Exploring Instructional Strategies and Environmental Factors that Influence Student Creativity in Piano Teaching

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Abstract

This study aims to explore the instructional strategies and environmental factors that influence student creativity in piano teaching. Through a systematic literature review, the research examines past studies in this field. The findings highlight the benefits of creative activities for students' social, emotional, cognitive, and musical development. Effective instructional strategies such as improvisation and composition, as well as environmental factors like home settings and classroom climate, significantly impact student creativity. Additionally, the use of technology in modern piano teaching enhances student creativity. The study also discusses the application and challenges of various assessment methods for measuring creativity in piano students. The results indicate that both traditional and modern teaching methods have their advantages, and a combined approach may better foster overall student creativity and skill development. Future research should further analyze the long-term effects of creative instructional strategies and the specific environmental factors that influence student creativity.

Keywords: piano teaching, student creativity, instructional strategies, environmental factors, improvisation, composition, technology in education, creativity assessment

1. Introduction

This study aims to explore the instructional strategies and the environmental factors that influence student creativity in piano teaching. This section contains a review of literature on past authors who have attempted to investigate this area. The review investigates the creative activities that should be incorporated into students' curriculum due to the various benefits that accrue to their learning abilities socially, emotionally, and cognitively, as well as their growth in music. Creativity in music helps to improve the solving of problems, enable great interpretation, and develop unity among music students. Promoting creativity in piano students is essential as it enhances their performance while at the same time developing them to become competent musicians. Instructional strategies refer to the technique instructors use to deliver their lessons. Effective instructional strategies, which are also known as teaching strategies help students become actively involved in the learning process (González-Pére & Ramírez-Montoya, 2022). Environmental factors are any social or geographical conditions that influence music learning (Müller & Mildenberger, 2021). In piano education, these factors include the kind of practice contexts, how the teaching environment belongs to the design and style of the teaching spaces and dynamics in teacher-student relations and students' interactions.

2. Method

This literature review utilized a systematic approach to identify, select, and discuss relevant sources pertaining to the main research question: "What instructional strategies and environmental factors influence student creativity in piano teaching?" Two databases were used for literature search. These two are the JSTOR and Google Scholar. The search terms and keywords included were "Music Instructional Strategies," "Music Environmental Factors," "Music Students' Creativity," "Creativity in Music Piano Teaching," "Music Students' Creativity,"

"Piano teaching," and "Music Instructional Strategies and Environment." Peer-reviewed articles published, written in the English language, and employing instructional strategies and environmental factors that affect student creativity in piano teaching were used. Specific exclusion criteria included articles that lacked an empirical foundation, articles with topics that were not related to the research, or that did not fit the defined parameters of the research. The studies were identified and selected in a stepwise manner, first through the title screening, followed by the abstract review, and finally, the full-text analysis to guarantee quality of the literatures used.

3. Instructional Strategies in Piano Teaching

Classical instructional strategies in piano teaching such as piano Suzuki, Kodály, and Orff approaches have remained prominent in music teaching and learning for many years. For example, some teaching practices identified by researchers include the Shinichi Suzuki, based on students' learning of music as a language, which entails listening, repeating, and memorizing what is being sung or played (Van, 2001). Shinichi brought a violin home from the factory and taught himself to play. The Kodály method accredits Zoltán Kodály, wherein this approach emphasizes the attainment of musical literacy through applying voices and rhythms and specific rhythmic gymnastics to compose solid groundwork in music (Powell et al., 2019). Orff Schulwerk's approach, developed by Carl Orff, involves using movement, speech, and instruments to make complete music instruction (Frazee & Kreuter, 1987). These classical approaches mainly aim to acquire the specific motor and intellectual abilities necessary for playing a musical instrument and reading music. Although they have seen a significant fraction of success in their methods, they reveal a gap for innovation in creating technically sound musicians. For instance, Bonna et al. (2014) also view these learning modes as versatile for enunciation but inadequate for discovering numerous possibilities for imitation or self-expression.

However, more contemporary techniques and approaches used in teaching, such as improvisation or composing, emphasize creativity. Burnard (2012) defined improvisation as an effective way of enabling students to elicit their creative ideas in the classroom because students can use their skills creatively. Burnard's (2012) study has shown that the educational benefit of including improvisation in piano lessons is multifaceted: thus, creativity subdomain is enhanced, as are musicianship and problem-solving abilities. Hickey (2003) supports this view by focusing on contemporary approaches to musical education and stressing the role of composition. Hickey (2003) shows that, students internalize music features more and develop better play methods when composing their music. The composition tasks support the internalization of compositional and theoretical knowledge in a superior manner compared to purely traditional means. Specific instructional techniques have been pinpointed to foster creativity during piano teaching.

Activities like the ones mentioned by Berkowitz (2010) are improvisational workouts. These workouts entail asking the students to develop short, spontaneous melodic fragments within limiting structural features while embracing the task's uncertainty and unpredictability. According to Berkowitz (2010), a direct correlation exists between students improvising at least thrice weekly and increased creativity and musicality. Grouping, another instructional technique, as outlined by Hickey (2003), requires students to compose short pieces or versions of pieces that they will be learning. As a teaching strategy, it entails arranging students to write what they are supposed to learn within a limited period. This system does not only develop creativity but also fosters practical experiences after developing theoretical concepts.

Technology has found its way into modern approaches to piano teaching and learning with new inventions in instrument control. Some music software that may be used in class include GarageBand and Finale or digital musical keyboards with recording and playback options, allowing the students to practice and construct their compositions (Webster, 2016). Based on Webster's (2016) findings, using technology in teaching music could positively impact the creation of new pieces since they receive immediate feedback and get a chance to play around with it. In addition, Born & Devine (2015) effectively reinforce the Webster's (2016) findings by showing how technology imparts equitable means of creativity in music education to other students. They point out that adopting technology in student learning and teaching requires thoughtful implementation and passiveness, not emphasizing technology as a tool and noise out the most basic skills.

However, some theoretical critics claim that the efficacy of traditional approaches still needs to be evident, and they consider modern methods to be the foundation of music learning. For example, Tan et al. (2017) asserts that basic embodied technical skills remain fundamental for any music performer, and conventional approaches are beneficial for acquiring such skills. On the other hand, Elliott (1995) notes insight that formalisms, which appear in the traditional diction, might hamper creativity; therefore, there is some potential for a moderate mix of traditionalizing and moderating. About this perspective, Jorgensen (2003) thus has it that music education should embrace a more eclectic approach where both time-tested and modern teaching methodologies concerning music are implemented in intermediate-graded schools to meet the needs of learners.

4. Environmental Factors Influencing Creativity

Various authors have investigated how kinds of environment that students utilize when practicing piano significantly affects their creativity. A study with pre-service teachers, conducted by Hallam (2010), focuses on how gender and practice settings impact musical creation. Hallam's (2010) study applies qualitative interviews and observation to measure and compare the creative content of the students in diverse settings. The author found that home settings make embrace more challenges and achieving more innovative results than in formal settings such as studios. Hallam (2010) is confident in the conclusion that the home environment discontinues formality that hinders creative risk-taking. Supporting Hallam's (2010) study, Thorp (2010) devoted his work to the impacts of the physical environment on music students. Thorp (2010), reviewing only surveys and experiments, found out that stimulating objects, visuals, drawing, and natural light promote student creativity. This implies that providing practice settings that encourage creativity through purposely satisfying cognitive needs is essential. Another critical research paper by Creech et al. (2013) was conducted to determine the use of acoustics and classroom arrangements in music classes. By employing objective data such as sound quality measurement and student questionnaires, the authors concluded that when acoustics and the arrangement of the instruments and furniture are adequately designed, the students' learning attention and musical creativity can be improved substantially.

For creativity, certain psychological factors must also be favorable in the environment. The study by Hernández-Torrano and Ibrayeva (2020) examined the relationship between teacher-perceived creativity and the classroom climate in terms of the creativity of students in music. In case-study research on what students and teachers want via lengthy group discussions and individual interviews, they discovered that a positive approach is vital. To be more precise, one must note that teachers who increase the levels of students' creativity and provide positive emotions significantly increase students' creative potential and achievements in this sphere. Additionally, using encouragement as the paradigm for positive learning environments, Gruenhagen and Whitcomb (2014) offered a longitudinal assessment of the influence of encouraging learning environments with young musicians. The study underscores the finding that students under nurturing conditions displayed incremental creativity over time compared to those under adverse conditions, such as critical or pressurized learning environments. Teacher-student transactions and peer relations are other well-understood concepts that significantly develop creativity. Among the primary goals of the study by Stefanic (2014), the effects of collaborative learning and dynamics between teachers and students on creativity inclined toward education in music were explored. In a participatory action research study, the author identified positive relationships between teacher and student, highly valued for respect and voice promotion, and improved creativity.

However, while the previously discussed works depict environmental factors as facilitating creativity, certain scholars share different opinions. For instance, in a paper presented to the International Association for Educational Futures, Biasutti (2017) suggested that focusing on the environment might create an overly protective environment that would not allow students to develop resilience and develop unique ideas. According to their experimental analysis involving various trials and resilience measures, Biasutti (2017) determined that due to a combination of more moderate stress and less support, students in a given context might benefit from possessing more enhanced creative problem-solving abilities.

5. Assessment of Creativity in Piano Students

Creativity in music is a complex concept that can be best assessed using various testing methods in piano performance. Long (2014) claimed that creativity could be measured through psychometric tests that involve psychometric analysis. The structure of Intellect created by Long (2014) encompasses diverse tasks that reveal creativity potential using parameters such as fluency, flexibility, originality, and elaboration. Expanding on this, the Torrance Tests of Creative Thinking (TTCT) are standard-based tests of creativity that are more general in applicability across domains such as music (Torrance, 1966). The TTCT inventory contains picture construction, picture completion, and verbal tasks initially modified for the musical environment.

However, the idea is that standardized assessments for music have been designed to focus on the peculiarities of musical creative thinking. Sungurtekin (2021) created the Music Composition Creativity Assessment (MCCA), which can assess students' works by assessing components encompassing originality, artistry, and aesthetic value. Composing musical creativity, Burnard (2006) used ethnographic techniques to collate data during research; the methods included observation, interviews, and narratives. Burnard's (2006) approach suggests that learning involves exploring and identifying the artistic attribution and the environment and circumstances in which creativity occurs. Another example is the Consensual Assessment Technique (CAT), pioneered by Amabile (1982). In this technique, different judges separately rate the creative content of a particular work based on their judgment. It has been practiced in teaching and learning music to effectively and reliably determine the creativity of students' compositions or performances.

To an extent, however, measuring creativity is difficult since it is abstract and will always remain so because imagination and novel ideas are not tangible. According to Runco and Jaeger (2012), creativity assessments are

informed by the assessor's paradigms, which are often a function of daily life. This subjectivity makes it easy for the scorers to produce variability in their scores, making it very hard to standardize and perform pretty. To address this, CAT employs multiple expert raters so that extreme positive or negative evaluations are averaged out, but the reliability of judges should be ensured as they may also elect their own biases. Another essential difficulty is the ability to evaluate solely the technical aspects of the piece while leaving the creativity aspect intact. In this regard, Webster (2016) opined that continued evaluations of traditional singing discourage children from imitating what they hear, thus killing creativity.

Webster (2016), on how creativity can be promoted in the classroom, recommended that teachers set creativity tasks, such as improvisation and composition, in daily tests and examinations. This integration nevertheless creates challenges in changing the assessment culture and practice, deciding what counts as valid measurement within education contexts that may have variations across settings. Treffinger (1995) also criticized the qualitative assessments, observing that they are usually subjective and urging that fairer and more comparable tests should be standardized. The concerns Treffinger (1995) raised reflect the broader concern of heralding a better way of measuring creativity that can be used universally across educational settings.

6. Theoretical Foundations of Creativity in Music Education

Concepts such as innovation and creativity in the scope of music education are unambiguously described, as they represent a phenomenon that has numerous aspects and definitions. According to Csikszentmihalyi (1997), creativity creates new objects useful for some activity in a given domain. In this respect, it can involve the transparent making, developing, and technological performing of music (Brophy, 2000).

Guilford's (1950) theory stresses the divergent production of ideas and that different solutions can be offered to a problem. This theory is seminal in creativity scholarship and emphasizes attributes like promptness, uniqueness, and ornamentation. In music learning, creativity is essential in brainstorming and creativity during performance and music writing as this entails idea generation and various options. Amabile's (1983) Componential Model of Creativity posits that creativity arises from the interaction of three main components: Domain pertinent competencies, creative processes relevant to the domain, and interest and motivation. This model indicates that music education is not only in the technical dimension, which includes musical information but also creative ideas and a personal passion for performing musical activities.

Enhancing musical thinking in music education brings various thinking patterns, feelings, and interpersonal benefits. Cognitively, it improves problem-solving critical ability, enhancing growth (Hargreaves et al., 2011). Physically, creativity in music is essential as it enhances self-regulation while at the same time facilitating emotional expression (Hallam, 2010). On the social aspect, engaging students in collaborative creative tasks enhances teamwork and communication and increases student satisfaction in a classroom setting.

Several interventions have been enhanced using creativity, improvisation, and composition, including musical structures, interpretative, and technical skills (Kinsella & Fautley, 2020). By adopting and implementing this approach to music teaching, students are provided with all-round skills that enable them to be musically inclined and creative in their performance.

The strength of Guilford's theory is its flexibility, situated on the thinking processes, which enables understanding that students create several variants of the musical material (Guilford, 1950). However, it has a drawback as it is limited to conceptual systems and does not consider motivational or environmental aspects of creativity.

Therefore, the most suitable theory for this study on instructional and environmental strategies in piano teaching is Amabile's (1983) Componential Model of Creativity. This is because the framework discusses numerous factors essential for creative functioning that pertain to music education using domain-specific skills, innovative thinking personality disposition, and motivation for creativity. The identified areas of instruction and environment are ideal for being examined with this comprehensive framework to understand how creativity can be supported in the students learning.

7. Suggestions for Further Research

This literature review on exploring instructional strategies and environmental factors that influence student creativity in piano teaching consists of the following research gaps. First, there needs to be more research on the long-term effects of creative lesson delivery techniques on students' performance; only some studies discuss the further effects or long-term results of such strategies. Awareness of these long-term effects is particularly pertinent to extending evidence supporting creativity's effectiveness in teaching piano. Second, while a considerable number of empirical studies have been widely published, only a few investigate the impact of specific environmental factors on creativity. While the role of fostering and creating an environment conducive to creativity is acknowledged, there is limited research that elaborates on what constitutes an environment that encourages creativity among piano students or how factors such as practice settings and the dynamic between a

teacher and their students affect the level of creativity among learners. Further studies on what situation encourages creativity in environment design are still required. Finally, there is a need to investigate how technology impacts the learner's creativity. Thus, despite the type of music software and digital keyboards that may bring new ideas, creativity, and opportunities for learners, quantitative research exploring those technologies' use and usefulness in developing students' creativity is limited. Further research may help advance advice on how technology should be applied in teaching piano to promote creativity.

Addressing these research gaps, future research should analyse the instructional and environmental variables that facilitate creativity in piano students. Deriving their sustainability and effectiveness by examining both the short- and long-term repercussions of creative instructional strategies, these future studies should focus on inspiring new directions for improving educational systems and practices. Furthermore, these future studies should investigate in detail and pinpoint context in practice environments and teacher-student interactions that may foster creativity.

8. Conclusion

Elaborative and specific research is needed to address the observed research gaps. These gaps show a need to investigate the sustenance of creative instructional strategies because of the possible temporary viewing of them as innovative. Although earlier studies have focused on the general relationship between specific environmental characteristics favorable for the development of creativity in piano students, further empirical studies about these particular aspects are needed. There are recommendations regarding creating unique assessment aids for piano education because it will allow for a more precise evaluation of creativity. It can be insightful to learn about integrating technology in teaching piano and its impacts on creativity. Research that involves follow-up examinations of creative development and comparative investigations on how contexts differ across cultures may also prove fruitful for furthering the knowledge of creativity in piano music education. Thus, this study is essential in filling these gaps and providing valuable recommendations to piano-teaching educators to promote students' creativity.

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