestures.

Homework:

Think about what characters you know that have the vowels “i,” “u,” or “ü” with different tones. Write them down in the charts as many as you can. We will share them during class tomorrow.

i

ī	
í	
ǐ	
ì	

u

ū	
ú	
ǔ	
ù	

ü

ü	
---	--

ú	
ů	
ù	



Material for Group Activity:

ī	í	ǎ	ì
ī	ú	ǎ	ù
ī	ú	ǎ	ù

Material for Group Activity:

•  
l

--	--	--	--

u

--	--	--	--

ü

--	--	--	--

## Lesson Five

## Materials and Preparation

Pictures, cards.

## Learning Goals

1. Students will connect the learned vowels to characters they know.
2. Students will distinguish their tones.

## Lesson

## Review and Introduction (30 minutes)

1. Read the tone song together with all learned vowels.
2. Tell students that they will connect the newly learned vowels to characters they know.

## Demonstration (20 minutes)

1. What characters do you know that have the vowel “i” with different tones?  
(Teacher writes them in the chart.)

ī	yī 、 dī 、 tī 一、低、踢
í	yí 、 pí 、 tí 、 ní 姨、皮、题、泥
ǐ	yǐ 、 bǐ 、 bǐ 、 mǐ 、 tǐ 、 nǐ 、 lǐ 以、比、笔、米、体、你、里
ì	yì 、 bì 、 mì mì 、 dì 、 dì 、 dì 意、必、秘密、弟、第、地

2. What characters do you know that have the vowel “u” with different tones?

(Teacher writes them in the chart.)

ū	tū 、 gū 、 kū 、 zhū 、 chū 、 shū 、 cū 突、姑、哭、猪、出、书、粗
ú	pú 、 fú 、 fú 、 dú 葡、服、福、读
ǔ	wǔ 、 wǔ 、 pǔ 、 tǔ 、 gǔ 、 hǔ 、 zǔ 五、舞、普、土、古、虎、组
ù	bú 、 dù 、 tù 、 tǔ 、 lù 不、肚、兔、吐、路

3. What characters do you know that have the vowel “ü” with different tones?

(Teacher writes them in the chart.)

ǖ	xū 、 qū 需、区
ǘ	jú 、 yú 橘、鱼
ǚ	nǚ 、 yǔ 、 yǔ 女、雨、语
ǜ	lǜ 、 jù 、 qù 、 xù 绿、句、去、续

Activity (10 minutes)

Group one: Practice writing daily characters

Group two: a pair of students get one i, u, ü blank sheet and one deck of cards, which has two sets of i, u, ü with four tones; shuffle the cards and take turns to draw the cards; read aloud the vowels with tones on the cards and put the same vowels together in tone order.

Review and closing (10 minutes)

1. Bring students together.
2. Read together the characters students put in the chart related to the specific vowels with correct tones.

Homework

(See following page.)

Color the characters with Tone 1 in yellow.

Color the characters with Tone 2 in red.

Color the characters with Tone 3 in blue.

Color the characters with Tone 4 in green.

雨	不	低	去	你
离	西	急	一	鱼
绿	女	木	起	戏
七	皮	出	读	鸡
里	记	图	地	五

Answer:

Color the characters with Tone 1 in yellow.

Color the characters with Tone 2 in red.

Color the characters with Tone 3 in blue.

Color the characters with Tone 4 in green.

雨	不	低	去	你
离	西	急	一	鱼
绿	女	木	起	戏
七	皮	出	读	鸡
里	记	图	地	五

Extension work one:

Fill in the missing part of the Pinyin for these characters.

ā á ǎ à ō ó ǒ ò ē é ě è

ī í ĭ ì ū ú ŭ ù ū ŭ ŭ ù

爸	b	妈	m
西	x	哥	g
和	h	不	b
这	zh	地	d
我	w	女	n
绿	l	五	w
你	n	出	ch



Answer:

Fill in the missing part of the Pinyin for these characters.

ā á ǎ à ō ó ǒ ò ē é ě è

ī í ĭ ì ū ú ŭ ù ū ŭ ŭ ù

爸	b à	妈	m ā
西	x ī	哥	g ē
和	h é	不	b ù
这	zh è	地	d ì
我	w ǒ	女	n ǚ
绿	l ǜ	五	w ǔ
你	n ǐ	出	ch ū

Extension work two:

Put the following words into the chart to match the tone combination.

你好 睡觉 学习 老师 中国 西瓜 汉语 很难

吃饭 红花 苹果 游戏 走路 看书 大学 身体

	一声	二声	三声	四声
一声				
二声				
三声				
四声				

Answer:

	一声	二声	三声	四声
一声	xī guā 西瓜	zhōng guó 中国	shēn tǐ 身体	chī fàn 吃饭
二声	hóng huā 红花	xué xí 学习	píng guǒ 苹果	yóu xì 游戏
三声	lǎo shī 老师	hěn nán 很难	nǐ hǎo 你好	zǒu lù 走路
四声	kàn shū 看书	dà xué 大学	hàn yǔ 汉语	shuì jiào 睡觉

Extension work three

Online tone practice game: <http://www.guiguai.com/flash/16989/play.html>

Assessment:

Name :		Date :		
xing	1	2	3	4
he	1	2	3	4
xi	1	2	3	4
ma	1	2	3	4
gao	1	2	3	4
si	1	2	3	4
wan	1	2	3	4
you	1	2	3	4
shi	1	2	3	4
ren	1	2	3	4
da	1	2	3	4
mei	1	2	3	4
xing	1	2	3	4
he	1	2	3	4
xi	1	2	3	4
ma	1	2	3	4
gao	1	2	3	4
si	1	2	3	4
wan	1	2	3	4
you	1	2	3	4
shi	1	2	3	4
ren	1	2	3	4
da	1	2	3	4
mei	1	2	3	4