

An empirical study on teaching urban young children music and English by contrastive elements of music and songs*

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Abstract: The purpose of the study is to teach urban young children music concepts and English by composing creative music and songs with contrast elements. The subjects were seven urban young children aged from three to four in a Taiwan kindergarten. The duration was twenty-four weeks, with two sessions per week. The teaching contents included *Hello Song*, *Musical Movement*, *Music Appreciation* and *Goodbye Song*. The study applied the thematic music elements to the teaching content. The main methodology was a qualitative study and quantitative data used to receive objective support. Assessment included a pre-test at the beginning, a post-test and participation observation at the end of the study. The head of the kindergarten, the classroom teacher and a parent completed activity feedback forms to obtain social validity. The results show that through the use of creative music pieces of contrast and song activities, urban young children's understanding of music concepts was progressive and English ability was improved. The study findings are: (1) Using contrastive music pieces is a good method for teaching very young urban children to understand music concepts; (2) Creating simple target objective songs with contrast elements is a good way for urban young children to learn simple English; (3) Music with contrastive elements could motivate urban young children to do movement spontaneously and learn the spoken language simultaneously; and (4) Contrastive music could be used for pre-classical music learning.

Key words: contrastive music; music concepts; English; young children; empirical study

1. Introduction

1.1 Background

Encouraging language and communication skills in children under five is an essential part of child development. Music-related play is an excellent way to accomplish this (Lee, 2004). There is a dynamic relationship between music and language, and working on the improvement of one helps in the development of the other. Playing games with sounds, singing songs and chanting as well as moving and dancing to music can all help children to practice specific language skills while benefiting in broader areas as well.

As infants grow, they develop musical skills similar to those of adults. Music and speech directed at infants are very similar. This leads to the possibility that infants learn music in much the same way they learn a language. Because of this, music instruction in children from a very young age should be encouraged. From birth, parents and caretakers should attempt to give their children music instruction as best they can, and music instruction, like language instruction should be made an integral part of the education system. There would be an enormous

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improvement in the music ability of children and of the quality of music in culture if early childhood music education received more emphasis.

Music is all around us but it is not being used as much as it should be in the language classroom. When it comes to language education, as parents and educators we know that we must use every tool at our disposal to help children learn. What follows is a foundational study on the connections between music and learning, with a focus on how music is linked to language and how it is learned. This should serve to provide the theoretical background to support further work in the field of music education and can guide those unfamiliar to know more about how music can provide benefit both inside and outside the realm of music education.

1.2 Motivation of the study

Children instinctively create music when they play. They bang out a rhythm, they create songs, most children love noisemakers. To help them direct that instinctive behavior into something is more meaningful, and this will eventually help them attain a better understanding in music and develop intelligences. Therefore, composing more understandable and extremely contrastive pieces of music and songs could be helpful for young children to learn music elements. Outside the field of music, it could also help them to develop such skills as language ability.

1.3 Purposes of the study

The aim of the study is to create pieces of music with contrastive elements, such as high vs. low; loud vs. soft; stop vs. go; fast vs. slow, etc. and simple target objective songs so that young children could improve both music intelligence and language ability. The specific purposes of the study are:

(1) Composing creative music pieces with contrastive elements and simple target objective songs to teach young children music concepts.

(2) Composing creative music pieces with contrastive elements and simple target objective songs to enhance young children's English ability.

The specific research questions asked are:

(1) Can the creative music pieces with contrastive elements and simple target objective songs teach young children to understand music concepts?

(2) Can the creative music pieces with contrastive elements and simple target objective songs enhance young children's English ability?

2. Relative literature review

2.1 The importance of learning music for young children

Music is the first of the multiple intelligences that becomes functional in a child (Lee, 2007). As Gardner wrote "the single most important thing in education is for each person to find at least one thing that he/she connects to, gets excited by, feels motivated to spend more time with." For many children, music is that thing (Gardner, 1992).

Offering the view that music, language and intelligence develop as a result of the child's embeddedness in a social and physical world, Sloboda (1997) underscores the importance of culture in making language and musical understanding possible.

In a famous study (Rauscher, Shaw & Ky, 1995), it was found that listening to music that is complex would help to elevate scores on a concurrent test of spatial reasoning. The works of Mozart were used and after listening, students' scores on a spatial reasoning test were eight points higher.

2.2 The linkage between brain research and music learning

A bridge is formed by music, connecting the brain's left and right hemispheres, enabling them to work and learn together. Listening to music increases brain function and can promote complex thinking. Studies have also shown the connections music makes between thinking, learning and emotions (Davies, 2000).

Musical intelligence can change the very anatomy of the brain. The corpus callosum, the nerve fibers that connect the hemispheres of the brain, can be increased in size and efficiency through early childhood musical training (AAN, 2001). Musical intelligence has been shown to have clear interconnections with other areas of intelligence, as Shreeve (1996) has noted.

In short, when making the case for music being an effective tool for the language-learning process, it is helpful to begin from the beginning: to show the value that music has for all of the mental processes. As Zatorre (2000, p. 21) has said, "Asking whether music is a right brain or left brain function isn't really the right question. I have very little doubt that when you are listening to a real piece of music, it is engaging the entire brain". This "whole-brain" approach has proved to improve children's cognitive functions across many areas. One of these areas, as we are prepared to clearly demonstrate, is language ability. Rauscher concludes, "We suggest that music can be used not only as a 'window' into examining higher brain functions but as a means to enhance them" (Rauscher, p. 43).

2.3 The linkage between music learning and language learning

In a recent study, Saffran, Loman and Robertson (2000) found that infants remembered passages from Mozart piano sonatas after a two-week delay. The results suggest that infants possess learning and memory abilities for music parallel to those they possess for language. The researcher's dissertation work (Lee, 2002) explored employing whole-language approaches to help young Chinese-American children develop awareness and knowledge of their second language and "secondary" culture (Chinese). Sing-alongs, musical instrument play, musical movement and dramatic activities, and social and parental interaction successfully aided the children in connecting with the culture and language.

In music development children need to babble with the movements that will allow them to perform rhythms without hesitation or rigidity. Each child who begins to babble in rhythm will soon demonstrate their personal tempo. Within the curriculum, teachers and parents are encouraged to reinforce each child's personal tempo by imitating their rhythm babble, and engaging them in "rhythm babble conversations" in their personal tempo. In addition, the adults could improvise short chants that incorporate a child's rhythm babbling. This reinforces their vocal participation in music, and is a helpful step in drawing them into music syntax (Lee & Lee, 2005).

In the early childhood classroom, call and response songs can also be used to create a more conducive learning environment and focus children's attention. Such methods help to improve memory, encourage the social skill of taking turns, reduce anxiety and increase confidence (Beaton, 1995). In a study using songs to teach a French grammar concept, the young children were able to remember the rule.

The shared aspects of music and language development are so numerous that the most effective instruction is that which combines the two (Davies, 2000). At the beginning, during the reading development stage, it also becomes critical for children to be exposed to language and all its forms: visual, representative, symbolic, textual, spoken in story and music.

3. Methodology

The main methodology was a qualitative study and quantitative data used to receive objective support. Assessment included a pre-test at the beginning, a post-test and participation observation at the end of the study. The head of the kindergarten, the classroom teacher and a parent completed activity feedback forms to obtain social validity.

3.1 Participants and setting

There were seven subjects, three boys and four girls, aged from three to four. They had no music and foreign language experiences and were enrolled in a private kindergarten in Taichung county, central Taiwan. They were selected by purposive sampling to take part in the experiment.

3.2 Duration

This was a 24-week study, with 45-minute sessions twice per week of specific, study-focused music education lessons.

3.3 Research design

The research design is as shown in Figure 1. The initial four weeks of the study were dedicated to pre-test and the last four weeks were post-test. All observations of participants undertaken during the pre-test, experimental sessions through theme I to theme IV and post-test were recorded on videotape.

Research Design	Weeks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Pre-test (4 weeks)		■	■	■	■																					
Theme I: High & low (4 weeks)						■	■	■	■																	
Theme II: Loud & soft (4 weeks)										■	■	■	■													
Theme III: Stop & go (4 weeks)													■	■	■	■										
Theme IV: Fast & slow (4 weeks)																	■	■	■	■						
Post-test (4 weeks)																							■	■	■	■

Figure 1 Research design

3.4 Assessment

The assessment instruments included pre-test and post-test forms administered by the researcher, semi-structured observation forms (Table 1 and Table 2) to gather data on understanding of music elements and English ability. These were completed by three observers, trained graduate students. The assessment also included interview reports from the teacher at the kindergarten and the parents at home and teaching logs from the researcher. All experimental sessions were recorded on video and these were viewed and scored by three

observers. At the end of the study, three social reliability assessment reports were completed by a parent, a teacher and head of the kindergarten.

The qualitative method included the researcher’s teaching log and observation reports from three trained graduate student observers. The quantitative data included semi-structured observation forms using a 5-point scoring scale from three observers.

3.5 Coding

The following are the researcher’s coding symbols:

- (1) PIA 09022006: The parent A’s parental interview on September 2, 2006.
- (2) TI 09012006: The teacher’s interview on September 1, 2006.
- (3) TOF 10052006: The teacher’s observation form on October 5, 2006.
- (4) POFA10072006: The parent A’s observation form on October 7, 2006.
- (5) OA10042006: The observer A’s observation form on October 4, 2006.
- (6) OB10112006: The observer B’s observation form on October 11, 2006.
- (7) OC10182006: The observer C’s observation form on October 18, 2006.
- (8) RTL09062006: The researcher’s teaching logs on September 6, 2006.

3.6 Statistical analysis

Data was analyzed using statistical software SPSS 10.0.7 for Microsoft Windows.

Table 1 Contents of music observation form

Content		Subject’s response	Description & definition
Items			
Music performance	Understanding of musical elements	1. Movement responses	The movement responses include using facial expressions, gestures, and body language to respond to the music and songs.
		2. Follow the instructor’s direction	It means following the instructor’s directions to do the movement with songs and music.
	Expression of musical elements	3. Imitation of singing	It means the children could imitate instructor’s singing either partially or the entire singing content.
		4. Expressing the music or songs by playing the instruments	It means the children could express the meaning of the music or songs by playing them on the instruments.
		5. Responding to the music or songs simultaneously	It means the children could do the motions or singing simultaneously.

Table 2 Contents of English observation form

Content		Subject’s response	Description & definition
Items			
Language performance	Language understanding	1. Movement responses	The movement responses include using facial expressions, gestures, and body language to respond.
		2. Follow the instructor’s direction	It means following the instructor’s directions to do the movement.
	Language expression	3. Imitation of speaking and chanting	It means the children could imitate instructor’s speaking or chanting contents either segment or whole content.
		4. Expressing the chanting by playing instruments	It means the children could express the meaning of the music or songs by playing instruments and chanting simultaneously.
		5. Simple answer	It means the children could answer the instructor’s questions simultaneously.

4. Results

4.1 Pre-test and post-test expert's assessment

The comparison of pre-test and post-test understanding of music elements is shown in Figure 2 and understanding of English is shown in Figure 3. The participants were scored on a 1-5 scale on a range of aspects related to understanding of music elements and English ability.

For the assessment standard of understanding of music elements, a score of 1 indicated the participants had less than 40% proficiency across 10 categories, such as the ability to follow the instructor's directions to do the movement with songs and music; and imitate instructor's singing content either in segments or the whole content, etc. A score of 5 showed the participants had full, 100% proficiency.

For the assessment standard of understanding of English, a score of 1 indicated the participants had less than 40% proficiency across 10 categories, such as the ability to use facial expressions, gestures, and body language to respond to the instructor; imitate the instructor's speaking or chanting contents either in segments or the whole content. A score of 5 showed the participant had full, 100% proficiency.

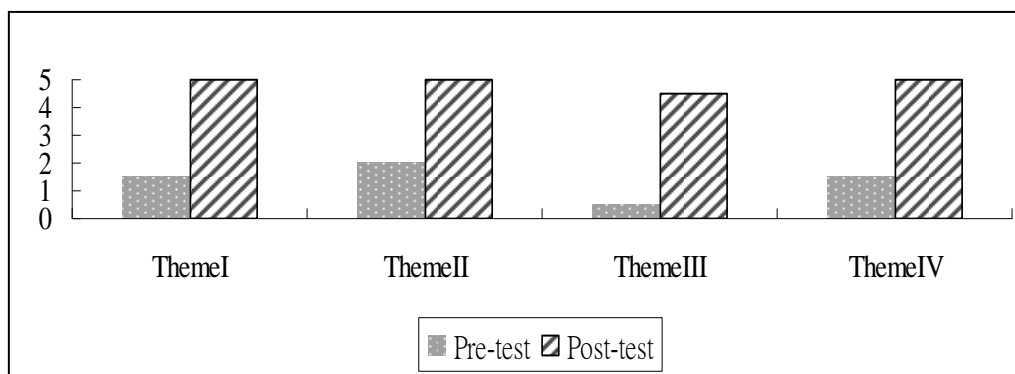


Figure 2 Pre-test & post-test of understanding of music elements

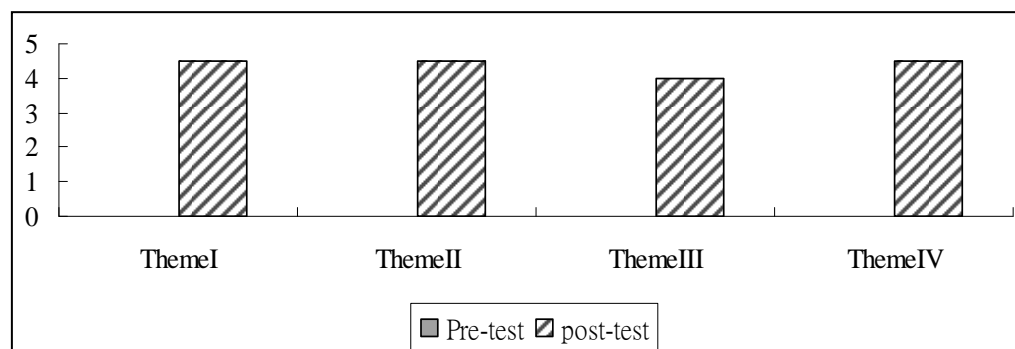


Figure 3 Pre-test & post-test of understanding of English

Figure 2 shows assessment of four themes of the participants' understanding of music elements. For theme I, the subjects are from 1.5 to 5. For theme II, the subjects are from 2 to 5. For theme III, the subjects are from 0.5 to 4.5. For theme IV, the subjects are from 1.5 to 5. The comparison of results shows the efficiency of the study.

Figure 3 shows assessment of 4 themes of the participants' understanding of English. For theme I, the subjects are from 0 to 4.5. For theme II, the subjects are from 0 to 4.5. For theme III, the subjects are from 0 to 4. For theme IV, the subjects are from 0 to 4.5. The comparison of results shows the efficiency of the study.

4.2 Observation forms, interview reports and teaching logs

For the participants, there were four pre-test observations. According to the parents and the teacher, the participants had no music lesson or English lesson experiences.

This is a brand new experience for them to go to kindergarten. We didn't send them to a cram school before. (PIA 09022006, PIB 09022006, PIC 09022006, PID 09022006, PIE 09022006, PIF 09022006, PIG 09022006) (note: cram schools are a popular local after-school educational experience)

She never took music lesson or English lessons. (PIB 09022006, PIC 09022006, PIE 09022006, PIF 09022006)

He never took music lessons or English lessons. (PIA 09022006, PID 09022006, PIG 09022006)

These young children are new at the kindergarten. They didn't have school experiences before. This is their new experience at school. (TI 09012006)

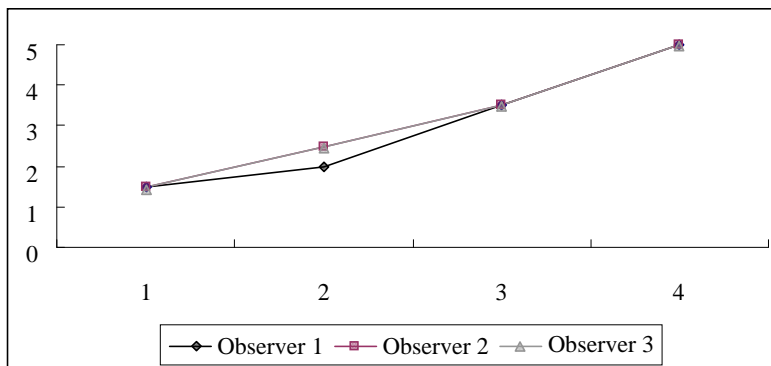


Figure 4 Theme I: Understanding of music elements of high & low

After four pre-test observations, the participants moved to experimental sessions. At theme I, the participants' understanding of music elements of high and low was shown to be improving. The teacher's observation form (TOF 10182006) reported that the participants were able to jump up high and crouch down low while listening to the target recorded music of high and low. One parents' observation form (POFA10142006) showed that the participant A liked to teach his baby sister high and low by pretending to be a bird flying high and an elephant stamping its feet down low during play time at home. From the record of the researcher's logs and three observers' observation forms, the participants soon reached the goal of understanding of music elements of high and low.

Figure 4 is three observers' observation forms showing theme I: understanding of music elements of high & low. The scores of internal consistency reliability for theme I is 0.9970; therefore, this study is reliable.

The participants learned fast. After pre-test observation, all of them could follow the instructor doing high and low while listening and singing songs about high and low. (OA10132006, OB10132006, OC10132006, RTL10132006)

At the fourth lesson, all participants understood the music concepts of high and low by doing movement and singing. (OA10272006, OB10272006, OC10272006, RTL10272006)

At theme II, the participants' understanding of music elements of loud and soft was shown to be improving. The teacher's observation form (TOF 11162006) reported that the participants were able to clap softly and loudly on the drum while listening to the target recorded music of loud and soft. One parents' observation form (POFD11192006) showed that the participant D liked to sing softly and loudly when the parents read a story about little mouse and big lion to him at home.

From the record of the researcher's logs and three observers' observation forms as shown in Figure 5, the participants soon reached the goal of understanding of music elements of loud and soft.

The participants made loud sounds better than soft sounds initially. At the end session of theme II, all participants were able to follow the instructor to control the dynamics of loud and soft. (OA11222006, OB11222006, OC11222006, RTL11222006)

The scores of internal consistency reliability for theme II is 0.9956; therefore, this study is reliable.

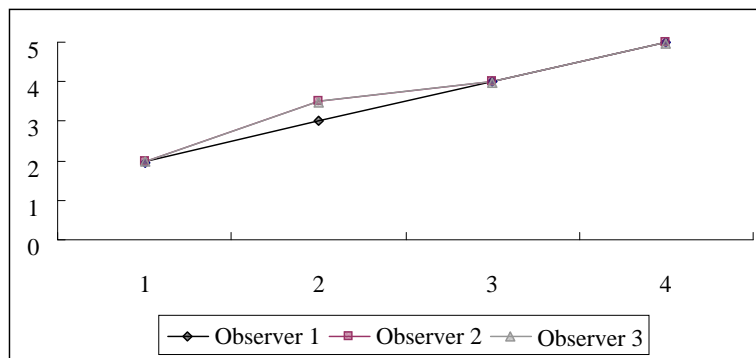


Figure 5 Theme II: Understanding of music elements of loud & soft

At theme III, the participants' understanding of music elements of stop and go was shown to be improving. The teacher's observation form (TOF 12222006) reported that the participants were able to say "shh" while the music was stopped. On parents' observation form (POFE12232006) showed that participant E liked to sing *Twinkle Twinkle Little Star* and played "1, 2, 3, stop!" with her elder brother at home.

From the record of the researcher's logs and three observers' observation forms as shown in Figure 6, the participants soon reached the goal of understanding of music elements of stop and go.

To compare the beginning and the end, the participants showed their understanding of stop and go by following the instructions better than before. Now they could keep quiet when music stopped. (OA12222006, OB122232006, OC12222006, RTL12222006)

The scores of internal consistency reliability for theme III is 0.9970; therefore, this study is reliable.

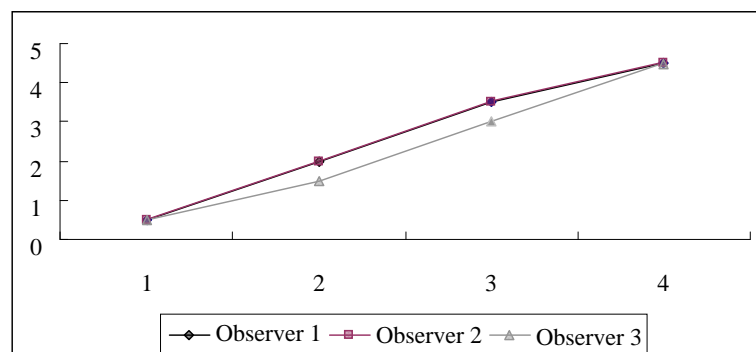


Figure 6 Theme III: Understanding of music elements of stop & go

At theme IV, the participants' understanding of music elements of fast and slow was shown to be improving. The teacher's observation form (TOF 01122007) reported that the participants were able to say "fast" and do fast movement simultaneously. On parents' observation forms (POFG01142007, POFC01142007) it was recorded that participant G liked to play "turtle" and say "slow" with his turtle puppet at home; participant C liked to say "fast" while running around.

From the record of the researcher’s logs and three observers’ observation forms as shown in Figure 7, the participants soon reached the goal of understanding of music elements of stop and go.

The participants seemed to like the fast music better than slow. Even at the beginning, most boys couldn’t follow the instructor to slow down with the slow music. At the end, all of the participants are able to do the correct motions with the target recorded music. Participant E and G even created their own fast and slow movements. (OA01192007, OB01192007, OC01192007, RTL01192007)

The scores of internal consistency reliability for theme IV is 0.9966; therefore, this study is reliable.

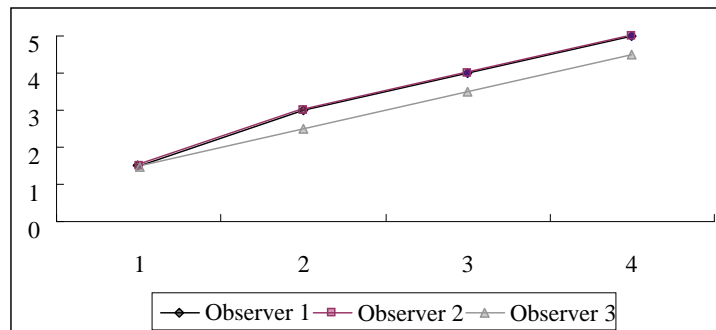


Figure 7 Theme IV: Understanding of music elements of fast & slow

At theme I, the participants’ understanding of English for high and low was shown to be improving. The teacher’s observation form (TOF 10252006) reported that the participants were able to understand the meaning of fast and slow by doing the right movement during the music appreciation time. One parents’ observation form (POFF10222006) showed that participant F asked the parents to sing songs fast and slow. While the parents sang songs fast, she would change the word to slow and ask the parents to sing slowly at the same time. From the record of the researcher’s logs and three observers’ observation forms, the participants soon reached the goal of understanding of music elements of high and low.

The Figure 8 is three observers’ observation forms shown theme I: understanding English of high & low.

The participants couldn’t understand English at all. At the second lesson they could do the high gesture and say “high” with the instructor. (OA10132006, OB10132006, OC10132006, RTL10132006)

The scores of internal consistency reliability for theme I is 0.9976; therefore, this study is reliable.

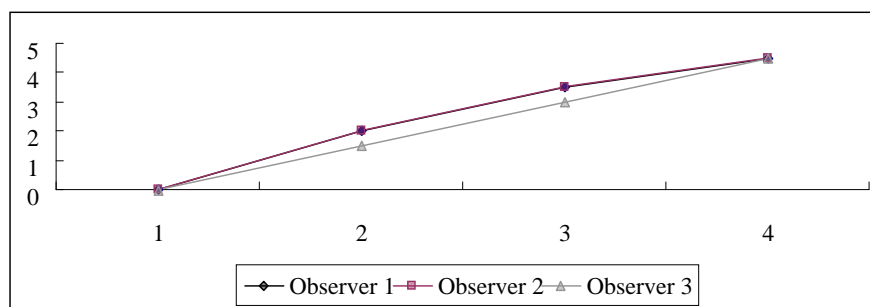


Figure 8 Theme I: Understanding of English of high & low

At theme II, the participants’ understanding of English for loud and soft was shown to be improving. The teacher’s observation form (TOF 11172006) reported that the participants were able to understand the meaning of loud and soft and say the words by whispering and shouting voice. One parents’ observation form

(POFG11192006) showed that participant G liked to play passing secret words with the parents and reminded them to use a soft voice at home. From the record of the researcher’s logs and three observers’ observation forms, the participants soon reached the goal of understanding of English of loud and soft.

The Figure 9 is three observers’ observation forms shown theme II: understanding of English of “loud and soft”.

When playing passing secret words, the participant kept reminding the person to speak softly by saying “soft.”
 “When using the tube to say their names, the participant liked to say “loud” to remind the person who held the tube.
 (OA11172006, OB11172006, OC11172006, RTL11172006)

The scores of internal consistency reliability for theme II is .9974; therefore, this study is reliable.

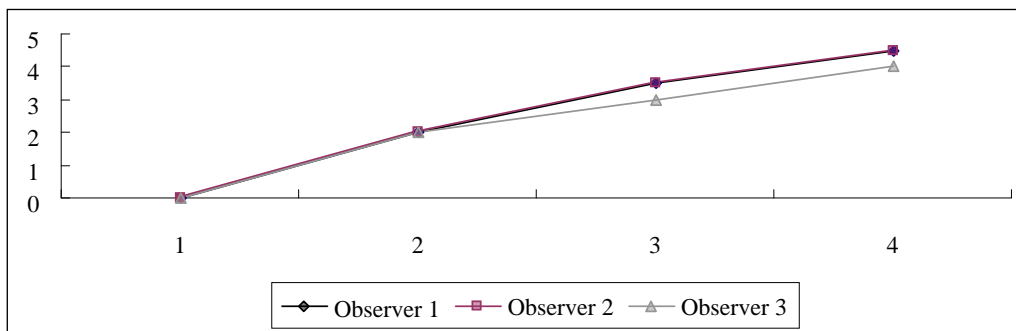


Figure 9 Theme II: Understanding of English of loud & soft

At theme III, the participants’ understanding of English for stop and go was shown to be improving. The teacher’s observation form (TOF 12222006) reported that the participants were able to understand the meaning of stop and go by playing the game “1, 2, 3 wooden man” and saying the words “stop and go”. One parents’ observation form (POFB12242006) showed that participant B liked to play the game “1, 2, 3 wooden man” and teach her baby sister at home. If her baby sister didn’t stop when she said stop, she would remind her sister. From the record of the researcher’s logs and three observers’ observation forms, the participants soon reached the goal of understanding of English for stop and go.

The Figure 10 is three observers’ observation forms shown theme III: understanding of English for stop and go.

The participants were too excited about the upbeat music. Initially they couldn’t control the stop part, but after the third week, most participants could listen to the music and do the movement and say “go” at the same time; while music stopped, they could freeze and say “stop” simultaneously. There was only one boy couldn’t control “stop” well. He liked to laugh during the time everyone said, “Stop”. (OA12152006, OB12152006, OC12152006, RTL12152006)

The scores of internal consistency reliability for theme I is 1; therefore, this study is reliable.

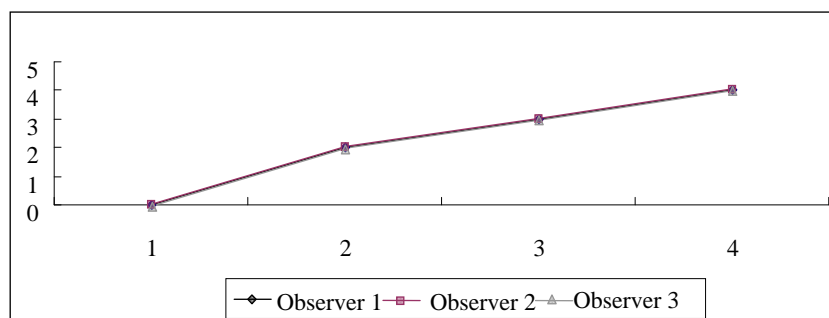


Figure 10 Theme III: Understanding of English of stop and go

At theme IV, the participants' understanding of English for fast and slow was shown to be improving. The teacher's observation form (TOF 01192007) reported that the participants were able to understand the meaning of fast and slow and say the words. One parents' observation form (POFC01202007) showed that participant C liked to run fast and told her parents "I like 'fast' more than 'slow'". From the record of the researcher's logs and three observers' observation forms, the participants soon reached the goal of understanding of English for fast and slow.

The Figure 11 is three observers' observation forms shown theme IV: understanding of English of fast and slow.

At the beginning, the participants couldn't control slow movement well. All of them liked fast movements more than slow movements. After the second week, they made progress. At the last week of theme II they performed well, they pretended they were old people and walked slowly. While the music turned fast, they could say "fast" and run around simultaneously. (OA01162007, OB01162007, OC01162007, RTL01162007)

The scores of internal consistency reliability for theme I is 0.9981; therefore, this study is reliable.

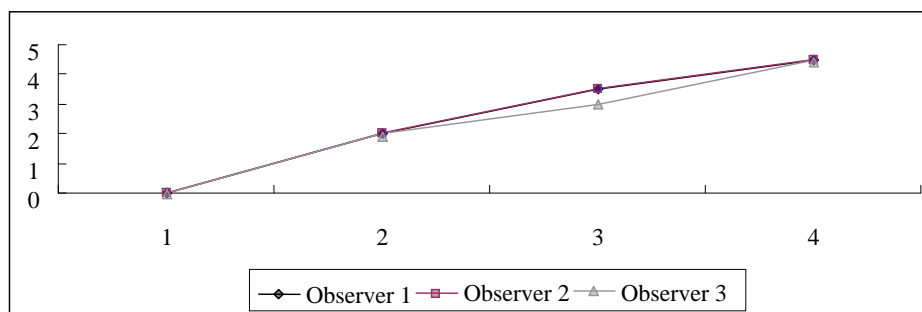


Figure 11 Theme IV: Understanding of English of fast & slow

4.3 Social validity

In order to support the validity of the study, a feedback form was used by head of the kindergarten, a teacher and a parent. The reliability for the study of coefficient of internal consistency is 0.8118 as shown in Figure 12. All respondents gave positive support for the study, and scored various aspects on a 1-5 scale. A score of 1 for questions in the "goals" section indicate that the respondent strongly disagreed with whether a goal of the study had been met; a score of 5 showed that they strongly agreed that a goal had been met. There were 25 scores of 5 (strongly agree), 5 scores of 4 (agree), no disagree and no strongly disagree scores.

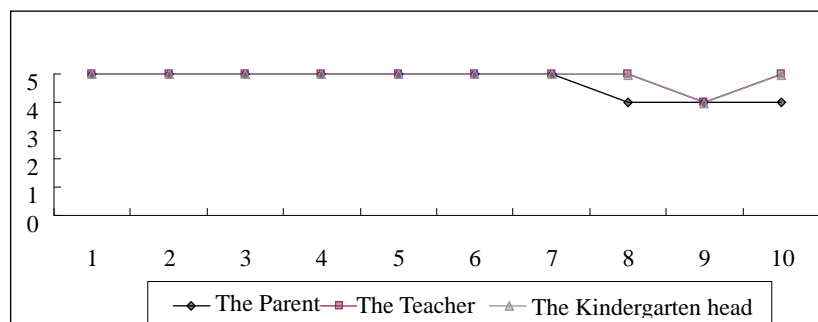


Figure 12 Social validity conclusions and implications for further study

From the assessment comparison of pre-test and post-test shown in Figure 2 and Figure 3, the report forms from interviews with the parents and the teacher at the beginning and at the end, and the results shown in Figures

4, 5, 6, 7, 8, 9, 10, 11 from three observers, the participant made positive progress. The participants had enhanced their musical ability through the music activities. They were motivated to learn music concepts and English through the music activities.

The results of this research provide support for the efficacy of music activities in motivating and improving young children's music and language ability. Further, the study was able to prove the non-threatening and fun environment that can be created in a classroom music setting is invaluable in providing the opportunity for young children's learning.

5. Conclusion

The findings of the study are: (1) Using contrastive music pieces is a good way for teaching very young urban children to understand music concepts. (2) Creating simple target objective songs with contrast elements is a good way for urban young children to learn simple foreign language concepts. (3) Music with contrastive elements could motivate urban young children do movement spontaneously and learn spoken language simultaneously. (4) Contrastive music could be used for pre-classical music learning for urban young children.

Suggestions for further study: (1) The study duration could be longer so the result will be more reliable and valid; (2) Expand the number of subjects to get more valid results; (3) Apply the method to learning different subjects for urban young children; (4) Apply the method to different age groups.

It is hoped through this study and further research that more attention will be paid to the possibilities that exist for using music to reach and benefit urban young children's learning development.

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