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Suzuki Piano Method and Flow Experience among Adult Piano Beginners: A Quasi-Experimental Study

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Abstract

Although the Flow experience has been researched extensively in music education, there is limited investigation into exploring the link between the Suzuki piano method and Csikszentmihalyi's flow theory. To address this gap, a quasi-experimental study was conducted to examine how the Suzuki piano method can promote the flow state of adult piano beginners. The study involved 36 participants assigned to either a treatment group or a control group. Both groups underwent an eight-week training program in Suzuki Piano Method and Conventional Group Piano Class respectively. After the program, participants from both groups underwent a posttraining performance test and completed a survey, namely Learning and Performing Experience Scale (LPES), modified based on the Short Flow State Scale (S-FFS) by Martin and Jackson to examine their flow experience. The treatment group showed significantly higher flow experience levels than the control group, particularly in dimensions of Concentration, Unambiguous feedback, Timelessness, Loss of self-consciousness, Sense of control, Autotelic experience, and Challenge-skill balance. The findings suggested that the Suzuki piano method may promote flow experiences among adult beginners in piano learning. The implication of the study signified that the collaborative and interactive learning inherent in the method might be beneficial in achieving flow state and could be a consideration in conducting group piano classes.

Keywords: flow experience; Suzuki piano method; adult piano beginner; group piano class

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INTRODUCTION

The flow state is described as one of the positive feelings or "optimal experience" of people feeling motivated in work, art performance, and sports (Csikszentmihalyi, 1990; Csikszentmihalyi et al., 2023; Tse et al., 2021). Researchers concluded that flow is often felt when people are fully engaged in an activity that matches their ability level. Those who are in the state of flow will have no difficulty being at the top of their capabilities. Their perceptions of time and emotions are temporarily on halt, and they would feel an uplifting sense of motivation and control. It increases the pleasurable experience and productivity at a task. Considering that flow states provide people with a happier and more effective working experience, the researchers have studied and discussed its causal model in depth (Csikszentmihalyi, 1990; Ghani & Deshpande, 1994; Ghani et al., 1991; Rodriguez-Sanchez et al., 2008). Through interviews with stakeholders in Europe, the United States, Australia, and

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parts of Asia, Csikszentmihalyi (1990) confirmed that when people reflected on what it was like to be in a flow state that they have experienced, they would mention at least one or all of the following feelings: 1) clear aims; 2) timely feedback towards the tasks at hand; 3) adaptation of personal abilities to the task; 4) coordination of action and awareness; 5) focused completion of the task; 6) blurred self-awareness during a task; 7) competence in control of the task; 8) blurred time awareness. Ghani et al. (1991) evaluated the degree of flow state entry by utilizing a set of four items on enjoyment and four on concentration. The study revealed that engaging in challenging projects and achieving mastery of the task facilitated the attainment of flow state. Ghani and Deshpande (1994) suggested that the flow state, in addition to being closely related to challenges, is also related to individual autotelic personality. It refers to a person's tendency to seek out activities for their own sake rather than for external rewards or motivations. Csikszentmihalyi has discussed this concept in relation to the flow theory (Csikszentmihalyi, 1997; Nakamura & Csikszentmihalyi, 2014), and some researchers and writers have included it as a ninth dimension (Baumann, 2021; Tse et al., 2021). However, it is important to note that not all sources include this dimension, and some may consider it to be more of a personality trait than a component of the flow experience itself (Norsworthy et al., 2021).

These definitions of the dimensions of the flow experience provide the theoretical foundation for the measurement of the flow state. Researchers have been optimizing measurement methods in order to prove that flow states can be found in people's work and lives. The initial research method for measuring flow was the experience-sampling method (Csikszentmihalyi, 1992; Csikszentmihalyi et al., 1977; Kimiecik & Stein, 1992). While the experience-sampling method has been considered time-consuming by many researchers, efforts have been made to optimize and implement this method due to its

ability to extract comprehensive information more effectively (Hunter & Csikszentmihalyi, 2003; Moneta, 2004). For instance, researchers have utilized communication technology, such as mobile phones and computers, to enhance the feedback collection process, resulting in increased participation rates and reliable, valid responses from a larger sample size (Chen et al., 1998; Khan et al., 2009). In addition to quantitative data collection, the qualitative approach to validate flow theory in different fields and populations is of great interest to many researchers (Addessi & Pachet, 2005; Chen-Hafteck & Schraer-Joiner, 2011; Cunha & Carvalho, 2011; Custodero, 1998). This approach involves utilizing interviews to gain in-depth information from participants about their experiences of flow, while observation allows the researcher to observe and record the behavior of participants in a natural setting (Hefferon & Ollis, 2006; Nakamura & Csikszentmihalyi, 2014; Swann et al., 2015) and to further measure the effect of specific environments on flow (Delle Fave, Massimini & Massi, 2011). And, it allows for researchers to observe and record the behavior of participants in real-time and ask questions about their experiences of flow, thus providing more complete information of the flow state. (Hong et al., 2019; Tordet et al., 2021). Researchers can directly adopt or adapt these measurement tools to different research methods and research subjects (Cunha & Carvalho, 2012; Jackson & Marsh, 1996; Kang, 2022; Tay et al., 2021; Treviño & Bermúdez, 2016; Trevino & Webster, 1992).

Most empirical studies assessing mobility have used multiple multi-factor instruments (Faulkner et al., 2010; Jackson & Marsh, 1996; Martin & Jackson, 2008). However, in some cases, a simple flow measurement is appropriate, for example, the Short Flow State Scale (S-FFS) (Jackson et al., 2008; Martin & Jackson, 2008). The short flow scale can be viewed as a succinct measure of the overall higher-order flow construct by selecting a target item from each of the nine factors associated with flow

experience in the extended version. The S-FFS comprises nine individual items, each corresponding to one of the nine flow factors described by Csikszentmihalyi (1990) in the multi-item multi-factor long scale developed by Jackson and Eklund (2002), as outlined below: Challenge-skill balance (feeling sufficiently competent to meet the demanding situation), Action-awareness merging (performing actions spontaneously and unconsciously without conscious deliberation), Clearly goals (having a strong sense of direction and purpose), Enjoyment (having real-time awareness of one's own performance during the task execution), Concentration (being fully immersed in the present task at hand), Sense of control (experiencing a sense of complete control over one's actions), Loss of selfconsciousness (being unconcerned with others' opinions of oneself), Timelessness (perceiving time to pass differently from normal), and autotelic experience (finding the experience to be highly rewarding). By selecting a target item from each of the nine flow factors in the long form, the short flow scale can be considered a brief version of the global higher-order flow construct. Martin and Jackson (2008) reported on a sample of individuals engaged in work, sports, and musical activities. They argued that measures of flow related to musical activities were most suited for data analysis and that the nine specific dimensions of flow could potentially be more easily mapped onto musical activities, facilitating entry into the state of flow. Therefore, this study modified the S-FSS, creating a new measurement tool, the Learning and Performing Experience Scale (LPES), better suited for measuring flow experience in adult piano beginners.

In the broad application of flow theory, researchers constantly explore empirical data in different disciplines. In 1990, Csikszentmihalyi further explained the flow state in a musical context. Referring to the flow theory, music is a venue for cultivating senses of concentration, enjoyment, satisfaction and immersion. Music can counteract boredom and anxiety and can lead people into a flow experience while listening or performing. Custodero (1998), who was the first researcher to apply flow theory in the field of music, observed young children's flow state in the music learning process. In the subsequent studies, Custodero (2005) conducted further research to explore the flow state during music learning among two distinct age groups: infants and two-year-olds, as well as school-age children participating in Suzuki violin approach and Dalcroze classes. Children can enter the flow state naturally when they are equipped with the required skills and when the task is challenging enough. Meanwhile, the researcher was advised of the importance of exploring new directions in the field of flow in the future. The number of studies on flow theory in the field of music has increased since 2005 (Tan & Sin, 2021). Custodero (2005) found out that the Suzuki method applied in violin course and the Dalcroze method could induce students to automatically adopt correct posture and proactively imitate the teachers' action, which indicates the subjects' flow state. However, the influence of music teaching methods in flow theory has continued to be less mentioned in the previous studies (Kang, 2022). The following are the limited studies done in recent years. Based on Custodero's "Analysis of FIMA (Flow Indicators Musical Activity) coding programmed data" report, researchers (Cunha & Carvalho, 2012; Cunha & Carvalho, 2011) used direct observation through video/audio recordings to demonstrate how the Orff-Schulwerk Approach leads to positive emotions in students' learning, clearly verifying the significant link between the Orff-Schulwerk Approach and Csikszentmihalvi's concept of flow. The researchers from Mexico conducted a quasi-experimental study of flow states in a sample of elderly people based on the Dalcroze Eurhythmics intervention (Treviño & Bermúdez, 2016). The results showed that Dalcroze Eurhythmics was validated in inducing a flow state among older people who received the intervention. The findings of a case study of the Kodály music course among grade 8-9 students showed significant results in a sample where immediate feedback, control over the task, and a satisfying experience were effective (Veldhuisen, 2017). The teacher's role, class environment, lesson pace, content level complexity, and differentiation were among the key factors influencing the flow experience when students participated in Kodály music lessons. Although the Suzuki method has been applied to young children in violin courses, its effectiveness in inducing flow state experiences in adult learners has not been fully explored. According to Custodero (2005), there is a potential link between Suzuki music teaching method and flow theory, suggesting that the method may be effective in facilitating the flow states in adult learners. However, empirical data has not yet been established. Therefore, further research is needed to explore the effectiveness of the Suzuki teaching method in facilitating flow state among adult learners and examine the theoretical and practical links between them. This article discusses how the Suzuki piano method can enhance flow state for adult piano beginners in a group class setting at a Chinese public university. The research questions were as follows: 1) Does the Suzuki Piano Method improve the flow experience of adult piano beginners effectively? 2) In what ways does the Suzuki piano teaching method contribute to the experience of a flow state in adult piano beginners?

METHOD

Research Design

Jennett et al. (2008) have claimed that adopting a small sample size in a study can enhance the reliability and validity of the flow experience. To follow this principle and to ensure teaching quality, a small sample size of 36 piano beginners with no prior piano learning experience participated in this study. To account for the limited sample size, a post-test design with a nonequivalent control group was employed (Gribbons & Herman, 1997; Reynolds & West, 1987). Specifically, participants were assigned to either the treatment group or the control group, with the treatment group receiving the Suzuki piano method instruction. The control group was instructed under the conventional piano teaching approach. As a baseline of piano playing level did not exist, a pre-test was not feasible. Therefore, this quasi-experimental study analyzed only the mean score obtained during piano performance test completed by all participants. To avoid possible confounding variables, demographic information such as age and gender were collected from each participant, and statistical analyses were used to determine whether any significant differences existed between the two groups. Additionally, measures such as self-reported enjoyment and engagement in piano playing were collected to assess the treatment program's effectiveness.

Participants

The research participants were firstyear students majoring in preschool education at a comprehensive university in China. Thirty-six participants, who were over 18 years old and from the same class, joined this quasi-experimental study voluntarily in the first semester. They were provided with face-to-face lessons twice a week for 90 minutes each time. The participants were divided into two groups, one receiving the conventional piano teaching method instruction and the other receiving the Suzuki piano method instruction, and took a performance test after the eightweek program. They were confirmed as piano beginners, which was validated after completing a personal information questionnaire before the study was carried out.

Research Procedure

Both groups used the same pieces from the Suzuki Piano School (Suzuki, 1992) as the study material. At the end of the 8-week course, the participants were required to perform two pieces of music by memorization in the post-test performance test. Participants in the control group were instructed not to begin practicing the piaLiu Xiao Chen et al., Suzuki Piano Method and Flow Experience among Adult Piano Begin-227

no until they achieved a certain sight-reading level. The technical emphasis for this group was on the "weight playing" method (MacRitchie, 2015; Severini, 2021). At the end of each lesson, the teacher requested that the participants review the music theory knowledge and engage in physical practice. On the other hand, the treatment group was taught by the Suzuki Piano Method, which emphasized teamwork during the teaching process. The main teaching strategies included performance demonstration by the teacher and studio class performance where participants needed to listen to each other. In addition, the participants were instructed to listen to the audio demonstration track repeatedly until they could fully memorize the music and locate keys on the on the keyboard. There was no address on the playing technique and music theory instruction given in the control group.

Data Collection

This quasi-experimental study ensured the participants' privacy and the data's confidentiality. The order of the 36 participants in the post-test were redistributed to ensure that the three expert piano examiners were unaware of which group the participants were from when they marked the test. After the test, participants were required to complete the Learning and Performing Experience Scale (LPES), which was modified after Martin and Jackson (2008)' Short Flow State Scale (S-FFS).

Research Instrument and Pilot study

As shown in Table 1, the current study modified the Short Flow State Scale (S-FFS) from Martin and Jackson (2008). To facilitate self-evaluation of piano learning and performance experience, the LPES has corresponded each question with specific scenarios of learning and performing the piano. Additionally, to reduce subjective evaluation errors and enhance the consistency and objectivity of assessments, the current study used the 5-level Richmond Agitation-Sedation Scale (Joshi et al., 2015).

Table 1. Learning a	and Performing Experience
Scale (LPES)) Modified by S-FFS

	Scale (LPES)_Modified by S-FFS				
Scale	Question				
S-FSS	I feel I am competent enough to meet the high demands of the situ- ation				
LPES	I felt competent enough to play the piano				
S-FSS	I do things spontaneously and auto- matically without having to think				
LPES	I practice or performance automati- cally without having to think				
S-FSS	I have a strong sense of what I want to do				
LPES	I have a strong sense of what I want to practice or playing				
S-FSS	I have a good idea while I am per- forming about how well I am doing				
LPES	I was clear about what to do during the piano instruction				
S-FSS	I am completely focused on the task at hand				
LPES	I was able to maintain my attention during the piano instruction				
S-FSS	I have a feeling of total control				
LPES	I felt physical comfort and relaxation during final piano examination performance				
S-FSS	I am not worried about what others may be thinking of me				
LPES	I am not worried about what others may be thinking of my performance				
S-FSS	The way time passes seems to be dif- ferent from normal				
LPES	I felt the piano lesson time went by quickly				
S-FSS	The experience is extremely reward- ing				
LPES	The piano learning experience is extremely rewarding				

To establish test reliability for the LPES, the pilot study was conducted before the formal research. There were four students without piano learning background participated in the pilot study. Two students were taught by the conventional piano teaching method, and the other two were taught by the Suzuki piano method. After learning "Twinkle, twinkle, Little Star Variations A-D after the eight-week lessons, students filled out the LPES, and the data was calculated with Cronbach's alpha. It showed a score of 0.866, which exhibited an internal consistency.

Data Analyses

The data collected from LPES were compiled and analyzed using quantitative measures. The sorted data were evaluated using the Statistical Package for the Social Science (SPSS) version 25.0. Due to the small sample size, the data obtained in this experiment were analyzed by nonparametric statistical methods.

The independent variables in this study were two groups that were instructed by the two teaching methods. The two groups were independent and unrelated. The purpose of this experimental design is to analyze the differences between two different independent samples. All of the above are in line with the experimental hypothesis of the Mann-Whitney U test (McKnight & Najab, 2010). This study aimed to explore the relationship between different teaching methods and students' learning experiences. Data collected through LPES were analyzed for significance according to the nine dimensions of flow (Csikszentmihalvi, 1990).

RESULT AND DISCUSSION

Table 2 presents the variables' mean and standard deviation (SD) in both the Control and Treatment groups. Concentration, Action-awareness merging, Unambiguous feedback, Timelessness, Loss of self-consciousness, Sense of control, Autotelic Experience, Challenge-skill balance, and clear goals are the variables listed in the table. The mean (M) and SD values for each variable are shown in separate columns for both the Control and Treatment groups. The mean value represents the average score for each variable, while the SD indicates the degree of variability in the scores.

Table 2. Mean and Standard Deviations of theVariables of the LPES

Variables	Control Group		Treatment Group					
	М	SD	М	SD				
Concentra- tion	3.5556	.68361	4.1389	.56375				
Action- awareness merging	2.4444	.70479	3.1111	.90025				
Enjoyment	3.6944	.78850	4.3333	.59409				
Timeless- ness	3.5278	4.0833	5.5498	.69133				
Loss of self- conscious- ness	2.6111	.97853	2.2778	.57451				
Sense of control	3.3333	.76696	3.8889	.67640				
Autotelic Experience	3.0833	.66972	3.6389	.37595				
Challenge- skill balance	4.0000	.68599	4.6667	.48507				
Clearly goals	4.2778	.66911	4.7222	.46089				
Note: P<0.05*								

The Mann-Whitney U Test was used to compare the nine dimensions between the control and treatment groups. The results are presented in Table 3. It showed some significant differences in Concentration scores between the two groups (U = 90.000, z = -2.376, p =.022); Action-awareness merging scores between the two groups (U = 90.000, z = -.2.467, p =.022); Unambiguous feedback scores between the two groups (U = 86.000, z = -2.456, p =.016); Timelessness scores between the two groups (U = 85.000, z = -2.504, p = .014); Sense of control scores between the two groups (U = 87.000, z = -2.570, p =.017); Autotelic Experience scores between the two groups (U = 79.000, z = -2.713, p = .008); Challenge-skill balance scores between the two groups (U = 78.000, z = -2.928, p =.007).

Statistics							
Variables	Mann- Whitney U Test	Z	Exact Sig. [2*(1-tailed Sig.)]				
Concentra- tion	90.000	-2.376	.022*				
Action- awareness merging	90.000	2.467	.022*				
Enjoyment	86.000	-2.456	.016*				
Timeless- ness	85.000	-2.504	.014*				
Loss of self- conscious- ness	136.000	920	.424				
Sense of control	87.000	2.570	.017*				
Autotelic Experience	79.000	-2.713	.008*				
Challenge- skill balance	78.000	2.928	.007*				
Clearly goals	103.000	2.127	.064				
Note: P<0.05*							

Table 3. LPES Results of Mann-Whitney U

The results of the data from this quasi-experimental research indicate that both the conventional piano teaching method and the Suzuki piano method can lead to different levels of flow. However, adult piano beginners who learned through the Suzuki Piano Method displayed a more profound flow experience than the other participants, particularly in the following dimensions: Concentration, Enjoyment, Timelessness, Loss of self-consciousness, Sense of control, Autotelic Experience, and Challenge-skill balance. There is no significant difference among the two groups between the loss of self-consciousness and clear goals. The following test will further discuss the cause of different results in the two groups in relation to the flow theory.

Kang (2022) argued that people are most likely to enter a flow state when they are engaged in musical performance activities because they feel concentration or timelessness. Consistent with the results of this study, the adult piano beginners

instructed under the Suzuki Piano Method demonstrated a significant experience of concentration and timelessness. In the adult piano beginners' class, students are easily confused by concepts and unclear instructions due to their unfamiliarity with the new field, causing students to fail to understand the teacher's requirements and follow the teacher's ideas in class (Adamyan, 2018; Kataoka, 1996). From a pedagogical standpoint, the Suzuki piano method guides students to practice piano by gradually developing their musical abilities from the simplest to the more complex tasks. This method first focuses on fostering their aural skills before moving on to cultivate their performance abilities and eventually developing their note-reading skills (López García et al., 2021), whereas the conventional piano teaching method is based on the theory and structural knowledge building that link to the performance (Severini, 2021). In the current study, the control group teaching focused on music theory before physical practice. The participants in the treatment group were taught the melody by listening to the audio demonstration of the piece. They listened several times until they were able to hum the melody correctly and started playing it on the keyboard. In the control group, the teacher would put forward more requirements on music theory and technical matters in piano playing, while the treatment group was taught through solfeggio, listening comprehension towards musical elements such as tempo and dynamics.

The findings also showed a significant difference between the two groups in action-awareness merging. "Action-awareness merging," which is a dimension of flow experience, emphasizes the relationship between self-awareness, spontaneity, and flow (Hart & Di Blasi, 2015). When a person experiences Action-awareness merging, they become deeply involved in an activity and lose awareness of themselves. This can lead to increased spontaneity, which means acting on impulses without hesitation. Custodero (2005) found that the Suzuki music teaching method can help participants to spontaneously imitate playing postures and become more involved in group activities. The results of this study also confirmed her statement. In the treatment group, the teacher played a piece of music on a piano and asked the participants to imitate the performance on the other piano after listening to the teacher's demonstration and carefully comparing teacher's demonstration and their own playing. The students got familiar with the music by repeated listening and did not play until they could accurately hum the pitches. The students were also required to distinguish the dynamic changes between phrases and imitate them in performance. The physical coordination of adult piano beginners contributes to the effectiveness of piano teaching (Meyer & van der Merwe, 2017). The participants in the treatment group were at first confused about the concept of distinguishing piano tones during the first lessons: even though they could distinguish the difference between the tones generated by different touches, it was difficult for them to imitate precisely on the keyboard. However, compared to conventional piano teaching methods, they naturally achieved good physical coordination and musicality without being input with complex performance requirements. This is why the participants were able to engage more voluntarily through imitation behavior and subsequently enter the flow state.

The sense of control between the two groups was found to differ significantly in the current study. When engaging in an activity, one of the indications of the flow experience is that the participant has a highly confident sense of control over the activity (Tse et al., 2021). This confident control can influence participants to get better outcomes in performing the activity. Using this approach in teaching adult piano beginners, there seems to be a causal relationship between the performance experience of the teaching and the learning achievements. Some researchers have demonstrated that physical control ability is essential for adult beginners' piano learning (Roberson, 1987; Udtaisuk, 2005). Referring to the Suzuki Piano Method, students are taught to memorize pieces of music from the beginning and develop aural skills to help their performance (Talent Education Research Institute, 2018). It believes that students will not be anxious and inflexible during the performance as long as they conduct efficient practice. This simplified piano teaching approach released adult piano beginners' learning pressure and anxiety felt at the early learning stage (Bigler & Lloyd-Watts, 2016); thus, the treatment group participants achieved a better playing experience. In contrast, a significant number of studies suggest that the lack of confidence in one's performance abilities in conventional piano teaching methods is due to the multiple technical and theoretical requirements which can negatively impact the quality of performance (Da Silva Pozenatto, 2021; He, 2019).

The current research findings indicate that there is a significant difference in the autotelic experience aspect between the treatment group and the control group. The flow experience is associated with a sense of autotelic experience (Csikszentmihalyi & Larson, 2014; Wrigley & Emmerson, 2013). This means that when people engage in activities that they find autotelic experience, they are more likely to enter a flow state. The use of demonstration audio in the teaching process is easily and immediately satisfying for the students (Lamb & Gregory, 1993; Russell, 1975). Similarly, Hart and Di Blasi (2015) suggested that the feedback of sound when involved in musical activities is a direct autotelic experience, including exhilaration, relaxation and a sense of well-being. As stated in this research, a sense of achievement in musical activities is often the most indispensable condition for people to have a flow experience. However, some researchers concluded that in collaborative or multi-person musical activities, people are more likely to experience flow together as a result of this group musical environment (Hart & Di Blasi, 2015; Tay et al., 2021). In a group setting, the value of collaborative

teamwork and the collective practice of active listening can foster positive emotions and a sense of accomplishment among participants. This positivity can fuel individuals to participate in musical activities with greater enthusiasm, leading to a flow state. (Gaggioli et al., 2017; Koehler et al., 2021; Pels et al., 2018). In the Suzuki Piano Method, group teaching is an important element. Although being able to play a few notes might not be satisfying for adult beginners, the learning process in the treatment group initiated active listening and observing, which somehow enrich the task complexity that generate positive emotion.

According to flow theory, the experience of flow occurs when an individual is fully immersed in a challenging and enjoyable activity (Bölen et al., 2021). The current findings also show a significant divergence in the aspect of Enjoyment and Challenge-Skill balance between the treatment and control groups. Enjoyable activities often provide intrinsic motivation, meaning that individuals engage in the activity for its own sake rather than for external rewards (Veldhuisen, 2017). At the same time, the activity must also be sufficiently challenging to elicit a sense of flow (Chen et al., 1998). When individuals are faced with a task that is too easy, they may become bored and disengaged. However, when individuals are faced with a task that is too difficult, they may become anxious and frustrated. Therefore, the task must be challenging enough to require a level of concentration and effort, but not so difficult as to be overwhelming (Wolfigiel & Czerw, 2017). In this study, participants in the control group needed to process both theoretical (note and rhythm) and practical (playing posture) aspects which diverted the attention. The Suzuki Piano Method requires students to be physically and aurally coordinated in their performance (Hendricks et al., 2021). Although the method of the treatment group appears to be much simpler than that of the control group, the participants experienced enjoyment and a balance between challenge and skill, thereby entering the state of flow more easily.

CONCLUSIONS

Implications for adult piano teaching The findings suggest that the conventional piano teaching model for nonmusic major adult piano beginner students training classes could be improved by drawing on the Suzuki piano teaching method. The key to achieving a state of flow in piano learning and teaching appears to be a high level of interaction between teachers and students and between students themselves. Secondly, Suzuki piano class provide a supportive environment for adult piano beginner learning, which can help generate a sense of flow. Especially, this research suggested that the piano teacher's role should focus on guiding students towards a flow experience, thereby optimizing their learning outcomes.

In this sense, the Suzuki music education concept can help reshape the conventional piano teaching method, emphasizing collaborative learning and interaction more, ultimately leading to more effective learning outcomes. By adopting the Suzuki piano teaching method, instructors can help their students achieve a sense of flow, enhancing their enjoyment of the learning process and deepening their understanding of music.

REFERENCES

- Addessi, A. R., & Pachet, F. (2005). Experiments with a musical machine: musical style replication in 3 to 5 year old children. *British Journal of Music Education*, 22(1), 21-46.
- Baumann, N. (2021). Autotelic personality. *Advances in flow research*, 231-261.
- Bigler, C., & Lloyd-Watts, V. (2016). Studying Suzuki® Piano: More Than Music: A Handbook for Teachers, Parents, and Students [Book]. Alfred Music. http://www.diglib.um.edu.my/ interaktif/default.asp?url=http:// search.ebscohost.com/login.aspx?di rect=true&db=edsebk&AN=1247235 &site=eds-live

Bölen, M. C., Calisir, H., & Özen, Ü. (2021).

Flow theory in the information systems life cycle: The state of the art and future research agenda. *International Journal of Consumer Studies*, 45(4), 546-580.

- Chen, H., Wigand, R., & Nilan, M. (1998). Optimal flow experience in Web navigation In Effective utilization and management of emerging information technologies (pp. 633-636). The 9th Information Resources Management Association International Conference,
- Chen-Hafteck, L., & Schraer-Joiner, L. (2011). The engagement in musical activities of young children with varied hearing abilities. *Music Education Research*, 13(1), 93-106.
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience* (Vol. 1990). Harper & Row New York.
- Csikszentmihalyi, M. (1992). The experience of psychopathology: Investigating mental disorders in their natural settings. Cambridge University Press.
- Csikszentmihalyi, M. (1997). Flow and the psychology of discovery and invention. *HarperPerennial, New York, 39*, 1-16.
- Csikszentmihalyi, M., & Larson, R. (2014). Flow and the foundations of positive psychology (Vol. 10). Springer.
- Csikszentmihalyi, M., Bouffard, L., & Servan-Schreiber, D. (2023). Vivre-La psychologie du bonheur. Robert Laffont.
- Csikszentmihalyi, M., Larson, R., & Prescott, S. (1977, Sep). The ecology of adolescent activity and experience. J Youth Adolesc, 6(3), 281-294. https:// doi.org/10.1007/bf02138940
- Cunha, J. C. R., & Carvalho, S. (2011). Orffschulwerk approach and flow indicators in music education context:: a preliminary study in Portugal. *International Journal of Arts & Sciences*, 4(21), 75.
- Cunha, J. C., & Carvalho, S. (2012). Experienced Emotions through the Orff-Schulwerk Approach in Music Education-A Case Study Based on Flow

Theory. the Proceedings of the 12th International Conference on Music Perception and Cognition and the 8th Triennial Conference of the European Society for the Cognitive Sciences of Music,

- Custodero, L. A. (1998). Observing flow in young children's music learning. *General Music Today*, 12(1), 21-27.
- Custodero, L. A. (2005). Observable indicators of flow experience: A developmental perspective on musical engagement in young children from infancy to school age. *Music Education Research*, 7(2), 185-209.
- Da Silva Pozenatto, R. (2021). A Descriptive Study of Class Piano Courses in Florida's Secondary Public Schools The Florida State University].
- Faulkner, D., Jackson, C., Lunn, R., Schlische, R., Shipton, Z., Wibberley, C., & Withjack, M. (2010). A review of recent developments concerning the structure, mechanics and fluid flow properties of fault zones. *Journal of Structural Geology*, 32(11), 1557-1575.
- Gaggioli, A., Chirico, A., Mazzoni, E., Milani, L., & Riva, G. (2017). Networked flow in musical bands. *Psychology of Music*, 45(2), 283-297.
- Ghani, J. A., & Deshpande, S. P. (1994). Task characteristics and the experience of optimal flow in human– computer interaction. *The Journal of psychology*, 128(4), 381-391.
- Ghani, J. A., Supnick, R., & Rooney, P. (1991). The experience of flow in computer-mediated and in face-toface groups.
- Hart, E., & Di Blasi, Z. (2015). Combined flow in musical jam sessions: A pilot qualitative study. *Psychology of Music*, 43(2), 275-290.
- He, M. (2019). The application of independent learning in the teaching of digital piano collective courses in middle school. *Science Mass (Science Education)*(03), 105.
- Hefferon, K. M., & Ollis, S. (2006). 'Just clicks': an interpretive phenomeno-

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logical analysis of professional dancers' experience of flow. *Research in Dance Education*, 7(2), 141-159.

- Hong, J.-C., Tsai, C.-R., Hsiao, H.-S., Chen, P.-H., Chu, K.-C., Gu, J., & Sitthiworachart, J. (2019). The effect of the "Prediction-observation-quiz-explanation" inquiry-based e-learning model on flow experience in green energy learning. *Computers & Education*, 133, 127-138.
- Hunter, J. P., & Csikszentmihalyi, M. (2003). The positive psychology of interested adolescents. *Journal of youth and adolescence*, 32(1), 27-35.
- Jackson, S. A., & Eklund, R. C. (2002). Assessing flow in physical activity: The flow state scale–2 and dispositional flow scale–2. *Journal of sport and exercise psychology*, 24(2), 133-150.
- Jackson, S. A., & Marsh, H. W. (1996). Development and validation of a scale to measure optimal experience: The Flow State Scale. *Journal of sport and exercise psychology*, 18(1), 17-35.
- Jackson, S. A., Martin, A. J., & Eklund, R. C. (2008). Long and short measures of flow: The construct validity of the FSS-2, DFS-2, and new brief counterparts. *Journal of sport and exercise psychology*, 30(5), 561-587.
- Jennett, C., Cox, A. L., Cairns, P., Dhoparee, S., Epps, A., Tijs, T., & Walton, A. (2008). Measuring and defining the experience of immersion in games. *International journal of humancomputer studies*, 66(9), 641-661.
- Joshi, A., Kale, S., Chandel, S., & Pal, D. K. (2015). Likert scale: Explored and explained. *British journal of applied science & technology*, 7(4), 396.
- Kang, S. (2022). An Exploratory Study of Music Teachers' Flow Experiences Between Performing and Teaching Music. *Journal of Research in Music Education*, 00224294221099833.
- Khan, V.-J., Markopoulos, P., & Eggen, B. (2009). An experience sampling study into awareness needs of busy families. 2009 2nd Conference on Human System Interactions,

- Kimiecik, J. C., & Stein, G. L. (1992). Examining flow experiences in sport contexts: Conceptual issues and methodological concerns. *Journal of Applied Sport Psychology*, 4(2), 144-160.
- Koehler, F., Warth, M., Ditzen, B., & Neubauer, A. B. (2021). Motivation to make music matters: Daily autonomous motivation, flow, and well-being in hobby musicians. *Psychology of Aesthetics, Creativity, and the Arts.*
- Lamb, S. J., & Gregory, A. H. (1993). The relationship between music and reading in beginning readers. *Educational Psychology*, 13(1), 19-27.
- López García, N. J., De Moya Martínez, M. d. V., & Bravo Marín, R. (2021). Music-Mother tongue Relationship in the Methodological Principles of Edgar Willems and Shinichi Suzuki. *Folios*(54), 75-90.
- MacRitchie, J. (2015). The art and science behind piano touch: A review connecting multi-disciplinary literature. *Musicae Scientiae*, 19(2), 171-190.
- Martin, A. J., & Jackson, S. A. (2008). Brief approaches to assessing task absorption and enhanced subjective experience: Examining 'short'and 'core'flow in diverse performance domains. *Motivation and Emotion*, 32(3), 141-157.
- McKnight, P. E., & Najab, J. (2010). Mann -Whitney U Test. *The Corsini encyclopedia of psychology*, 1-1.
- Moneta, G. B. (2004). The flow experience across cultures. Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being,
- Nakamura, J., & Csikszentmihalyi, M. (2014). The concept of flow. In *Flow and the foundations of positive psychology* (pp. 239-263). Springer.
- National Institutes of Health. (2022). National Institutes of Health Style Guide. https://www.nih.gov/nih-styleguide/age
- Norsworthy, C., Jackson, B., & Dimmock, J. A. (2021). Advancing our understanding of psychological flow: A

scoping review of conceptualizations, measurements, and applications. *Psychological Bulletin*, 147(8), 806.

- Pels, F., Kleinert, J., & Mennigen, F. (2018). Group flow: A scoping review of definitions, theoretical approaches, measures and findings. *PLoS ONE*, 13(12), e0210117.
- Reynolds, K. D., & West, S. G. (1987). A multiplist strategy for strengthening nonequivalent control group designs. *Evaluation Review*, 11(6), 691-714.
- Roberson, S. H. (1987). The whole truth about piano study. *The American Music Teacher*, 35(36), 28.
- Rodriguez-Sanchez, A. M., Schaufeli, W. B., Salanova, M., & Cifre, E. (2008). Flow experience among information and communication technology users. *Psychological Reports*, 102(1), 29-39.
- Russell, F. J. (1975). The Suzuki talent education method from a psychological perspective: senior honors thesis [(HONRS 499)].
- Severini, A. F. (2021). The Piano Technique of Frederic Chopin and Franz Liszt: A Comparative Analysis and Application of Their Philosophy of Technique. University of California, Santa Barbara.
- Swann, C., Crust, L., Keegan, R., Piggott, D., & Hemmings, B. (2015). An inductive exploration into the flow experiences of European Tour golfers. *Qualitative Research in Sport, Exercise and Health*, 7(2), 210-234.
- Talent Education Research Institute. (2018, October 15,). *The History of the 'Talent Education Research Institute'*. http://www.suzukimethod.or.jp/ english/E_mthd111.html
- Tan, L., & Sin, H. X. (2021). Flow research in music contexts: A systematic liter-

ature review. *Musicae Scientiae*, 25(4), 399-428.

- Tay, K., Tan, L., & Goh, W. (2021). A PRIS-MA review of collective flow experiences in music contexts. *Psychology of Music*, 49(3), 667-683.
- Tordet, C., Erhel, S., Wodey, E., Jamet, E., Nardi, N., & Gonthier, C. (2021). The Flow Observational Grid: An observation-based solution to assess flow states. *Journal of Happiness Studies*, 22, 3069-3089.
- Treviño, E. N., & Bermúdez, J. Á. (2016). An exploratory study of flow and enjoyment in a Dalcroze Eurhythmics-based intervention for seniors in Mexico. *Approaches*, 8(2), 159-168.
- Trevino, L. K., & Webster, J. (1992). Flow in computer-mediated communication: Electronic mail and voice mail evaluation and impacts. *Communication research*, 19(5), 539-573.
- Tse, D. C., Nakamura, J., & Csikszentmihalyi, M. (2021). Living well by "flowing'well: The indirect effect of autotelic personality on well-being through flow experience. *The Journal* of Positive Psychology, 16(3), 310-321.
- Udtaisuk, D. B. (2005). A theoretical model of piano sightplaying components. University of Missouri-Columbia.
- Veldhuisen, A. v. (2017). Swimming in the deep end: A small scale case study exploring Flow in a Kodály-based secondary music classroom. Australian Society for Music Education National Conference Proceedings 2017,
- Wolfigiel, B., & Czerw, A. (2017). A new method to measure flow in professional tasks-A FLOW-W questionnaire (FLOW at Work).
- Wrigley, W. J., & Emmerson, S. B. (2013). The experience of the flow state in live music performance. *Psychology* of Music, 41(3), 292-305.