



Achievement Of Online Piano Learning At University

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ABSTRACT

Online piano learning occurs because of the development of increasingly advanced technology. Learning that was initially only carried out face to face directly had a time limit so that with the development of technology students could learn with various types of media used. Various kinds of media used by teachers improve student learning outcomes and motivate students to learn piano online. The purpose of writing this article is to see how the achievement of piano learning is carried out online through the use of various learning media. This article is based literature review on online piano learning published over the last ten years. Some data obtained a significant difference between the experimental class and the control class where student learning outcomes increased in the experiment class compared to the control class so that the use of online media in piano learning can improve student learning outcomes.

KEYWORDS

Technology,
Online piano learning,
Variety of media,
Achievement.

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1. Introduction

Technology has played an active role in bringing progress through software in learning, including in music learning (Gorgoretti 2019; Koutsoupidou 2014). Online learning with websites using technology makes learning interesting (Ruthmann and Hebert 2012), helps to gain confidence, makes learners more productive and effective, think critically, and can solve problems about music (Parasiz 2018). Technological developments make it easier for us to access music sources from around the world (Aduba and Mayowa-Adebara 2020; Brook and Upitis 2015; Crawford 2017) anytime and anywhere. There is currently a lot of online learning that uses social media to improve music learning (Kruse and Veblen 2012). The use of interactive online technologies, which implement in music classes can increase the efficiency and accessibility of education and contribute to the development of creative abilities among students and educators (Lv and Luo 2021).

Technological developments also have implications for the development of online piano learning. Face-to-face piano lessons are usually very limited in time. Usually, face-to-face learning lasts 30 minutes (Adhi Septian, Dwi Septian Pendidikan Seni Pertunjukan, and Keguruan dan Ilmu Pendidikan, n.d.). Online piano lessons are frequently accompanied by video tutorials and audiovisual content, allowing students to play back piano learning videos independently. Online piano learning expects to help students in learning so that students are motivated in learning piano.

This article focuses on the study of online piano learning achievements. This paper will be divided into three aspects of discussion which will be revealed based on the results of the literature study. The first discussion discusses the various media in online music learning, the second discussion discusses online piano learning, and the third discussion discusses the success rate of online piano learning.

2. Method

To identify relevant studies, the authors searched for articles published in the last 10 years. This article is reviewed from several articles published by international journals starting from SAGE journals (ISME) International Society For Music Education, Taylor & Francis Online, Science Direct, (IJTE) International Journal Of Technology In Education, (IJTES) International Journal Of Technology In Education and Science, International Journal On Innovations In Online Education, AU-



GSB E-Journal. The keywords used in obtaining supporting data in this article are media variations used in online music learning, online piano learning, improving online piano learning ((Lv and Luo 2021; Lei et al. 2021; Waldron 2013b; Paule-Ruiz et al. 2017; Shi 2021; Niu 2021; Kaleli 2020; 2021; Pike 2020; G. R. Greher 2011; Yudha Setiawan and Habsary Indra Bulan, n.d.; Zhu, Phongsatha, and Intravisit, n.d.)

3. Results and Discussion

3.1. Variety of media in online music learning

The use of technology that is increasingly developing makes people obliged to be able to use it, especially in learning. Teachers use it to make learning more interesting so that they learn how to use it so that it can be applied in learning and helps in learning. Advances in technology make it easier for us to get information, especially in learning music. As stated by (Lv and Luo 2021) who uses SmartMusic, music theory, and Dolmetsch Music Theory in skills such as singing, ear training, rhythmic reading, musical notation, and performance skills, various kinds of online music learning media are used in schools and colleges, ranging from the use of the web, social media, and applications to improve learning outcomes. Likewise (Lei et al. 2021; Waldron 2013a) use social media in learning music. Many schools and colleges use social media to help in learning, including music lessons. The rapid use of social media makes it easy for us to stay connected all over the world. We can easily get various music information with social media. People frequently use social media to express themselves and discuss topics that matter to them. Various communities show their talents on social media such as the ability to play music and also provide music learning materials. Social media is widely used as a place for teaching students to express themselves, such as creating content for assignments in music learning. Applications are also widely used in learning such as (Paule-Ruiz et al. 2017) SAMI is an educational game that facilitates the development of voice discrimination and the identification of sounds and tones within one octave of the scale. (Shi 2021) In the context of vocal training, mobile applications contribute to the improvement of modern systems of developing singing and performing skills. So it can be concluded that various kinds of media used in online music learning started from the web, social media, and applications.

3.2. Piano lessons online

The development of technology today brings many changes, especially in education. The use of technology is used as a medium in learning, including piano learning so that learning is not only done face-to-face but also online. Online piano learning is widely applied in schools and colleges. Learning done online has a very significant effect as multimedia and network technologies have a good effect on piano teaching and performance (Niu 2021; Kaleli 2021). Online learning has a positive impact on students, such as the features used in learning so that it becomes interesting for students and can motivate students. (Pike 2020) using the MIDI internet software program, (G. Greher et al., n.d.; Yudha Setiawan and Habsary Indra Bulan, n.d.) using social media in piano lessons such as youtube videos. Various kinds of learning videos are spread on social media including piano lessons. The teachers invite their students to play an active role in online learning. Making piano videos or content is used as a task that can later be uploaded on social media so that students can develop their creativity. Students compete to show their best piano videos or content so that many people like them. Learning piano online has many benefits such as making video tutorials to play a song and learning piano theory so that we can play the video repeatedly.

3.3. Online piano learning achievement

The increasing number of online piano lessons in schools and colleges has a positive impact by increasing student learning outcomes. Research conducted by Technological pedagogical content knowledge by (Kaleli 2021), Sample selection, and group distribution were carried out randomly. In this design, 2 groups of students have studied the experimental group (15 students) and the control group (15 students). While online learning + individual learning activities were provided to students in the experimental group, existing distance learning activities were offered to students in the control



group. The contents of the same piano instruction program were given to both groups and the process was carried out simultaneously for 10 weeks. The only difference between the two groups was the additional individual instruction in the experimental group. As shown in Table 1, measurements were made on the variables defined in both groups, one at the beginning (pre-test) and the other at the end (post-test).

In the experimental group, a program was designed according to the principles of online learning and an individual curriculum, the content of which was determined according to the content of the piano lesson course determined by the Council of Higher Education. In this context, "the study of the notes of C major and A minor ranging from one octave to four octaves, the introduction of major and minor tones, studies of other major and minor tones, studies of rhythm and practice, staccato and legato techniques applied to the work. short, finger checks and doing studies and exercises that will help strengthen the wrists, singing school songs with accompaniment, phrasing and reading visions on the piano, and musical works" are conducted online for 1 hour a week and face-to-face. individual instructions for 1 hour. Individual face-to-face teaching applications are carried out for each student individually by the instructor. Therefore, online and face-to-face learning activities conduct simultaneously in the experiment group. During face-to-face piano teaching practices, students repeat pieces and perform practice activities. At this stage, the work to be played is written with the students in the Finale program, and a MIDI application uses to speed up/slow down sections during piano lessons. Within the scope of the settings made in the work, the applications of Rhythm Detection, Melody Detection, Tone Detection, Speed, Tone, Syncope, Extend, Legato, Staccato, and Portato conduct with the Finale program. Using the Music Animation Machine (MAM) program, written notes are converted into visual elements and supported by colorful graphics according to the period of the notes and the parts of the work. In the control group, the same content was carried out through the Zoom program for 2 hours with a distance learning approach. In the experimental group, online-supported individual instruction activities were implemented while in the control group distance education activities were carried out synchronously. Implementation takes place within the framework of curriculum instruction for 10 weeks and 20 hours. After the experimental procedure, the piano lesson achievement test and the TPACK scale were applied as post-tests to both groups.

Comparison of TPACK Post-test Scores According to Research Groups

	Group	N	Mean Rank	Sum of Ranks	z	P
CK	Experimental	15	16.73	251.00	-.44	.66
	Control	16	15.31	245.00		
PK	Experimental	15	20.30	304.50	-2.58	.01
	Control	16	11.97	191.50		
TK	Experimental	15	15.83	237.50	-.10	.92
	Control	16	16.16	258.50		
TCK	Experimental	15	18.17	272.50	-1.40	.16
	Control	16	13.97	223.50		



TPK	Experimental	15	22.67	340.00	-4.04	.00
	Control	16	9.75	156.00		
PCK	Experimental	15	19.80	297.00	-2.30	.02
	Control	16	12.44	199.00		
TPCK	Experimental	15	19.67	295.00	-2.19	.03
	Control	16	12.56	201.00		

Based on the analysis conducted using the Mann-Whitney U test, there were significant differences between the groups in PK (Pedagogical knowledge), TPK (Technological pedagogical knowledge), PCK (Pedagogical content knowledge), and TPCK (Technological pedagogical content knowledge). Therefore, it can be said that the combination of face-to-face education and online teaching led to a significant increase in students' PK, TPK, PCK, and TPCK. Students in the experimental group (an interactive learning environment organized according to individual online learning) were more successful in piano lessons as a result of the experimental procedure than students in the control group (a learning environment that provided an interaction design in distance learning).

Research conducted by (Kaleli 2020) In this study, where the effect of computer-assisted teaching practices on first-year piano lessons was tested, a curriculum that included CAI (Computer-Assisted Instruction) was applied to the experiment group and regular curriculum instruction to the control group for lessons first year piano. This study was conducted with a pre-test/post-test design with a control group which aims to determine the effect of CAI on piano learning outcomes for first-year students and permanent students in the Department of Music Education. This research was conducted at a university in Turkey. There were thirteen students in the experimental and control study groups, in which random assignments could be made in groups. Seven of the students in the experiment group were girls and six of them were boys. The average age of students in the experiment group was 19.11 ± 0.83 . There were seven female students and six male students in the control group. The mean age of the control group was 19.26 ± 0.89 . Students who study in the classes included in this study have the same socioeconomic level. The same lecturer conducts piano lessons for all groups. Different variables have an impact on the inclusion of the experiment and control groups in the study. These variables can be listed as providing the university with the necessary support in experiment application, and the high motivation of managers and students in the music education department for research. This study investigated the effect of computer-assisted first-year piano instruction in the Department of Music Education on student success and permanent learning.

In the experiment group, Finale Software, a music software, was used for CAI. In Finale Software, pieces of music that exist in the piano literature arranged and the contributions of technological support are analyzed against certain criteria using computer-supported methods. The part of music to be played is co-written with the student with the Final Program, and a MIDI application uses to speed up/slow down the song during piano lessons. Arrangements such as Rhythm Recognition, Melody Recognition, Tone Requirements Recognition, Tempo Requirements, Dynamics Thesis, Syncope, Fermata, Legato, Staccato, and Portato applications in work carried out with the Finale Program. By using the Music Animation Machine (MAM) program, musical notes in written form are converted into visual elements and the tracks are supported with colorful graphics according to the duration and part of the notes.

This table shows the students' pre-test piano achievement test scores in both groups. Comparison of Students' Pre-test Piano Achievement Test Scores on Experiment and Control. This table shows the first year students in the experimental and control groups, and scores of the piano skills test conducted



by Mann Whitney U. The analysis revealed that the only difference was significant between the two groups. Thus, there was a significant difference in favor of the experimental group receiving CAI in terms of permanent learning in piano skills.

Observation Criteria	Groups	N	Mean Rank	Sum of Ranks	Z	P
C1. Play the Piece with Clear Sound	Experimental Group	13	14.92	194.00	-1.08	.36
	Control Group	13	12.08	157.00		
C2. Play the Piece with Correct Rhythm	Experimental Group	13	14.46	188.00	-0.72	.54
	Control Group	13	12.54	163.00		
C3. Play the Piece with Correct Finger Positions	Experimental Group	13	14.42	187.50	-0.83	.54
	Control Group	13	12.58	163.50		
C4. Play the Piece without Coherence Problem	Experimental Group	13	14.85	193.00	-1.16	.39
	Control Group	13	12.15	158.00		
C5. Apply Legato Technique in the Piece	Experimental Group	13	15.19	197.50	-1.28	.26
	Control Group	13	11.81	153.50		
C6. Use both Hands in Coordination	Experimental Group	13	15.69	204.00	-1.66	.15
	Control Group	13	11.31	147.00		
C7. Play the Piece at the Correct Tempo	Experimental Group	13	14.96	194.50	-1.05	.33
	Control Group	13	12.04	156.50		
Total Retention	Experimental Group	13	16.62	216.00	-2.10*	.039
	Control Group	13	10.38	135.00		



There was a significant difference between student success in the group where CAI (experimental) and the current teaching program were used in piano lessons. In the experimental group, where CAI was applied, student success and learning retention were better and more effective than student success in the control group who received the current curriculum. Using the CAI method and applying it to the teaching process during piano education makes the learning process more efficient. Thus, instructors can provide efficient and effective piano education using CAI technology.

This study was conducted by (Zhu, Phongsatha, and Intravisit, n.d.), which discussed the blended piano teaching model for students majoring in non-piano music at the University of Hunan City, the sample of this study was twenty female participants (66.7%) and ten male participants (33.3%), indicating twelve (40%) participants were nineteen years old. Thirteen (43.3%) participants were twenty years old. There were five participants aged twenty one (16.7%). The occupations of all thirty participants (100%) were university students.

Average and Standard deviation of Piano skills between experimental and control groups

	Group	N	Mean	SD
Sight-Reading	experiment	15	11.8000	.98125
	control	15	10.4533	1.40909
Scales & Arpeggio	experiment	15	12.3533	.84335
	control	15	10.8133	1.44858
Etude	experiment	15	25.5333	1.59493
	control	15	23.6867	2.10641
Piano Piece	experiment	15	32.9667	2.79251
	control	15	30.8267	2.49441

The results showed that these four aspects had statistically significant differences between the control group and the experimental group. The table shows that the scores of sight-reading, scales and arpeggios, etude, and piano pieces in the experimental group were significantly higher than the control group after teaching assisted by the WeChat application. Of all the differences, the most significant difference between the experimental and control groups occurred in the scales and arpeggios. The results of this study indicate that WeChat, an instant messaging application, not only plays an important role in the social field but also gradually becomes an important tool in teacher teaching activities.

4. Conclusion

The development of increasingly advanced technology is widely used by the community, especially in education. Teachers use it in learning because it can be used anytime and anywhere, including piano lessons in schools and colleges. Piano learning, which was initially only done face-to-face, later with the development of learning technology was also carried out online. Various media are used in online piano learning, starting from the use of the web, social media, and applications. These changes affect piano learning which we can see by increasing student learning outcomes and



motivating students to learn piano. Learning done online is considered to be interesting for students because of the system used in the learning so that students are more interested in learning it. Some data obtained a significant difference between the experimental class and the control class where student learning outcomes increased in the experimental class compared to the control class so that the use of online media in piano learning can improve student learning outcomes.

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