

A Study on the Application of Constructivist Theory in School Piano Teaching and Performance

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Abstract

This study investigates the application of constructivist theory in piano teaching at two music schools in China. The results reveal widespread utilization of constructivist teaching methods, such as activating prior knowledge, creating cognitive dissonance, and providing feedback. Piano teachers encountered challenges related to prior knowledge, dependency on rote learning, and inconsistent student engagement. Recommendations include encouraging students' independent exploration, promoting collaborative learning, employing multimodal strategies, and offering positive feedback. The application of constructivist theory in music education is expected to significantly transform the approach to nurturing the next generation of musical prodigies.

Keywords: Constructivist Theory; Constructivism; Piano Teaching and Performance

1. Introduction

Piano teaching has a long history dating back to 17th-century Europe (Brubaker, 1996). As an engaging activity, piano playing has the potential to enhance students' cognitive and emotional abilities. However, with the emergence of a new generation of learners, it becomes necessary to adopt innovative teaching methods to observe variations in students' piano performance and make improvements accordingly. To meet the diverse needs and interests of students, adjustments and modifications to the educational system are required (Bruner, 1996; Green, 2017). Therefore, this study aims to explore the application of constructivist theory in two music schools in China and propose solutions to enhance the effectiveness of piano teaching. Researchers surveyed the challenges faced by piano teachers when applying constructivist theory and put forth strategies to strengthen its implementation, thus achieving student-centered and effective piano education.

2. Literature Review

Research on piano teaching has long focused on the influence of teachers on students' performance development. McPhail's (2010) study suggests that different aspects of constructivist learning can rapidly improve the progress of music students, maintain high levels of motivation, and enhance their understanding of the learning process. Through various studies conducted in this field, it is possible to demonstrate how to update and upgrade teachers in two educational centers, guiding students in constructing knowledge and encouraging further development of their abilities. Gradual release of

responsibility is a teaching strategy that involves modeling, prompting, and practice (Heick, 2021). Hammond et al. (2020) point out that in piano teaching and learning, teachers primarily provide interpersonal feedback. Teacher feedback in piano learning is frequently used to inform students about areas where improvement in performance skills can be made. To generate positive behavioral changes, specific feedback is necessary, indicating changes that impact students' learning. Therefore, teachers must possess values such as openness, approachability, flexibility, creativity, and democracy. Additionally, new learning is built upon prior knowledge. The better we understand students' ways of thinking, the more we can help them apply their prior understanding, enabling them to learn better and reducing misunderstandings of course materials (Wenk, 2017). Student-teacher collaboration is a relatively new concept, thus there is not enough direct evidence to support it. However, the American Psychological Association explicitly states that students who establish "close, positive, and supportive relationships with teachers will achieve at higher levels." According to a study conducted in 2019, positive relationships between students and teachers are closely linked to their level of engagement and involvement in school (Viviedu, 2021).

Synthesizing the literature, constructivist theory is widely supported for its application in music education. Research findings suggest that it contributes to improving students' performance in critical thinking and problem-solving abilities.

3. Theoretical Framework

Morford (2007) proposed that constructivism is the knowledge of individual, subjective, and constructed understanding. This highlights the personalized nature of individual knowledge and learning. Morford (2007) further points out that as a learning theory, constructivism acknowledges the importance and ability of individuals to think and construct knowledge, as well as their social capabilities. This involves both the cognitive functions of individuals and the social aspects of learning. Wiggins (2016) also emphasizes the significance of meaningful interactions among learners, peers, and teachers. The interaction between learners and teachers makes piano lessons meaningful and conducive to learning. It also enables peers and teachers to facilitate successful learning by providing scaffolded support (Bruner, 1996). Lebler (2007) emphasizes that focusing on the learning process provides opportunities for students to engage in self-reflection, self-assessment, ownership of learning, and goal setting. This is crucial for constructivism as it emphasizes the importance of the process rather than solely focusing on the outcomes. As mentioned earlier, if we want students to feel empowered and take ownership of their piano performance, they need to reflect on their own playing with the support and assistance of teachers and peers. Therefore, constructivist theory serves as the foundation for this study.

4. Significant of the Study

One issue with using constructivist theory in piano teaching is that students may struggle to learn or acquire the necessary skills, techniques, and knowledge, which can impact their musical future. Specifically, this study aims to answer the following questions:

1. What are the different constructivist teaching approaches applied in piano teaching?
2. How can solutions be proposed to enhance the application of constructivist theory in piano teaching?

This study will benefit schools that offer piano programs, as all parties involved can gain insights and information about applying constructivist theory in piano teaching.

This study will benefit schools that offer piano courses by providing ideas and information on the application of constructivist theory in piano teaching.

Students will benefit from the results of this study as they can maximize the knowledge gained from this theory and apply it in their piano learning.

Teachers can disseminate the information and knowledge from the research. They can apply this information in their piano teaching, improve their teaching practices, and seek better pedagogical approaches.

Researchers can gain a deeper understanding of constructivist theory, particularly in its application for teaching piano, through this study. They can also apply it in their piano learning and instruction.

Other researchers can gain insights from this study. The research findings can provide valuable information for scholars conducting related studies in the future. The data collected in this study can serve as a reference for future research.

5. Methodology

This study adopts a mixed method research paradigm, namely quantitative and qualitative analysis methods, aiming to determine the different constructivist teaching methods and problems used by piano teachers, and propose solutions to enhance their application.

6. Constructivism Teaching Approach Applied in Piano Teaching

6.1 Inquiry-based Learning

Inquiry is a term that can be used both in education and in life, referring to the process of seeking clarification or obtaining information by posing questions (Harlem, 2013). Inquiry-based learning (IBL) is an academic approach that aligns with constructivist teaching theory. IBL places students at the center of the learning experience and empowers them with the guidance to direct their own learning through questioning, exploration, and answering inquiries (Caswell & LaBrie, 2017).

Saunders-Stewart et al. (2012) considered various forms of IBL and identified research, problem-solving, discovery, and creative thinking as elements within it. While there are elements of inquiry, Zangori et al. (2012) argue that teachers can sometimes guide students in the learning process, as some beginners may require more guidance to enhance their inquiry skills. Guido (2017) examines inquiry from both the student and teacher perspectives. He explains that from the student's perspective, IBL focuses on exploring open-ended questions or problems, while from the teacher's perspective, inquiry-based teaching emphasizes guiding students towards critical thinking and understanding beyond basic interest. Therefore, inquiry-based learning has a profound impact on piano learning by fostering a deep understanding of musical concepts, promoting active engagement, and encouraging students to develop their unique musical styles.

6.2 Reciprocal Teaching/Learning

Reciprocal teaching and learning are important components of constructivist theory, which emphasizes that learners actively construct knowledge through interactions with their environment and peers.

In piano learning, reciprocal teaching and learning play a significant role. In this educational approach, students actively engage in the learning process by interacting with others and the environment, constructing their own knowledge. The theory emphasizes the importance of collaboration, communication, and critical thinking in fostering a deeper understanding of the subject matter.

Furthermore, reciprocal teaching and learning can help piano learners develop crucial social skills such as communication, teamwork, and empathy. Through collaboration with others, students learn how to articulate their thoughts clearly, actively listen, and work together towards shared goals. These skills are not only vital for their musical growth but also essential for their personal and professional development

in the future.

By emphasizing reciprocal teaching and learning, piano learners can customize their learning experiences based on their individual needs and preferences, making it more personalized and beneficial for them.

6.3 Cooperative Learning

Cooperative learning is a teaching method that emphasizes teamwork and collaboration among students to achieve shared academic goals. In constructivist theory, individuals construct their understanding of the world through active participation and social interaction, and cooperative learning plays a crucial role in this process.

In the cooperative learning model, learning is essentially a social construction process, with group cooperation as its foundation. It provides students with opportunities for communication, listening, sharing, and teaching one another, fostering higher-order thinking in a positive manner and applying the knowledge they are learning in a safe peer environment. Through cooperative activities, students become active participants in the learning process rather than passive recipients of information. Teachers often transition from being lecturers and information transmitters to facilitators of learning (Cremaschi, 2000). Furthermore, cooperative learning promotes the development of social skills such as empathy, collaboration, and conflict resolution, which are crucial for personal growth and success in various aspects of life. It also allows for differentiation in teaching approaches, as students with different learning styles and abilities can work together towards common goals, meeting individual needs.

Therefore, cooperative learning is an integral component of constructivist theory as it encourages active participation, social interaction, and knowledge construction. By promoting collaboration and teamwork, it helps students develop a deeper understanding of the subject matter while fostering important social and personal skills.

7. Summary and Conclusions

According to the issues raised in this study, researchers have made the following findings:

Constructivist teaching methods are widely applied in higher education for piano instruction to stimulate prior knowledge, create cognitive dissonance, and apply knowledge through feedback. These methods encourage students to actively engage, collaborate, and develop their skills in piano learning. Inquiry-based learning and reciprocal teaching/learning are classified as highly observed approaches.

In piano instruction, constructivist teaching methods face the following challenges: the requirement of prior knowledge, dependency on learning, inconsistencies among students, and the challenge of integrating real-life contexts. These issues exist in piano instruction in higher education.

To enhance the application of constructivist theory, researchers propose the following solutions: allowing students to engage in self-exploration, promoting collaboration between teachers and students, and enforcing positive feedback. These measures help enhance students' active participation and foster their development in piano learning.

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