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RESEARCH ARTICLE

Effect of Blended Learning with Peer Assessment on Violin Performance of Undergraduate Students

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ABSTRACT

This research explored the potential and efficacy of integrating blended learning with peer assessment model in violin instruction for undergraduate students. Utilizing a blended learning with peer assessmen mod el approach, the study sought to (1) understand the needs and perspectives of both teachers and students regarding this innovative teaching model; (2) develop and implement blended learning with a peer assessment model; (3) evaluate its impact on students' violin performance skills and learning attitudes; and (4) gauge students' satisfaction with this pedagogical approach. The study encompassed 40 violin students from a university, divided into one control group and two experimental groups. Over eight weeks, the students' experiences and outcomes were closely monitored. The findings compellingly indicate that the combined approach of blended learning with peer assessment model accelerates students' skill acquisition and mastery, engenders a more positive learning attitude, and increases student satisfaction. While traditional instructional methods maintain their foundational value, amalgamating blended learning with peer assessment model presents a potent strategy in contemporary music teaching. The research concludes by advocating for institutions and educators to integrate this model, emphasizing its contribution to the ever-evolving discourse on digital-age music education.

INTRODUCTION

Amidst the tumultuous shifts in educational methodologies prompted by the pandemic, traditional pedagogies faced unparalleled challenges, especially in music performance for undergraduate students. The intimacy and precision required in violin instruction demanded innovative solutions.

The potential answer lies in blended learning, which combines virtual and face-to-face learning (Al-Qatawneh et al., 2020; Yu et al., 2022). For violin students, this amalgamation is not simply a juxtaposition of offline and online methods but a holistic integration aiming to replicate, if not enhance, the rich experience of traditional instruction. It encompasses an array of modalities, weaving together distance learning with classical teaching practices (Kim and Bonk, 2006). For instance, synchronous learning, harnessing live video conferencing platforms (Dammers, 2009), can simulate real-time feedback and interaction, which is crucial for the nuanced art

of violin playing. Conversely, asynchronous learning activities can allow students to revisit lessons, ensuring mastery over complex violin techniques.

Yet, in the realm of undergraduate violin education, it's not only about the mode of instruction but also the instructional methodology. Herein, blended learning with peer assessment model emerges as a transformative tool, this model violin performance curriculum can revolutionize how students receive and perceive feedback. This approach fosters a culture of constructive critique, promoting reflective and analytical thinking among learners, which is essential for mastery in violin performance (Ming and Yu, 2023). The metamorphosis from passive recipients to active evaluators hones their performance and fortifies their learning attitude, autonomy, and self-regulation capabilities (Nicol et al., 2014; Reinholz, 2016).

While promising, the fusion of blended learning with peer assessment isn't a panacea. It's punctuated with challenges that educators must navigate. These span from technological adaptations ensuring timely and constructive feedback to upholding the sanctity of traditional violin pedagogy, a discipline rooted in centuries of tradition (Liu and Carless, 2006; Panadero et al., 2019). Furthermore, individual variations in adopting these methodologies could influence outcomes, emphasizing the importance of personalized learning trajectories (Chang et al., 2021). As we tread the path of modernizing violin performance education for undergraduates, the harmonious blend of traditional instruction, blended learning, and peer assessment emerges as a symphony of promise and potential. Yet, like any masterpiece, its success lies in meticulous composition and execution. The "one-on-one" teaching mode is mainly adopted in violin teaching in universities. Violin teaching focuses on different forms of performance exercises (Zhou, 2023). The advantage of "one-on-one" teaching is that it gives teachers complete control, enabling them to develop a specific direction and ensure that students develop different learning modes, thereby providing each student with the guidance they need. As education evolves, updating and enhancing educational practices while entirely using advanced technological resources is crucial.

Peer assessment provides opportunities for students to reflect on their understanding, build on prior knowledge, make inferences, integrate ideas, repair misconceptions, and explain and communicate their understanding (Roscoe and Chi, 2007). Many of these activities include explaining ideas.

Mastering violin performance skills is the most basic and important task for students majoring in violin playing. In addition, it is necessary to broaden student artistic horizons and knowledge and improve their musical aesthetic, understanding, and expression ability. With the application of blended learning with peer assessment model teaching, students are increasingly interested in lessons. With the continuous development of information technology, online teaching platforms have been gradually increasing. Teaching modes are becoming increasingly diverse, allowing efficient students to experience different teaching modes and better grow their interest in learning. The total score in the evaluation system includes offline and online academic performance. Peer assessment promotes learning and improves scores, cultivating and strengthening their academic interests.

OBJECTIVES OF THE STUDY

The following are the main objectives of the study:
- To study the needs of teachers and undergraduate students taking a violin course towards blended learning with a peer assessment model.
- To develop blended learning with a peer assessment model.
- To study the effectiveness of blended learning with a peer assessment model on students' violin performance skills and learning attitude.
- To study students' satisfaction, the blended learning with a peer assessment model

LITERATURE REVIEW

There is a plethora of research available on blended learning. Still, research has yet to be conducted on using blended learning in teaching violin performance or using peer assessment in the process. So, in the literature review, we may rely on these three things separately.

The research by Edward et al. (2019) examines students' academic achievements by contrasting the

blended learning environment with conventional learning settings in teaching music. The authors suggest implementing the BL methodology for Oriental music instruction and investigating its influence on enhancing student proficiency. This research employs a hybrid instructional design combining objectivist and constructivist methodologies to curate the blended learning course within a learner-centric educational framework.

The study by Hietanen and Ruismäki (2017) indicates that most students engaged with the combined learning methods for comprehending music theory, notably the triad. Yet, even though combined learning methods allow for greater adaptability than conventional teaching styles, it's clear that students view only some aspects of them as equally valuable.

A study by Jenkins and Crawford (2021) found that the COVID-19 pandemic has significantly increased the importance of online teaching, necessitating methods beyond traditional "face-to-face" instruction. Blended Learning (BL) offers such an alternative by providing flexible class delivery and continuous access to materials. A study by two Australian pre-service teacher educators on students' understanding of BL over a music method unit found that most participants initially needed a clearer understanding of BL. However, direct exposure to BL in teaching music greatly enhanced this understanding, with a few exceptions.

According to a study by Ruokonen and Ruismäki (2016), integrating blended learning in Finnish music teacher education, combining traditional and "Rockway" e-learning methods, yielded positive outcomes. Students valued the increased opportunities for independent learning, and the teacher's role evolved into a guiding mentor. Notably, those with prior musical knowledge benefited the most. Adopting this blended approach, incorporating technology, positively shifted students' attitudes towards independent musical learning, indicating its importance in modern education.

In research by Blackburn (2017), the rise of online education is reshaping the landscape of higher education, necessitating innovative teaching and learning techniques. While music, especially in performance studies, has traditionally been a hands-on field, the shift towards online tools in tertiary

education has been gradual. This article reviews existing academic research to examine the feasibility of online teaching performance studies. In today's landscape, apart from their core musical talents, music students need to hone meta-skills like social networking, entrepreneurship, and self-reflection. Adopting a constructivist teaching approach, the article delves into how digital tools in performance studies can bolster these critical skills alongside technical proficiency. This exploration provides a basis for more in-depth research and offers insights into the practicalities of online music education.

In a study by Valle et al. (2016), it was concluded that the rise of online education is reshaping the landscape of higher education, necessitating innovative teaching and learning techniques. While music, especially in performance studies, has traditionally been a hands-on field, the shift towards online tools in tertiary education has been gradual. In today's landscape, apart from their core musical talents, music students need to hone meta-skills like social networking, entrepreneurship, and self-reflection. Adopting a constructivist teaching approach, the article delves into how digital tools in performance studies can bolster these critical skills alongside technical proficiency. This exploration provides a basis for more in-depth research and offers insights into the practicalities of online music education.

None of the above studies specifically zoom into a particular instrument, such as the violin, to gauge the effectiveness of blended learning. This means more research needs to study the effectiveness of blended learning on a micro-level, focusing on individual instruments. Similarly, the research has not touched upon peer assessment in blended learning in music education. Peer assessment can be critical in enhancing learning experiences and improving performance, especially in music, where feedback can be subjective, and peer reviews may offer varied perspectives. While some studies mention the shift towards online tools and even specify platforms like "Rockway", a comprehensive understanding or comparison of which online tools are most effective for blended learning in music remains absent. While Blackburn (2017) and Valle et al. (2016) mention the necessity for music students to develop meta-skills in the modern educational landscape, there isn't a

deep dive into how blended learning aids explicitly in the simultaneous development of these meta-skills and instrumental proficiency. The present research aptly fills these gaps. It offers a specialized focus on the violin, one of the most prominent musical instruments, and delves into how blended learning impacts violin performance.

Additionally, incorporating peer assessment contributes a novel dimension to the discourse, emphasizing the role of peer assessment feedback in a blended learning environment. Such an investigation can provide valuable insights into how peers perceive and assess violin performance in a blended setting, offering a richer and more holistic perspective than traditional instructor-based assessments. Thus, the present research bridges the existing gaps and presents a more comprehensive understanding of the effectiveness of blended learning in music teaching, especially for violin performance students.
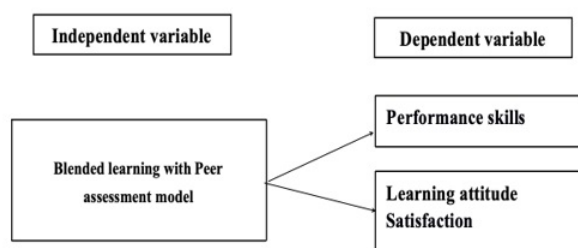
Conceptual framework of the research

Figure 1: Research framework

METHOD

Design

By learning about the needs of teachers and students, this study was conducted through teacher interviews and stu dent questionnaires, and students' violin performance skil ls and learning attitudes were conducted through an expe rimental design. The study was divided into two groups: a control group and an experimental group. The control g roup received traditional violin instruction and the experi mental group received a combination of blended learning with peer assessment model. A post-test study was cond ucted.

- CG→Traditional
- EG→Blended learning with peer assessment model

Participants

The study comprised 40 violin students from a select ed institution, evenly distributed into 2 groups. All st udents are second year university students selected o n the basis of the Violin Professional Level Examina tion to maintain homogeneity.

Random sampling

Student needs 132 violin major students were randomly s elected from 200 students.

Group allocation

Control group:20 students were to the control group, where traditional violin teaching methods were employed.

Experimental group one:20 students were to exprimental group, where the violin was taught through a blended learning with peer assessment model.

Informed consent

Before initiation, all participants were handed an informed consent form detailing the study's purpose, methods, and their rights.

Orientation session

By conducting a communication to students and teachers. Participants were briefed on the design, objectives and questions of the study.

This structured selection and allocation process ensured 2 homogeneous groups, each comprising 20 students essential for obtaining valid outcomes in experimental research.

Procedure

The experiment was scheduled for eight weeks, students were selected through a violin Professional Level Examination to select suitable participants. These criteria were: a second year violin student at a university.

Following this, a preliminary screening was conducted

on sophomore violin students and candidates who met the established criteria were identified. Subsequently, 40 students were chosen via a random sampling method, ensuring an unbiased selection, lasting two days from September 3rd to September 4th. By September 5th, these participants had received informed consent forms outlining the study's objective, methods, and their rights as participants. It was of utmost importance that they understood the nature of the experiment and consented to partake.

Between September 6th and 8th, participants were systematically allocated into two groups. The control group (20 students) received traditional violin instruction. Experimental Group (20 students) experienced a blend learning with peer assessment model techniques.

Before the onset of the actual instruction sessions, an orientation was held. This meeting provided participants with an overview of the study's design the aims behind the experiment, and clarified any queries or concerns they might have. The experiment was in full swing with each group undergoing their designated instructional methods. Lessons for all groups were conducted twice a week, each session lasting 80 minutes.

Upon the experiment's conclusion, a post-test assessment was administered, gauging the efficacy of the applied instructional methods. This assessment was pivotal for collecting data on student performance and learning outcomes.

Finally, a debriefing session was held. Participants were informed of the preliminary findings, and feedback was collected regarding their experiences throughout the experiment. This comprehensive and meticulously planned procedure, spanning eight weeks, assured the study's systematic progression while respecting the tenets of experimental research. The equal distribution and homogeneity of the group participants confirmed that any changes observed were genuinely due to the instructional methodologies and not an external factor.

Research instrument

Violin learning attitude and satisfaction survey: A literature review and focus group discussions were conducted with violin teachers and students to determine key areas of learning attitude and satisfaction. The survey consists of 40 items; 25 pertain to "learning attitude," and 15 to "learning satisfaction." Before the main study, the internal consistency of the VLASS was assessed using Cronbach's alpha. The instrument achieved a Cronbach's alpha value of 0.856, indicating good reliability. An expert review was conducted by a panel of music educators who ensured that the instrument covered all relevant learning attitudes and satisfaction areas. Factor analysis was performed, and it confirmed the presence of two distinct factors corresponding to 'Learning Attitude' and 'Satisfaction'. The VLASS results were compared with a model constructs and showing strong correlations. After the validation process, the VLASS was suitable for measuring learning attitudes and satisfaction among violin students in the study.

RESULTS

Table 1: Needs analysis for blended learning with peer assessment model

Participant Type	Needs Identified	Number of Participants Echoing the Need
Teacher	Teaching content	5
	Teaching methods	5
	Students' learning	5
Student	Learning content	132
	Learning method	132
	Learning resources	132
	Learning environment	132

The table illustrates the needs of both teachers and students concerning blended learning with a peer assessment model. Notably, students strongly preferred a flexible learning pace and detailed peer assessment criteria. Teachers emphasized the importance of an interactive online platform and regular peer feedback mechanisms.

Table 2: Components of the developed blended learning with peer assessment model

Component	Description	Platform Used
Literature review	Research by Former Scholars	Theoretical knowledge
Student needs and Teacher needs	Teachers and students through	Interviews and Questionnaire Star
Teacher	Interviews and questionnaires	Focus group

This table highlights the main components of blended learning with a peer assessment model. It underscores the platforms and tools chosen to implement each component, such as using through focus groups, questionnaire surveys and theoretical knowledge.

Table 3: Effectiveness of blended learning with peer assessment on violin performance skills

Group	Post-test Mean	SD	Significance
Control	65.75	4.90	p<0.01
Experimental Group	75.95	7.40	p<0.01

The table compares the violin performance skills of students before and after the introduction of blended learning with peer assessment. Experimental groups showed a significant improvement, which had blended learning with peer assessment model, showcasing the highest improvement.

Table 4: Students' satisfaction with the blended learning with peer assessment model

Satisfaction Parameter	Mean	SD	Number of Students
Satisfaction with course content	4.75	0.20	20
Satisfaction with learning methods	4.79	0.19	20
Satisfaction with learning resources	4.81	0.14	20
Satisfaction with the learning environment	4.80	0.17	20

The table summarizes students' satisfaction levels with different aspects of blended learning with the peer assessment model. Most students found the online platform easy to use and were satisfied with their learning experience. The clarity of peer assessment criteria also received a positive response, though slightly lower than the other parameters.

DISCUSSION

The study robustly supports integrating blended learning with peer assessment in violin instruction. The experimental results and the data-driven insights establish that such an integrated approach not only expedites skill development and mastery but also fosters a positive learning attitude and heightened student satisfaction. Traditional methods remain foundational, but blended learning and peer assessment fusion are powerful pedagogical strategies in music education. Institutions and educators are encouraged to consider this combined approach to optimize student outcomes and enhance the learning experience. The present research on the effectiveness of blended learning, combined with peer assessment in violin instruction, adds a distinctive layer to the growing literature on music education in the digital age. Drawing parallels from the studies provided, Edward et al. (2019) proposed implementing the blended learning methodology specifically for Oriental Music. While this study recognizes the potential of blended learning in music education, our research narrows the focus by considering a specific instrument—the violin. Thus, our study complements Edward et al.'s findings by providing empirical evidence on the value of blended learning within a particular segment of music instruction. Hietanen and Ruismäki (2017) observed that while students appreciate the adaptability of combined learning, not all aspects are equally valuable. Our study addresses this observation by introducing peer assessment as a potential variable that could enhance the value and efficacy of blended learning. The research by Jenkins and Crawford (2021) accentuated the importance of blended learning. The present study

can be seen as a continuation in this direction, providing tangible results on the efficacy of blended learning combined with peer assessment in violin teaching. Ruokonen and Ruismäki (2016) found that integrating blended learning with "Rockway" e-learning methods in Finnish music teacher education had positive outcomes. This resonates with our research, highlighting the benefits of combining traditional methods with modern e-learning techniques.Blackburn (2017) and Valle et al. (2016) discussed the rise of online education in music and emphasized the need for students to develop meta-skills. While they highlighted the broader shift towards online music education, the present research dives deep into how blended learning with peer assessment can specifically aid in honing such skills in violin instruction.

Hietanen and Ruismäki (2017) present the most opposing or divergent viewpoints compared to the current research on the efficacy of blended learning with peer assessment in violin instruction. Their study indicates that even though combined learning methods allow for greater adaptability than conventional teaching styles, students view only some aspects of them as equally valuable. This conclusion suggests potential reservations or limitations within the blended learning framework, which might be seen as contrasting with the overall positive findings of the present research. Similarly, Jenkins and Crawford (2021) point out in their research that most participants initially needed a clearer understanding of blended learning. Even though exposure enhanced this understanding, the initial confusion or unfamiliarity with blended learning methods could be interpreted as a potential drawback or limitation, especially when implementing such methodologies in new contexts or with students unaccustomed to this learning style. This aspect can be seen as opposing the idea that blended learning is immediately beneficial or easy to adapt to for all students.

Practical and theoretical implications

Both practical and theoretical implications emerge when interpreting research findings, especially in the context of blended learning in music education. The blended learning model's efficacy suggests that institutions should consider integrating traditional and digital teaching methods to optimize learning outcomes, especially in music courses. Peer assessment could be integrated into more courses as a valuable tool for feedback and student development. To implement blended learning effectively, teachers would require training on technological aspects and pedagogical strategies for effectively combining online and offline instruction. Teachers would also benefit from training on effectively incorporating and facilitating peer assessment. A blended learning approach can provide varied learning opportunities, cater to different learning styles, and potentially increase student engagement and satisfaction.

The research reaffirms the effectiveness of blended learning, potentially contributing to the ongoing discourse on how blended learning theories evolve and are conceptualized in different educational contexts. Peer assessment in the context of blended learning provides a novel dimension, potentially adding to theoretical assessment models in education. The findings might shed light on how blended learning and peer assessment impact cognitive load, potentially contributing to our understanding of how students process and assimilate information in a combined learning environment. The research resonates with the constructivist theory of learning, which posits that learners construct knowledge based on their experiences. Blended learning, by offering varied experiences (digital and traditional), potentially reinforces this theoretical stance. The research may provide insights into how digital and conventional teaching methods affect instrument-specific instruction by focusing on a particular instrument (violin) in the context of blended learning, adding to more extensive theories of music education.

CONCLUSION

Based on the comprehensive research conducted over eight weeks, several noteworthy conclusions can be drawn regarding the effect of blended learning with peer assessment on violin performance students. Data from Table 1 highlighted that many students and teachers identified a demand for blended learning combined with peer assessment model. This indicates a recognition of the potential benefits of this combined instructional method for enhancing violin learning. Table 2 suggests that students in the

experimental groups showed marked improvement in their performance skills compared to the control group. The most significant growth was evident in the experimental group, where blended learning was supplemented with peer assessment model. As per the findings in Table 3, the introduction of blended learning positively impacted students' attitudes towards their violin lessons. Once again, students in EG, where blended learning with peer assessment model was introduced, displayed the most favorable learning attitudes, affirming the effectiveness of combined methods. Table 4 conclusively showed high student satisfaction in the experimental groups, with EG recording the highest scores. Blended learning with peer assessment model model has added a valuable dimension to the learning experience, enhancing satisfaction levels.

In conclusion, the study emphasizes the effectiveness of combining conventional learning methods with contemporary, technology-aided techniques, especially when adding peer assessment. The evidence suggests that this amalgamated approach enhances violin performance skills and positively impacts learning attitudes and overall student satisfaction. While the traditional teaching method remains vital, the combination of blended learning with peer assessment model provides violin students a holistic, enhanced, and satisfying learning experience. Future endeavors in music education might consider integrating such pedagogical strategies to foster skill development and cultivate a more engaging learning environment.

Limitations and future research directions

The study was conducted with violin students from a single institution. This limits the generalizability of the results to a broader population of music students across different institutions or cultural contexts. The research might have benefited from a longer duration to fully understand the long-term implications and efficacy of blended learning and peer assessment. Focusing solely on the violin means the findings might not apply directly to students of other musical instruments.

Future studies could explore the implications of blended learning and peer assessment for different musical instruments, providing a more comprehensive view of music education. Expanding the research to include multiple institutions, cultures, or countries could offer more generalized and diverse insights. Observing the impact of blended learning and peer assessment over an extended period could reveal long-term advantages or disadvantages. Research could compare the effectiveness of different blended learning platforms or tools to determine which are most beneficial for music education. Peer assessment with other innovative assessment methods, like AI-based assessments or real-time feedback tools, could offer novel insights. Research could explore how blended learning can be integrated into music curriculum design, potentially leading to more structured and effective blended music courses. Future studies might focus on specific skills within music education, such as improvisation, composition, or music theory, to understand how blended learning impacts these areas specifically.

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