THE EFFECTS OF MUSIC ACTIVITIES ON ENGLISH PRONUNCIATION AND
VOCABULARY RETENTION OF FOURTH-GRADE ESOL
(ENGLISH FOR SPEAKERS OF OTHER LANGUAGES)
STUDENTS IN TAIWAN

By

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To my family
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The purpose of this study was to explore the effects of music activities (singing, speech and body percussion, and instrumental performance) on the English pronunciation and vocabulary retention of fourth-grade ESOL (English for Speakers of Other Languages) students in Chia-Yi, Taiwan. The study was conducted at an elementary school. The student participants \((N = 128)\) had to meet two criteria for participation: 1) they had to be 9 to 10 years old, and 2) they had to be learning English at the elementary school level. Students began taking English courses in the third grade at school. English examinations were administered at the beginning of each semester. Students were grouped into classes according to examination results. Cluster random sampling technique was utilized and four classrooms were randomly selected for participation in the study. Because students were grouped according to examination results, the researcher was able to work with students who had similar levels of English proficiency. Participants were divided into two groups: experimental \((n = 64)\) and control \((n = 64)\). The experimental group students undertook a sequence of 12 weeks of music
lessons to help improve their English pronunciation and vocabulary retention. The control group was taught using a traditional method without music (e.g., text study alone).

The researcher utilized a quasi-experimental research design with pretest and posttest measurements to examine the treatment results. Results revealed that the experimental group performed significantly better on vocabulary and pronunciation posttests when compared to the control group. To provide additional evidence that music contributes to language learning, survey questionnaires were analyzed.

Based on the survey questionnaire results, the experimental group students had positive attitudes toward music activities integrated with learning English. In the language development domain, most students agreed that music activities helped them improve their English pronunciation, and they learned vocabulary words faster. In the social skills development domain, responses on the posttest questionnaire showed that most students liked learning English with classmates through music activities. In the affective development domain, 97% of the students expressed that they liked having music activities in English class. Results of this study support a conclusion that music activities improve English pronunciation and vocabulary retention among fourth-grade ESOL students.
CHAPTER 1
INTRODUCTION

Sing joyfully to the LORD, you righteous; it is fitting for the upright to praise him. Praise the LORD with harp; make music to him on the ten-stringed lyre. Sing to him a new song; play skillfully, and shout for joy (Psalm 33:1-3)

Chapter 1 consists of a six-part overview of this research study. The first part is an explanation of the trend toward learning English, including problems with English language development, both in Taiwan and the United States. The second part is comprised of the research questions. The third part specifies the significance of the study. The fourth part presents the purpose of the study. The fifth part offers the limitations of this study. The sixth part lists the definitions of the terms used in this study.

Background of the Study

English Learning in Taiwan

With the encouragement of the Taiwanese president, Ma Ying-Jeou, most Taiwanese are learning to speak and read English. The president promotes internationalization and encourages all citizens to learn English. Kindergarten education currently places emphasis on bilingualism (Mandarin Chinese and English). Many parents select a bilingual kindergarten so that their children can have the opportunity to succeed from the earliest age. Beginning in the third grade, English is one of the subjects that all students must take. English is also a required course in high schools (The Ministry of Education, 2010). When seeking admission to universities, Taiwanese students are required to take English examinations.

The Ministry of Education (2010) in Taiwan endorses the study of the English language. Many universities require students to have a certain level of English proficiency to promote global awareness and to attain the highest level of overall
development in their professional fields. To graduate, students must attain a certain English competency level established by college administrators. Many government employees under the age of 40 are required to pass the General English Proficiency Test (GEPT) or Test of English for International Communication (TOEIC). According to the GEPT (2009), the Taiwanese government uses the GEPT test scores as a standard for promotion.

**English Learning in the United States**

In their home environment, one in five Americans speaks a language other than English. In California and Texas, second language speakers are more numerous than native English speakers (Kottler & Kottler, 2002). Based on the 2008 U.S. Census Bureau report of race in the United States, the number of minorities has dramatically increased. In the year 2050, Asian and Pacific Island school-age children will reach 41 million and African Americans will reach 62 million. The Hispanic population is predicted to reach 102.6 million. By 2050, white schoolchildren will constitute the minority in the United States (Rong, 1998). Thus, schoolteachers need to prepare for challenges and responsibilities related to teaching English for Speakers of Other Languages (ESOL).

In the spring of 2009, while attending an ESOL development workshop at the University of Florida, this researcher learned of the daily challenges that ESOL students face, as well as no available solutions to enable them to learn English. As an academic language, English has been a barrier to school success for many ESOL students (Cummins, 1981; Thompson, 2000). When students experience language barriers, they often have difficulty reaching optimal achievement levels and tend to feel isolated among their peers. Short (1991) noted that while language acts as a barrier in content-based learning, postponement of content instruction—for the sake of language
mastery—leads to underachievement. Based on this researcher’s experience, the utilization of music in language learning and teaching can fulfill both cognitive and psychological aspects. Exploring different approaches to improve the learning capacity of ESOL students is crucial, and music education may prove beneficial to this end (Thompson, 2000).

Since the syllables in spoken English are so unlike those in Chinese and Taiwanese, students encounter multiple phonological problems. Fu (2003) noted that because of the lack of certain sounds in the Chinese language, many Chinese speakers encounter difficulty pronouncing “/l/, /sh/, /th/, and /r/” (p.139) when speaking English. Moreover, because of a lack of instructional methods, students also experience frustration when trying to memorize vocabulary terms. Many English teachers emphasize grammatical analysis, reading, and writing as the primary instructional strategies. If English language instructors neglect students’ verbal skills, those students’ pronunciation of target sounds tends to suffer, and the students experience only short-term memory of vocabulary terms.

Other strategies must be implemented to ensure long-term vocabulary development. Limited pronunciation and vocabulary skills can reduce a student’s self-confidence and social interaction (Morley, 1998). Research-tested methods can aid students in overcoming obstacles associated with English acquisition. Music is an important spiritual and aesthetic force in a person’s life (Schoepp, 2001). Many English teachers acknowledge that music can improve language learning (Murphey, 1990). As a medium, music can be a motivator toward engaging students. Music and songs enhance pronunciation, accents, intonation patterns, and vocabulary development.
(Gugliemino, 1986; Schön et al., 2008; Short 1991). Modell, DeMiero, and Rose (2009) stated that music can improve the classroom learning environment and impact student learning. Educators can therefore utilize music in the language classroom to create a pleasant and enjoyable environment, ultimately resulting in ESOL students reaching their potential. Understanding the difficulties faced by ESOL children and using music as an educational intervention may help children overcome their problems in learning English, thus making a significant impact on a child’s life.

Research Question 1 and Null Hypothesis 1

- **Research question 1:** What is the effect of music activities on English pronunciation among fourth-grade ESOL students in Chia-Yi, Taiwan?
- **Null hypothesis 1:** Music activities will have no effect on English pronunciation among fourth-grade ESOL students in Chia-Yi, Taiwan.

Research Question 2 and Null Hypothesis 2

- **Research question 2:** What is the effect of music activities on English vocabulary retention among fourth-grade ESOL students in Chia-Yi, Taiwan?
- **Null hypothesis 2:** Music activities will have no effect on English vocabulary retention among fourth-grade ESOL students in Chia-Yi, Taiwan.

Significance of the Study

English is a global language (Spring, 2006). Many countries value English as an essential tool toward internationalization. For instance, more than 80% of elementary students are studying English in Spain, Austria, and Norway (Adams & Hirsch, 2007). South Korea built English villages to imitate English-speaking communities to help children use the English language in their daily environment. Some large population centers in China (e.g., Shanghai and Beijing) require first-grade students to begin receiving English instruction (Adams & Hirsch, 2007). Educators must develop or find
instructional strategies to ensure effective ways to help language learners. Fortunately, some methods can assist students’ development of English pronunciation and retention. Music experiences are creative endeavors that can strengthen students’ cognitive and mental abilities (Mark, 1996). Särkämö et al. (2008) found that listening to music stimulates a positive mood and cognitive growth. Standley and Hughes (1997) stated that “music activities provided pleasure and excitement about academic participation, possibly generating long range motivation for reading and writing” (p. 83). Whittaker (1981) acknowledged that songs contribute to four language learning domains: listening, speaking, reading, and writing. Chang (2001) stated that English nursery rhymes and chants are effective tools for students learning English. For example, singing in the classroom gives students extra practice time with a second language.

Today, to engage the class materials and make the learning processes interesting for students, many teachers use the flocabulary program (hip-hop music to incorporate lesson contents) to teach vocabulary words (Fox News, 2010; The New York Times, 2005). Rapping, singing, and chanting provide the repetition needed for pronunciation practice and vocabulary retention. Listening, playing instruments, chanting, and singing can be effective ways to enhance critical learning and thinking skills, as well as language acquisition. In addition, music is everlasting. Because of music’s eternal nature, students can remember songs and continue practicing the tunes and lyrics they learn. Music and songs are the worldwide common ground media. Linking music with language learning would produce an interesting and innovative avenue for the language classroom.
However, empirical research has been insufficient regarding the use of music in ESOL education in Taiwan. Saunders and O' Brien (2006) also stated that the areas of theory, practice, and empirical literature of oral language development in English language learners are inadequate in the United States. This particular study is important because it bears implications for future curriculum development in both Taiwan and the United States. This study is also significant because the researcher, as a music educator, will utilize music as a medium that may result in improved English pronunciation and vocabulary retention for ESOL students. Results of these research findings, combined with the existing literature, were synthesized to make recommendations and inform teachers about how to improve instruction. Results will also help to develop inclusive pedagogies for second language learners not only in Taiwan but in ESOL classrooms around the world.

**Purpose of the Study**

The purpose of this study was to explore the effects of music activities (e.g., singing, speech and body percussion, and instrumental performance) on the English pronunciation and vocabulary retention of fourth-grade ESOL students in Chia-Yi, Taiwan. The study was conducted at an elementary school in Chia-Yi, Taiwan. Students undertook a sequence of 12 weeks of music lessons to help improve their English pronunciation and vocabulary retention. The researcher utilized quasi-experimental research methods with pretest and posttest measurements to examine treatment results. Findings from this study should offer educators practical implications for using music activities in their classrooms. This research could offer guidelines for publishers in Taiwan and the United States to design useful and appropriate music activities for language learning.
Limitations

1. The participants in this study included only 9- to 10-year-old ESOL students at an elementary school in Chia-Yi, Taiwan. Generalization extending from this research may therefore be limited.

2. The researcher investigated only the effects of music activities on English pronunciation and vocabulary retention of 9- to 10-year-old ESOL students. Other improvements that might result from the intervention, such as communication skills and academic performance, were not discussed in this study.

3. The researcher controlled only the following variables in this study: 1) students’ ages by month; 2) students’ pretest scores; 3) students’ musical and English experience, including inside and outside of school; 4) students’ music aptitude test scores on Gordon’s (1982) Intermediate Measures of Music Audiation (IMMA); 5) students’ gender; and 6) students’ posttest scores.

4. The researcher utilized only singing, chanting, speech and body percussion, and instrumental activities as instruction in this study.

5. The researcher measured only English pronunciation and vocabulary retention of 9- to 10-year-old students during the time of the study. The maturation and selection-history effect were not controlled in this study.

Definition of Terms

The following definitions are some important terms found in this study.

Aptitude: An individual’s potential for learning, as opposed to achievement, which relates to what has previously been learned.

Audiation: The extent to which one “hears and feels music for which the sound is not physically present” (Gordon, 1986, p. 3).

Bilingual kindergarten: A common form of classroom in Taiwan in which instruction includes teaching courses in Mandarin Chinese and English.

ESOL: English for Speakers of Other Languages, which is also called ESL (English as a Second Language). The term ESOL is often used to indicate teaching English to non-native English speakers.
**Flocabulary:** A nontraditional teaching method using hip-hop music with educational contents to teach language arts, social studies, math, and science.

**GEPT:** General English Proficiency Test, a criterion-referenced test for all levels of English proficiency for learners. It consists of five levels: Elementary, Intermediate, High-Intermediate, Advanced, and Superior. Test items include listening, reading, writing, and speaking (GEPT, 2009).

**TOEIC:** Test of English for International Communication, an English proficiency test for people who are non-native English speakers. Test results indicate how well people can use English for communication. Test items consist of basic functional vocabulary terms (ETS, 2009).
This literature review is a detailed examination of sources relevant to and supportive of the study. The literature examined highlights the philosophical and theoretical rationales relevant to this research. Contributions to language learning and current musical practices in ESOL classrooms are discussed.

**Philosophical Rationales**

Musical expression has historically been associated with language (Byrd, 1588; Flores, Gomez, & Moyeda, 2006; Kelly, 1969; Langer, 1957; and Rose, 1985). Many anthropologists believe that man acquired song before language. Livingstone (1973) stated,

> Although it is often stated that man is the only primate that can talk, it is rarely noted that he is also the only one that can sing. Since singing is a simpler system than speech, with only pitch as a distinguishing feature, I suggest that he could sing long before he could talk and that singing was in fact a prerequisite to speech and hence language. (p. 25)

Language was generated though singing and playing. Jespersen (1925) proposed that when we say that speech originated in song, what we mean is merely that our comparatively monotonous spoken language and our highly developed vocal music are differentiations of primitive utterances, which had more in them of the latter than of the former. These utterances were at first, like the singing of birds . . . and crooning of babies . . . that is, they came forth from an inner craving of the individual . . . it is perfectly possible that speech has developed from something which had no other purpose than that of exercising the muscles of the mouth and throat and of amusing oneself and others by the production of pleasant or possibly only strange sounds. (pp. 346-347)

Music has long been utilized to develop students’ vocabulary, pronunciation, and listening comprehension in language classrooms. Learning language through song was first applied extensively during the Middle Ages. Kelly (1969) indicated that
music and songs became an integral part of language teaching during the Middle Ages. The first introduction to Latin was given to most pupils in the “song school,” or school of liturgical music. After the rhythm and flow of the language had been drilled by plain chant, which was based solidly on speech rhythms, the pupil began the formal study of Latin. . . . It seems that songs were occasionally used in the secular classroom. St. Jerome and Abelard both mention sacred music as an essential in Latin teaching, and many of the medieval tracts on music contain large sections on pronunciation. These details matter like vowel quality, syllabic length, and intonation patterns. (p. 98)

Centuries later William Byrd (1588) extolled the virtues of song and its benefits to speech:

The exercise of singing is delightful to nature, and good to preserve the health of Man. . . . It is a singularly good remedy for stuttering and stammering in the speech. . . . It is the best means to procure a perfect pronunciation, and to make a good Orator. (¶ 1)

Rose (1985) affirmed also that the ancient Greeks used music when reciting words.

During the last half of the 20th century, psychologists began to illustrate the effects of music on learning (Weatherford, 1990). Grout (1973) indicated that music has the power to “produce excitement and enthusiasm” (p. 9). From earlier times it was believed that music moderates emotional feelings that can stimulate learning. According to Crowest (1896), Venerable Beda (673-735 AD) stated:

Music is the most worthy, courteous, pleasant, joyous, and lovely of all knowledge. It makes a man gentlemanly in his demeanour, pleasant, courteous, joyous, lovely, for it acts upon his feelings. . . . Music encourages us to bear the heaviest afflictions, administers consolation in every difficulty, refreshes the broken spirit, removes headache and sorrow, expels foul spirits, and cures crossness and melancholy. (p. 57)

Sedar (1997) and Weatherford (1990) found that music can create an enjoyable language learning environment and reduce students’ anxiety to enhance learning.

Furthermore, Gordon (2007a, 2007b) made an analogy of the sequential understanding of music to that of language, progressing from aural to written abilities.
Infants are exposed to adult communication in daily living. They imitate the speech patterns of parents, adults, and other children. As the child grows older, he begins to develop a thought-based vocabulary, along with a listening vocabulary, resulting in expanded spoken, reading, and writing vocabularies.

According to Valerio, Gordon’s proposed sequencing of music vocabularies is nearly identical to the sequencing of language acquisition. He indicated that children’s music vocabularies were developed through “listening, performing, audiating/improvising, reading, and writing” (¶ 7). Instead of thinking language, the children are audiating/improvising through music. As infants, children listen to parents, adults, and other children singing to them. The child uses musical interactions to process and build audiated vocabulary, along with music listening, reading, performing, and composing vocabularies (Gordon, 2007a, 2007b).

Gordon (2007a, 2007b) proposed that music and language share a similar learning process, but Houghton (1984) compared the symbolic systems of linguistic and music attributes. She stated that “the units of language and music are each context-sensitive, which is to say that the linguistic or musical significance of a unit may depend upon its environment” (p. 32). Houghton also commented that prosodic stress is an essential (phonemic) function in language. Stress and accent also affect musical structure. Given this connection, music educators may select materials that facilitate conceptual learning in both language and music.

In *Philosophy in a New Key*, Langer (1957) posited the symbolism behind musical forms as the following:

- They are composed of a number of readily separable items (notes, beats, intervals, chords, etc.).
• They are easily produced (by voice or instrument).

• They are easily combined in a wide variety of ways (within the constraints of key, mode, meter, and style).

• They play no practical role more important than their expressive function (unlike textiles, ceramics, etc.).

• They can be readily distinguished within the framework of key and meter used, and remembered and repeated.

• They tend to modify the characters of each other in combination, by providing a context for each other. This process of combination and modification generates a potentially infinite number of musical statements. (p. 228)

Philosophers (Elliott, 1995; Langer, 1957) confirmed that music benefits students’ learning of language. Langer (1957) wrote,

> Voice-play, which as an instinct that is lost after infancy, would be perpetuated in a group by the constant stimulation of response, as it is with us when we learn to speak. . . . Song, the formalization of voice-play, probably preceded speech. (p. 128)

Furthermore, Langer stated that language has vocalizing tendencies and is developed through habits. Music activities provide the opportunity to learn while forming habits. Through repetition of the song, chant, and rhymes, children can practice pronunciation and retain new vocabulary words in a natural way. Language skills eventually become habits in children’s lives.

**Summary**

Connections between language acquisition and learning through music form the impetus for the current study. With that in consideration, music is a powerful tool to enhance the emotional and cognitive growth of students. Music benefits early language acquisition (Flores et al., 2006). Children learn songs easily and without inhibition (Cruz-Cruz, 2005). Students actively participate in the lesson by singing songs with kinesthetic movements (Murphey, 1990). The implementation of kinesthetic learning in musical
activities is intended to foster an environment to help students reach their language learning potential.

**Theoretical Rationales**

**Multiple Intelligence Theory and Learning a Second Language**

Gardner (1993) advocated the application of music in the second language classroom. He indicated that performing, listening, improvising, and composing music involve the utilization of multiple intelligences, which include musical, visual-spatial, bodily kinesthetic, interpersonal, language in singing, spiritual, and logical-mathematical aptitudes. Gardner also stated that music intelligence can help students become more engaged in other activities. Curricula can be planned in a way to have students utilize different intelligences. Using music to stimulate students’ interests, competencies, and self-confidence in one area of knowledge can reinforce development in other areas (Gardner, 1993). Burton, Horowitz, and Abeles (1999) confirmed that “learning in arts is complex and multidimensional” (p. 43). Educators may integrate arts with other disciplines (e.g., language, mathematics) to improve students’ understanding of the subject. According to Bresler (1995), music involves “subservient integration,” which provides different ways for students to think, as opposed to exclusive use of verbal and mathematical skills. For example, children may sing “Dr. Knickerbocker” to recall multiplication tables. Music also affects children’s affective domain. Teachers can utilize music to make students calm and to provide an opportunity for self-expression (Bresler, 1995). Integrating music with other disciplines has a strong influence on students’ learning (Hoffer, 2005).

Neurological researchers stated that when children engage in music activities, many parts of the brain are activated (Colwell & Richardson, 2002). The “near transfer”
theory is the term used to describe the different kinds of thinking that children employ when learning and making music (Hetland, 2000a). Elliott (1995) suggested that quality of instruction in conjunction with music activities can assist the transfer. Both multiple intelligences and the “near transfer” theory can help explain how music instruction can affect brain activity (Flohr, Miller, & deBeus, 2000).

Lazear (1991) examined the Lozanov technique (also called “Suggestopedia”), which applies music in its teaching pedagogy. In this method, Lozanov stated that optimum learning requires that one be relaxed, yet focused on tasks. To provide a relaxed and positive environment for students, the suggestopedia method applies music to create an enjoyable and relaxing learning environment (Lazear, 1991).

**Learning Styles for Language Development**

Kolb (1984, pp. 68-69) stated that there are four types of learning styles:

- A preference for learning from concrete experience that emphasizes feeling over thinking; here and now complexity over theories and generalizations; intuitive over systematic.

- A preference for reflective observation that emphasizes understanding over practical application; the ideal over the pragmatic; reflection over action.

- A preference for abstract conceptualizations that emphasizes thinking over feeling; theories over here and now complexity; systematic over intuitive.

- A preference for active experimentation that emphasizes pragmatic over ideal; doing rather than observing.

The ESOL children have a tendency to favor the concrete experience and active experimentation learning styles. Accordingly, the educators can apply “learning by doing” to music activities to create an environment that will facilitate children’s engagement in learning tasks.
Language Acquisition

Language acquisition does not occur overnight but through practice in real-life situations (Krashen, 1982). Through these informal and natural experiences, students learn the rules of language structure. In addressing the principles for effective learning, Hadley (2001) suggested “that language in a range of contexts likely to be encountered in the target culture and authentic language be used whenever possible” (pp. 90-91).

When teaching second language acquisition, Krashen (1982) stated:

The best methods are therefore those that supply “comprehensible input” in low anxiety situations, containing messages that students really want to hear. These methods do not force early production in the second language, but allow students to produce when they are “ready,” recognizing that improvement comes from supplying communicative and comprehensible input, and not from forcing and correcting production. (p. 7)

Krashen (1982) proposed five stages of second language acquisition:

- **Preproduction (silent period, 0 to 6 months):** Individuals develop language acquisition through listening and understanding.

- **Early production (6 months to 1 year):** Children begin to verbalize language in one- or two-word sentences.

- **Speech emergence (1 to 3 years):** Despite some grammar and pronunciation errors in students’ speech, individuals increase comprehension and confidence of using second language in simple sentences.

- **Intermediate fluency (3 to 5 years):** Children have good comprehension and use complex sentences in conversation. However, children process a new language more slowly than a native language speaker would. Dornic (1979) stated that this is caused by children’s need to translate the message from one language to another.

- **Advanced fluency (5 to 7 years):** Children use the new language fluently and are expressive at a nearly native level of speech. The learner’s writing skill also improves in this stage.
Students experience these stages when learning English. Teachers can use Krashen’s model to plan activities to assure that the curriculum will not go beyond or beneath students’ optimal complexity level (Hill & Flynn, 2006; Krashen, 1982).

**Inner Speech**

Murphey (1990) noted that the way we learn songs is paralleled to inner speech. We repeatedly hum or echo song lyrics and melodies in our head. Eventually, the words we are singing become our inner thoughts. Vygotsky (1986) stated:

> Inner speech develops through a slow accumulation of functional and structural changes, that it branches off from the child’s external speech simultaneously with the differentiation of the social and the egocentric functions of speech, and finally that the speech structures mastered by the child become the basic structures of his thinking. (p. 94)

Weikart (1982) proposed a “four-step language process” (p. 17):

- **Step I**: Say
- **Step II**: Say and Do
- **Step III**: Whisper and Do
- **Step IV**: Do (Think and Do)

The sequence effectively aids internalization of text while incorporating kinesthetic learning (“Do”), that is, students learn how to speak. Drawing the connection between inner speech and the internalization of song, educators may choose and design music to facilitate students’ language learning.

**Music and Motivation**

Bell (1981) suggested that music could be a means by which students are motivated.

Nobody . . . has previously advanced a successful theory for motivating ordinary uninterested students in classes in the lower, though far more numerous, echelons of American education, i.e., the public schools. The answer for this group may lie in music, which includes alpha states, excites, hypnotizes, holds, attracts, and otherwise absorbs the attention of this population. (pp. 137-138)
Melody, rhythm, and chant can stimulate students’ interests, which can create a relaxing and enjoyable learning environment to help second language learners (Pyper, 2005). Yeoman (1996) stated that the connection between language readiness and an emotional level is a key consideration for students to engage in authentic conversation in the L2 (Second Language). However, some students may experience anxiety which prevents them from using L2 to communicate on an effective level. Music can serve as an avenue to break the barrier. Yeoman believed:

The use of poetry and music, particularly music, can be especially enriching aesthetically and affectively. . . . From a linguistic point of view, they can be especially useful as a way of making traditional classroom activities such as structured listening exercises, dictations, and so on much more pleasurable and interesting. Like visual images, poems and songs can serve as generative themes, linking inner and outer speech for students struggling to communicate in a second language. (p. 607)

Ovando, Collier, and Combs (2003) support the idea stating that music in the classroom can help students “experience the intense emotions stirred up by music, explore the imagination, feel the connections between music and every other aspect of human life” (p. 113).

Summary

Music and language mutually enhance the process of learning. Researchers who appreciate and understand the value of music should explore different approaches for its use in facilitating language learning (Weatherford, 1990). Theoretical evidence supports the significant role music plays in language motivation and acquisition. Integrating music with language learning may help students acquire a vocabulary and speak effectively.
Research

During the past 50 years, researchers have conducted studies that produced significant results regarding the relationship between music and language learning. This section consists of four topics related to and supportive of this study: music education and language learning, music and memory, the Suzuki method, and the Orff-Schulwerk approach.

Music Education and Language Learning

Children learn music much the way they attain other kinds of knowledge.

Wolverton (1991) found learning commonalities for music and language:

Listening

- Auditory discrimination ability
- Visual discrimination ability
- Oral language development

Speaking

- Diction
- Intonation
- Stress/accent
- Rhythm
- Phrasing (p.24)

Some researchers have studied the integration of music into the second language classroom. According to Krashen (1982), students with high motivation, good self-confidence, and low anxiety tend to have better achievement in second language acquisition. Carlos (2003) showed that music is a powerful tool to motivate and stimulate students to learn, especially in language arts. Students gain enormous fulfillment from engaging in these activities. Increased motivation and fulfillment levels translate into increased attainment of knowledge. Students can learn language in a productive way.
Cruz-Cruz (2005) further investigated the effects of music and songs on English grammar and vocabulary. He hypothesized that music incorporated with language instruction could enhance students' scores on English grammar and vocabulary comprehension tests. Twenty-eight second graders participated in that study. The control group learned by the traditional method without music (e.g., text study alone). The experimental group listened to songs from cassettes, videos, or from the researcher singing while playing the guitar. Students also sang along with the songs to learn grammar and vocabulary. Participating and listening to music in class can motivate students, decrease anxiety, and create an optimal atmosphere for learning vocabulary and grammar. In the Cruz-Cruz (2005) study, the experimental group performed better than the control group. Singing songs and listening to music can help second graders improve their grammar and vocabulary skills.


Flores et al. (2006) investigated the relationship between musical and vocabulary skills with 30 children averaging 5.5 years old. They compared groups that received or did not receive music training. Their study consisted of three groups with each group containing 10 children. Group A1 children had music instruction that involved listening,
memory and harmonic, rhythmic, and melodic discrimination. Group A2 children were exposed to general music activities (songs, rhythm, and games). Group B children received no music activities. Flores et al. used a 1986 Spanish Adaption of the Picture Vocabulary Test (Spanish version of the Peabody Picture Vocabulary Test) as the test instrument. The experimental study was for a period of 10 weeks (40 minutes per section twice a week with a total of 20 sessions). Group A1 children had a significant increase in receptive vocabulary than children in the other groups. Flores et al. confirmed that rhythm, melody, and timbre discrimination activities can help children develop phonological awareness by recognizing syllables and phonemes in the spoken language.

In research on chant, scholars found a close relationship between speech and chant. The voice is used in the same manner in speech as in song. Much speech approached music both in its rhythmic and tonal patterns (Moorhead & Pond, 1978). Jordan & Mackay (1976) stated, “The main value in the use of rhymes and songs, apart from enjoyment, is in the disguised practice they give in individual sounds, stress and rhythm” (p. 91). Billows (1961) affirmed that when students sing, they are obliged to keep the rhythm, so that the unstressed syllables must be hurried over and the stressed syllables uttered with noticeable force. The frequent repetition of the sentences with the swing and rhythm demanded by a poem or song practice the mind and the muscles to work smoothly and skillfully together in the patterns and sonorities of the language. (p. 237)

Jolly (1975) believed in “an innate receptiveness in us to respond to the rhythmic patterns of language. By using songs as teaching aids in the foreign language classroom, we are merely capitalizing on this natural responsiveness” (p. 14).

Somers (2000) conducted a study on the effects of chant, music, song, and rhythm on listening and speaking English in Korean classrooms. Participants were from two
South Korean universities (N = 33). Students were studying English and one group received music as instructional treatment. Somers used student survey responses and pretest to posttest gain scores on the Idea Oral Language Proficiency Test (IPT) to determine the effectiveness of musical treatments. Test domains included syntax, morphology, phonology, and oral production. Research survey questions included: 1) “Has your listening comprehension improved after taking this course?” and 2) “Has your pronunciation improved after taking this course?” (p. 77). Research showed gain scores were higher for the treatment group than for the control group. Students responded positively on the survey when asked about listening comprehension and pronunciation. Repetition of music, songs, and chants provide an enjoyable way of practicing pronunciation and improving listening comprehension.

Music and Memory

Flores et al. (2006) focused on music and vocabulary skills. Other researchers investigated the relationship between music and memory. Wilcox (1995) stated that music qualities (temporal, rhythmic, and organizational) can facilitate retention. Children find it easier to store information in long-term memory and recall it later through organized materials, such as rhyming words, melody (prosody), and chunking (grouping phrases and lyrics into small attainable portions) (Thompson, 1987). Rhythmic phrases can stimulate musical behavior (e.g. tapping, dancing) that can help memory (Wilcox, 1995). In addition, words combined with rhyme are effective for memory as words combined with meaning (Ur, 1996).

Ho, Cheung, and Chan (2003) found that young children who received music instruction at an early age have greater verbal memory and vocabulary. Chan, Ho, and Cheung (1998) conducted a study of music training and memory. They found that verbal
memory can be improved by musical training. Verbal memory is primarily controlled by the left temporal lobe, which tends to be larger in musicians than in non-musicians. Accordingly, music training plays an important role in developing vocabulary retention.

**The Suzuki Method**

Dr. Shunichi Suzuki was a music educator in Japan after World War II. His theory of education is called the “mother-tongue method.” Suzuki’s method is equivalent to teaching children their first language in a step-by-step approach. Parents and teachers practice words with children every day. Children develop competencies by mastering at one level before going to another level. Through practice, vocabulary is gradually expanded and developed in oral speech. Grilli (1987) made the following observation:

By the time children are five or six years old, they have developed the ability to speak three or four thousand words—a fact that merits amazed admiration. Here we have the secret of an educational method by which all children can develop their natural ability to an extraordinary degree. (p. 10)

Suzuki’s method includes observation, imitation, repetition, and gradual development of intelligence awareness (Kendall, 1986). Parent involvement in a child’s learning process is important in Suzuki’s philosophy. Parents become teachers to coach their children continually outside class. Family participation helps children gradually develop competencies. When applying the Suzuki method to an academic curriculum, students learn through engagement with the environment. Students gain knowledge by observing and understanding the consequences after they interact with other students and materials. They learn from simple ideas and use them to understand complex concepts. Musical activities and games allow students to gain and apply language without worry about making errors. Singing songs, chanting, movement, and rhythmic
activities help students improve their readiness, pronunciation, and vocabulary retention skills. Students also develop their motor skills by movement and playing instruments.

Suzuki’s philosophy is teaching with respect and encouraging students. Pierredon (1995) also stated that educators should “respect children and parents to guide them in a cooperative effort with conviction but without coercion” (p. 39). Suzuki’s philosophy of education creates a natural learning environment for students to reach their potential. Cherwick (1994) asserted that “if children can learn their mother tongue so effortlessly and with so much joy, then we must find ways to incorporate the natural mother-tongue environment in all aspects of education” (p. 33).

The Suzuki method is a way to develop the whole child. Ludeke (1995) commented that students develop the following abilities by using the Suzuki method of teaching:

- Listening
- Observing and imitating
- Memorization
- Performing
- Concentration
- Sensitive response to aesthetic qualities
- Discipline

Listening, observing, and imitating enable students to receive knowledge and practice the materials. Concentration and discipline are essential for quality and successful learning. Students will develop confidence and be able to perform what they have learned and what they know. Furthermore, Ludeke commented:

Dr. Suzuki was just obeying the laws of human nature when he suggested that children learn music the same way they learn their native language. Imitation is the principle means through which we learn to interact and adapt to our environment. Nature provided us with eyes and ears, which possess incredible potential. We should use them fully for learning, as nature intended. (p. 63)
Orff-Schulwerk Approach

The Orff-Schulwerk approach involves rhythmic speech, movement, and singing that can contribute to pronunciation and vocabulary retention practice. McLullich (1981) applied Orff instruments to language learning, especially pronunciation. He used non-pitched and pitched instruments in activities, including chimes, triangles, wood blocks, tone-barred instruments, and maracas. From this work, he designed a five-stage curriculum with the following components:

- Timbre discrimination and short listening
- Response to listening stimuli through rhythmic chants
- Creating and imitating sounds to accompany stories, songs, and poems
- Developing imaginative abilities through listening to music and translating them into words (e.g., story-writing)
- Creating and performing music in groups

McLullich posited that the advantages of this curriculum can help students improve:

- Motor skills when playing instruments
- Rhythmic awareness and perception necessary for speaking, writing, and reading
- Listening ability which especially helps students who experience difficulty in differentiating syllables
- Auditory abilities when spelling, especially in the area of discrimination and recall.

To ensure a successful learning experience for each student, concentration is important (Ludeke, 1995). Douglas (1972) developed a three-phrase model: stop, look, and listen. Teachers use the words “stop,” “look,” and “listen” to help children concentrate during the activity.
Summary

For this study, the musical treatment consisted of 12 weeks of lessons with musical activities employing Douglas’s “stop, look, and listen” model, the Suzuki method, and the Orff-Schulwerk approach (see Appendix A). Children were instructed to stop what they are doing in order to look and listen to the singing, chanting, instrument playing, and movement or dancing, as demonstrated by the researcher. The singing, chanting, instrument playing, and movement and dancing were then imitated by the children. The examination of literature guided the development of a curriculum that will be utilized to improve children’s language skills and retention. Children were trained to observe the activities being demonstrated, and continually practice vocabulary through the repetition of music activities.
CHAPTER 3  
METHODOLOGY AND PROCEDURES

This chapter consists of the methodology and research procedures utilized to answer the research questions: 1) What is the effect of music activities on English pronunciation among fourth-grade ESOL students in Chia-Yi, Taiwan? 2) What is the effect of music activities on English vocabulary retention among fourth-grade ESOL students in Chia-Yi, Taiwan? Chapter 3 is consists of 10 parts: 1) a pilot study for establishing and examining the validity of the study, 2) results of the pilot study, 3) limitations of the pilot study, 4) the present study and research design, 5) participants, 6) study procedures, 7) experimental group curriculum, 8) criteria for musical selections, 9) reliability and validity procedures, and 10) data collection and data analysis.

Pilot Study

This researcher conducted a pilot study at an elementary school in Taiwan for six weeks, May to June 2010. Participants were enrolled in fourth grade at an elementary school in southwestern Taiwan (N = 60). Prior to the experimental study, the school’s English teacher administered an English examination. The researcher randomly chose students with similar levels of English proficiency, and divided the students into experimental Group A (n = 30) and control Group B (n = 30). Students in both groups had studied English at least one year. During the pilot study, Group A received the researcher’s specially designed music activities to help students improve their English pronunciation and vocabulary retention capabilities. Group B had traditional methods of instruction. Pretests and posttests on the picture vocabulary and phonemic analysis tests from the Test of Language Development-Primary 3 level (TOLD-P: 3), as well as pretest and posttest of the survey questionnaires (see Appendix B), were evaluated.
The purpose of the pilot study was to develop and revise the researcher-designed curriculum and survey questionnaires, and to establish the reliability and validity of the present study.

**Results of the Pilot Study**

All 60 students in Group A (experimental) and Group B (control) showed overall improvement. In Group A, students' overall English pronunciation score ranges were 25 to 90 on the pretest and 45 to 100 on the posttest. Twenty-seven of the 30 students in Group A showed improvement in English pronunciation. Students' vocabulary score ranges were 15 to 95 on the pretest and 20 to 100 on the posttest. Twenty-four participants in Group A showed improvement in the vocabulary test.

Group A's pretest and posttest English pronunciation mean scores increased by 13.67 points (pretest: $M = 73.33$, posttest: $M = 87$). The participants' vocabulary mean scores increased by 16.67 points (pretest: $M = 65.83$, posttest: $M = 82.5$). Table 3-1 shows the pretest and posttest scores for Groups A and B.

In general, participants in Group B showed improvement. Students' overall pronunciation score ranges were 60 to 100 on the pretest and 30 to 100 on the posttest. Four of the 20 participants in Group B showed improvement in English pronunciation. Group B students' vocabulary score ranges were 5 to 100 on the pretest and 10 to 100 on the posttest. Nineteen participants in Group B showed improvement in vocabulary retention. Group B's English pronunciation mean scores increased by 3.5 points (pretest: $M = 77$, posttest: $M = 80.5$). Group B's vocabulary mean scores increased by 11.67 points (pretest: $M = 65$, posttest: $M = 76.67$).

Subsequently, participants in Groups A and B were compared to see who made the largest increase in English pronunciation and vocabulary retention. Figure 3-1
presents the increase in mean scores for the two groups. Results showed all groups increased in both pronunciation and vocabulary skills. The experimental group, Group A, increased significantly compared to Group B.

Figure 3-1 also shows the pretest and posttest picture vocabulary and phonemic analysis subtest score increases of Groups A and B. Group A made significant improvements compared to the control group, supporting a conclusion that music activities have an effect on English pronunciation and vocabulary retention among fourth-grade ESOL students.

**Limitations of the Pilot Study**

Survey items in questionnaires used for the pilot study contained items that were difficult for fourth graders to comprehend. First, the survey items appeared to be too numerous, as students did not take the time to carefully consider all items (see Appendix B). Several items were marked “no opinion.” Because students struggled to understand the concept of the Likert scale, item responses were fully anchored in the present study. Question items were simplified to reflect fourth-grade students’ reading comprehension. Second, as a result of the pilot study, the survey items were divided into three categories: affective development, language development, and social skills development (see Appendix C). Categorical divisions allowed tracking of student attitudes in specific areas of language instruction. In addition, students received the Chinese version of both pretest and posttest survey questionnaires. One ESOL researcher, one linguistics professor, and five fourth graders examined and validated the questionnaires. Third, the researcher and one elementary English teacher graded the students’ scores on the phonemic analysis test. The Pearson \( r \) correlation coefficients \( (r = .43) \) were calculated to reflect interjudge reliability. To increase the
interjudge reliability for the present study, training on the grading procedures for judges was necessary. A third judge was added to further establish reliability. Finally, a more detailed curriculum was designed, allowing for use by language teachers.

**Present Study and Research Design**

The researcher revised and designed a more thorough curriculum, grading procedures, and survey questionnaires after the pilot study was conducted. In the present study, the researcher employed a quasi-experimental, research/nonequivalent, comparison-group design. There were 128 participants (using G*Power 3.0.10 Software, with a medium effect size (.25), \( \alpha = .05 \), \( 1 - \beta \) error = .80, and a total of two groups). Classrooms were randomly assigned into experimental \((n = 64)\) and control \((n = 64)\) groups. The experimental group received 12 weeks of music activities for instruction (see Appendix A). The control group had a traditional teaching method with no music. Pretest and posttest measurements were utilized to determine if music activities could significantly affect students’ English pronunciation and vocabulary retention skills.

**Independent Variable**

The researcher employed the presence and absence technique. The independent variable of the study was music activities. The experimental group received music instruction in English class. The control group used a traditional method for teaching strategy. Both groups underwent 12 weeks of lessons.

**Dependent Variables**

Dependent variables in this research were the students’ English pronunciation and vocabulary retention skills. Both experimental and control groups took the picture vocabulary and phonemic analysis subtests from TOLD-P: 3 before the experimental
treatment. After 12 weeks of lessons, both groups received the same test instruments as posttests. Each subtest score was calculated to examine treatment outcomes.

**Control Variables**

There were factors that served as control variables in this study. The grade level of the participants was limited to fourth graders. Students were currently learning English during the study. Both groups received instruction from the same teacher.

**English instructor**

Results of the pilot study showed significant effects of music activities on both students’ pronunciation and vocabulary retention skills. The next step was to examine the effectiveness of the treatment when administered by a language teacher. Accordingly, the researcher chose an English instructor for this study. The English teacher for this research received a bachelor’s degree from National Pingtung University of Education. She had taken basic piano skills and general music courses. She had taught English in elementary schools for five years. Prior to the study, the English teacher had six weeks of training from the researcher to prepare the teacher to effectively implement the researcher-designed curriculum treatment. Training information included understanding the background of this research, significance of the study, research procedures, test instruments administration, implementation of researcher-designed curriculum, data collection, and grading procedures.

**Textbook and Class length**

In this study, both experimental and control groups used *Hello, Darbie* (Chen et al., 2006) as an instructional textbook. Both groups received the same amount of time for instruction. Each 40-minute lesson was conducted twice per week. The study contained 24 lessons.
Participants

The researcher adopted non-random purposive sampling to select the participants. The study involved 128 participants. The student participants had to meet two criteria for participation: 1) they had to be 9 to 10 years old, and 2) they had to be learning English at the elementary school level. They were chosen from an elementary school located in urban Chia-Yi City in southwestern Taiwan. Students began taking English courses in the third grade at school. English examinations were administered at the beginning of each semester. Students were grouped into classes according to examination results.

Participants were fourth graders (9 years old). Classrooms were randomly selected for participation in the study. Because students were grouped according to examination results, the researcher was able to work with students who had similar levels of English proficiency. The researcher began this experimental study after obtaining permission from the students, the students’ parents, the school principal, and the academic administrator. All participants took English classes taught by the same instructor. The researcher randomly divided classrooms into experimental ($n = 64$) and control ($n = 64$) groups. Prior to the study, both groups of students received the traditional method for the instruction. The traditional teaching method included vocabulary cards, posters, CDs, and video for the textbook contents. Students had not previously experienced music activities integrated with English lessons. Information regarding students’ gender, music and English learning experience, music aptitude test scores, parents’ education, and parents’ attitudes about their children’s schoolwork are presented in Chapter 4.
Study Procedures

Treatment and data collection took place from September to December 2010. Parent(s)/guardian(s) were asked to sign the informed consent letter and complete the Musical and English Experience questionnaires (see Appendix E). Participating students were required to sign an assent letter (see Appendix D). All students were pretested on picture vocabulary and phonemic analysis tests from the Test of Language Development-Primary 3 level (TOLD-P: 3). The teacher audio-taped students’ speaking responses for the phonemic analysis test. The following demographic data were collected from participants: 1) students’ age by month and year; 2) gender; 3) pretest scores; 4) students’ musical and English experience inside and outside of school; 5) students’ music aptitude test scores on Gordon’s (1982) Intermediate Measures of Music Audiation (IMMA); and 6) students’ posttest scores. The researcher employed a nonequivalent comparison-group design. Furthermore, the researcher controlled participants’ maturation, instrumentations, and differential attrition for the internal validity of this study.

The experimental group had 12 weeks of music lessons, whereas the control group received the traditional method of instruction. The researcher-designed treatment curriculum was piloted and validated by four experts: two English teachers, one music education professor, and one elementary music teacher. The 40-minute music lesson was conducted twice per week during school days in a classroom at the elementary school. Participants in both groups received the posttest of the picture vocabulary and phonemic analysis tests after the 12-week treatment period. In addition, the experimental group received pretest and posttest survey questionnaires for examining students’ attitudes toward 12 weeks of music instruction.
Experimental Group Curriculum

The researcher utilized songs, rhymes, chants, speech, and body percussion, as well as instrumental performance throughout the curriculum (see Appendix A). Based on the theoretical and rationale domains presented in Chapter 2, the pedagogy to affect speaking and vocabulary retention was used as an avenue in four categories: 1) song and chant as a carrier of vocabulary; 2) rhyme as rhythmic and organized material to facilitate retention; 3) speech and body percussion as a stimulus to feel the language tempo and phonemic analysis; and 4) instrumental performance as a means to practice auditory discrimination for developing phonological awareness (Carlos, 2003; McDonald & Fisher, 2006; Murphey, 1990; Somers, 2000).

Criteria for Musical Selections

The researcher selected songs that could enhance pronunciation and vocabulary retention, based on Somers’s model (2000). Criteria for selection of musical materials and activities, including songs, included: 1) repetitive vocabularies, 2) slow tempo, 3) short phrases with simple syntax, 4) appropriate lyrics for the grade level, and 5) clear pronunciation of vocabulary. Overall, the content of the songs should have reinforced the lesson objectives (Carlos, 2003; Somers, 2000).

Copies of the lyrics were provided and compiled into a music activity book. The music activities were used to support the curriculum. The researcher selected simple repetitive songs and rhymes for the students, such as “Old MacDonald Had a Farm,” “Apples and Bananas,” and “If You Hear a Space, Please Fill It Up.”

Reliability and Validity Procedures

Instruments used for the language test in this study have been proven to have good reliability and validity ratings. The following is the summary of the test instrument:
Test of Language Development-Primary 3 Level (TOLD-P:3)

The Test of Language Development-Primary 3 level assesses the level of English language proficiency of students. The TOLD-P: 3 was intended for use with children between the ages of 5 and 8 in the United States. The TOLD Primary 3 was chosen as the test instrument in the present study based upon multiple factors. One elementary language teacher and one language professor examined the test instrument and its compatibility with the textbook *Hello, Darbie!* (Chen et al., 2006), which the researcher used during the instructional treatment. Both experts stated that the test instrument was appropriate for Taiwanese fourth graders. In addition, the researcher piloted the test instrument with the purpose of establishing content validity.

This Present Study

In this study, the researcher investigated students’ vocabulary retention and English pronunciation abilities. Therefore, only picture vocabulary and phonemic analysis subtests from the TOLD-P: 3 were utilized as the test instruments. The administration time of each subtest was 30 minutes. Students were required to answer each test item in no more than 10 seconds. Scoring of each subtest was objective. According to Newcomer and Hammill (1997), standard scores for each subtest from the TOLD-P3 had a standard errors of measurement (SEMs) of 1 at each age-level interval. Newcomer and Hammill further stated that the TOLD has high content validity, criterion-related validity, and construct validity. The item difficulty of both subtests ranged from 15% to 85%.

Subtest: Picture vocabulary

The picture vocabulary was designed to provide an assessment of a participant’s “verbal intelligence” by measuring his vocabulary. The picture vocabulary subtest
contained 30 items. Test items included a variety of sections: animals, birds, adjectives, adverbs, musical instruments, nature scenes, occupations, human actions, and manmade objects (Newcomer & Hammill, 1997). Participants were required to point to each picture and identify the correct English term for the object found in the picture. For the present study, the researcher provided the examiner a Profile/Examiner Record Booklet to record each student’s responses (Newcomer & Hammill, 1997). The measure of internal consistency had an average reported coefficient alpha of .81 (Newcomer & Hammill, 1997). The split-half coefficients had a reported range between .61 and .72. The average of test-retest reliability coefficients was .87. Newcomer and Hammill correlated the TOLD-P:3 with the Bankson Language Test-Second Edition (BLT-2). They found that the picture vocabulary test had a criterion-related validity coefficient of .70 when compared to BLT-2’s overall language quotient subtest (Newcomer & Hammill, 1997).

**Subtest: Phonemic analysis**

The phonemic analysis subtest measured children’s pronunciation and their ability to break down spoken words into shorter phonemic portions (Newcomer & Hammill, 1997). The student was given a portion of a word and was required to pronounce the portion or syllables omitted. The phonemic analysis contained 14 test items. The internal consistency reliability had an average reported coefficient alpha that ranged at .86. The average of test-retest reliability coefficients was .87 (Newcomer & Hammill, 1997). The phonemic analysis subtest also had a reported criterion-related validity coefficient of .70 when compared to BLT-2’s semantic knowledge subtest (Newcomer & Hammill, 1997).
Data Collection and Data Analysis

To control the confounding variables, the researcher collected data on six control variables: 1) students’ age by month and year; 2) gender; 3) pretest scores; 4) students’ musical and English experience inside and outside of school; 5) students’ music aptitude test scores on Gordon’s (1982) Intermediate Measures of Music Audiation (IMMA); and 6) posttest scores. The pretest and posttest survey questionnaires for the experimental group and pretest and posttest scores from the picture vocabulary and phonemic analysis tests for both experimental and control groups were collected and calculated to evaluate treatment outcome. The statistical procedures are described in Chapter 4.

The researcher employed quantitative analysis in the study. Pretest and posttest scores of both groups on each language test were imported and calculated into Statistical Analysis Software (SPSS 18). A one-way analysis of variance (ANOVA), a general linear model (GLM), and a multivariate analysis of covariance (MANCOVA) were utilized to determine: 1) the significance of the effect of music activities on English pronunciation and vocabulary retention of ESOL students; and 2) the effect of English pronunciation and vocabulary scores with covariates (students’ musical experience, English experience, parents’ education, parents’ attitudes toward monitoring their children’s schoolwork, students’ attitude before and after the experimental study, and the Intermediate Measures of Music Audiation scores). The independent sample t test was employed to determine whether or not the performance difference between the means of experimental and control groups was statistically significant.

The Pearson r correlation coefficients were calculated for interjudge reliability. Additionally, the researcher used a general linear model to determine interactions
among English pronunciation and vocabulary retention scores with continuous variables (IMMA scores).
Table 3-1. Picture vocabulary and phonemic analysis test scores for all groups, pre- and posttest

<table>
<thead>
<tr>
<th>Groups</th>
<th>Pronunciation</th>
<th>Vocabulary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>Group A (experimental)</td>
<td>73.33</td>
<td>87.00</td>
</tr>
<tr>
<td>Group B (control)</td>
<td>77.00</td>
<td>80.50</td>
</tr>
</tbody>
</table>

Figure 3-1. Mean gains in the picture vocabulary and phonemic analysis test scores after treatment, by group. Group A (the experimental group) received music instruction. Group B (the control group) received no music instruction.
CHAPTER 4
RESULTS

This chapter presents the research findings. Statistical analyses were applied to examine and compare the English language development of students who received music instruction for language learning with students who were not exposed to this method of instruction. Chapter 4 includes statistical results after music intervention, questionnaires about students’ attitudes, and self-reflection prior to and subsequent to the experimental study.

Survey Questionnaires

The Musical Experience and English Experience questionnaires for the experimental and control groups and the pretest questionnaires on English class self-reflection—exclusively for the experimental group—were administered prior to the implementation of the music instruction. Data were analyzed to compare students’ ages, gender, parents’ education, musical and English background, and attitude of learning English.

Students’ Demographic Information and IMMA Scores

Students’ demographic information, including Intermediate Measures of Music Audiation (IMMA) scores, is presented in Table 4-1. The average age of students in the experimental group was one month younger than that of the control group (experimental = 9 years and 3 months, control = 9 years and 4 months). The parents’ average education was college level in both groups. Males were predominant in both groups. The experimental group had four more males than females; the control group had 12 more males than females.
On average, students in the experimental group performed 2.14 points higher than those in the control group on the tonal test of the IMMA, and 2.54 points higher on the rhythm test of the IMMA. Composite scores of the IMMA in the experimental group were 1.03 points higher than those of the control group.

**Students’ Musical Background**

**Experimental Group**

Twelve experimental group students were currently taking music lessons. Students had been taking lessons for as little as four months and as long as three years. Sixteen children did not take lessons during the study, but they had previously studied privately from one week to two years. Twenty-four students participated in organized musical activities outside school, ranging in length from 20 to 90 minutes per week. The organized activities included private lesson time, practice time, choir or instrument participation time, family music time, and community or school music events. Thirty-six children participated in leisure musical activities outside school from 1 to 18 hours per week. Leisure music activities included listening to music on the radio, MP3, and iPod, participating in musical plays (including singing games and playground songs), and listening to music videos or music television programs (such as MTV).

**Control Group**

In the control group, 11 students were currently taking music lessons. Fifteen children did not take lessons during the study, but they had studied privately before the study from one month to three years. Twenty-six students participated in organized music activities outside school from one to six hours per week. Thirty-eight children participated in leisure musical activities outside school from 1 to 20 hours per week.
Students’ English Background

Experimental Group

Forty-seven students had studied English before third grade. Thirty-nine percent of the students had learned English before the third grade for less than one year, 20% about one year, 19% about two years, 4% about three years, and 8% for more than four years. Students were asked to approximate the amount of time dedicated to English studies after school. Forty-three percent of the children studied English after school for less than one hour each week, 21% studied about one hour, 18% studied about two hours, 10% studied about three hours, and 8% studied about four hours or more each week.

Among the 47 students who studied English before the third grade, 34% had English teachers who were native English-speakers. Fifty-nine percent of the parents rated themselves as being “very careful” when monitoring their children’s schoolwork. Eleven percent described their schoolwork monitoring as being “careful,” 23% chose “somewhat carefully,” and only 7% claimed to “rarely” monitor their children’s schoolwork.

Control Group

Forty-three students studied English before third grade. Forty-three percent of the students studied English less than one year before third grade, 21% about one year, 15% about two years, 10% about three years, and 7% for four or more years. Students were asked to approximate the amount of time dedicated to English studies after school. Thirty-two percent of the children studied English after school for less than one hour each week, 28% studied about one hour, 21% studied about two hours, 12% studied about three hours, and 7% studied about four hours or more each week. Among
the 43 students who studied before third grade, 35% had English teachers who were native English-speakers. Fifty-three percent of the parents rated themselves being “very careful” when monitoring their children’s schoolwork. Eighteen percent described their schoolwork monitoring as being “careful.” Twenty-five percent chose “somewhat,” and only 4% claimed to “rarely” monitor their children’s schoolwork.

Summary

The experimental group contained four more students who studied English before the third grade than students in the control group. However, based on the test results, the control group pretest means (see Table 4-12) on the pronunciation (experimental: $M = 62.03$, control: $M = 64.69$) and vocabulary (experimental: $M = 63.04$, control: $M = 67.97$) subtests were higher than those of the experimental group. In both groups, the majority of the students had learned English before third grade for less than one year. Students were asked to approximate the amount of time dedicated to English studies after school. Most students studied English after school for less than one hour each week in both groups. In both groups, about 30% of the students who studied English before third grade had English teachers who were native English-speakers. More than 50% of parents in both groups rated themselves as “very careful” when monitoring their children’s schoolwork.

Pretest Questionnaires

Affective Development: Student Impressions of Learning English

Items “a” through “f” were designed to inquire about the students’ impressions of learning English. The students responded to fully anchored rating scales (see Table 4-2). The percentages of responses in each category were expressed by whole numbers.
A large percentage of the students (44%) in the experimental group disagreed that they liked English class. Eleven percent had no opinion and 16% agreed that they enjoyed the class. Regarding the levels of difficulty when students had to memorize vocabulary words, most (55%) reported “somewhat difficult.” Concerning the activities that took place in the English class, most (33%) felt somewhat dissatisfied and many others (30%) felt undecided. Thirty-three percent of the students claimed a lack of interest in learning English in the classroom due to the methods used by their teachers. Prior to the study, students had not experienced learning English integrated with music. Forty-one percent of students chose “undecided” when asked if they thought they might enjoy music activities in English class, and 44% felt that learning English songs would not be very effective to help them learn the language.

Items “g” to “j” were designed to investigate students’ motivation in learning English at school (see Table 4-3). Thirty-three percent of the students felt that they liked to learn English at school, but 30% of them disagreed. The majority of the students (52%) did not like to raise their hands and answer questions during the class. Forty-four percent disagreed that they studied hard during the class. Furthermore, 38% felt that they often thought about something else during English class.

**Language Development**

While this study was intended to explore the oral speaking ability of ESOL students, items “k” to “q” were written with the intent to examine students’ motivation in speaking English (see Table 4-4). Many students (34%) did not like to practice speaking English, and many (48%) did not like to carefully pronounce vocabulary words and sentences when speaking. In addition, not many students (58%) practiced speaking English with their friends and/or family, and many (44%) did not feel confident when
speaking English in class. Survey results suggested that learners of English (44%) in Taiwan experienced a greater degree of emphasis on reading than learners of English (9%) on speaking. Forty-four percent of students lacked confidence when speaking English to native speakers, and 39% lacked confidence when speaking English in front of their classmates. Forty-one percent considered their English pronunciation to be “bad.”

**Social Skills Development**

Items “r” through “t” were designed to inspect students’ social skills with classmates (see Table 4-5). Many students (45%) felt that they did not work well with their peers, and other students (52%) learned how to help their fellow classmates in the lessons. Twenty-six percent chose “undecided” when asked about their preference to learn English alongside their classmates. These attitudes suggest a need for more group-oriented approaches to teaching English.

**Data Analyses**

The primary objective of this study was to determine if ESOL students in a treatment program made significant improvements in English pronunciation and vocabulary retention skills. Individual pretest and posttest scores on the picture vocabulary and phonemic analysis subtests from the Test of Language Development-Primary 3 level (TOLD-P:3) were compared in the experimental and control groups. A comparison of participants’ picture vocabulary and phonemic analysis pretest and posttest scores would determine if the experimental treatment program increased the students’ English language skills.

Prior to the experiment, all students learned under the traditional method described in Chapter 3. Two class sessions took place each week, and each session
lasted 40 minutes. Pretest and posttest scores on vocabulary and pronunciation tests were evaluated. The results of the pre-vocabulary and pre-pronunciation test scores for the experimental and control groups are illustrated in Tables 4-6 and 4-7. The researcher considered .05 as the significance level. The experimental group pretest means (see Table 4-12) on the vocabulary subtest were lower ($M = 63.05$) than those of the control group ($M = 67.97$). Independent sample $t$-tests may be used to compare the differences of means between the two groups (Agresti & Franklin, 2009; Johnson & Christensen, 2008). Therefore, an independent sample $t$-test was employed to compare mean differences between the two groups in the present study. Larger sample sizes will result in more precise $t$ distribution values (Agresti & Franklin, 2009; Hinton, 2004). The results suggest no statistical significance ($p = .18$) between the two groups on the mean scores of the pre-vocabulary test (see Table 4-6). The mean scores of the pre-pronunciation test of the experimental group ($M = 62.03$) were lower than the control group ($M = 64.69$) by 2.66 points (see Table 4-12). The significant level was $p = .76$ (see Table 4-7). Accordingly, no significant differences of the pre-vocabulary and pre-pronunciation test scores occurred between the two groups. Before the research study, the students in the experimental and control groups had similar levels of English proficiency.

**Pretest and Posttest Vocabulary Scores of the Experimental Group**

Table 4-8 shows the vocabulary test results of the experimental group before and after the 12-week music treatment. After students received music activities for inversion, the mean scores (91.48) of the posttest were higher than the pretest mean scores (63.05) by 28.43 points. According to Agresti and Franklin (2009), a paired-difference $t$-test is used when comparing the means of a single sample. Therefore, a paired $t$-test
was applied to compare the means of the pretest and posttest scores in the experimental group \( (p = .00) \). A significant difference in the mean scores therefore occurred between the pretest and posttest scores after music activities were integrated with learning English.

**Pretest and Posttest Vocabulary Scores of the Control Group**

Table 4-9 shows the results of the pretest and posttest vocabulary scores after the control group received the traditional method for teaching. Students' posttest scores \( (M = 70.86) \) were higher than their pretest scores \( (M = 67.97) \). The \( p \) value was above the significant level of .05. As a result, no statistically significant difference occurred between the means of the pretest and posttest scores. Consequently, no significant improvements of the control group occurred after the students received the 12-week traditional method for teaching.

**Experimental Group Pretest and Posttest Pronunciation Scores**

Table 4-10 shows the pronunciation test results of the experimental group before and after the 12-week music treatment. After students received music activities for inversion, the mean scores of the posttest \( (M = 92.27) \) were higher than the pretest mean scores \( (M = 62.03) \) by 30.23 points, \( p = .00 \). Accordingly, a significant difference occurred of the means scores between pretest and posttest after music activities were integrated with learning English.

**Pretest and Posttest of Pronunciation Scores of the Control Group**

Table 4-11 shows the results of pretest and posttest vocabulary scores after the control group received the traditional method of teaching with no music. Students' posttest scores \( (M = 67.81) \) were higher than their pretest scores \( (M = 64.69) \), \( p = .091 \).
As a result, no statistically significant difference occurred between the means of the pretest and posttest scores.

Most participants in the experimental and control groups showed overall improvement. In the experimental group, participants' overall English pronunciation score ranges were 25 to 95 on the pretest and 70 to 100 on the posttest. Sixty-one of the 64 students in the experimental group showed improvement in English pronunciation. Students' vocabulary score ranges were 20 to 95 on the pretest and 70 to 100 on the posttest. All participants in the experimental group showed improvement in the vocabulary test.

Table 4-12 shows the pretest and posttest scores for both the experimental and control groups. The experimental group's pretest and posttest English pronunciation mean scores increased by 30.24 points. The participants' vocabulary mean scores increased by 28.44 points.

Participants in the control group showed overall improvement. The students' overall pronunciation score ranged from 30 to 95 on the pretest and from 35 to 100 on the posttest. Thirty-six of the 64 participants in the control group showed improvement in English pronunciation. The control group students' vocabulary scores ranged from 20 to 100 on the pretest and from 15 to 100 on the posttest. Thirty-eight participants in the control group showed improvement in vocabulary retention. The control group's English pronunciation mean scores increased by 3.12 points. The control group students’ vocabulary mean scores increased by 2.89 points.

According to the results, students in both groups increased their pronunciation and vocabulary skills. The experimental group increased significantly compared to the
control group. Furthermore, the researcher utilized a one-way ANOVA to investigate the significance of the effect of music activities on English pronunciation and vocabulary retention of ESOL students.

Students' pronunciation gain scores were statistically and significantly affected by music activities ($p = .00$). Consequently, null Hypothesis 1 (music activities will have no effect on English pronunciation among fourth-grade ESOL students in Chia-Yi, Taiwan) was rejected (see Table 4-13). Music activities had a statistically significant effect on students' vocabulary retention skills ($p = .00$). Accordingly, null Hypothesis 2 (music activities will have no effect on English vocabulary retention among fourth-grade ESOL students in Chia-Yi, Taiwan) was rejected (see Table 4-14).

**Gender and musical experience with pronunciation and vocabulary gain scores**

Moreover, the researcher conducted a one-way ANOVA post hoc test to investigate the interactions of English pronunciation and vocabulary scores with students' gender and musical and English experience. Results showed that gender has no significant effect on students' pronunciation and vocabulary scores (see Tables 4-15 and 4-16). Four categories of musical experience were covariates: 1) students who currently take private music lessons; 2) students who do not take lessons now, but have taken lessons before; 3) students who participate in organized musical activities outside school; and 4) students who participate in leisurely musical activities outside school. In order to investigate and account for the effect of all covariates on participants' pronunciation and vocabulary scores (DV), a multiple analysis of covariance (MANCOVA) was utilized (see Tables 4-17 to 4-18).

Results indicated a significant effect of currently private music instruction on pronunciation scores ($p = .00$). The researcher utilized a one sample $t$-test to examine
mean score differences between experimental and control group students who were currently engaged in private music instruction. The results indicated a significant difference between mean gain scores of the two groups (see Tables 4-19). The finding suggested that the music treatment had a positive effect on participants' gain scores.

**English experience with pronunciation and vocabulary gain scores**

Three categories of English experience included: 1) students who have taken English lessons before third grade; 2) number of years of English instruction; and 3) students' whose outside English teacher is a native English speaker. Significant differences were found between students with less than one year of English lessons and all other students on the pronunciation measure. Measures of significance increased in accordance with the number of years of instruction (see Table 4-20). However, the number of years of English lessons had no effect on vocabulary gain scores (see Table 4-21). To explore the effect of English experience on pronunciation and vocabulary gain scores, a multiple analysis of covariance (MANCOVA) was applied to account for all covariates. Results have shown no significant effects of English experience on pronunciation and vocabulary scores (see Tables 4-22 and 4-23).

**IMMA scores, parents’ education, and parents’ attitudes toward students’ school work with pronunciation and vocabulary gain scores**

The researcher used a general linear model (GLM) ANOVA and a one-way ANOVA post hoc test to examine the effect of IMMA-tonal subtest scores, IMMA-rhythm subtest scores, IMMA composite scores, parents’ education, and parents’ attitudes toward students’ schoolwork on pronunciation and vocabulary gain scores. The effect of the IMMA-tonal subtest on pronunciation gain scores, the IMMA-rhythm subtest scores on vocabulary gain scores, and the IMMA composite scores on pronunciation and
vocabulary gain scores were all significant (see Tables 4-24 to 4-29). In addition, results showed that parents’ education and their attitudes toward students’ schoolwork had no effect on pronunciation and vocabulary gain scores (see Tables 4-30 to 4-35).

**Reliability**

To establish the reliability of this study, the researcher utilized the Pearson $r$ correlation coefficients to determine the interjudge reliability on the pronunciation test (see Table 4-36). The researcher graded 100% of the students. Judge 1 and Judge 2 scored 20% of the total participants on both the pretest and posttest. Pretest and posttest samples were rated “fully blind.” The judges rated data samples, which included pretest and posttest responses from both the experimental and control groups. Data samples were not identified as "pretest" or "posttest" results. The Pearson $r$ correlation coefficients were calculated using SPSS 18 to correlate the three judges’ ratings on both the pretest and posttest.

The Pearson $r$ correlation coefficients between Judge 1 and the researcher’s grading on the pretest ($n = 14$) was $r = .71$, $p = 0.005$. The correlation between the researcher and Judge 2 on the pretest ($n = 14$) was $r = .86$, $p = .00$. The posttest correlation and significant level ($n = 14$) between the researcher and Judge 1 was $r = .80$, $p = .001$. Scores between the researcher and Judge 2 on the posttest were $r = .89$, $p = .00$. For the combined pretest and posttest scores ($n = 28$), the correlation between the researcher and Judge 1 was $r = .85$, $p = .00$. The correlation between the researcher and Judge 2 ($n = 28$) was $r = .90$, $p = .00$. The correlations from the posttest scores presented a higher correlation than those on the pretest. The reliability was found to be significant on pretest, posttest, and combined pretest-posttest scores.
Posttest Questionnaire

After the treatment period, the experimental group received the posttest questionnaire. Posttest questionnaire items were divided into three categories: affective development, social skills development, and language development. Questionnaire items were analyzed to understand experimental group students’ attitudes after music instruction.

Affective Development

Items “a” through “g” were designed to examine students’ motivation in learning English (see Table 4-37). Most of the students (84%) felt that music activities raised their interest in learning English. Forty-eight percent strongly agreed that music activities helped them concentrate more in their English class and overcome a fear of learning English. Ninety-seven percent liked having music activities in English class, and those students (77%) wanted to continue having music activities in English class in the future. Sixty-six percent of students strongly agreed that music activities got them more involved in learning English, and they (67%) felt confident when learning English through singing songs.

Social Skills Development

Items “h” through “l” were intended to investigate students’ interaction and cooperation with classmates during music instruction (see Table 4-38). Ninety-two percent liked singing songs with classmates in English class. Fifty percent strongly agreed that music activities helped them work well with classmates, and 56% stated that music activities helped them get along better with classmates. Eighty percent felt that they learned to help classmates through music activities, and 73% stated that they learned to appreciate other people’s ideas through music activities.
Language Development

Items “m” through “s” were designed to explore students’ attitudes toward speaking English during music instruction (see Table 4-39). Eighty-one percent felt music activities helped them improve English pronunciation, and 67% felt that music activities also reduced their fear of speaking English. Fifty-two percent strongly agreed that music activities provided them with opportunities to learn new vocabulary words, and 58% stated that they learned vocabulary words faster than before. Seventy-five percent responded that music activities helped them enjoy practicing English pronunciation, and 84% stated that music activities helped improve their confidence when speaking English aloud. Seventy-five percent strongly agreed that music activities made them want to speak English even more.
<table>
<thead>
<tr>
<th>Demographic Information</th>
<th>A-Experimental ($n = 64$)</th>
<th>B-Control ($n = 64$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age*</td>
<td>9 years and 3 months</td>
<td>9 years and 4 months</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>34</td>
<td>38</td>
</tr>
<tr>
<td>Girls</td>
<td>30</td>
<td>26</td>
</tr>
<tr>
<td>Parents’ education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father</td>
<td>College</td>
<td>College</td>
</tr>
<tr>
<td>Mother</td>
<td>College</td>
<td>College</td>
</tr>
<tr>
<td>IMMA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tonal**</td>
<td>34.56</td>
<td>32.42</td>
</tr>
<tr>
<td>Rhythm**</td>
<td>33.45</td>
<td>30.91</td>
</tr>
<tr>
<td>Composite**</td>
<td>68.01</td>
<td>63.33</td>
</tr>
</tbody>
</table>

*Expressed by the mean age
**Expressed by the group mean
Table 4-2. Frequencies and percentages of students' learning English at school in the experimental group ($n = 64$)

<table>
<thead>
<tr>
<th>Questionnaires</th>
<th>Experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. I like English class.</td>
<td>n</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>14</td>
</tr>
<tr>
<td>Disagree</td>
<td>28</td>
</tr>
<tr>
<td>Undecided</td>
<td>7</td>
</tr>
<tr>
<td>Agree</td>
<td>10</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>5</td>
</tr>
<tr>
<td>b. How difficult do you find it to memorize vocabulary words?</td>
<td></td>
</tr>
<tr>
<td>Very difficult</td>
<td>17</td>
</tr>
<tr>
<td>Somewhat difficult</td>
<td>35</td>
</tr>
<tr>
<td>Undecided</td>
<td>3</td>
</tr>
<tr>
<td>Somewhat easy</td>
<td>6</td>
</tr>
<tr>
<td>Very easy</td>
<td>3</td>
</tr>
<tr>
<td>c. How do you feel about the activities that take place in English class?</td>
<td></td>
</tr>
<tr>
<td>Very dissatisfied</td>
<td>4</td>
</tr>
<tr>
<td>Somewhat dissatisfied</td>
<td>21</td>
</tr>
<tr>
<td>Undecided</td>
<td>19</td>
</tr>
<tr>
<td>Somewhat satisfied</td>
<td>16</td>
</tr>
<tr>
<td>Very satisfied</td>
<td>4</td>
</tr>
<tr>
<td>d. The way the English teacher teaches makes me interested in learning English.</td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>9</td>
</tr>
<tr>
<td>Disagree</td>
<td>21</td>
</tr>
<tr>
<td>Undecided</td>
<td>14</td>
</tr>
<tr>
<td>Agree</td>
<td>16</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>4</td>
</tr>
<tr>
<td>e. In the English classroom, we learn mostly through...</td>
<td></td>
</tr>
<tr>
<td>Writing</td>
<td>21</td>
</tr>
<tr>
<td>Reading</td>
<td>28</td>
</tr>
<tr>
<td>Undecided</td>
<td>1</td>
</tr>
<tr>
<td>Speaking</td>
<td>6</td>
</tr>
<tr>
<td>Listening</td>
<td>9</td>
</tr>
<tr>
<td>f. I enjoy having music activities in English class.</td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>11</td>
</tr>
<tr>
<td>Disagree</td>
<td>17</td>
</tr>
<tr>
<td>Undecided</td>
<td>26</td>
</tr>
<tr>
<td>Agree</td>
<td>7</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>3</td>
</tr>
<tr>
<td>g. Do you feel that learning English songs helps you learn the language?</td>
<td></td>
</tr>
<tr>
<td>Not at all effective</td>
<td>4</td>
</tr>
<tr>
<td>Not very effective</td>
<td>28</td>
</tr>
<tr>
<td>Undecided</td>
<td>19</td>
</tr>
<tr>
<td>Somewhat effective</td>
<td>7</td>
</tr>
<tr>
<td>Very effective</td>
<td>6</td>
</tr>
<tr>
<td>Questionnaires</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------</td>
<td>---</td>
</tr>
<tr>
<td><strong>h. I like learning English in school.</strong></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>8</td>
</tr>
<tr>
<td>Disagree</td>
<td>19</td>
</tr>
<tr>
<td>Undecided</td>
<td>5</td>
</tr>
<tr>
<td>Agree</td>
<td>21</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>11</td>
</tr>
<tr>
<td><strong>i. I like to raise my hand and answer questions in English class.</strong></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>16</td>
</tr>
<tr>
<td>Disagree</td>
<td>33</td>
</tr>
<tr>
<td>Undecided</td>
<td>4</td>
</tr>
<tr>
<td>Agree</td>
<td>9</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>2</td>
</tr>
<tr>
<td><strong>j. I study hard during English class.</strong></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>17</td>
</tr>
<tr>
<td>Disagree</td>
<td>28</td>
</tr>
<tr>
<td>Undecided</td>
<td>3</td>
</tr>
<tr>
<td>Agree</td>
<td>9</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>7</td>
</tr>
<tr>
<td><strong>k. I often think about other things during English class.</strong></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>18</td>
</tr>
<tr>
<td>Disagree</td>
<td>16</td>
</tr>
<tr>
<td>Undecided</td>
<td>5</td>
</tr>
<tr>
<td>Agree</td>
<td>24</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 4-4. Motivation in speaking English ($n = 64$)

<table>
<thead>
<tr>
<th>Questionnaires</th>
<th>Experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$n$</td>
</tr>
<tr>
<td>1. I like to practice speaking English.</td>
<td>19</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>22</td>
</tr>
<tr>
<td>Disagree</td>
<td>4</td>
</tr>
<tr>
<td>Undecided</td>
<td>12</td>
</tr>
<tr>
<td>Agree</td>
<td>7</td>
</tr>
<tr>
<td>2. I carefully pronounce vocabulary words and sentences when speaking English.</td>
<td>23</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>31</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
</tr>
<tr>
<td>Undecided</td>
<td>6</td>
</tr>
<tr>
<td>Agree</td>
<td>2</td>
</tr>
<tr>
<td>n. I practice speaking English with my friends and/or family.</td>
<td>14</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>37</td>
</tr>
<tr>
<td>Disagree</td>
<td>3</td>
</tr>
<tr>
<td>Undecided</td>
<td>8</td>
</tr>
<tr>
<td>Agree</td>
<td>2</td>
</tr>
<tr>
<td>0. I feel confident when speaking English in class.</td>
<td>16</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>32</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
</tr>
<tr>
<td>Undecided</td>
<td>13</td>
</tr>
<tr>
<td>Agree</td>
<td>1</td>
</tr>
<tr>
<td>p. I feel confident when speaking English to native speakers.</td>
<td>21</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>28</td>
</tr>
<tr>
<td>Disagree</td>
<td>4</td>
</tr>
<tr>
<td>Undecided</td>
<td>9</td>
</tr>
<tr>
<td>Agree</td>
<td>2</td>
</tr>
<tr>
<td>q. How well do you pronounce English words?</td>
<td>8</td>
</tr>
<tr>
<td>Very bad</td>
<td>26</td>
</tr>
<tr>
<td>Bad</td>
<td>17</td>
</tr>
<tr>
<td>Good</td>
<td>7</td>
</tr>
<tr>
<td>Very good</td>
<td>6</td>
</tr>
<tr>
<td>r. How do you feel when you speak English in front of your classmates?</td>
<td>14</td>
</tr>
<tr>
<td>Very uncomfortable</td>
<td>25</td>
</tr>
<tr>
<td>Uncomfortable</td>
<td>9</td>
</tr>
<tr>
<td>Comfortable</td>
<td>10</td>
</tr>
<tr>
<td>Very comfortable</td>
<td>6</td>
</tr>
</tbody>
</table>
Table 4-5. Learning English with my classmates \((n = 64)\)

<table>
<thead>
<tr>
<th>Questionnaires</th>
<th>Experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td>s. I like to learn English with classmates.</td>
<td>n %</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>8 13</td>
</tr>
<tr>
<td>Disagree</td>
<td>19 30</td>
</tr>
<tr>
<td>Undecided</td>
<td>26 41</td>
</tr>
<tr>
<td>Agree</td>
<td>8 13</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>3 5</td>
</tr>
<tr>
<td>t. I work well with my classmates in English lessons.</td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>16 25</td>
</tr>
<tr>
<td>Disagree</td>
<td>29 45</td>
</tr>
<tr>
<td>Undecided</td>
<td>6 9</td>
</tr>
<tr>
<td>Agree</td>
<td>7 11</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>6 9</td>
</tr>
<tr>
<td>u. I have learned how to help classmates in English lessons.</td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>14 22</td>
</tr>
<tr>
<td>Disagree</td>
<td>33 52</td>
</tr>
<tr>
<td>Undecided</td>
<td>4 6</td>
</tr>
<tr>
<td>Agree</td>
<td>10 16</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>3 5</td>
</tr>
</tbody>
</table>

Table 4-6. Independent sample \(t\)-test for the pre-vocabulary test scores between the experimental and control groups \((N = 128)\)

<table>
<thead>
<tr>
<th></th>
<th>F</th>
<th>p</th>
<th>t</th>
<th>df</th>
<th>Sig.</th>
<th>Mean</th>
<th>SE</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocabulary</td>
<td>a.</td>
<td>3.752</td>
<td>.055</td>
<td>-1.342</td>
<td>.182</td>
<td>-4.922</td>
<td>3.667</td>
<td>-12.179</td>
<td>2.335</td>
</tr>
</tbody>
</table>

a. Equal variances assumed  
b. Equal variances not assumed
Table 4-7. Independent sample t-test for pre-pronunciation test scores between the experimental and control groups \((N = 128)\)

<table>
<thead>
<tr>
<th></th>
<th>F</th>
<th>p</th>
<th>(t)</th>
<th>df</th>
<th>Sig.</th>
<th>Mean</th>
<th>SE</th>
<th>Lower</th>
<th>Upper</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pronunciation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a.</td>
<td>.094</td>
<td>.760</td>
<td>-.838</td>
<td>126</td>
<td>.404</td>
<td>-2.656</td>
<td>3.170</td>
<td>-8.931</td>
<td>3.618</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td></td>
<td></td>
<td>-.838</td>
<td>125.995</td>
<td>.404</td>
<td>-2.656</td>
<td>3.170</td>
<td>-8.931</td>
<td>3.618</td>
<td></td>
</tr>
</tbody>
</table>

a. Equal variances assumed
b. Equal variances not assumed

Table 4-8. Pretest and posttest vocabulary scores of the experimental group \((n = 64)\)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
<th>Lower</th>
<th>Upper</th>
<th>(t)</th>
<th>df</th>
<th>(p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest-Posttest</td>
<td>28.43750</td>
<td>14.93039</td>
<td>1.86630</td>
<td>24.70800</td>
<td>32.16700</td>
<td>15.237</td>
<td>63</td>
<td>.000*</td>
</tr>
</tbody>
</table>

*\(p < .05\)

Table 4-9. Pretest and posttest vocabulary scores of the control group \((n = 64)\)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
<th>Lower</th>
<th>Upper</th>
<th>(t)</th>
<th>df</th>
<th>(p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest-Posttest</td>
<td>2.89063</td>
<td>12.71809</td>
<td>1.58976</td>
<td>-.28626</td>
<td>6.06751</td>
<td>1.818</td>
<td>63</td>
<td>.074</td>
</tr>
</tbody>
</table>

Table 4-10. Pretest and posttest pronunciation scores of the experimental group \((n = 64)\)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
<th>Lower</th>
<th>Upper</th>
<th>(t)</th>
<th>df</th>
<th>(p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest-Posttest</td>
<td>30.23438</td>
<td>17.46720</td>
<td>2.18340</td>
<td>25.87120</td>
<td>34.59755</td>
<td>13.847</td>
<td>63</td>
<td>.000*</td>
</tr>
</tbody>
</table>

*\(p < .05\)
Table 4-11. Pretest and posttest pronunciation scores of the control group (n = 64)  

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
<th>Lower</th>
<th>Upper</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest-Posttest</td>
<td>3.12500</td>
<td>14.57057</td>
<td>1.82132</td>
<td>-.51462</td>
<td>6.76462</td>
<td>6.76462</td>
<td>1.716</td>
<td>63</td>
</tr>
</tbody>
</table>

Table 4-12. Pretest and posttest scores on the picture vocabulary and phonemic analysis subtests for all groups (N = 128)  

<table>
<thead>
<tr>
<th>Group</th>
<th>Pronunciation</th>
<th>Vocabulary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>Experimental</td>
<td>62.03</td>
<td>92.27</td>
</tr>
<tr>
<td>Control</td>
<td>64.69</td>
<td>67.81</td>
</tr>
</tbody>
</table>

Table 4-13. One-way analysis of variance for effect of music activities on students’ pronunciation gain scores  

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>23517.383</td>
<td>1</td>
<td>23517.383</td>
<td>90.905</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>32596.484</td>
<td>126</td>
<td>258.702</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>56113.867</td>
<td>127</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4-14. One-way analysis of variance for effect of music activities on students’ vocabulary gain scores  

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>20884.570</td>
<td>1</td>
<td>20884.570</td>
<td>108.585</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>24233.984</td>
<td>126</td>
<td>192.333</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>45118.555</td>
<td>127</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4-15. One-way analysis of variance (gender and pronunciation gain scores)

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>130.286</td>
<td>1</td>
<td>130.286</td>
<td>.293</td>
<td>.589</td>
</tr>
<tr>
<td>Within Groups</td>
<td>55983.581</td>
<td>126</td>
<td>444.314</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>56113.867</td>
<td>127</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4-16. One-way analysis of variance (gender and vocabulary gain scores)

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>513.545</td>
<td>1</td>
<td>513.545</td>
<td>1.451</td>
<td>.231</td>
</tr>
<tr>
<td>Within Groups</td>
<td>44605.010</td>
<td>126</td>
<td>354.008</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>45118.555</td>
<td>127</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4-17. Multiple analysis of covariance (musical experience and pronunciation gain scores)

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>26967.405a</td>
<td>5</td>
<td>5393.481</td>
<td>22.576</td>
<td>.000</td>
</tr>
<tr>
<td>Intercept</td>
<td>8281.309</td>
<td>1</td>
<td>8281.309</td>
<td>34.664</td>
<td>.000</td>
</tr>
<tr>
<td>1.</td>
<td>3187.076</td>
<td>1</td>
<td>3187.076</td>
<td>13.340</td>
<td>.000*</td>
</tr>
<tr>
<td>2.</td>
<td>9.952</td>
<td>1</td>
<td>9.952</td>
<td>.042</td>
<td>.839</td>
</tr>
<tr>
<td>3.</td>
<td>23.181</td>
<td>1</td>
<td>23.181</td>
<td>.097</td>
<td>.756</td>
</tr>
<tr>
<td>4.</td>
<td>377.781</td>
<td>1</td>
<td>377.781</td>
<td>1.581</td>
<td>.211</td>
</tr>
<tr>
<td>Group</td>
<td>25746.614</td>
<td>1</td>
<td>25746.614</td>
<td>107.769</td>
<td>.000</td>
</tr>
<tr>
<td>Error</td>
<td>29146.462</td>
<td>122</td>
<td>238.905</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>91725.000</td>
<td>128</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>56113.867</td>
<td>127</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*<p < .05
1. Students currently take private music lessons. 2. Students not taking lessons now but have taken lessons before. 3. Students’ participation in organized musical activities outside of school. 4. Students’ participation in leisure musical activities outside of school.
Table 4-18. Multiple analysis of covariance (musical experience and vocabulary gain scores)

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>22489.686a</td>
<td>5</td>
<td>4497.937</td>
<td>24.250</td>
<td>.000</td>
</tr>
<tr>
<td>Intercept</td>
<td>7966.264</td>
<td>1</td>
<td>7966.264</td>
<td>42.949</td>
<td>.000</td>
</tr>
<tr>
<td>1.</td>
<td>1159.321</td>
<td>1</td>
<td>1159.321</td>
<td>6.250</td>
<td>.064</td>
</tr>
<tr>
<td>2.</td>
<td>553.275</td>
<td>1</td>
<td>553.275</td>
<td>2.983</td>
<td>.087</td>
</tr>
<tr>
<td>3.</td>
<td>23.354</td>
<td>1</td>
<td>23.354</td>
<td>.126</td>
<td>.723</td>
</tr>
<tr>
<td>4.</td>
<td>145.016</td>
<td>1</td>
<td>145.016</td>
<td>.782</td>
<td>.378</td>
</tr>
<tr>
<td>Group</td>
<td>22044.333</td>
<td>1</td>
<td>22044.333</td>
<td>118.849</td>
<td>.000</td>
</tr>
<tr>
<td>Error</td>
<td>22628.868</td>
<td>122</td>
<td>185.483</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>76525.000</td>
<td>128</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>45118.555</td>
<td>127</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Students currently take private music lessons. 2. Students not taking lessons now but have taken lessons before. 3. Students’ participation in organized musical activities outside of school. 4. Students’ participation in leisure musical activities outside of school.

Table 4-19. One sample t test (students currently taking private music lessons in the experimental and control groups and pronunciation gain scores)

<table>
<thead>
<tr>
<th>Mean</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2-tailed)</td>
<td>Difference</td>
</tr>
<tr>
<td>t</td>
<td>df</td>
</tr>
<tr>
<td>1.</td>
<td>15.168</td>
</tr>
<tr>
<td>2.</td>
<td>21.937</td>
</tr>
</tbody>
</table>

*p < .05
1. Students currently take private lessons in the experimental group
2. Students currently take private lessons in the experimental group
Table 4-20. One-way analysis of variance post hoc test (the number of years of English instruction and pronunciation gain scores)

<table>
<thead>
<tr>
<th>Year</th>
<th>Mean Difference</th>
<th>SE</th>
<th>p</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>-27.266*</td>
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<td>-4.150</td>
<td>4.701</td>
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*p < .05
**1. (less than one year) 2. (1 year) 3. (2 years) 4. (3 years) 5. (4 or more than 4 years)
Table 4-21. One-way analysis of variance post hoc test (the number of years student has taken English lessons and vocabulary gain scores)

<table>
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<th>p</th>
<th>95% Confidence Interval</th>
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<td>7.773</td>
<td>.990</td>
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<td>4</td>
<td>10.504</td>
<td>5.782</td>
<td>.512</td>
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<td>5</td>
<td>7.854</td>
<td>4.870</td>
<td>.628</td>
</tr>
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<td>3</td>
<td>10.000</td>
<td>9.485</td>
<td>.892</td>
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<td>4</td>
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<td>7.936</td>
<td>.385</td>
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<td>13.600</td>
<td>7.298</td>
<td>.485</td>
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<tr>
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<td>1</td>
<td>-4.254</td>
<td>7.773</td>
<td>.990</td>
</tr>
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<td>-10.000</td>
<td>9.485</td>
<td>.892</td>
</tr>
<tr>
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<td>4</td>
<td>6.250</td>
<td>8.998</td>
<td>.975</td>
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<td>5.782</td>
<td>.512</td>
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<td>7.936</td>
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<tr>
<td>5**</td>
<td>1</td>
<td>-7.854</td>
<td>4.870</td>
<td>.628</td>
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<td>2</td>
<td>-13.600</td>
<td>7.298</td>
<td>.485</td>
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<td></td>
<td>4</td>
<td>2.650</td>
<td>6.653</td>
<td>.997</td>
</tr>
</tbody>
</table>

**1. (less than one year) 2. (1 year) 3. (2 years) 4. (3 years) 5. (4 or more than 4 years)
Table 4-22. Multiple analysis of covariance (English experience and pronunciation gain scores)

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<th>Source</th>
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<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>23931.297a</td>
<td>4</td>
<td>5982.824</td>
<td>22.866</td>
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</tr>
<tr>
<td>Intercept</td>
<td>4127.140</td>
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<td>15.774</td>
<td>.000</td>
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<tr>
<td>1.</td>
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<td>272.003</td>
<td>1.040</td>
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<td>261.647</td>
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1. Students have taken English lessons before third grade. 2. The number of years of English instruction 3. Students’ outside English teacher who is a native English speaker
Table 4-23. Multiple analysis of covariance (English experience and vocabulary gain scores)

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<th>p</th>
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</thead>
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<td>7634.558</td>
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</tr>
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<td>17193.084</td>
<td>145.041</td>
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1. Students have taken English lessons before third grade. 2. Number of years of English instruction 3. Students' outside English teacher who is a native English speaker

Table 4-24. General linear model (GLM) analysis of variance to examine pronunciation gain scores with IMMA-tonal scores

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<th>p</th>
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<td>13661.364</td>
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<td>17853.898</td>
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</tr>
<tr>
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</tr>
<tr>
<td>Corrected Total</td>
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*p < .0
Table 4-25. General linear model (GLM) analysis of variance to examine vocabulary gain scores with IMMA-tonal scores

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<td>10443.631</td>
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Table 4-26. General linear model (GLM) analysis of variance to examine pronunciation gain scores with IMMA-rhythm scores

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<td>128</td>
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Table 4-27. General linear model (GLM) to examine vocabulary gain scores with IMMA-rhythm scores

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<th>F</th>
<th>p</th>
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*p < .05
Table 4-28. General linear model (GLM) analysis of variance to examine pronunciation gain scores with IMMA composite scores

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<th>F</th>
<th>p</th>
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<tr>
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*p < .05

Table 4-29. General linear model (GLM) analysis of variance to examine vocabulary gain scores with IMMA composite scores

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<th>F</th>
<th>p</th>
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</table>

*p < .05
Table 4-30. One-way analysis of variance post hoc test (father’s education and pronunciation gain scores)

<table>
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<tr>
<th>Ed</th>
<th>Mean Difference</th>
<th>SE</th>
<th>p</th>
<th>95% Confidence Interval</th>
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* 1. (Middle school or below) 2. (High school) 3. (Vocational college) 4. (University) 5. (Graduate degree)
Table 4-31. One-way analysis of variance post hoc test (father’s education and vocabulary gain scores)

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* 1. (Middle school or below) 2. (High school) 3. (Vocational college) 4. (University) 5. (Graduate degree)
Table 4-32. One-way analysis of variance post hoc test (mother’s education and pronunciation gain scores)

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<th>Upper Bound</th>
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* 1. (Middle school or below) 2. (High school) 3. (Vocational college) 4. (University) 5. (Graduate degree)
Table 4-33. One-way analysis of variance post hoc test (mother’s education and vocabulary gain scores)

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<td>12.92</td>
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* 1. (Middle school or below) 2. (High school) 3. (Vocational college) 4. (University) 5. (Graduate degree)
Table 4-34. General linear model (GLM) analysis of variance to examine pronunciation gain scores with parents’ attitudes toward students’ schoolwork

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<th>p</th>
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Table 4-35. General linear model (GLM) analysis of variance to examine vocabulary gain scores with parents’ attitudes toward students’ schoolwork

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Table 4-36. Reliability coefficients of pretest, posttest, and pretest/posttest combined

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<th>Researcher &amp; J2</th>
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<td>.89**</td>
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* p < .01 ** p ≤ .001
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<td>2</td>
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<tr>
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<td>14</td>
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<tr>
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<td>14</td>
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</tr>
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<td>2</td>
</tr>
<tr>
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<tr>
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<tr>
<td>d. Music activities help me overcome my fear of learning English.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Disagree</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Undecided</td>
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<td>27</td>
</tr>
<tr>
<td>Agree</td>
<td>11</td>
<td>17</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>31</td>
<td>48</td>
</tr>
<tr>
<td>e. I would like to continue having music activities in English class in the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>future.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Undecided</td>
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<td>19</td>
</tr>
<tr>
<td>Agree</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>37</td>
<td>58</td>
</tr>
<tr>
<td>f. I feel confident when learning English through singing songs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Undecided</td>
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<tr>
<td>Agree</td>
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<td>17</td>
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<tr>
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<td>43</td>
<td>67</td>
</tr>
<tr>
<td>g. Music activities make me more involved in learning English.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Undecided</td>
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<td>14</td>
</tr>
<tr>
<td>Agree</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>42</td>
<td>66</td>
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Table 4-38. The effect of music activities on social skills

<table>
<thead>
<tr>
<th>Questionnaires</th>
<th>Experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td>h. I like to sing songs with classmates in English class.</td>
<td>n</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>1</td>
</tr>
<tr>
<td>Undecided</td>
<td>4</td>
</tr>
<tr>
<td>Agree</td>
<td>14</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>45</td>
</tr>
<tr>
<td>i. Music activities help me work well with classmates.</td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>1</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
</tr>
<tr>
<td>Undecided</td>
<td>14</td>
</tr>
<tr>
<td>Agree</td>
<td>15</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>32</td>
</tr>
<tr>
<td>j. Music activities help me get along better with classmates.</td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>1</td>
</tr>
<tr>
<td>Undecided</td>
<td>16</td>
</tr>
<tr>
<td>Agree</td>
<td>11</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>36</td>
</tr>
<tr>
<td>k. I have learned how to help classmates through music activities.</td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
</tr>
<tr>
<td>Undecided</td>
<td>11</td>
</tr>
<tr>
<td>Agree</td>
<td>14</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>37</td>
</tr>
<tr>
<td>l. I know how to appreciate other people’s ideas through music activities.</td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>1</td>
</tr>
<tr>
<td>Disagree</td>
<td>3</td>
</tr>
<tr>
<td>Undecided</td>
<td>13</td>
</tr>
<tr>
<td>Agree</td>
<td>15</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>32</td>
</tr>
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</table>
Table 4-39. Motivation in speaking English

<table>
<thead>
<tr>
<th>Questionnaires</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>m. Music activities help me improve my English pronunciation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Disagree</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Undecided</td>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td>Agree</td>
<td>13</td>
<td>20</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>39</td>
<td>61</td>
</tr>
<tr>
<td>n. Music activities provide me with many opportunities to learn vocabulary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>words.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Disagree</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Undecided</td>
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<td>25</td>
</tr>
<tr>
<td>Agree</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>33</td>
<td>52</td>
</tr>
<tr>
<td>o. Through music activities, I enjoy practicing English pronunciation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Undecided</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>Agree</td>
<td>14</td>
<td>22</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>34</td>
<td>53</td>
</tr>
<tr>
<td>p. Through music activities, I learned vocabulary words faster than before.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Undecided</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>Agree</td>
<td>13</td>
<td>20</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>37</td>
<td>53</td>
</tr>
<tr>
<td>q. During music activities, I can confidently speak English aloud.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Undecided</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td>Agree</td>
<td>13</td>
<td>20</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>41</td>
<td>64</td>
</tr>
<tr>
<td>r. Music activities can reduce my fear of speaking English.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Disagree</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Undecided</td>
<td>15</td>
<td>23</td>
</tr>
<tr>
<td>Agree</td>
<td>16</td>
<td>25</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>27</td>
<td>42</td>
</tr>
<tr>
<td>s. Music activities make me want to speak English even more.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
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<td>0</td>
</tr>
<tr>
<td>Undecided</td>
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<td>13</td>
</tr>
<tr>
<td>Agree</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>48</td>
<td>75</td>
</tr>
</tbody>
</table>
CHAPTER 5
DISCUSSION AND CONCLUSIONS

The purpose of this study was to investigate the effects of music activities on English pronunciation and vocabulary retention of fourth-grade ESOL students in Chia-Yi, Taiwan. One hundred and twenty-eight students participated in this study. Students were from one elementary school and taking English lessons during the study. Experimental group students \((n = 64)\) received 12 weeks of lessons to help improve their English pronunciation and vocabulary retention. Conversely, students in the control group \((n = 64)\) had a 12-week traditional method for teaching. This chapter contains the conclusions of this study, the limitations of the study, the implications for pedagogical practice, and recommendations for future language and music teaching.

Summary of the Research Findings

The following conclusions were derived from the results of this study.

**English Pronunciation**

- A statistically significant difference was found between pretest and posttest pronunciation scores for the experimental group after music instruction \((p = .00)\).

- No statistically significant difference was found between pretest and posttest pronunciation scores for the control group after the students received 12 weeks of traditional method teaching \((p = .09)\).

- A statistically significant difference was found between pronunciation gain scores and students who received English instruction for less than one year (See Table 4-20).

- A statistically significant difference in pronunciation scores was found among 1) students who currently take private music lessons \((p = .00)\), 2) scores on the IMMA-tonal subtest \((p = .00)\), and 3) the IMMA composite scores \((p = .01)\).

- No statistically significant difference was found between pronunciation scores and 1) gender \((p = .59)\), 2) students who did not take private music lessons during the study, but had taken lessons before \((p = .84)\), 3) students who participated in organized musical activities outside school \((p = .76)\), 4) students who participated in leisurely musical activities outside school \((p = .21)\), 5)
students who had taken English lessons before third grade \((p = .31)\), and 6) students whose outside English teacher was a native English speaker \((p = .29)\). Accordingly, students’ pronunciation scores were not affected by gender, previous private music lessons, music activities outside school, studying English earlier, or the nationality of their outside English teacher.

Vocabulary Retention

- A statistically significant difference was found between pretest and posttest vocabulary scores for the experimental group after music instruction \((p = .00)\).
- No statistically significant difference was found between pretest and posttest vocabulary scores for the control group after 12 weeks of traditional method teaching \((p = .07)\).
- A statistically significant difference in the vocabulary scores was found among 1) scores on the IMMA-rhythm subtest \((p = .03)\) and 2) the IMMA composite scores \((p = .00)\).
- No statistical significance was found among the vocabulary scores and 1) gender \((p = .23)\), 2) students who currently have taken private music lessons \((p = .06)\), 3) students who did not take private music lessons during the study, but had taken lessons before \((p = .09)\), 4) students who participated in organized musical activities outside school \((p = .72)\), 5) students who participated in leisurely musical activities outside school \((p = .38)\), 6) students who had taken English lessons before third grade \((p = .56)\), and 7) students whose outside English teacher was a native English speaker \((p = .06)\). Accordingly, students’ vocabulary scores were not affected by gender, private music instruction during the study, previous private music lessons, music activities outside school, studying English earlier, or the nationality of their outside English teacher.

Student Impressions Prior to and Subsequent to the Study

Based on the survey questionnaire results, experimental group students had positive attitudes toward music activities integrated with English instruction. In the language development category, the majority of the students agreed that music activities helped them improve their English pronunciation and they learned vocabulary words faster than they had previously.

In this study, the researcher-designed curriculum required students to exercise teamwork and cooperation during the activities, which enhanced students’ interaction
with their peers. Prior to the study, only 20% of the students agreed that they worked well with their classmates during English lessons. Responses on the posttest questionnaire indicated that 73% of the students felt that they worked well with their classmates during English lessons. Overall, the responses on the posttest questionnaire indicated that most of the students agreed that they liked learning English with classmates through music activities. In addition, more than 90% of the students liked singing songs in English class with their classmates.

In the affective development domain, most students had different attitudes after music activities were integrated with learning English. More than 50% disagreed that they like English class prior to the music instruction implementation. At the end of the study, 84% felt that music activities raised their interests in learning English. Moreover, 97% expressed that they liked having music activities in English class. In addition, 83% agreed that they became more involved and engaged in learning English.

**Limitations**

There were a number of limitations, which may or may not have influenced outcomes of this study. First, the participants of this study came from only one elementary school. More substantial results could be achieved by selecting additional schools and then randomly assigning schools and students into two groups.

Second, the length of the study could be a limitation. The instructional treatment period of the present study lasted only 12 weeks. As students began to recognize and apply music activities in language learning, the music instructional time was close to completion. Because participants were second language learners, students could have gained more pronunciation and vocabulary retention skills by having more time to practice and become accustomed to applying music for learning English.
Third, the present study was administered by only one English teacher. Generalization of this study could be increased by having more language teachers implement the researcher-designed curriculum. Fourth, certain variables (history, testing, and differential selection) may have affected the internal validity of this study. These covariates may contribute to the students' language learning outcomes. Accordingly, the researcher cannot assert that the notable improvement of the experimental group students' language skills was entirely ascribed to the researcher-designed curriculum. Finally, researchers and educators should consider the limitations of this study when generalizing these research findings. Nonetheless, results of this study have shown that students who received music activities as a teaching strategy had significant improvement compared to students who had no music instruction in the language classroom.

**Conclusions and Implications**

The research results indicated that music contributes to language learning, confirming the findings of Cruz-Cruz (2005) and Flores et al. (2006). The findings indicated that current private music lessons, IMMA-tonal subtest scores, and IMMA composite scores had a statistically significant effect on pronunciation gain scores. In addition, results from the study suggested statistical significance when vocabulary scores were compared with scores on the IMMA-rhythm subtest and the IMMA composite test. These results may affirm the findings by Flores et al. (2006) and Anvari et al. (2002), both of whom suggested that music benefits language acquisition. Students who had musical training became more proficient at syllable detection, pronunciation, and phonemic discrimination, all of which contribute to language learning.
Furthermore, the researcher suggests the following implications: first, interesting and comprehensive activities play important roles in language learning (Bell, 1981; Carlos, 2003; Gromko, 2005; Pyper, 2005; Yeoman, 1996). According to the research findings, students' attitudes changed after the study because music activities stimulated students' motivation and enhanced their engagement in the class. In addition, music activities provided students the opportunity to practice the second language. Students can memorize vocabulary words and focus on their pronunciation in enjoyable and artistic ways.

Second, music activities may help students who have an attention deficit disorder. Singing and rhyming interesting songs provide the opportunity for students to actively memorize and feel a sense of achievement in language learning. Third, introverted individuals may develop a more extroverted personality through the researcher-designed curriculum. Students develop interpersonal skills through cooperation with their peers in group activities. Reponses from the posttest questionnaire support this conclusion.

Fourth, results of this study demonstrated that the researcher-designed curriculum can be applied by language teachers. The researcher-designed curriculum may benefit both English and music teachers to practice sequential instruction and develop inclusive pedagogies for their students. This was a key finding, as positive results were not dependent upon the instructional presence of a music educator, which will serve as a noteworthy contribution to the field of secondary language study. Music therapy, speech-language pathology, and language educators, who work with speech-impaired
children and second language learners, may apply the researcher-designed curriculum in their work environments.

**Recommendations for Further Study**

The number of English language learners is increasing worldwide. The findings from this research suggest that music can benefit language proficiency for second language learners. Recommendations for further study are as follows.

- A random assignment of students into experimental and control groups is highly recommended. By applying random assignment, the researcher may enhance the probabilities of both groups on extraneous variables.

- According to Krashen (1982), language acquisition is developed through “comprehensible input” throughout a period of time. Therefore, a longitudinal study is needed to investigate students’ language development across time.

- A portfolio assessment may be designed for teachers and students to track students’ affective, language, and social skills development.

- Similar research could be duplicated with different age groups. Music activities may affect each group in various ways. Language teachers may have to adjust their pedagogy accordingly.

- Additional practice and positive reinforcement should be applied for slower learners. With proper practice and reinforcement, students are more likely to have successful learning experiences and positive attitudes toward language learning.

- This research could be conducted in different countries. Music activities might affect students’ language skills differently in various countries.

Finally, the findings of this study, in conjunction with the existing literature and the researcher-designed curriculum, enrich teaching and research professional fields. This researcher recommends that teachers apply these results and develop inclusive pedagogies to enhance student learning. This study might then inspire researchers, therapists, and educators to find new pedagogies to facilitate students’ reading fluency,
speech-impairment, attention deficit disorder, and language acquisition in school settings around the world.
APPENDIX A
INSTRUCTIONAL MUSIC TREATMENT

Textbook: *Hello, Darbie!* (Chen et al., 2006)
Music aptitude test: Intermediate Measures of Music Audiation (IMMA)
Test instrument: Test of Language Development (TOLD- P: 3)

Day 1
- Greeting
- Name game

My Ma-ma told me to tell you to say my name just like I do!
- Teacher modeling patch the beat (2 beats pattern)
- Students call and response
- Teacher model the rhyme with patching the beat
- Students call and response
- Everyone sing the rhyme and introduce their name by turns
- Find a friend song

Find a Friend

Find a friend
- Teacher models the song
- Students learn the song in chunking
- Sing the song with CD
- Music aptitude test: Intermediate Measures of Music Audiation (IMMA)

Day 2
- Pretests
- Phonemic Analysis
- Picture Vocabulary
Day 3: Lesson one: What time is it? (Content from *Hello, Darbie!*)

Objective:
- The student will be able to speak, write, and apply the vocabulary words in the textbook.

Materials:
CD, CD player, Vocabulary flash cards, Picture of the clock

Activities:
- Warm up (5 minutes)
- Sing the “What time is it?” song and point out the time on their own clock (10 minutes)

Chen et al., 2006

Discuss “what time is it?” in the song
- Present the vocabulary (20 minutes)
  - Ex: Teacher: Now, let’s look at the clock. What time is it?
    Students: It is seven fifty.
  - Students sing “what time is it?” and teacher shows the vocabulary cards 7:30/2:20
  - Students sing “what time is it?” and students show 7:30/5:20 on their own clock at the same time
  - Discuss other vocabulary and learn to read the clock in English (11:20, 11:25, 11:30, 11:35, 11:40, 11:45, 11:50, 11:55, 12:00)

- Work book time (8 minutes)
  - Students practice writing the vocabulary words for today
- Review the vocabulary flash cards
- Assignments (2 minutes)
  - a. Review and write the vocabulary words
  - b. Color the vocabulary cards
Day 4
Objectives:

- Students learn to read the clock in English: (11:20, 11:25, 11:30, 11:35, 11:40, 11:45, 11:50, 11:55, 12:00)
- The student will be able to answer the questions by using “What time is it?” & It’s ______.
- Sing the song “What time is it?” (Students will be able to read the clock in English)

Materials:
CD, CD player, Vocabulary flash cards, Sentence flash cards, Poster of the song lyrics

Activities:
- Warm up & review (7 minutes)
- Presentation of the sentences (10 minutes)
  - Ex: Teacher: What time is it?
    (Judy)
    Student: It’s eleven thirty.
    (David)
    Teacher: What time is it now?
    (Judy)
    Student: It’s eleven forty.
    (David)
- Sing “What time is it?” song and change different vocabulary words (e.g. 5:10, 11:20, 11:25, 11:30, 11:35, 11:40, 11:45, 11:50, 11:55, 12:00 ..etc.)
- Sing “What time is it?”
  - Divide students into two groups → take turns singing the song
- Practice the sentences (10 minutes)
  - Let’s sing, listen and find the vocabulary words
- Review the vocabulary words & sentences (6 minutes)
- Assignment (2 minutes)
  a. Sing and write “what time is it?”

Day 5
Objectives:

- Students become familiar with the song “What time is it?”
- Students are able to pronounce “f & v” through singing “my father is talking to a vampire?”

Materials: CD, CD player, Vocabulary flash cards

Activities:
- Warm up & review (10 minutes)
- Divide students into three groups
  - Have students sing “What time is it?” by turns
- Introduce the pronunciation of “f & v” (12 minutes)
  - “f”: father, forty..etc.; “v”: vampire, very, five…etc.
• Activities of phonics (15 minutes)
  - Sing the rhyme “f” & “v”

"f" & "v"

J.J.

- Teacher demonstrates the rhyme
- Students learn the rhyme in chunking
- Students sing the rhyme with CD
- Phonological awareness game: if the student hears “f” in a word, he/she will need to raise the right hand; if the student hears “v” in a word, he/she will need to raise the left hand

• Let’s listen & write
  - “f” & “v” (p.8)
• Assessment: “f” & “v” (p.9)
• Assignments (3 minutes)
  - Practice the pronunciation of each vocabulary word
  - Sing the rhyme “f & v”

Day 6
Objectives:
  • Students enhance phonological awareness

Materials:
  Triangles, Wood blocks, Hand drums, Rhythm sticks, Vocabulary flash cards.

Activities:
  • Warm up & review (10 minutes)
  • Using instruments for reinforcing phonological awareness (15 minutes)
    - The teacher demonstrates the syllables of each word on the instrument (e.g. triangles, wood blocks...etc.)
    - Divide class into six groups
    - Assign different vocabulary words to each group
    Ex: Group 1
Father father vampire vampire
Twenty twenty forty-five forty-three
- Have each group identify each syllable of the word and play on the instruments → Group performance by turns
- Sing the rhyme “f & v” with movement (15 minutes)
- Use speech and body percussion to demonstrate each word in the lyrics
- Divide class into six groups
- Each group discusses and creates own speech and body percussion for the rhyme (f & v) → Group performance by turns
- Assignment (2 minutes)
  - Review the vocabulary words which already learned

Day 7: Where are Andy and Betty?
Objective:
- The student will be able to speak, write, and apply the vocabulary words in the textbook.

Materials:
CD, CD player, Vocabulary flash cards, Picture of the clock

Activities:
- Warm up & review (5 minutes)
- Sing the “Where are they?” song (10 minutes)

Where are they?

- Discuss “Where are they?” in the song
- Present the vocabulary (20 minutes)
  - Bedroom/bathroom/kitchen/living room/dining room
  - Ex: Teacher: Where are they? Students: They’re in the bathroom.
  - Students sing “Where are they?” and teacher points the vocabulary cards
  - Students sing “Where are they?” and point the vocabulary cards on their own cards at the same time
Day 8:
Objectives:
- Students become familiar with the vocabulary: Bedroom/bathroom/kitchen/living room/dining
- The student will be able to answer the questions by using “Where are Andy and Betty?” & They are in the ______.”
- Sing the song “Where are they?” (Students will be able to memorize names of the vocabulary words)

Materials:
CD, CD player, Vocabulary flash cards, Sentence flash cards, Poster of the song lyrics, Pictures of Andy and Betty

Activities:
- Warm up & review (7 minutes)
- Presentation of the sentences (10 minutes)
  - Ex: Teacher: Where’s your dad?
    (Betty)
    Student: He is in the bedroom
    (Andy)
- Sing “Where are they?” song and change different vocabulary words (e.g. Bedroom/bathroom/kitchen...etc.)
- Sing the song “Where are they?” with CD
  - Divide students into two groups → take turns sing the song
- Practice the sentences (10 minutes)
  - Let’s sing, listen and find the vocabulary words (p.18-19)
- Review the vocabulary words & sentences (6 minutes)
- Assignment (2 minutes)
  - Sing and write “Where are they?”

Day 9:
Objectives:
- Students become familiar with the rhyme “Where’re they?”
- Students are able to pronounce “l & r” through singing “He is in the living room!”

Materials: CD, CD player, Vocabulary flash cards

Activities:
- Warm up & review (10 minutes)
- Divide students into three groups
- Have students sing “Where’re they?” by turns
  • Introduce the pronunciation of “l & r” (12 minutes)
    - “l”: living room, look., etc.; “r”: red, door… etc.
  • Activities of phonics (15 minutes)
    - Sing the rhyme “l” & “r”

"l" & "r"

Bass Drum

- Teacher demonstrates the rhyme
- Students learn the rhyme in chunking
- Students sing the rhyme with CD
- Phonological awareness game: if the student hears “l” in a word, he/she will need to raise the right hand; if the student hears “r” in a word, he/she will need to raise the left hand

• Let’s listen & write
  - “l” & “r” (p.20)
• Assessment: “f” & “v” (p.21)
• Assignments (3 minutes)
  - Practice the pronunciation of each vocabulary word
  - Sing the rhyme “l & r”

Day 10:
Objectives:
- Students enhance phonological awareness
Materials:
  Triangles, Wood blocks, Hand drums, Rhythm sticks, Vocabulary flash cards.
Activities:
  • Warm up & review (10 minutes)
  • Using instruments for reinforcing phonological awareness (15 minutes)
    - The teacher demonstrates the syllables of each word on the instrument (e.g. triangles, wood blocks… etc.)
    - Divide class into six groups
- Assign different vocabulary words to each group
  Ex: Group 1
  Red bear red bear
  Bedroom bedroom kitchen kitchen

- Have each group identify each syllable of the word on the instruments →
  Group performance by turns

  ● Sing “He is in the living room!” with movement (15 minutes)
  - Use speech and body percussion to demonstrate each word in the lyrics
  - Divide the class into six groups
  - Each group discusses and creates its own speech and body percussion for the rhyme (He is in the living room!) → Group performance by turns

- Assignment (2 minutes)
  - Review the vocabulary words which already learned

Day 11: What do you like?
Objective:
  ● The student will be able to speak, write, and apply the vocabulary words in the textbook.

Materials:
Guitar, CD, CD player, Vocabulary flash cards, Picture of Mr. Fruit

Activities:
  ● Warm up & greeting song (5 minutes)
  ● Sing the “Fruit” song and point to Mr. fruit’s face (10 minutes)
    - Discuss the different fruits in the song
    - Apple/apples, banana/bananas, lemon/lemons, tomato/tomatoes, pear/pears
  ● Present the vocabulary (20 minutes)
    - Ex: Teacher: Now, let’s look at Mr. Fruit. What is this?
      Students: Lemon
    - Students sing the “Fruit” song and teacher points to the vocabulary cards
    - Make our fruit salad and sing “Fruit” song at the same time
  ● Workbook time (8 minutes)
    - Students practice writing the vocabulary words for today
  ● Review the vocabulary flash cards
  ● Assignments (2 minutes)
    e. Review and write the vocabulary words
    f. Color the vocabulary cards

Day 12
Objectives:
  ● Students become familiar with the names of each fruit: apple/apples, banana/bananas, lemon/lemons, tomato/tomatoes, pear/pears
  ● The student will be able to answer the questions by using “I like______.” & He / She likes______.”
Sing the song “What do you like?” (Students will be able to memorize names of fruits)

Materials:
CD, CD player, Vocabulary flash cards, Sentence flash cards, Poster of the song lyrics, Pictures of Judy and David

Activities:
- Greeting song & review (7 minutes)
  - Bingo using students’ vocabulary cards
- Present the sentences (10 minutes)
  - Ex: Teacher: I like apple. What do you like?
    (Judy)
    Student: Banana
    (David)
    Teacher: I like apple. She likes banana.
    (Judy)
- Sing the “Fruit” song and using different vocabulary words (e.g. lemon/lemons, tomato/tomatoes..etc.)
- Sing the song “What do you like?”

What do you like?

- Divide students into two groups → take turns sing the song
- Practice the sentences (10 minutes)
  - Let’s sing, listen and find the vocabulary words
- Review the vocabulary words & sentences (6 minutes)
- Assignment (2 minutes)
  c. Sing and write “what do you like”

Day 13
Objectives:
- Students become familiar with the rhyme “What do you like?”
- Students are able to pronounce “Wh & W” through singing “What do you like?”
Materials: CD, CD player, Vocabulary flash cards

Activities:
- Greeting song & review (10 minutes)
- Divide students into three groups
  - Have students sing "What do you like?" by turns
- Introduce the pronunciation of "Wh & W" (12 minutes)
  - "Wh": What, Whale, When..etc.; "W": want, wash, watching…etc.
- Activities of phonics (15 minutes)
  - Sing the rhyme "Wh" & "W"

"Wh" & "W"

J.J.

- Sing with the CD
- Phonological awareness game: if the student hears "Wh" in a word, he/she will need to raise the right hand; if the student hears "W" in a word, he/she will need to raise the left hand
- Let’s listen & write
  - "Wh" & "W"
- Assessment: "Wh" & "W"
- Assignments (3 minutes)
  - Practice the pronunciation of each vocabulary word
  - Sing the rhyme "Wh & W"

Day 14
Objectives:
- Students enhance phonological awareness

Materials:
Triangles, Wood blocks, Hand drums, Rhythm sticks, Vocabulary flash cards.

Activities:
- Greeting song & review (10 minutes)
• Using instruments for reinforcing phonological awareness (15 minutes)
  - The teacher demonstrates the syllables of each word on the instrument (e.g. triangles, wood blocks…etc.)
  - Divide the class into six groups
  - Assign different vocabulary words to each group
  - Have each group identify each syllable on the instruments → Group performance by turns
• Sing “What do you like?” (15 minutes)
  - Use speech and body percussion to demonstrate each word in the lyrics
  - Divide the class into six groups
  - Each group discusses and creates its own speech and body percussion for the lyrics (What do you like?) → Group performance by turns
• Assignment (2 minutes)
  - Review the vocabulary words already learned

Day 15
Objectives:
• Apply vocabulary words to instrument playing
• Students will be able to review and memorize the vocabulary words

Materials:
Triangles, Hand drums, Rhythm sticks

Activities:
• Warm up & review (8 minutes)
• Sing the grocery store song (15 minutes)
  - Divide students into five groups → role play
• Instrument ensemble (10 minutes)
  - Sing “What do you like?”
  - Play the rhythm on the instruments

Day 16
Objectives: Students will be able to:
• Apply the lesson content in real life situations
• Sing “What do you like?”

Materials:
CD, CD player, Guitar, Pictures of the story, Poster of the song lyrics, Triangles, Wood blocks, Hand drums, Rhythm sticks

Activities:
• Warm up & review (8 minutes)
  - Simon says
• Role play of the rhyme (15 minutes)
  - Divide students into five groups → role play
• Let’s sing (10 minutes)
  - Sing “What do you like?”
  - Play the rhythm on the instruments
Assessment (10 minutes)
- Look at the pictures and write the vocabulary words in the answer sheet
Assignments (2 minutes)
- Sing “What do you like?”

Day 17: Do you like dog?
Objective:
- The student will be able to speak, write, and apply the vocabulary words.
  (bird/birds, cat/cats, dog/dogs, fish/fish, rabbit/rabbits)
Materials:
Guitar, CD, CD player, Vocabulary flash cards, Animal pictures
Activities:
- Warm up & Review (10 minutes)
  - Sing “What do you like?” song with movement
- Present the vocabulary (20 minutes)
  - Practice the pronunciation of the vocabulary words
  - Sing “Animal” rhyme and point the pictures at the same time
- Work book time (8 minutes)
  - Students practice writing the vocabulary words for today
- Review the vocabulary flash cards (8 minutes)
- Assignment (2 minutes)
  - Review and write the vocabulary words
  - Color the vocabulary cards

Day 18
Objectives:
- Students learn the names of each animal: bird/birds, cat/cats, dog/dogs, fish/fish, rabbit/rabbits
- The student will be able to ask & answer the questions by using “Do, Does, Yes, I don’t.”
- Sing the song “Do you like cats?” (Students will be able to memorize names of animals)
- Students will be able to write “Do you like cats?”
Materials:
CD, CD player, Vocabulary flash cards, Sentence flash cards, Poster of the song lyrics, Animal pictures, Triangles, Wood blocks, Hand drums, Rhythm sticks
Activities:
- Warm up & review (7 minutes)
- Presentation of the sentences (10 minutes)
  - Ex: Teacher: Do you like birds?
    Student: Yes, I do.
    Teacher: Does he like birds?
    Student: Yes, he does.
- Sing “Do you like cats?” and change different vocabulary words (e.g.
dog/dogs, fish/fish, rabbit/rabbits..etc.)

Do you like cats?

J.J.

- Play the rhythm of the song on the instruments (e.g. Triangles, Wood blocks, Hand drums, Rhythm sticks)
- Divide students into two groups → take turns sing the song

● Practice of the sentences (10 minutes)
  - Let’s sing, listen and find vocabulary words
● Review vocabulary words & sentences (6 minutes)
● Assignment (2 minutes)
  - Sing and write “Do you like cats?”

Day 19
Objectives:
● Students learn the rhyme “Do you like cats?”
● Students are able to pronounce “Sh & Ch” by singing “Do you like cats?”

Materials:
CD, CD player, Vocabulary flash cards, Poster of lyrics

Activities:
● Greeting song & review (10 minutes)
  - Sing “Do you like cats?
  - Divide students into three groups→Have students sing “Do you like cats?” by turns
● Introduce the pronunciation of “Sh & Ch” (12 minutes)
  - “Sh”: Shopping, Short, English..etc.; “Ch”: Chair, Chicken, Lunch...etc.
● Activities of phonics (15 minutes)
  - Sing the rhyme “Sh” & Ch"
"Sh" & "Ch"

Chen, et. al., 2006

Bass Drum

Sing with the CD
- Phonological awareness game: if the student hears “Sh” in a word, he/she will need to raise the right hand; if the student hears “Ch” in a word, he/she will need to raise the left hand

- Let’s listen & write
  - “Sh” & “Ch”

- Assessment: “Sh” & “Ch”

- Assignments (3 minutes)
  - Practice the pronunciation of each vocabulary
  - Sing the rhyme “Sh & Ch”

Day 20
Objectives:
- Students enhance phonological awareness

Materials:
Triangles, Wood blocks, Hand drums, Rhythm sticks, Vocabulary flash cards

Activities:
- Warm up & review (10 minutes)
- Using instruments for reinforcing phonological awareness (15 minutes)
  - The teacher demonstrates the syllables of each word on the instruments (e.g. triangles, wood blocks…etc.)
  - Divide class into six groups
  - Teacher assigns different vocabulary words to each group
  - Have each group identify each syllable on the instruments → Group performance by turns
- Sing “Sh & Ch” rhyme and “Do you like cats?” with movement (15 minutes)
  - Use speech and body percussion to demonstrate each word in the lyrics
  - Divide class into six groups
- Each group discusses and creates their own speech and body percussion for the lyrics (Do you like cats?) → Group performance by turns

- Assignment (2 minutes)
  - Review the vocabulary words which already learned

Day 21
Objectives:
- Apply vocabulary words with instrument playing
- Students will be able to review and memorize the vocabulary words

Materials:
Triangles, Hand drums, Rhythm sticks

Activities:
- Warm up & review (8 minutes)
- Sing “Old MacDonald had a farm” (15 minutes)
  - Teacher teach the song in chunking
  - Have students create the motions for each animal (e.g. cats, dogs, rabbits)
  - Have students sing and do the motion at the same time
  - Divide students into five groups → take turns performing
- Instrument ensemble (10 minutes)
  - Sing “Do you like cats?”
  - Play the rhythm of the song on the instruments

Day 22
Objectives: Students will be able to
- Apply the lesson content to real life situations
- Sing “Do you like rabbits?”

Materials:
CD, CD player, Pictures of the story, Poster of the song lyrics, Triangles, Wood blocks, Hand drums, Rhythm sticks

Activities:
- Warm up & review (8 minutes)
- Let’s sing (10 minutes)
  - Sing “Do you like rabbits?” with movement
  - Play the rhythm on the instruments
- Role play “Do you like rabbits?” (20 minutes)
  - Divide students into five groups → role play
  - Ex: Teacher: I like rabbits? Students: Me, too.
- Assessment (10 minutes)
  - Look at the pictures and write the vocabulary words in the answer sheet
- Assignments (2 minutes)
  - Sing “Do you like rabbits?”
Day 23
Objectives: Students will be able to create an original accompaniment to a story by choosing and playing classroom instruments
Materials:
Triangles, Wood blocks, Hand drums, Rhythm sticks, Bells

Activities:
- Divide students into six groups
- Assign each group an animal story
- Have students identify the meaning of the words
- Have students choose instrument to make a sound effect for the story
- Have each group of students create a story
- Chose instruments and accompany their stories
- Each group perform their story and music by turns

Day 24

- Posttests (Phonemic Analysis/ Picture Vocabulary)
APPENDIX B
PRETEST QUESTIONNAIRE: ENGLISH CLASS SELF-REFLECTION FOR PILOT STUDY

Name: ___________________________ Number: ______________

Dear student,

The purpose of this survey is to optimize your English learning experience. This survey is not a test. There are no “right” or “wrong” answers. Information obtained from this study will remain strictly confidential. Thank you for your participation!

Sincerely,
Jian-Jun Chen

Part I: Basic Information
Please answer the following questions as accurately as possible by placing a checkmark ‘✓’ in the box □.

1. Parents’ education:
   (1) Father: □ Middle school or below
       □ High school
       □ Vocational college
       □ University
       □ Graduate degree
   (2) Mother: □ Middle school or below
       □ High school
       □ Vocational college
       □ University
       □ Graduate degree

2. How carefully do your parent(s) monitor your school work?
   □ very carefully □ carefully □ somewhat carefully □ rarely □ do not care

Part II: English Learning Experience
Based upon your learning experience, place a ‘✓’ inside the best answer. For multiple choices questions, only have one ‘✓’ in each question.

1. Did you ever learn English before 3rd grade? □ Yes □ No
   (If you have not learned English before 3rd grade, please skip the following questions and go on to Part III).

2. How many years have you spent learning English before 3rd grade?
   □ less than one year □ 1-2 years □ 2-3 years □ 3-4 years □ above 4 years:
   around _____ year
3. Where did you learn English before 3rd grade? (can select more than one choice)
- kindergarten
- after-school program
- one-on-one English lessons
- group English program outside of school
- other (please describe): 

4. If you learned English in an after-school program or in one-on-one English lessons outside of school, how many hours did you spend learning English during each week?
- within 1 hr
- 1-2hrs
- 2-3hrs
- 3-4hrs
- above 4hrs: about ____ hrs

5. Is/was your after-school English teacher a native English speaker?
- Yes
- No

6. The average of your English grades from grades 3 to 4
- 90-100
- 80-89
- 70-79
- 60-69
- below 60

7. The average of your music grades from grades 3 to 4
- 90-100
- 80-89
- 70-79
- 60-69
- below 60

Part III: English Learning Status in School:
Please answer the following questions regarding your current in-school English language class. Make a 「x」 inside the best answer

- I like learning English in school because English class is very interesting
- It is boring to learn English in school
- I feel nervous when I think about English class
- I would like to be a model student who answers questions in the school’s English class
- I like to learn English with classmates
- I often forget to complete English assignments
- English assignments are annoying. I hope someone will complete them for me
- I often write English assignments at the last minute
- I study hard during English class
- I often think about other things and become distracted in English class
- When learning English, I practice speaking. I also focus on the pronunciation of vocabulary words and sentences
- I feel that it is enjoyable to include music with English learning
- I can apply what we learn in the English class in my daily conversation
- I feel confident to speak English in class
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<thead>
<tr>
<th></th>
<th>Question</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>15</td>
<td>I feel English exams are easy. I am not nervous about them</td>
<td></td>
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<tr>
<td>16</td>
<td>It bothers me to volunteer to answer questions in English class</td>
<td></td>
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<td>17</td>
<td>I do want to have English class</td>
<td></td>
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<td>18</td>
<td>I feel nervous when I speak to native English speakers</td>
<td></td>
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<td>19</td>
<td>I worry that other classmates will laugh at me because my English pronunciation is not good</td>
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<td>20</td>
<td>I feel nervous and uncomfortable when I speak English in front of other classmates</td>
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<tr>
<td>21</td>
<td>I feel more nervous and under pressure in English class than in other classes</td>
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<tr>
<td>22</td>
<td>I feel confident and much easier when learning English through singing songs</td>
<td></td>
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<tr>
<td>23</td>
<td>I feel nervous and do not know what I am talking about when I speak in English class</td>
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<tr>
<td>24</td>
<td>I associate music activities with English pronunciation to help memorize the vocabularies</td>
<td></td>
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<tr>
<td>25</td>
<td>I am very satisfied with our English curriculum</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>I am more interested in learning English after English class</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>I feel that I overcome my English difficulties after English class</td>
<td></td>
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<tr>
<td>28</td>
<td>The pedagogy of the English teacher can stimulate my interests in learning English</td>
<td></td>
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<tr>
<td>29</td>
<td>I am less frustrated after English class</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>I do not like English. I only study it for the examination</td>
<td></td>
</tr>
</tbody>
</table>

Yeah! Thank you for your help!
Posttest Questionnaire: English Class Self-Reflection after Musical Instruction for Pilot Study

Name: _________________________ Number: ______________

Please answer the following questions regarding your current in-school English language class. Make a 「x」 inside the best answer □

1 Strongly disagree
2 disagree
3 neutral (no opinion)
4 agree
5 very agree

1 Music activities enhance my interest in learning English
2 Music activities help me concentrate more in English class
3 I would like to be a student model and answer the questions during the music activities
4 I like to learn English through singing songs with classmates
5 Through music activities, I am less nervous while learning English
6 Music activities help me improve my English pronunciation
7 Music activities provide me with many opportunities to speak vocabulary words
8 Through music activities, I enjoy practicing English pronunciation
9 I enjoy having music activities in English class
10 During music activities, I can speak English aloud and not be afraid other people will laugh at me
11 I associate music activities with English pronunciation to help memorize the vocabularies
12 Music activities help me overcome my fear in learning English
13 Music activities can reduce my frustration in learning English
14 Music activities increase my motivation in speaking English........................................................................
15 Music activities improve my cooperation with classmates........................................................................
16 Music activities enhance my relationship with classmates........................................................................
17 Music activities help me better understand my peers..................................................................................
18 Through music activities, I have learned how to help classmates.................................................................
19 Music activities improve interaction between classmates and me............................................................
20 Music activities benefit the communication between classmates and me....................................................
21 Through music activities, I know how to appreciate other people’s opinions................................................
22 Music activities help me get more required skills in speaking English.........................................................
23 Music activities make me actively learn English..........................................................................................
24 Through music activities, I believe that I can learn English well.................................................................
25 Music activities can reduce my anxiety in speaking English........................................................................
26 Through music activities, I learned vocabulary words faster than before....................................................
27 I can readily sing English songs after the class which we learned in class..................................................
28 I feel confident when learning English through singing songs.................................................................
29 I am very satisfied with having music activities in English class..................................................................
30 I hope that we can have music activities in English class in the future.........................................................

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問卷調查

A

親愛的同學：

學號：__________________

你好！
這份問卷的目的主要是希望能了解你學習英語的情形，你的意見非常寶貴，會作為將來改進英語教學的參考。問卷不是考試，你的回答沒有對錯之分，也絕對會受到保密，請你放心填答。希望你能夠以輕鬆的心情，根據自己真實的經驗以最直接的感覺作答即可。
非常謝謝你的協助！

祝 健康快樂

研究計畫負責人 陳建君

第一部部分 份：基本資料：

填答說明：請小朋友看完題目後，按照自己真實的情形在下列各題中最適當的□裡打「ˇ」。

1、家長教育程度：(含畢業或肄業)
   (1)父親：□國中小以下 □高中(職) □專科 □大學 □碩士以上
   (2)母親：□國中小以下 □高中(職) □專科 □大學 □碩士以上

2、家長對你學業的關心程度：
   □非常關心 □關心 □還好 □很少關心 □毫不關心

第二部份英語學習經驗：

按照自己真實的情形，在下列各題中最適當的□裡打「ˇ」（除「可複選」外，每題只能打一個ˇ）。

1、升上三年級之前有學過英語嗎？□有 □沒有
   (如果三年級以前從來沒有學過英語，就請跳過以下的題目，直接至第三部份繼續作答。)

2、升上三年級之前總共學過多久的英語？□還不到一年 □一到兩年 □二到三年
   □三年到四年 □四年以上；約____年

3、上三年級之前是在那裡學英語呢？(可複選) □幼稚園 □安親班 □家教班 □美
   語補習班 □其他（請說明）________________________

4、每週約花多少時間在補習班、安親班或才藝班補習英語：(包含英語家教)
   □1 小時以內 □1 至 2 小時 □2 至 3 小時 □3 至 4 小時 □4 小時以上；約____
   小時

5、你在補習(或安親、才藝)班的英語老師是不是外籍老師：(包含英語家教)
   □是 □不是

6、你在 3-4 年級時平均英語成績是□90-100 分 □80-89 分
   □70-79 分 □60-69 分 □60 分以下

7、你在 3-4 年級時平均音樂成績是□90-100 分 □80-89 分
   □70-79 分 □60-69 分 □60 分以下
第三部份：在學校英語學習情形：

學號：

填答說明：請小朋友根據你在學校學習英語的實際情況，在下列各題中最適當的□裡打「 √ 」（非常不同意請在 1 的□裡打「 √ 」，不同意請在 2 的□裡打「 √ 」，普通請在 3 的□裡打「 √ 」，同意請在 4 的□裡打「 √ 」，非常同意請在 5 的□裡打「 √ 」，每題只能打一個「 √ 」），謝謝你的幫助！

1. 因為在學校上英語課很有趣，所以我喜歡上英語課 …… 1 2 3 4 5
2. 我覺得在學校學英語是一件無聊的事 …… 1 2 3 4 5
3. 一想到要上英語課我就會很緊張 …… 1 2 3 4 5
4. 我願意在學校英語課中做示範或回答老師的問題 …… 1 2 3 4 5
5. 我喜歡和班上的同學一起學習英語 …… 1 2 3 4 5
6. 我常常會忘記寫學校的英語作業 …… 1 2 3 4 5
7. 學校的英語作業很煩人，我希望有人幫我做 …… 1 2 3 4 5
8. 學校老師所指定的英語作業，我常常拖到最後才寫 …… 1 2 3 4 5
9. 在學校上英語課時我會認真學習 …… 1 2 3 4 5
10. 在學校上英語課時，我常會分心想到其他的事 …… 1 2 3 4 5
11. 學習英語時，我會練習朗讀英語，注意單字以及句子的讀法 …… 1 2 3 4 5
12. 我覺得上英語課能有音樂活動輔助學習，是一件快樂的事 …… 1 2 3 4 5
13. 我會將學校上課時所學的英語應用在日常生活的對話 …… 1 2 3 4 5
14. 上英語課發言的時候，我會有自信 …… 1 2 3 4 5
15. 考英語時，我覺得輕鬆自在不會緊張 …… 1 2 3 4 5
16. 上英語課時自願回答問題，會讓我感到困難 …… 1 2 3 4 5
17. 我想上英語課 …… 1 2 3 4 5
18. 如果與說英語的外國人用英語交談，我會感到緊張 …… 1 2 3 4 5
19. 我擔心英語發音不準，我怕其他同學會嘲笑 …… 1 2 3 4 5
20. 在同學面前說英語讓我覺得害羞、不自在 …… 1 2 3 4 5
21. 我上英語課會比上別的課緊張而且有壓力 …… 1 2 3 4 5
22. 唱歌學英語歌讓我覺得輕鬆自在 …… 1 2 3 4 5
23. 當我在英語課說英語時，常緊張到不知道自己在說什麼 …… 1 2 3 4 5
24. 我把單字的發音和相關的音樂活動作聯想，以幫助記憶 …… 1 2 3 4 5
25. 我對英語課程的內容安排覺得很滿意 …… 1 2 3 4 5
26. 上過英語課後，我覺得我對英語學習更有興趣 …… 1 2 3 4 5
27. 上過英語課後，我覺得我克服了了先前的疑難 …… 1 2 3 4 5
28. 我覺得英語課老師上課方式能引起我學習的興趣 …… 1 2 3 4 5
29. 我覺得上過英語課後，減少我對英語的學習挫折感 …… 1 2 3 4 5
30. 我不會特別喜歡英語，但是為了考試，我只好去學它 …… 1 2 3 4 5

呼 ！終於做完了！謝謝你的幫忙 ！

118
學號：

問卷調查

填答說明：請小朋友根據你在學校學習英語的實際情況，在下列各題中最適當的□裡打「√」（非常不同意請在1的□裡打「√」，不同意請在2的□裡打「√」，普通請在3的□裡打「√」，同意請在4的□裡打「√」，非常同意請在5的□裡打「√」，每題只能打一個√），謝謝你的幫助！

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<td>在音樂活動中學英語使我上課更專心</td>
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<td>音樂活動中我願意做示範或回答老師的問題</td>
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APPENDIX C
PRETEST QUESTIONNAIRE: ENGLISH CLASS AND MUSICAL INSTRUCTION

Name: _________________________ Number: ________________

Please answer the following questions about your in-school English class. Circle the best answer.

I. Affective Development

   English Learning:
   a. I like English class
      1  2  3  4  5
      Strongly  Disagree Undecided Agree Strongly disagree agree

   b. How difficult do you find it to memorize vocabulary words?
      1  2  3  4  5
      Very  Somewhat  Undecided Somewhat  Very difficult difficult easy easy

   c. How do you feel about the activities that take place in English class?
      1  2  3  4  5
      Very  Dissatisfied Undecided Somewhat  Very dissatisfied satisfied satisfied

   d. The way the English teacher teaches makes me interested in learning English.
      1  2  3  4  5
      Strongly  Disagree Undecided Agree Strongly disagree agree

   e. I enjoy having music activities in English class.
      1  2  3  4  5
      Strongly  Disagree Undecided Agree Strongly disagree agree

   f. Do you feel that learning English songs helps you learn the language?
      1  2  3  4  5
      Not at all effective Not very effective Undecided Somewhat effective Somewhat effective

   Motivation in English Learning:
   g. I like learning English in school.
      1  2  3  4  5
      Strongly  Disagree Undecided Agree Strongly disagree agree
h. I like to raise my hand and answer questions in English class.

1 2 3 4 5
Strongly disagree Disagree Undecided Agree Strongly agree

i. I study hard during English class.

1 2 3 4 5
Strongly disagree Disagree Undecided Agree Strongly agree

j. I often think about other things during English class.

1 2 3 4 5
Strongly disagree Disagree Undecided Agree Strongly agree

II. Language Development

Motivation in speaking English:

k. I like to practice speaking English.

1 2 3 4 5
Strongly disagree Disagree Undecided Agree Strongly agree

l. I carefully pronounce vocabulary words and sentences when speaking English.

1 2 3 4 5
Strongly disagree Disagree Undecided Agree Strongly agree

m. I practice speaking English with my friends and/or family.

1 2 3 4 5
Strongly disagree Disagree Undecided Agree Strongly agree

n. I feel confident when speaking English in class.

1 2 3 4 5
Strongly disagree Disagree Undecided Agree Strongly agree

o. I feel confident when speaking English to native speakers.

1 2 3 4 5
Strongly disagree Disagree Undecided Agree Strongly agree

p. How well do you pronounce English words?

1 2 3 4 5
Very Bad Undecided Good Very Bad

Good
q. How do you feel when you speak English in front of your classmates?

1. Very uncomfortable
2. Undecided
3. Comfortable
4. Very comfortable

III. Social Skills Development

Learning English with my classmates:

r. I like to learn English with classmates.

1. Strongly disagree
2. Disagree
3. Undecided
4. Agree
5. Strongly agree

s. I work well with my classmates in English lessons.

1. Strongly disagree
2. Disagree
3. Undecided
4. Agree
5. Strongly agree

t. I have learned how to help classmates in English lessons.

1. Strongly disagree
2. Disagree
3. Undecided
4. Agree
5. Strongly agree
Posttest Questionnaire: English Class Self-Reflection after Musical Instruction

Name: ___________________________  Number: ________________

Please answer the following questions about your in-school English class. Circle the best answer.

I. **Affective Development**

*Motivation in English Learning:*

a. Music activities raise my interest in learning English.

   1  2  3  4  5  
   Strongly disagree Disagree Undecided Agree Strongly agree

b. Music activities help me concentrate more in English class.

   1  2  3  4  5  
   Strongly disagree Disagree Undecided Agree Strongly agree

c. I like to have music activities in English class.

   1  2  3  4  5  
   Strongly disagree Disagree Undecided Agree Strongly agree

d. Music activities help me overcome my fear of learning English.

   1  2  3  4  5  
   Strongly disagree Disagree Undecided Agree Strongly agree

e. I would like to continue having music activities in English class in the future.

   1  2  3  4  5  
   Strongly disagree Disagree Undecided Agree Strongly agree

f. I feel confident when learning English through singing songs.

   1  2  3  4  5  
   Strongly disagree Disagree Undecided Agree Strongly agree

g. Music activities make me more involved in learning English.

   1  2  3  4  5  
   Strongly disagree Disagree Undecided Agree Strongly Agree
Social Skills Development

Learning English with my classmates (the effect of music activities on social skills):

h. I like to sing songs with classmates in English class.
   1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
   Strongly disagree [ ] Disagree [ ] Undecided [ ] Agree [ ] Strongly agree [ ]

i. Music activities help me work well with classmates.
   1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
   Strongly disagree [ ] Disagree [ ] Undecided [ ] Agree [ ] Strongly agree [ ]

j. Music activities help me get along better with classmates.
   1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
   Strongly disagree [ ] Disagree [ ] Undecided [ ] Agree [ ] Strongly agree [ ]

k. I have learned how to help classmates through music activities.
   1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
   Strongly disagree [ ] Disagree [ ] Undecided [ ] Agree [ ] Strongly agree [ ]

l. I know how to appreciate other people’s ideas through music activities.
   1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
   Strongly disagree [ ] Disagree [ ] Undecided [ ] Agree [ ] Strongly agree [ ]

II. Language Development

Motivation in speaking English:

m. Music activities help me improve my English pronunciation.
   1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
   Strongly disagree [ ] Disagree [ ] Undecided [ ] Agree [ ] Strongly agree [ ]

n. Music activities provide me with many opportunities to speak vocabulary words.
   1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
   Strongly disagree [ ] Disagree [ ] Undecided [ ] Agree [ ] Strongly agree [ ]

o. Through music activities, I enjoy practicing English pronunciation.
   1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
   Strongly disagree [ ] Disagree [ ] Undecided [ ] Agree [ ] Strongly agree [ ]
p. Through music activities, I learned vocabulary words faster than before.

1. Strongly disagree
2. Disagree
3. Undecided
4. Agree
5. Strongly agree

q. During music activities, I can confidently speak English aloud.

1. Strongly disagree
2. Disagree
3. Undecided
4. Agree
5. Strongly agree

r. Music activities can reduce my fear of speaking English.

1. Strongly disagree
2. Disagree
3. Undecided
4. Agree
5. Strongly agree

s. Music activities make me want to speak English even more.

1. Strongly disagree
2. Disagree
3. Undecided
4. Agree
5. Strongly agree
問卷調查：英語課和音樂指導

姓名：_________________________ 學號：___________

請回答以下有關於你在學校英文課學習的問題，在最合適的答案是打圈。

I. 情意發展

英語學習:

a. 我喜歡英語課。

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<tr>
<td>很不同意</td>
<td>不確定</td>
<td>同意</td>
<td>很不同意</td>
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b. 你覺得記單字困難嗎？

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c. 你覺得上英文課所安排的活動如何？

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<td>很</td>
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<td>不滿意</td>
<td>滿意</td>
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d. 英語老師的教學法使我對學英語很感興趣。

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e. 我喜歡在英語課中有音樂活動。

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f. 你覺得學英文歌能幫助你有效地學習英語？

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學習英語的動機：

g. 我喜歡上學校的英語。

不同意   不確定   同意   很同意

不同意   不確定   同意   很同意
h. 在英語課中，我喜歡舉手回答問題。
1 2 3 4 5
很不同意不確定同意很不同意
不同意同意

i. 在英語課中，我很認真學習。
1 2 3 4 5
很不同意不確定同意很不同意
不同意同意

j. 在英語課中，我常想其它的事。
1 2 3 4 5
很不同意不確定同意很不同意
不同意同意

II. 語言發展
說英語的動機:

k. 我喜歡練習說英語。
1 2 3 4 5
很不同意不確定同意很不同意
不同意同意

l. 當說英語時，我注意單字和句子的發音。
1 2 3 4 5
很不同意不確定同意很不同意
不同意同意

m. 我練習和同學或家人說英語。
1 2 3 4 5
很不同意不確定同意很不同意
不同意同意
n. 我能有自信地在課堂中說英語。

1 2 3 4 5
很不同意 不確定 同意 很不同意 同意

o. 我能有自信地和英語系國家的人說英語。

1 2 3 4 5
很 不同意 不確定 同意 很不同意 同意

p. 你的英文單字發音如何？

1 2 3 4 5
很 不好 不確定 好 很不好 好

q. 你在同級面前說英語的感覺如何？

1 2 3 4 5
很 不自在 不確定 自在 很不自在 自在

III. 社會技能發展
和我的同學學習英語：

r. 我喜歡和同學一起學習英語。

1 2 3 4 5
很 不同意 不確定 同意 很不同意 同意

s. 在英文課中，我和同學互動合作的很好。

1 2 3 4 5
很 不同意 不確定 同意 很不同意 同意

t. 在英語課中，我學會如何幫助同學。

1 2 3 4 5
很 不同意 不確定 同意 很不同意 同意
問卷：在音樂介入指導下，學生對英文課的感想

姓名：_______________________ 學號：______________

請回答以下有關於你在學校英文課學習的問題，在最合適的答案是打圈。

I. 情意發展

學習英語的動機：

a. 音樂活動能幫助我增加學習英文的興趣。
   1 2 3 4 5
   很 不同意 不確定 同意 非
   不同意 同意

b. 音樂活動幫助我在英語課上更能集中注意力。
   1 2 3 4 5
   很 不同意 不確定 同意 非
   不同意 同意

c. 我喜歡在英語課中能有音樂活動。
   1 2 3 4 5
   很 不同意 不確定 同意 非
   不同意 同意

d. 音樂活動幫助我克服學習英語的恐懼。
   1 2 3 4 5
   很 不同意 不確定 同意 非
   不同意 同意

e. 我想要在未來的英語課中能有音樂活動。
   1 2 3 4 5
   很 不同意 不確定 同意 非
   不同意 同意

f. 我覺得有自信當唱歌學英語時。
   1 2 3 4 5
   很 不同意 不確定 同意 非
   不同意 同意
g. 音樂活動使我更能專注於學習英語。
1 2 3 4 5
很 不同意 不確定 同意 很
不同意 同意

II. 社會技能發展
和我的同學學習英語:

h. 在英語課中，我喜歡和同學一起唱歌。
1 2 3 4 5
很 不同意 不確定 同意 很
不同意 同意

i. 音樂活動使我與同學互動合作的很好。
1 2 3 4 5
很 不同意 不確定 同意 很
不同意 同意

j. 音樂活動使我與同學好。
1 2 3 4 5
很 不同意 不確定 同意 很
不同意 同意

k. 經由音樂活動我學會如何幫助同學。
1 2 3 4 5
很 不同意 不確定 同意 很
不同意 同意

l. 經由音樂活動我知道如何欣賞其他同學得意見。
1 2 3 4 5
很 不同意 不確定 同意 很
不同意 同意

III. 語言發展
說英語的動機:

m. 音樂活動幫助我增進我的英語發音。
1 2 3 4 5
很 不同意 不確定 同意 很
不同意 同意
n. 音樂活動提供我很多說英語單字的機會。

1 2 3 4 5
很不同意 不確定 同意 很不同意 同意
不同意

o. 經由音樂活動，我喜歡練習英語發音。

1 2 3 4 5
很 不同意 不確定 同意 很不同意 同意
不同意

p. 經由音樂活動，我學習單字比以前更快。

1 2 3 4 5
很 不同意 不確定 同意 很不同意 同意
不同意

q. 在音樂活動中，我能有自信地大聲說英語。

1 2 3 4 5
很 不同意 不確定 同意 很不同意 同意
不同意

r. 音樂活動可以減尐我對說英語的恐懼。

1 2 3 4 5
很 不同意 不確定 同意 很不同意 同意
不同意

s. 音樂活動使我更想要說英語。

1 2 3 4 5
很 不同意 不確定 同意 很不同意 同意
APPENDIX D
PARENTAL CONSENT

Dear Parent(s)/Guardian(s),

I am a Ph.D candidate in music education at the University of Florida. I am conducting a study on the effects of music activities on English pronunciation and vocabulary retention under the supervision of Dr. Timothy S. Brophy. The purpose of this research is to explore the benefits of music activity (e.g., singing, speech and body percussion, and instrumental activities) on elementary school ESOL students. The results of the study may benefit music and language teachers to better understand the amount of knowledge gained, allowing them to design instructional practices accordingly. With your permission, I would like to ask that your child participate in this research.

The study will involve 12-week visits to your child’s school. During those visits, I will be conducting music clinics and working with select students. All work toward this study will take place during English class. Students will not miss any additional class time. Participants will not miss any classroom activities in order to participate in this study. The researcher will follow the curriculum schedule and teach the existing curriculum using the classroom text. Music activities will be used to support the curriculum. Since the researcher will teach the existing curriculum and follow the curriculum schedule, participants will not have any academic risk and will not miss daily academic work. Because this is an assessment of students’ English proficiency, it will enhance, rather than detract, from classroom instruction. The Test of Language Development (TOLD-P:3) pretest and posttest will take 30 minutes. All test material relates to the core curriculum of the English class.

Students selected to participate in the study will have 12-week music sessions to reinforce language learning in the English classroom. Students will receive the Test of Language Development (TOLD-P:3) Test.

Though there will be no monetary compensation for participating, the study will be educationally beneficial for all involved. Because this is a music education study involving language learning, the research will not interfere with the current English curriculum. Participants’ identities will be kept confidential to the extent provided by law. To ensure confidentiality, your child’s assigned identification number will be used in place of his/her name. Information obtained from this study will remain strictly confidential. All recordings will be destroyed at the end of the study. Participation or non-participation in this study will not affect the student’s grades or placement in any school programs.

Participation in this study is completely voluntary. You and your child have the right to withdraw consent for your child's participation at any time without consequence. In order for your child to be considered for participation in this project, this consent form must be completed and returned to the child’s English teacher no later than September, 3rd.
Your child will also need to complete an assent form. Please return the forms marked “Miss Chen’s copy.”

If you have any questions about the study, please feel free to contact me at the e-mail address listed above. You may also contact my supervising professor, Dr. Timothy Brophy, at tbrophy@arts.ufl.edu or his office phone 352-273-3193. For questions about your rights as a research participant, contact the University of Florida IRB at 352-392-0433.

Sincerely,

Jian-Jun Chen

Parental Consent

Date:__________________

I have read the procedure described above. I voluntarily give my consent for my child, ____________________, to participate in Jian-Jun Chen’s study of music and language learning.

Student’s Date of Birth:__________________

Parent’s Signature:___________________________________________________________
Dear Student,

My name is Jian-Jun Chen and I am a music teacher. I am conducting a research study on the effects of music on your ability with the English language. During the next few weeks I will be visiting your school to help you learn English.

Your parents have granted their permission for me to work with you. Some of you will be selected to participate in this research study. If you are chosen, I am going to ask you to take the Test of Language Development (TOLD-P:3) Test, which will take place during my first visit:

Each session will take place during your English class. You will not miss any additional class time. I will teach the school curriculum with music activities for reinforcement. The following is the weekly class sessions:

Week 1: Pretest (exam), Greeting, Name game
Week 2: What time is it?
Week 3: What time is it?
Week 4: Where are Andy and Betty?
Week 5: Where are Andy and Betty?
Week 6: What do you like?
Week 7: What do you like?
Week 8: What do you like?
Week 9: Do you like dogs?
Week 10: Do you like dogs?
Week 11: Do you like dogs?
Week 12: Posttest (exam)

Participation in this study is voluntary. Participation or non-participation will have no effect on your grades or status in the music and English program. If at any time, you choose not to participate, you may stop without any questions. Please indicate below whether or not you are interested. Thank you very much. I look forward to meeting you!

Yours truly,

Jian-Jun Chen

Would you like to participate in this music and language research study?

_____Yes  _______No
參加「應用音樂活動增進兒童英語發音及詞彙學習之研究
—以台灣某國小四年級學生為例」研究計畫說明

親愛的家長:
您好！我是美國佛羅里達大學音樂教育所博士候選人，目前正在 Dr. Timothy S. Brophy 博士指導下進行「應用音樂活動增進兒童英語發音及詞彙學習之研究—以台灣國小四年級為例」，這個研究的目的在探索音樂活動(如：唱歌、說韻文、吟頌、肢體律動和有關活動)對以英語當作第二國語言學習之小學生的益處（影響）。研究結果將有助於音樂和語文教師更加瞭解音樂活動對英語發音及詞彙學習的影響，並將音樂活動相關知識應用於教學設計與教學活動中。希望能在您的同意下，允許您的孩子參加這項研究。

本研究將利用學校十二週英語課時間，將音樂活動配合課程進度，分二十四次融入您的兒童臨床教學中，屆時研究者會和參與研究的學生一齊進行教學活動。這項研究均在原有英語課堂上實施，音樂活動僅用於輔助教學並不會佔用課外的時間，也不會影響正常授課。參加本研究就的學生將有二十四節英語課會藉由音樂活動來加強課程學習，並要接受 TOLD 口說語言熟練測驗。考試的前測和後測將會有 30 分鐘。所有的考試都有關於課程內容。

本研究是採取完全自願方式參與的。您和您的孩子有權利隨時退出此項研究而不受任何限制。您若同意您的孩子參與本研究計劃，煩請於 9 月 3 日前簽妥同意書逕行交給孩子攜回，送交黃鈺倫老師代為收齊並轉交陳建君小姐。

如果您有關於研究的任何問題，敬請與我聯繫，表上有我的電子郵件信箱：tbrophy@arts.ufl.edu 或辦公室電話：352-273-3193。倘若有涉及研究參與者的權利問題時，請與美國佛羅里達大學人體試驗委員會聯繫 (IRB :352-392-0433)。

研究計畫負責人 陳建君 Email: jc2675@ufl.edu
家長同意書

我已詳細閱讀了上述的說明，並同意我的孩子參加由陳建君小姐負責的音樂活動與語言學習研究計畫。

參與者姓名：_____________ 班別：_______ 出生年月日：______

家長或監護人簽名：______________ 日期：____________
參與研究計畫及問卷調查

親愛的同學：

你好！我是美國佛羅里達大學音樂教育所博士候選人陳建君，目前正在 Dr. Timothy S. Brophy 博士指導下進行「應用音樂活動增進兒童英語發音及詞彙學習之研究」，五月份我將有機會到學校應用音樂活動幫助你們學習英語課程。

你的父母如果同意你參加這項學習研究，我們除了依原有進度正常上英語課外，還將在課堂中安排 Test of Language Development (TOLD-P:3 口說語言熟練測驗) 測驗：

每一堂課會在英文課的時候上。你將不會失去任何而外上課的時間。我將會用音樂活動來增強現有的課程。以下是每周課程進度：

第一週：考試，問候，名子遊戲
第二週：現在幾點了？
第三週：現在幾點了？
第四週：安迪和貝蒂在哪裡？
第五週：安迪和貝蒂在哪裡
第六週：你喜歡甚麼？
第七週：你喜歡甚麼？
第八週：你喜歡甚麼？
第九週：你喜歡狗麼？
第十週：你喜歡狗麼？
第十一週：你喜歡狗麼？
第十二週：後測

這項研究是自願參與的，音樂活動將配合課程進度，分十二周融入臨床教學中，屆時研究者會和參與研究的學生一齊進行教學活動。這項研究均在原有英語課堂上實施，音樂活動僅用於輔助教學並不會佔用課外的時間，也不會影響正常授課。參與或不參與都不會影響你的英語成績和你的英語課受教權，任何時間你表明不再參加或沒興趣參加均可退出。

我很感謝並期待能在英語課堂上和你相見！為了使研究計畫順利進行，煩請撥冗惠填下列問卷，並於 9 月 3 日前送交黃鈺倫老師代為收齊以便轉交本人。

研究計畫負責人 陳建君

-------------------------------------------------------------------------------------------------------------------------
姓名：____________ 班別：________ 性別：__ 編號：____
出生年月日：_______ 年齡：_________ 日期：____________
你喜歡參加這計畫嗎？
______Yes（參加）   ______No（不參加）

學生姓名__________
學生年齡____________
性別 _________

學生座號________
參與日期________

Participant Name ____________________
Participant Age ________________
Gender ____________________

Participant Number ____________
Date of Participation __________
APPENDIX E
MUSICAL EXPERIENCE QUESTIONNAIRE

In conjunction with the research study, “The effects of music activities on English pronunciation and vocabulary retention of fourth-grade ESOL students in Chia-Yi, Taiwan”

Jian-Jun Chen, University of Florida, Investigator

Parental Instructions: Please answer the following questions as accurately as possible. This information will be used for statistical purpose only. Please return with your consent form.

1. Does your child currently take private music lessons? □ Yes □ No
   a. If yes, how many weeks, months, or years has your child taken lessons?
      ____________ months
         (number)

2. If not taking lessons now, has your child taken lessons before? □ Yes □ No
   If no, go on to question number 3.
   a. If yes, how long? ____________ months
      (number)
   b. When did your child stop taking lessons?____________________
      (month)

3. Approximately how much time per week does your child participate in organized musical activities outside of school? ____________ hours/week
   (number) (circle one)

   NOTE: Organized activities include: private lesson time, practice time, choir or instrument participation time, family music time, community or school music events, etc.

4. Approximately how much time per week does your child participate in leisure musical activities outside of school? ____________ minutes hours/week
   (number) (circle one)

   NOTE: leisure music activities include listening to music on the radio, mp3, ipod, listening to favorite recordings, musical play (includes singing games and playground songs), listening to music videos or music television programs (such as MTV), etc.
English Learning Experience Questionnaire

In conjunction with the research study, “The effects of music activities on English pronunciation and vocabulary retention of fourth-grade ESOL students in Chia-Yi, Taiwan”

Jian-Jun Chen, University of Florida, Investigator

Parental Instructions: Please answer the following questions as accurately as possible. This information will be used for statistical purposes only. Please return with your consent form.

1. Has your child taken English lessons before 3rd grade? □ Yes □ No
   b. If no, please skip to item number 4 below.

2. Before 3rd grade, how many years has your child taken English lessons?
   □ less than one year □ 1 year □ 2 years □ 3 years □ 4 or more than 4 years. If more than 4 years, how many? _____

3. Where did your child learn English before 3rd grade (You may choose more than one answer)? □ kindergarten □ day care centers □ private lessons □ after-school English program □ others: _____

4. Approximately how long did your child study after school? □ less than 1 hour □ 1 hour □ 2 hours □ 3 hours □ 4 or more than 4 hours: _____ hours

5. Is your child’s after-school English teacher a native English speaker?
   □ Yes □ No
音樂經驗問卷調查

『應用音樂活動增進兒童英語發音及詞彙學習之研究』
陳老師 美國佛羅里達大學

參加學生父母請能盡可能確實回答下列問題並擲回此卷:

1. 你的小孩目前有參加個別音樂課程嗎？ 有 無 (請圈)
2. 如果現在沒參加個別音樂課程，請問之前有參加過嗎？ 有 無
   如果都沒，請回答問題三
   a. 如果是，那多久？ __________ 幾個月 (數目)
   b. 您小孩何時停止上個別課？____________________ (月)
3. 你小每星期參加校外音樂活動多少時間？_________ 小時/周 (數目)
   備註:校外音樂活動包括:私人上課時間，練習時數，參與合唱或樂器時數，家庭音樂，社區或學校音樂活動等。
4. 你小孩每星期校外休閒音樂活動有多少時數？___________分鐘 小時/周 (數目) (請圈)
   備註: 休閒音樂活動包括傾聽收音機音樂，MP3，用 ipod 聽喜愛音樂，以及音樂遊戲等)
英語學習經驗

按照自己真實的情形，在下列各題中最適當的□裡打「✓」（除「可複選」外，每題只能打一個 ✓）

1. 升上三年級之前有學過英語嗎？ □有 □沒有
(如果三年級以前從來沒有學過英語，就請跳過以下的題目，直接至第四題繼續作答。)

2. 升上三年級之前總共學過多久的英語？ □還不到一年 □一年 □二年 □四
年 □四或四年以上:約____年

3. 上三年級之前是在那裡學英語呢？（可複選） □幼稚園 □安親班 □家教班
□美語補習班 □其他（請說明） __________________________

4. 每週約花多少時間在校外學習英文：（包含英語家教）
□1 小時以內 □1 小時 □2 小時 □3 小時 □4 或 4 小時以上:約__小時

5. 你在補習（或安親、才藝）班的英語老師是不是外籍老師：（包含英語家教）
□是 □不是
LIST OF REFERENCES


BIOGRAPHICAL SKETCH

Jian Jun Chen is a Ph.D. candidate and Teaching Assistant in music education at the University of Florida. She currently serves as lab instructor in Music for the Elementary Child. Ms. Chen earned her Master of Arts degree in music and music education at Teachers College, Columbia University. In January, 2009, Ms. Chen presented an interactive workshop titled “Multicultural Journey to Eastern Europe and Taiwan” at the Florida Music Educators’ Association conference. In April 2009, she presented research titled “Assessment: Over the Ocean- outside of the U.S.” at the Second International Symposium on Assessment in Music Education. Her research areas of interest include indigenous folk music of Taiwan and connections between music instruction and English language acquisition. Ms. Chen has taught music in New York City, Taiwan, and Florida. She maintains a piano studio in Gainesville, Florida and judges piano competitions for the Florida Federation of Music Clubs.