The influence of social media platforms via TikTok on piano teaching to students

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ABSTRACT

The research objective is to study the influence of the social media platform TikTok on piano teaching, to compare the comprehensive piano level between students who use TikTok and students who learn normal teaching and to compare the comprehensive piano level between pre-test and post-test. The sample is 82 piano students and ten teachers from JiXiang Music School. Research tools such as tests and questionnaires were used in this study. The results show teachers' mixed perceptions of teaching efficiency and social media's role, alongside strong endorsement of traditional methods and teacher-student interaction for educational quality. Student outcomes were further contextualized through comparative experimental analysis. Students improved their knowledge level, the decrease in mean scores at the skill level may indicate a need for more practice or more effective teaching instruction in practical playing skills. The standard deviations before and after the experiment showed fluctuations in student performance, which may be related to students' study habits, teaching methods, personal interests, and other external factors. There was no significant difference between the pre- and post-experimental results of the knowledge and skill levels of the students in the two groups. Accept average of the piano comprehensive level of the TikTok post-test is equal to the average of the TikTok pre-test. The findings indicate that TikTok can enhance students' foundational knowledge and interest in piano, although it does not significantly contribute to developing their fundamental piano skills. Furthermore, the quality and accuracy of piano lessons available on TikTok may vary, posing a challenge for students to discern reliable sources. However, these concerns can be mitigated by incorporating TikTok as a supplementary rather than a primary teaching tool. This can help educators develop comprehensive and effective teaching strategies that integrate the strengths of both traditional and digital tools.

Keywords: Piano teaching, TikTok, social platform, piano knowledge.

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INTRODUCTION

This also affects the development of piano education, students' interest in piano, and teachers' changes in the concept of piano teaching. The influence of social media aims to increase students' interest in piano and technology. The piano teaching method has also entered the 21st century, and the piano teaching method needs to be combined with modern information technology and new educational theories to provide students with better educational opportunities and improve educational efficiency. Due to the COVID-19 epidemic, the status of online education has rapidly improved, including the concept of meta-universe and so on. TikTok, a well-known

social media platform worldwide, relies on short videos to quickly occupy people's spare time. Therefore, through the reuse of these fragmentary times and their use in piano education, whether it is feasible to obtain a new teaching method has become this background.

King (2016) found that the students who dropped out were significantly inferior to those who continued to study in terms of autonomous motivation. The students who dropped out performed poorly in terms of musical ability, start time of learning, practice habits, and the progress rate was also slower. The study also found that the quality of parental involvement impacted student motivation. In addition, the study examined the main reasons students and parents drop out of school. Chmurzynska (2012) studied the development of students' motivation regarding piano, subjectivity, and teachers' support for students' cognitive independence.

Setiawan et al. (2021) mentioned that many students could not attend music schools or teachers' homes for hands-on piano learning during the pandemic. So, they are turning to social media platforms for online learning. Social media provides a platform to communicate and share music, and students can improve their piano skills by watching instructional videos, participating in online discussions, and sharing their performance pieces. The use of social media can increase interaction and cooperation among students and promote the formation of a learning atmosphere. Social media has in practical piano learning, such as the lack of personalized instruction and real-time feedback. Yang (2020) stressed two ways to apply modern technology in piano teaching: one is to make group lessons more interactive, and the other is to gradually reduce the involvement of teachers and increase the scope of individual learning. He believes combining modern technology with traditional teaching is currently the most relevant. Arshinova (2022) emphasizes that learning to play the piano is a systematic process and that initial training is essential to develop musical ability further and improve playing skills. The different abilities and educational methods students face in the early years of learning the piano outline the development and changes in teaching methods over the centuries. Ma et al. (2023) highlight the challenges and difficulties faced by online piano learning, including collaborative considerations among educators, educational processes and teacher effectiveness in music education, problems in music education, and students' intrinsic motivation. Ding and Huang (2022) found that multimedia technology in online piano teaching can improve traditional piano teaching methods' undiversified and outdated problems by controlling the teaching rhythm, stimulating students' learning interest, and enriching piano teaching resources. Shi (2024) pointed out that children's interest in the piano is a long-term learning and practice process influenced by family environment, classroom teaching, and children's needs. Parents should give their children more support, encouragement, and patience to overcome their fears. Piano teachers should constantly improve their professional level, integrate interest and art into the teaching process, and not only teach piano playing skills but also stimulate students' interest in learning.

To sum up, the traditional piano teaching method is making students lose interest in piano, and even give up learning piano. Interest in the piano is precisely the key factor in encouraging students to improve their piano level. The new age online teaching model and the gradual development of social media platforms have allowed students to have access to very rich piano teaching and beautiful music, which has greatly increased students' interest in promoting their continued study of piano. However, the traditional piano teaching method should not be abandoned, and the traditional piano teaching method should be combined with the advanced nature brought by the new social media platform to improve the comprehensive piano level of students.

Research questions

1. What is the influence of the social media platform TikTok on piano teaching?
2. What are the differences in the comprehensive piano level between before and after learning?
3. What are the differences in the comprehensive piano level between students who use TikTok and students who learn normal teaching?

Research hypotheses

1. TikTok students have a higher level of piano comprehension than students who learn normal teaching.
2. The piano is at a comprehensive level after learning more than before learning.

Research objectives

1. To study the influence of the social media platform TikTok on piano teaching.
2. To compare the comprehensive piano level between students who use TikTok and students who learn normal teaching
3. To compare the comprehensive piano level between pre-test and post-test.

LITERATURE REVIEW

Social media platforms in education

The evolution of social media platforms has profoundly

reshaped modern education. Emerging as tools to meet rising societal demands, these platforms now serve multifaceted roles in pedagogy, research, and professional practice (Bucher and Helmond, 2018). Unlike traditional multimedia teaching characterized by flexibility, nonlinear structures, and multisensory engagement (Ding et al., 2022), social media platforms offer fragmented yet specialized functionalities that enhance interactivity and creativity. Platforms like TikTok, YouTube, and Instagram have been leveraged by educators to deliver dynamic content, fostering self-directed learning and student motivation (Setiawan et al., 2021; Rosário and Dias, 2023). During the COVID-19 pandemic, social media became indispensable for sustaining education, bridging communication gaps between teachers and students, and enabling collaborative learning environments (Makki and Bali, 2021; Sobaih et al., 2020).

In music education, social media's impact is particularly notable. Research highlights its efficacy in maintaining student engagement, especially in contexts like online piano learning, where competitive strategies on platforms such as TikTok enhance motivation (Setiawan et al., 2021). Similarly, platforms like WeChat facilitate resource-sharing among educators, addressing curriculum development challenges and improving pedagogical capabilities through collaborative design (Yang, 2020). These innovations underscore social media's versatility in fostering digital literacy, political engagement, and consumer interaction, positioning it as a transformative educational force (Boateng et al., 2016).

Comprehensive piano proficiency

Comprehensive piano proficiency encompasses four interrelated dimensions: technical skill, interest in piano, theoretical knowledge, and teaching quality/efficiency. Mastery of piano skills hinges on the synergy of these elements, with interest, teaching methods, and knowledge acquisition playing pivotal roles (Ma et al., 2023). Interest often originates in childhood curiosity but diminishes as practice becomes repetitive and utilitarian pressures emerge (Rui et al., 2023). The decline in intrinsic motivation, exacerbated by societal emphasis on competitions and certifications, has reduced enrollment in professional music institutions (Davidova et al., 2010). Sustaining interest requires fostering a supportive home environment, continuous encouragement, and aligning learning with personal musical connections (Gerelus et al., 2017). Traditional one-on-one piano instruction is increasingly supplemented by multimedia-enhanced group lessons, which address physical coordination and rhythmic challenges common among beginners (Wang, 2021). Pedagogical innovations like the Suzuki Method—effective for children—highlight the need for adaptive strategies for adult learners (Liu et al., 2022). Teachers

must balance empirical rigor with motivational techniques, such as positive reinforcement, to cultivate confidence and persistence (Wang, 2021). Piano knowledge integrates music theory, history, and stylistic analysis. Efficient knowledge transfer involves leveraging multimedia tools and interactive platforms to contextualize abstract concepts, enhancing learners' analytical and interpretive abilities (Ma and Ma, 2023).

METHOD

Population and sample group

Population

The population of this study is the piano teachers and students of piano training. The JIXIANG Music School institution in Jining City has more than 100 students and more than 10 piano teachers.

Sample

Samples were selected using the Krejcie & Morgan table. Eighty-two students have studied piano for over a year and have basic piano-playing skills and learning ability. The ten piano teachers have more than three years of teaching experience. The sample will be divided into four groups of five piano teachers and forty students in each group. Two of the four groups were the experimental group, and two were the control group. The two-control group will continue their daily teaching work without any experimental interference.

Sampling

The researcher uses purposive sampling for ten teachers who have more than three years of teaching experience. Among the 82 students sampled, they have received more than one year of piano training.

Research instruments

Lesson plan

There are four types of Lesson plans in this study, namely Lesson Plan I and Lesson Plan II, Lesson Plan III, and Lesson Plan IV. The duration of each lesson plan is seven days. IOC > 0.67 and Cronbach's alpha 0.87.

Test

The test is divided into two parts. The first part tests the

student's knowledge, and the second tests the student's skills. Each part has ten questions. The test be compared with TikTok teaching and regular teaching. IOC > 0.67 and Cronbach's alpha 0.87.

Questionnaire

The two questionnaires will mainly investigate TikTok's impact on piano teaching.

Student questionnaires: The initial survey consisted of a student questionnaire comprising ten inquiries.

Teacher questionnaires: The second part is designed for teachers and comprises five questions in each section. IOC > 0.67 and Cronbach's alpha 0.87.

Exercise

Exercise is for commanding to practice. Exercises will focus on students' piano skills. Piano skills include using hand shape, finger control, and dexterity in piano performance.

Data analysis

1. Descriptive statistics. The exercise and test use frequency. The questionnaire uses minimum, maximum, frequency, percentage, average, and standard deviation.
2. Inferential statistics. The test uses a "t-test independent sample".

RESULTS

The influence of the social media platform TikTok on piano teaching was studied. From the questionnaire, in terms of basic information, 61.0 percent of the students in the sample were male, and 39.0 percent were female. The age distribution was between 10 and 15 years of age with a percentage of 57.3 percent, followed by those below 10 years of age with 11.0 percent, those between 15 and 18 years of age with 22.0 percent, while the smallest percentage of students were above 18 years of age with 9.8 percent. Class 2 had the highest number of students with 52.4 percent, followed by Class 3 with 34.1 percent, Class 1 with 7.3 percent, and Class 4 with 6.1 percent.

The student questionnaire was designed to find out about students' time spent on piano study, their interests, their learning preferences, and the impact of piano study on them, and the survey yielded a total of 82 student samples.

The survey highlights piano learning habits and attitudes among students. Most (46.3%) had studied for 1 year, with 34.1% exceeding a year and 19.5% under a year. Most (65.9%) expressed strong interest in piano, though 12.2% were uninterested. While 63.4% reported active practice, only 12.2% practiced frequently. Over half (52.4%) claimed moderate self-study ability, with 13.4% studying independently often. Practice time skewed toward 30–60 minutes daily (50%), while 46.3% practiced under 30 minutes. Most (69.5%) felt piano positively impacted their lives, and 73.2% received family/friend support. Preferences leaned toward teacher-guided practice (68.3%), though 20.7% favored self-practice. Piano learning moderately affected academics/other interests for 64.6%, while 15.9% saw no impact. Nearly half (42.7%) had competition experience, but 29.3% were unwilling to participate. The data reflects engagement levels, strong external support, and generally positive of piano learning's role in students' lives.

The survey sampled 10 piano teachers (60% female, 40% male), primarily aged 26–30 (50%), to assess teaching habits, efficiency, and quality. Most teachers (70%) had taught for three years, with 80% rating their current teaching efficiency as "normal" and none considering their methods "efficient." While 60% viewed teaching method effectiveness as low, 70% felt student motivation did not impact classroom efficiency. Social media's influence on teaching was divisive: 40% saw no impact, 40% rated it average, and 20% deemed it effective.

For teaching quality, 70% believed social media had an average impact on classroom improvement, but 80% reported strong teacher-student interaction. Most (60%) considered student learning outcomes efficient, and 70% were satisfied with assessment methods. All teachers agreed that traditional piano lessons enhanced students' musical literacy and general competence. Overall, the data highlights teachers' mixed perceptions of teaching efficiency and social media's role, alongside strong endorsement of traditional methods and teacher-student interaction for educational quality. Student outcomes were further contextualized through comparative experimental analysis.

Before the experiment, students' knowledge level test scores ranged from 12 to 28, with an average of 17.78 and a standard deviation of 4.13, showing some degree of achievement fluctuation. Skill level test scores, on the other hand, ranged from 5 to 15, with an average of 10.41 and a standard deviation of 2.46, reflecting individual differences in students' skill acquisition (Table 1). Total test scores ranged from 18 to 40, with an average of 28.20 and a standard deviation of 6.22, indicating a more dispersed distribution of total scores. The student's knowledge level improved after the experiment, with the range of test scores widening to 10 to 29, the mean score increasing to 18.21, and the standard deviation increasing slightly to 4.44, which may imply that the students progressed in their theoretical knowledge. However, the mean score for the

skill level decreased to 7.49, the range of scores narrowed to 5 to 13, and the standard deviation decreased to 2.36, which may reflect that students did not perform as well as they did before the experiment regarding practical playing skills. Total scores also declined, with a test range of 15 to 41, an average of 25.70, and a standard deviation of 6.41, and a degree of variability in the distribution of scores remained. Overall, although students improved their knowledge level, the decrease in mean scores at the skill level may indicate a need for more practice or more effective teaching instruction in practical playing skills. The standard deviations before and after the experiment showed fluctuations in student performance, which may be related to students' study habits, teaching methods, personal interests, and other external factors.

To compare the comprehensive piano level between students who use TikTok and students who learn normal teaching.

Table 1. Descriptive statistical analyses of the piano proficiency test of the student sample.

		Minimum	Maximum	Average	Standard deviation
Pre-experimental	Knowledge level	12	28	17.78	4.13
	Skill level	5	15	10.41	2.46
	Total	18	40	28.20	6.22
Post-experimental	Knowledge level	10	29	18.21	4.44
	Skill level	5	13	7.49	2.36
	Total	15	41	25.7	6.41

Accept null hypotheses. It means test variance of class use TikTok equal variances of class use normal teaching. So, after learning, use the t-test to equal variance.

The test average of the piano comprehensive level of TikTok is better than that of the comprehensive level of normal teaching. (Table 2)

Table 2. Comparison of the variance of class using TikTok and variance of the class learn normally.

Class	df	Average	Variance	F	P-value
TikTok	40	28.32	39.42	0.99	0.48
Normal teaching	40	28.07	38.92		

Accept null hypotheses: "Average the piano comprehensive level of TikTok equal average the comprehensive level of normal teaching." The total test scores of the students before the experiment were used as the basis for sorting the students according to their scores in descending order, with single-digit students going into Normal and double-digit students going into TikTok, with 41 students in each group. There was no significant difference between the pre- and post-experimental results of the knowledge and skill levels of the students in the two groups.

The comprehensive piano level between pre-test and post-test was compared. (Table 3).

Table 3 Comparison of the average piano comprehensive level of TikTok and the level of normal teaching.

Class	N	Average	Variance	df	t	P-value
TikTok	41	26.32	34.82	40	0.88	0.19
Normal Teaching	41	25.07	25.07			

$t_{.05,40} = 1.66$; $t_{compute} = 0.88 < t_{.05,40} = 1.66$

As shown in Table 4, the students' basic music knowledge level, skill level and total pre-test in both groups, Normal and TikTok, were near.

Table 4. Descriptive statistical analyses of the pre-test normal and TikTok music basics test.

Groups		Average	Standard deviation	Number of cases
Normal	Knowledge level	17.83	4.14	41
	Skill level	10.24	2.55	41
	Total pre-test	28.07	6.24	41
TikTok	Knowledge level	17.78	4.13	41
	Skill level	10.41	2.46	41
	Total pre-test	28.20	6.22	41

Accept average of the piano comprehensive level of the TikTok post-test is equal to the average of the TikTok pre-test.

Table 5. Comparison of TikTok's average comprehensive piano level after and before learning.

	N	Average	Variance	df	t
Post-test (after learning)	41	26.32	34.82	40	-1.42
Pre-test (after learning)	41	28.32	39.42		

$t_{.05,40}$ = 1.68; $t_{.05,40}$ = 1.68 > $t_{compute}$ = -1.42

Table 6. Descriptive statistical analyses of the post-test regular and TikTok music basics test.

Groups		Average	Standard deviation	Number of cases
Normal	Knowledge level	17.56	4.77	41
	Skill level	7.51	2.45	41
	Total Post-Test	25.07	6.90	41
TikTok	Knowledge level	18.85	4.04	41
	Skill level	7.46	2.30	41
	Total Post-Test	26.32	5.90	41

As shown in Table 6, the statistical table of the post-test data shows that the gap between the two groups' post-test music basic knowledge levels became larger than before the experiment. The average knowledge level and skill level of normal students are 17.56 and 7.51, respectively, both of which are reduced compared with before, in which the reduction of skill level score is the biggest, the average knowledge level and skill level of TikTok students are 18.85 and 7.46 respectively, the knowledge level is increased significantly compared with before the experiment, but the skill level score is reduced compared with before. The average score for the knowledge level of TikTok students is slightly higher than that of normal students. In comparison, the score of the skill level of regular students is higher, which is opposite to the situation before experiment. Overall, the total score of TikTok students is higher than that of normal students, and the difference has become obvious compared with the situation before the experiment.

Table 7. Comparison of the average piano comprehensive level of regular teaching after learning and before learning.

	N	Average	Variance	df	t
Post-test (after learning)	41	25.07	47.67	40	-1.89
Pre-test (before learning)	41	28.07	38.92		

$t_{.05,40}$ = 1.68; $t_{.05,40}$ = 1.68 > $t_{compute}$ = -1.89

Accept the average of the piano comprehensive level of normal teaching post-test to be equal to the average of the regular teaching pre-test. (Table 7)

In order to test whether there was a difference in the level of basic music knowledge between the two groups at the beginning and the end of the experiment, the pre-test and post-test data collected from the two groups were subjected to a paired samples t-test.
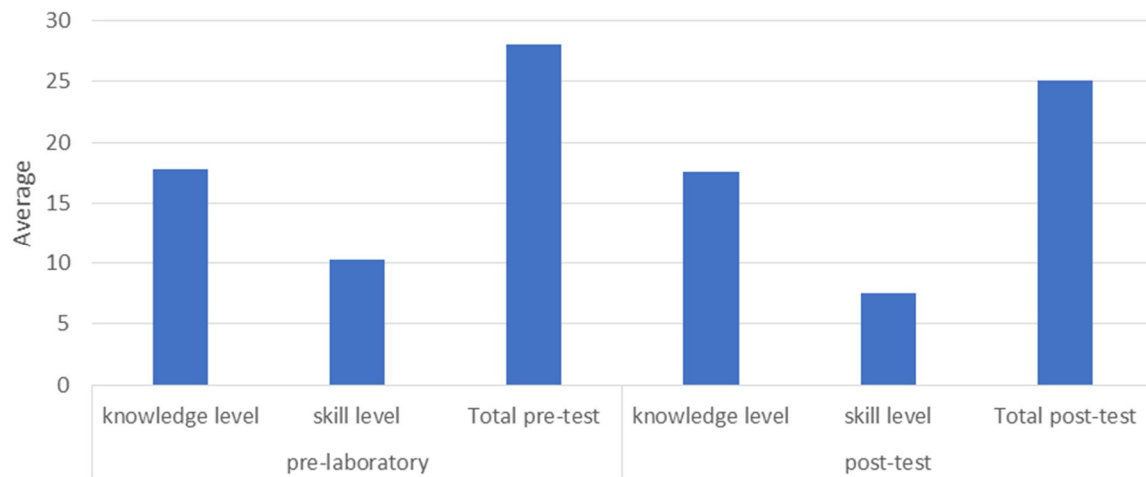
Figure 1. Descriptive statistical analyses of data before and after the music basics test in Normal.

Figure 1 shows the average knowledge level, skill level, and total normal score before teaching is 17.83, 10.24, and 28.07. The average knowledge level, skill level, and total normal score after learning are 17.56, 7.51, and 25.07, which are decreased by 0.27, 2.73, and 3, respectively, and there is a big difference. Teaching has the greatest effect on the skills of students at a normal level has the greatest effect. The teaching made the knowledge level of regular students tend to be nearly, while the skill level tends to decrease.
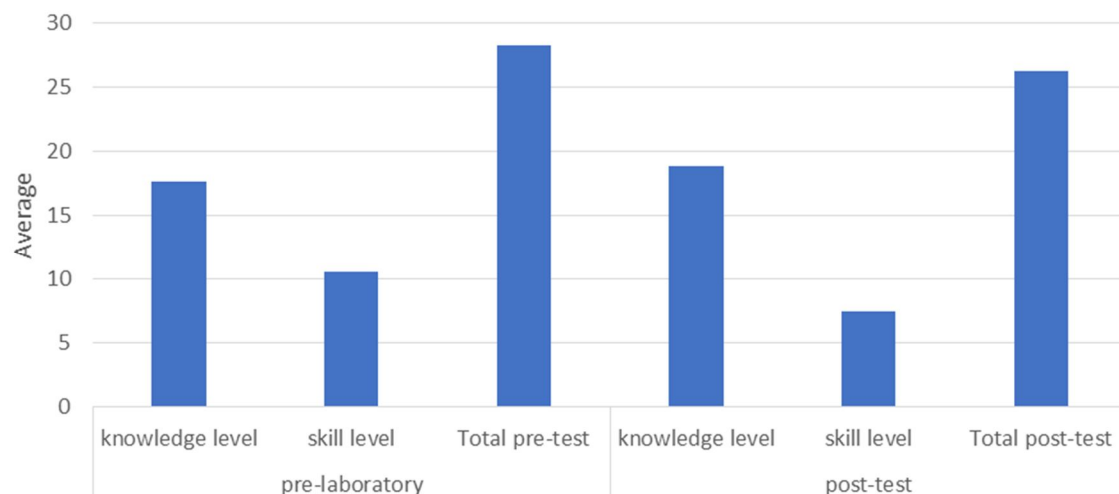
Figure 2. Descriptive statistical analyses of data before and after the TikTok music basics test.

Figure 2 shows the average knowledge level, skill level, and total score of TikTok before the experiment were 17.73, 10.59 and 28.32, respectively, and after the experiment, the average knowledge level, skill level and total score of TikTok became 18.85, 7.46 and 26.32, the knowledge level increased by 1.12, and the skill level and

total score decreased by 3.13 and 2. There was a big difference. Similarly, the experiment had the greatest effect on the students' skill level in TikTok.

DISCUSSION

The basic knowledge of piano can be acquired through social media platforms such as TikTok, but the skill level of piano still needs much practice, so when you practice. Based on the findings of this study, further research is recommended to explore the potential impact of more effective methods on students on TikTok. In addition, practitioners in the field should consider the implications of these findings when implementing strategies to improve teaching effectiveness." Integrating social media platforms, particularly TikTok, into educational paradigms has garnered significant attention in recent years. My research findings underscore the potential of TikTok to elevate students' theoretical knowledge while emphasizing the enduring importance of diligent practice. These conclusions align with insights from numerous scholars whose works provide a robust foundation for this discussion. Firstly, the study by Nazreen (2022), titled "The Innovative Use of Social Media for Teaching and Learning: A Case Study at the University of Johannesburg," highlights the transformative impact of social media platforms, including TikTok, on educational landscapes. The investigation reveals that with its appealing short video content, TikTok is an innovative teaching tool that captivates students' attention and fosters autonomous learning. This aligns with my findings, suggesting that TikTok can effectively convey theoretical concepts, thus enhancing students' understanding of various academic domains.

Setiawan et al. (2021) research, "The Impact of Social Media in Piano Practice Online Learning in the Covid-19 Pandemic Period." Their study focuses on using social media during the pandemic as a platform for enforcing lecturing activities in music education. The results indicate that social media can motivate students through competitive strategies, enhancing their learning motivation in online piano practice. This underscores TikTok's potential to augment theoretical knowledge acquisition, even in specialized fields like music.

TikTok and other social media platforms can enhance theoretical learning, and practice remains a cornerstone of skill acquisition, emphasizing the importance of consistent and diligent practice. Traditional piano teaching often struggles with maintaining students' interest as learning becomes more challenging and repetitive. The literature notes that students may lose motivation as piano learning transitions from a pure interest to a more utilitarian endeavor (Rui et al., 2023; Davidova et al., 2010). Therefore, even with the theoretical advancements facilitated by TikTok, mastery of piano skills

necessitates rigorous and persistent practice.

The acceptance of social media by higher educational institutions as a platform for academic communication and learning (Boateng and Amankwaa, 2016) underscores its potential to complement traditional educational methods. However, Sobaih et al. (2020) caution that while students effectively use social media to sustain formal teaching and learning, significant differences exist between faculty members and students regarding social media usage for student support and online community building. This highlights the need for educators to embrace social media as a tool for theoretical delivery and as a means to foster a sense of community and support among students.

The research findings collectively emphasize TikTok's capacity to enhance theoretical understanding. Nonetheless, these studies also underscore the indispensable role of diligent practice in skill acquisition. Therefore, while TikTok and similar social media platforms offer innovative avenues for theoretical learning, they should be viewed as supplementary to, rather than replacements for, traditional practice-oriented educational methods. This dual approach ensures a comprehensive and balanced educational experience that caters to theoretical and practical learning aspects.

Conclusion

TikTok does have some positive effects on piano education, and students' mastery of basic piano knowledge has been significantly improved. However, students' mastery of piano skills has weakened. There is a difference between the traditional teaching method and the sample using the TikTok teaching method. The traditional teaching method maintains average basic piano knowledge and skills. Students' basic piano knowledge is improved, but their piano skills are reduced when taught through TikTok.

TikTok has significantly influenced piano teaching by offering an engaging and accessible platform for teachers and students. The short video format of TikTok has facilitated the dissemination of piano lessons in a fun and easy-to-digest manner, making it particularly appealing to beginner students. This format has captured students' attention and enhanced their motivation and retention of piano concepts. Secondly, regarding learning outcomes, students who utilized TikTok as a supplementary learning tool demonstrated a higher level of piano comprehension than those who relied solely on traditional teaching methods. This finding suggests that integrating TikTok into piano teaching can improve students' understanding and proficiency in piano playing. While the results indicate a positive influence of TikTok on piano teaching and learning outcomes, it is essential to acknowledge potential contradictions and controversies. Critics may argue that the fragmented nature of TikTok content could hinder the

development of deep and sustained learning required for mastering piano skills. The quality and accuracy of piano lessons available on TikTok may vary, challenging students to discern reliable sources—however, TikTok is a supplementary rather than a primary teaching tool. Teachers can curate high-quality, accurate, and engaging content for their students, ensuring they receive a balanced and comprehensive piano education.

Educators and piano teachers can leverage TikTok to create engaging and accessible lessons that cater to the learning preferences of beginner students. This can lead to more motivated and engaged students, resulting in improved learning outcomes. Furthermore, integrating TikTok into piano teaching can help bridge the gap between traditional offline teaching and online learning, particularly in the COVID-19 pandemic and similar situations that necessitate remote education. Given the promising findings of this study, several future research directions can be explored. Firstly, a more comprehensive analysis of the quality and accuracy of piano lessons available on TikTok is needed. This can help educators discern reliable sources and curate high-quality content for their students. Secondly, a longitudinal study examining the long-term impact of TikTok on piano learning outcomes would provide valuable insights into the sustainability of the platform's influence.

The present study has demonstrated the potential of TikTok as an innovative and effective tool for enhancing piano teaching to beginner students. By integrating TikTok into traditional teaching methods, educators can create engaging and accessible lessons that improve students' motivation, retention, and comprehension of piano concepts.

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