



The Effect of Musical Ability on Chinese English as a Foreign Language Learners' Phonetic Ability

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Abstract. In China, there are few studies on the relationship between musical ability and English phonetic ability. English phonetics teaching has been overlooked during the college English teaching in China for a long time, and there is a clear tendency that Chinese college students pay more attention to English reading and writing rather than listening and speaking while studying English, and this has caused their common weak phonetic ability. In China, reading and writing are more emphasized in English teaching courses while speaking is often neglected and belittled. English phonetics learning is also limited by regional teaching conditions and means. There are quite a few English learners who do not realize the importance of English phonetics learning or learning strategies. All these factors affect and restrict the improvement of English pronunciation. To help students have a better understanding of phonetics, music is a great way to be applied in the teaching progress. Whether musical ability will have a positive effect on phonetic ability is worthwhile to study. In this paper, the author conducted a study to find the relationship between musical ability and phonetic ability. Through a questionnaire survey and interviews, the idea that musical ability and phonetic ability among Chinese college EFL students have a positive correlation is proved.

Keywords: Chinese college students · Musical ability · Phonetic ability · EFL learners

1 Introduction

The earliest research about the relationship between music and language could be traced back to the 17th century when Rousseau first came up with the idea that language originated from the human being's musical ability [1]. Several attempts have been made to find the relationship between phonetic ability and musical ability overseas, while there is limited correlational research in China. Phonetic ability plays an important role for English as a Foreign Language (EFL) learners. However, research has consistently shown that Chinese EFL learners still have problems with phonetics. Even some English major students still have pronunciation problems which make them unable to be understood by native speakers after graduation. Another common problem is that their English is with

a Chinese accent. The reason is not that they do not use the right words, it is that they do not pronounce the words well. “Dumb English” and “Deaf English” have become common problems in Chinese students’ English learning which is closely related to the phonetic ability [2]. To improve Chinese EFL learners’ phonetic ability, musical ability is one thing that can not be overlooked.

This paper will focus on the influence of musical ability on Chinese college students’ phonetic ability. The hypothesis that will be tested is that the stronger the students’ musical ability is, the stronger their phonetic ability will be. The research is conducted in the form of a survey, with data being gathered from Shaanxi Normal University’s junior English major students.

English is a tool for international communication. As a special group, Chinese college students are required to have a higher standard of phonetic ability, so as to have better communication with people from different cultural backgrounds. Chinese college students’ phonetic ability and musical ability are affected to a certain extent. The study of whether musical ability has a positive impact on students’ phonetic ability is of great significance to improve the students’ phonetic ability through music. The research on musical ability and second language phonetic ability is also helpful in exploring the rules and characteristics of second language phonetics acquisition and improving the practice of English phonetics teaching in China [3].

2 Literature Review

2.1 Musical Ability

Musical ability, or musical aptitude, is an inexorable topic in the field of music education. First, the musical ability studied in this paper only focuses on the individual’s perception of western traditional music; Second, the musical ability discussed in this paper refers to the general ability of music creation, music performance, music appreciation, and music research [4]. According to Gordon’s theory, musical ability is the foundation of individuals’ ability to learn music and the foundation of individuals’ musical achievement. And among the more than two dozen elements that make up musical ability, tonality and rhythm are the most important elements that will affect one’s ability on music learning [5].

2.2 Philosophical Theory Related to Music and Phonetics

Plato, a great philosopher, once pointed out that the main reason why music can play an inspiring role is that there are some similarities between music and pronunciation. Darwin, a biologist, proposed from the perspective of evolution that human communicative competence may originate from music and pronunciation. Rousseau, a French enlightenment thinker and famous naturalist educator, believed that poetry, pronunciation, and music may be born at the same time. Spencer put forward the view that music originated from pronunciation, and he believed that music originated and developed from the tone of speech.

2.3 Brain Science Theory Related to Music and Phonetics

Some researchers have pointed out that the similarity between music and pronunciation is not superficial, but they may be two expressions of the same ability of human beings. In recent years, it has been found that speech processing and music processing may overlap in brain functional areas to some extent, and this overlap is reflected on many levels. It shows that the phonetic area is involved in the processing of music, and music also activates the phonetic area. These research results all reveal to some extent that music and speech may have the same brain science foundation, and they may share the brain processing areas to some extent [6].

2.4 Gordon's Music Learning Theory

Gordon has been engaged in the theoretical and practical research of music teaching for a long time, and created the word "audition". This is very similar to Dalcroze's "interior ear". He also believes that "audition" is an important foundation for the development of musical ability. Gordon also thinks that music learning is very similar to phonetics learning, and the "rhythm type" and "tone type" in pronunciation are just like the vocabulary of music [7].

3 Research Method

This part explains the content of the study and also discusses the research hypotheses developed to answer the research questions. In addition, this part describes the research object, research instrument, research design, and data collecting.

3.1 Research Goal

The purpose of this research is to find out the correlation between musical ability and phonetic ability among Chinese college students. The research uses a qualitative method by adopting an online questionnaire survey among junior college students. In addition, an interview is also adopted as a supplementary to have a better understanding of the result.

3.2 Research Hypotheses

Based on the research goal, the author proposes two hypotheses before conducting the questionnaire survey:

- (1) The higher the musical ability scores the students get, the higher their phonetic ability scores will be.
- (2) The higher the phonetic ability scores the students get, the higher their musical ability scores will be.

3.3 Research Participants

The 20 subjects used in the final data analysis are all third-year EFL learners from Shaanxi Normal University, and the selected samples include 3 boys and 17 girls. The average age of them is 21. The sample of the original research participants is wide, and they come from four universities in China, including key universities and general universities. There are institutions of higher learning under the ministry and provincial administration; there are universities based on science and technology, and there are comprehensive universities as well. However, in order to ensure the credibility of the study, the author finally decided to use data from the same school for analysis.

3.4 Research Design

3.4.1 English Listening and Speaking Scores and English Phonetics Scores

The author collected the average scores of English listening and speaking and English phonetics from 20 junior students in four semesters since they entered the university. And the average scores collected above represent their phonetic ability.

3.4.2 Musical Ability Questionnaire

The questionnaire used in this paper is an adapted one from Pei Z. W. [8]. The questionnaire can be divided into two parts: the first part is for personal information collection, including school, name, gender, age, and other personal information; The second part includes 15 questions, which specifically describe the performance of musical ability in daily life and study. The questionnaire applies a Likert Scale, which means that after each question, the subjects are asked to introspect and select an option that best fits their actual situation. A score scale from 5 to 1 is assigned to represent from “this statement is completely or almost completely true of me” to “this statement is never or almost never true of me”. The design of the questionnaire is shown below:

Part 1: Personal information (school, name, gender, age, etc.)

Part 2: Question items:

1. I like to sing and/or play a musical instrument.
2. I remember the words and/or melodies of songs after I hear them a couple of times.
3. I have a pleasant and expressive singing voice that varies in intensity, pitch, and emphasis.
4. I can tell if a musical note is off-key.
5. I frequently listen to different kinds of music (e.g., classical, jazz, rock, country, etc.) through any kind of access.
6. I enjoy listening and/or learning to sing English songs.
7. I play music in my head.
8. I know the tunes of many different songs and/or musical pieces.
9. I often make tapping sounds, and sing little melodies while working, studying, and/or learning something new.
10. I often hum or whistle a tune when I am alone and/or in an environment when I feel comfortable.

11. Listening to music I like makes me feel better when I am sad.
12. I often sway, dance, and tap feet in rhythm and can adjust movement patterns according to changes
13. When I grow up, I wish to do jobs connected with music (e.g., a composer, band member, conductor, musician, sound recordist, etc.)
14. My life would be poorer if there were no music in it.
15. I often use chants and/or music in my lessons and make up a rhythm to remember something.

4 Data Collection

The survey was conducted between May and June 2022 and was conducted for all junior students currently enrolled in the four universities mentioned before. A total of 62 valid questionnaires were collected. Before students fill in the form, the author explains the requirements and related items, and encourages students to ask questions in time. As the research participants come from four different universities, there are inevitably different problems in the curriculum settings, teachers, the difficulty of test papers, and the evaluation standards of teachers. In view of this, the author selected students from the same university with the largest number of samples for analysis, namely Shaanxi Normal University. The final sample contains 20 third-year EFL college students from Shaanxi Normal University.

5 Result and Analysis

The analysis is carried out in two steps: (1) the total score of the scale is calculated as a representative of the total musical ability; (2) according to the total value of musical ability, it is ranked from high to low. On this basis, 20 students were selected as the final research participants, including 10 students in the high musical ability group, whose score falls in a scale of 71–55; the lower musical ability group consists of 10 people with musical ability values ranging from 52 to 23. The author calculated the average score of the 20 students' phonetic ability score and musical ability score respectively. It is found that there is only one student in the high musical ability group whose phonetic ability score is under the average level, while the others all have a higher phonetic ability score than the average level.

Based on the obtained data, the author makes a scatter diagram of phonological ability and musical ability.

From Fig. 1, it is easy to find that students with musical ability scores higher than 50 points are generally with a higher phonetic ability score. The author calculated the coefficient of correlation of the data collected, $r = 0.6738 < 0.7; > 0.4$, which means the two factors belong to an incomplete positive correlation. It illustrates that musical ability and phonetic ability have a positive correlation.

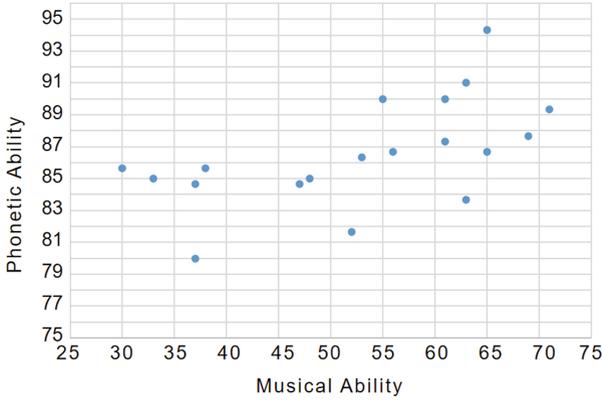


Fig. 1. Musical Ability and Phonetic Ability of 20 Participants.

6 Conclusion

By analyzing the data of the questionnaire survey and interviewing some participants with special data, the author finds that there is an incomplete positive correlation between musical ability and phonetic ability. The data shows that students with higher musical ability are more likely to have a higher phonetic ability than those whose musical ability scores are not so strong. However, among the students whose score of musical ability is above average, there is also the situation that their phonetic ability score is below the average.

Through the interview, it is found that there is a big difference in scores caused by different teachers. Take the participant whose musical ability score is above average but phonetic ability score is below the average as an example, although the pronunciation score of this participant is lower than the average level in the sample, the phonetic ability score of the student is still at the top in his original class.

This study verifies the college students' musical ability stimulates the ability of English phonetics, and this has a great significance to the English phonetic teaching curriculum reform. It also provides some enlightenment that in the teaching process, teachers should pay more attention to the teaching of music and improve musical accomplishment of students. It is also a good way to use the music form of teaching to help students better master English phonetic pronunciation rules, and improve their phonetic ability.

However, there are still limitations in this study. The research method adopted in this paper is relatively simple and can only be used for qualitative analysis. Future studies can focus on more detailed aspects such as how brain works or how it can be applied in L2 learning [9]. The specific aspects in which musical ability and phonetic ability can influence each other remain to be studied. And how to combine music course with phonetics course together and set up a teaching system reasonable and effective also need to go through long-term efforts [10].

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