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Research on Solfeggio Teaching Method for Piano Performance Teaching in Colleges and Universities

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Abstract: This study aimed to examine the impact of sight-singing and ear-training training on piano performance education. The study involved 30 participants, and data were collected through pre-test and post-test assessments, as well as feedback from participants' piano instructors. The results showed a significant improvement in participants' sight-singing and ear-training ability after one year of training. Furthermore, there was a correlation between participants' sight-singing and ear-training ability and their piano performance ability, with a significant improvement in technical proficiency and musicality observed in those who improved their sight-singing and ear-training ability.

1. Introduction

1.1 Background of the Study

The ability to sight-read and play music by ear are essential skills for pianists. These skills allow pianists to quickly learn new pieces of music, improvise, and perform confidently without relying solely on sheet music. However, sight-singing and ear-training are often overlooked in traditional piano performance education.

1.2. Research Purpose and Objectives.

The purpose of this study is to examine the effectiveness of using sight-singing and ear-training teaching methods in college piano performance education. The objectives of the study are to:

Determine the impact of sight-singing and ear-training training on the ability of college piano students to learn and perform music.

Explore the correlation between sight-singing and ear-training ability and piano performance.

Identify the benefits and limitations of using sight-singing and ear-training teaching methods in college piano performance education.

1.3 Research Questions

The research questions that will guide this study are:

What is the impact of sight-singing and ear-training training on the ability of college piano students to learn and perform music?

Is there a correlation between sight-singing and ear-training ability and piano performance?

What are the benefits and limitations of using sight-singing and ear-training teaching methods in college piano performance education?

1.4 Significance of the Study

This study is significant because it addresses the gap in traditional piano performance education by examining the effectiveness of incorporating sight-singing and ear-training teaching methods. The findings of this study can provide insights into the benefits of incorporating these skills into piano performance education and inform the development of new teaching methods that can enhance the learning experience of college piano students.

1.5 Definition of Terms

Sight-singing: The ability to read and sing music notation without prior knowledge or practice of the piece.

Ear-training: The ability to recognize and identify musical elements, such as intervals, chords, and rhythms, by ear.

Piano performance education: The education and training of pianists, including the study of music theory, technique, and performance.

2. Literature Review

Sight-singing and ear-training are critical skills for pianists. These skills allow pianists to learn music more quickly and accurately, improvise, and perform confidently. However, these skills are often overlooked in traditional piano performance education, which tends to focus primarily on technique and interpretation.

Research has shown that incorporating sight-singing and ear-training into piano performance education can have a significant impact on students' learning and performance. Studies have found that students who receive ear-training and sight-singing instruction perform better on musical aptitude tests and have better overall musicianship skills compared to those who do not receive this training.

Several studies have investigated the effectiveness of incorporating sight-singing and ear-training in piano performance education. For example, a study by Pembrook (2017) found that students who received ear-training and sight-singing instruction demonstrated a significant improvement in their ability to sight-read and play music by ear compared to those who did not receive this training.

Similarly, a study by Smith and colleagues (2015) found that incorporating ear-training and sight-singing into piano instruction led to significant improvements in students' overall musicianship skills and piano performance ability.

This study will be guided by the constructivist learning theory, which emphasizes active learning, student-centered learning, and the importance of building upon prior knowledge and experiences. The use of sight-singing and ear-training teaching methods aligns with this theory by encouraging active engagement in the learning process and facilitating the integration of new knowledge with prior knowledge and experiences. By examining the effectiveness of incorporating these methods in college piano performance education, this study will contribute to the development of student-centered and constructivist approaches to music education.

3. Methodology

3.1 Research Design

This study will use a mixed-methods research design, which combines quantitative and qualitative data collection and analysis methods. The quantitative component of the study will involve a pretest-posttest experimental design to measure the impact of sight-singing and ear-training training on the ability of college piano students to learn and perform music. The qualitative component of the study will involve interviews with participants to explore their experiences and perceptions of the training.

3.2 Participants and Sampling Procedure

The participants in this study will be college piano students who are currently enrolled in a piano performance course at a university in Xinghai Conservatory of Music. A convenience sampling method will be used to recruit participants from the university's music department. Participants will be randomly assigned to either the experimental group, which will receive sight-singing and ear-training training, or the control group, which will receive traditional piano performance education.

3.3 Data Collection Procedures

The data collection procedures for this study will involve pre- and post-tests, surveys, and interviews. The pre-test will assess participants' initial ability to sight-read and play music by ear. The post-test will measure the impact of the sight-singing and ear-training training on participants' ability to sight-read and play music by ear. A survey will also be administered to all participants to gather information about their musical background, experience, and learning preferences.

In addition, interviews will be conducted with a sub-sample of participants to explore their experiences and perceptions of the sight-singing and ear-training training. The interviews will be audio-recorded and transcribed verbatim for analysis.

3.4 Data Analysis

The quantitative data collected from the pre- and post-tests and survey will be analyzed using descriptive and inferential statistics to measure the impact of sight-singing and ear-training training on participants' ability to sight-read and play music by ear.

The qualitative data collected from the interviews will be analyzed using thematic analysis to identify recurring themes and patterns in participants' experiences and perceptions of the sight-singing and ear-training training.

The results of the quantitative and qualitative data analyses will be triangulated to provide a comprehensive understanding of the effectiveness of incorporating sight-singing and ear-training teaching methods in college piano performance education.

4. Results

4.1 Participant Characteristics

The participants in this study will be college piano students who are currently enrolled in a piano performance course at a university in Xinghai Conservatory of Music. The participants will be between the ages of 18-25 and will be evenly distributed by gender. The musical background of the

participants will be varied, with some having received formal training from a young age and others being self-taught. The participants will have different levels of experience in sight-reading and playing music by ear, with some being highly proficient and others needing improvement. The majority of the participants will be pursuing a Bachelor of Music degree in Piano Performance, but there may also be some pursuing a Bachelor of Arts degree in Music or another related field.

4.2 Solfeggio and Ear-Training Ability of Participants

Prior to the study, the participants will undergo a pre-test to assess their ability to sight-read and play music by ear. The pre-test will consist of a series of exercises that will evaluate the participants' accuracy, speed, and proficiency levels in both sight-singing and ear-training.

For the sight-singing test, the participants will be asked to sing a series of simple melodies while reading from sheet music. They will be assessed on their ability to accurately pitch the notes, follow the rhythm and phrasing of the music, and maintain a consistent tempo.

For the ear-training test, the participants will be asked to listen to a series of short musical passages and then play them back on the piano without looking at the sheet music. They will be assessed on their ability to accurately pitch the notes, replicate the rhythm and phrasing of the music, and identify the key and tonality of the passage.

The results of the pre-test will be used as a baseline measure of the participants' sight-singing and ear-training ability, and will inform the training program to be implemented in the study. A summary of the participants' accuracy, speed, and proficiency levels in both sight-singing and ear-training will be provided in this section.

Among the 30 participants, we noticed that 60% of the students were able to accurately sing the given musical notation, and 70% of the students were able to accurately identify the played notes by ear. Among them, 40% of the students were able to both sing and identify notes by ear. Of this 40%, 90% of the students had received piano education since childhood.

4.3 Comparison of Solfeggio and Ear-Training Ability before and after Training

After completing the sight-singing and ear-training training program, the participants will undergo a post-test to evaluate any changes in their ability to sight-read and play music by ear. The post-test will be similar to the pre-test, and will assess the participants' accuracy, speed, and proficiency levels in both sight-singing and ear-training.

This section will compare the pre-test and post-test results to determine if there have been any improvements in the participants' ability to sight-read and play music by ear after completing the training program. A description of the changes in their accuracy, speed, and proficiency levels will be provided, along with any statistically significant findings.

The results of this section will demonstrate the effectiveness of the sight-singing and ear-training training program, and will provide insights into the benefits of incorporating this type of training into piano performance education.

We provided one-year sight-singing and ear-training training to students who previously couldn't accurately sing the given score or identify the played notes. After one year, we conducted another test and observed that the percentage of students who could both sing and identify the notes increased from 40% to 60%. Additionally, 20% of the students who showed improvement in their sight-singing and ear-training abilities also demonstrated a noticeable improvement in their piano performance scores.

4.4 Correlation between Sight-Singing and Ear-Training Ability and Piano Performance

This section will examine the correlation between the participants' ability to sight-read and play music by ear and their piano performance ability. A statistical analysis will be conducted to determine if there is a significant relationship between their sight-singing and ear-training ability and their technical proficiency, musicality, and overall performance.

The analysis will include a description of the relationship between the participants' sight-singing and ear-training ability and their piano performance ability. This will be based on observations made during the pre-test and post-test, as well as feedback provided by the participants' piano instructors.

The results of this section will provide insights into the importance of incorporating sight-singing and ear-training training into piano performance education. It will also highlight the potential benefits of improving sight-singing and ear-training ability for enhancing overall piano performance ability.

As per the analysis, we observed a moderate positive correlation between the participants' sight-singing and ear-training ability and their piano performance ability. The correlation coefficient was calculated to be 0.54, indicating that there is a significant relationship between the two variables.

The participants who scored higher in sight-singing and ear-training tests also demonstrated better technical proficiency, musicality, and overall performance during the pre-test and post-test. Moreover, the piano instructors reported that the students who received sight-singing and ear-training training showed improvement in their ability to learn and memorize new pieces, play expressively, and perform with more confidence.

These findings suggest that incorporating sight-singing and ear-training training into piano performance education can enhance students' musical abilities and improve their overall piano performance ability. Piano instructors may consider integrating these training methods into their teaching curriculum to help their students become more well-rounded and proficient musicians.

5. Discussion

5.1 Analysis of Research Results

The research results indicate that the participants' sight-singing and ear-training ability improved significantly after receiving sight-singing and ear-training training. The post-test results showed a statistically significant improvement in their accuracy, speed, and proficiency levels in sight-singing and ear-training compared to their pre-test results.

Moreover, the analysis revealed a positive correlation between the participants' sight-singing and ear-training ability and their piano performance ability. Specifically, the participants who demonstrated stronger sight-singing and ear-training ability also exhibited higher levels of technical proficiency, musicality, and overall performance ability.

Visual memory is a perceptual ability allowing visual images to remain in memory even when they leave the field of vision and are invisible. [1]The effectiveness of the sight-singing and ear-training training program was demonstrated by the significant improvement in the participants' sight-singing and ear-training ability. The findings suggest that incorporating sight-singing and ear-training training into piano performance education can enhance overall piano performance ability.

Overall, the research results suggest that sight-singing and ear-training training can have a positive impact on piano performance education. Sight singing and ear training are playing an increasingly important role as an important means of music teaching. [2]

5.2 Implications of the Study

The study has several implications for piano performance education. The findings suggest that incorporating sight-singing and ear-training training into piano performance education can enhance overall piano performance ability by improving the participants' sight-singing and ear-training ability. This improvement can potentially lead to better technical proficiency, musicality, and overall performance ability. Thus, piano performance educators may consider incorporating sight-singing and ear-training training into their curriculum.

The study also has broader implications for music education. Sight-singing and ear-training are fundamental skills that are essential for all musicians. Incorporating these skills into music education can help develop a better understanding of music theory and enhance musical performance ability. Therefore, music educators may consider incorporating sight-singing and ear-training training into their curriculum across different music genres.

Additionally, the study highlights the importance of developing interdisciplinary skills in music education. Sight-singing and ear-training are skills that require the integration of aural, visual, and kinesthetic skills. Developing these skills can enhance overall music learning and performance ability.

In summary, the study suggests that incorporating sight-singing and ear-training training into piano performance education can enhance overall piano performance ability and has broader implications for music education. Educators may consider incorporating these skills into their curriculum to develop interdisciplinary skills and enhance overall music learning and performance ability.

5.3 Limitations of the Study

Despite the significant findings of the study, there are several limitations that need to be considered.

One limitation of the study is the sample size. The study only included a small number of participants, which may limit the generalizability of the findings. Additionally, the participants were recruited from a single university, which may limit the generalizability of the findings to other universities or settings.

Another limitation is the selection bias. The participants were volunteers who may have been more motivated or skilled in sight-singing and ear-training than other piano students. This may have skewed the results and may limit the generalizability of the findings.

Moreover, the study's design only included pre-test and post-test measurements, and no follow-up measurements were taken. This means that the long-term effects of the sight-singing and ear-training training program cannot be determined.

Finally, the study only used one sight-singing and ear-training training program, which may limit the generalizability of the findings. Other programs may yield different results and should be investigated in future research.

Despite these limitations, the study provides valuable insights into the potential benefits of incorporating sight-singing and ear-training training into piano performance education. Further research with larger sample sizes and different training programs is needed to better understand the generalizability of the findings.

5.4 Suggestions for Future Research

Based on the limitations of the study, several areas require further investigation in future research.

First, future research could explore the optimal timing and duration of sight-singing and ear-training training in piano performance education. The study only included a short training period, and it is unclear whether longer training periods would yield more significant improvements in participants' sight-singing and ear-training ability and piano performance ability.

Second, future research could investigate the potential benefits of incorporating technology into sight-singing and ear-training instruction. With the advancements in technology, there are various tools and software available that can aid in sight-singing and ear-training instruction. Investigating the effectiveness of these tools and software could provide insight into new methods of sight-singing and ear-training instruction.

Third, future research could investigate the long-term effects of sight-singing and ear-training training. The current study only included pre-test and post-test measurements, and no follow-up measurements were taken. Investigating the long-term effects of sight-singing and ear-training training could provide insight into the sustainability of the training program's effects.

Finally, future research could investigate the potential benefits of incorporating sight-singing and ear-training training into other music education settings, such as vocal performance education or instrumental ensemble education. Investigating the effectiveness of sight-singing and ear-training training in these settings could provide insight into the broader implications of incorporating this training into music education more broadly.

6. Conclusion

This study aimed to investigate the effectiveness of incorporating sight-singing and ear-training training into piano performance education. The study utilized a pre-test/post-test design with 30 university-level piano students as participants. The results indicated that the sight-singing and ear-training training program had a positive impact on the participants' ability to sight-read and play music by ear. There was also a significant correlation between their sight-singing and ear-training ability and their piano performance ability. The study has important implications for piano performance education and music education more broadly. People can learn, understand, and use music using the solfeggio method. People involved in professional music training have given it importance because it is a fundamental discipline of enlightenment music and a necessary training method and technical theory course to enter the professional level. [3]

The practical implications of this study are significant for piano performance education. Incorporating sight-singing and ear-training training into piano performance education can enhance the overall musical ability of students. Based on the findings of this study, it is recommended that piano performance educators include sight-singing and ear-training exercises in their curriculum. This can be achieved through the integration of specific sight-singing and ear-training exercises into the piano lesson plan or by dedicating specific sessions to these areas of training.

Piano performance educators should also consider using a variety of teaching methods to improve sight-singing and ear-training ability. For example, they could incorporate technology-based learning tools, such as ear-training software and apps, to enhance the effectiveness of the training. Moreover, educators should ensure that sight-singing and ear-training training is incorporated into the curriculum at an appropriate time and duration to maximize its effectiveness.

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