



Virtual Piano Four-Hands Learning Video Design for Learning to Read Basic Music Notation

Nadine Rizkita^(✉) and Yudi Sukmayadi

Universitas Pendidikan Indonesia, Bandung, Indonesia
nadinerizkita1897@gmail.com

Abstract. This article discusses the process of designing a four-handed virtual piano learning video. The Best practice in making this learning video is based on the experience of researchers while teaching piano instruments, especially in teaching reading musical notation and the needs of students learning piano musical instruments after the Covid-19 pandemic. So that various anticipations in the delivery of material are carried out so that users feel safe without having to meet face-to-face in the digital 5.0 era. Several processes are carried out to create a video, such as determining the application to be used, recording the screen, and selecting materials. This video can be used for students who are learning piano instruments in terms of reading basic music notation. The material or work used in this learning video comes from the book *Microjazz Duets Collection 1* by Christopher Norton. While the application that plays an important role in making this learning video is Sibelius. Tutorial on using work-learning videos to make it easier to follow the process of practicing music notation reading skills. The result of this multimedia product is in the form of learning videos which can be accessed free of charge via the YouTube channel. In addition, this multimedia-based piano practice learning video can be an interesting, effective, and easily accessible learning medium through social media.

Keywords: Learning Media · Learning Videos · Piano Four-Hands

1 Introduction

The post-Covid-19 pandemic has had a significant impact on the world of education, especially in Indonesia. The implementation of educational activities must be carried out online at all levels of the education unit, both in formal, informal, and non-formal education. Distance learning or online learning is increasingly being developed by educators to provide the best quality education for all students in delivering all material in all subjects. However, not all learning activities can be easily carried out online, one of the learning activities that are not easy to do online is practical learning activities. Practical learning activities require a larger portion of social interaction. One of the learning activities that involve practical activities is learning the arts, both in the fields of fine arts, dance, theater, and music. The development of technology and information at this time

has led to the development of the world of education in Indonesia. However, in reality, many teachers do not develop and utilize learning media, especially technology-based media. Especially in the field of arts and culture, especially music.

Humans can improve the performance of the right brain in one way, namely by studying music [1]. A person's physical and psychological conditions can function properly if they carry out various positive creative activities such as playing music [2]. Currently, the piano instrument is not only played identically and only shown to the upper class, piano games or performances can be found in various events in people's lives. With the development of popular music both nationally and internationally, the piano has become one of the instruments that are in demand by the public. Both formal education such as music schools and college music study programs and in non-formal education such as music course institutions, both of which we can find several musical instruments that can be learned, especially the piano instrument. There are many piano course institutions around us.

From the results of the author's observations, music teachers tend to use conventional learning methods or what is commonly called the lecture method in several music course institutions. In other words, piano lessons are organized based on a curriculum drawn up by the music course institution itself. So the teacher only explains the material according to the instructions in the curriculum. This makes some students unable to understand some of the material presented by the teacher. One reason why some music teachers still use conventional methods is the lack of music learning media. Therefore, it is necessary to develop learning media to stimulate students' interest so that they are motivated to learn musical instruments such as the piano.

Every student who learns the piano instrument has strengths and weaknesses in mastering the material. Some of the obstacles that often occur when learning this instrument are the weakness in reading score or music notation, this can also affect students' confidence in musicality so some students give up and despair to learn the piano. This requires teachers to change fundamentally in looking for teaching ideas by continuously strengthening innovation awareness, improving the quality of innovation, and playing with students' innovative thinking to create a good environment [3]. Teachers should pay attention to developing students' good musical aesthetic psychology, rich musical imagination, and unique musical creative thinking, so that students can experience accurately, deeply, and in detail the emotional connotations of piano musical works [4].

Both the internet and various supporting electronic tools, both of which are alternatives in applying learning methods along with the times. Computer-based media can collaborate with various kinds of media, both for learning purposes and other needs, the internet is one medium for disseminating learning material. The diversity of media which includes audio, video, text, images, animation, and even simulations is commonly referred to as multimedia. Therefore, based on this description, the researcher thinks that the presence of developed multimedia can assist in conveying learning material, especially in music learning, music learning. In this case, the researcher will take one of the techniques of playing the piano instrument as the concept of this learning, namely the four-hand piano technique. The material that will be used is reading jazz music notation from the book *Microjazz Duets Collection 1* by Christopher Norton.

The product of designing learning media is in the form of learning videos. The reason the author uses this design is that about 75% of people tend to consume information by watching videos rather than reading books, articles, documents, or anything in the form of letters. The use of technology can combine all media elements such as text, video, animation, images, and sound into one presentation. This combination can accommodate students' visual, auditory and kinesthetic learning styles [5].

Several applications on the computer play an important role in the process of making this learning video, including an application for writing music called Sibelius. This application has interesting features for music educators [6]. Researchers also use several social media to assist in sharing piano learning materials. With this, it is hoped that social media itself can be more useful and have a positive impact on its users. The design of this multimedia-based learning media can be useful for anyone who wants to learn music such as the piano. Researchers hope that this learning media can be more interesting, followable, and easily accessible on social media.

2 Methods

The method used in this research is best practice. Where researchers work with stakeholders to identify culturally relevant indicators of change and gather information on the assets and needs of affected communities [7]. The background for making this learning video was the need for students to learn the piano musical instrument which was affected by the Covid-19 pandemic. At first, the researchers thought there was a technique for playing the piano instrument that would allow students to learn musical notation easily to understand. In the end, the researcher decided to use the Piano Four Hands technique in learning to read musical notation. However, to anticipate the occurrence of a disaster such as Covid-19 which disrupts the teaching and learning process, the researchers created a virtual four hands piano lesson.

In designing this multimedia-based learning media, the researcher first made observations to collect data by viewing and studying various references in the form of piano learning videos that can be found and accessed on various platforms. Then choose and consider appropriate material for learning materials. The researcher also conducted several interviews with material experts as a material consideration in selecting the teaching materials used. So that researchers get an idea that the concept of learning videos can be formed according to any material that will or wants to be conveyed. Various components in learning videos must be prepared first, then the concepts and material are determined. Researchers involved several supporting software applications such as Sibelius, an application for editing videos, and what is no less important is YouTube as a medium for channeling the results of making learning videos.

2.1 Environmental Review

From the results of field surveys and interviews that have been conducted, several course institutions that teach music may not fully guarantee the success and interest of students in learning the piano. Students face various obstacles when learning a musical instrument, such as limited time for students to practice piano due to a large number of student

activities at school, and internal factors such as lack of interest/motivation/enthusiasm to learn piano because they are considered difficult. The material provided can also affect the level of difficulty of students in learning piano instruments, one of which is in reading musical notation. Learning musical notation, especially on the piano instrument, requires quite high concentration because of the level of difficulty. In addition, some teachers sometimes cannot convey material clearly regarding what they want to achieve when practicing, thus making children feel confused so they are not motivated, in the end, they are less interested and stop practicing the piano. The following are several stages of the process carried out by researchers in designing learning media for piano practice.

2.2 Media Learning

In developing and producing good and effective multimedia-based learning media, several good methods and stages are needed. Such as providing and implementing various procedures for developing learning media. This is because the development procedure has a very important role to evaluate the level of effectiveness of the product produced. In this internet era, social media, especially video streaming platforms are part of the daily routine of many people, from young people to adults [8, 9]. Existing technology allows users to create, edit, and even create music [10]. Almost anything you want to find is available on the internet, even learning videos. Something related to software and hardware, which can be used as an intermediary to convey teaching materials from various sources, as well as learning methods that allow users to respond to anything that has been put into the media, is called learning media [11]. The existence of learning media such as learning videos can accelerate the student learning process, especially in the field of piano instruments, where time with the teacher is very limited [12].

As a prospective teacher, the use of an application can be an alternative to meeting the needs of students' artistic competence [13]. One of the applications contained in computer software is Sibelius. The Sibelius software application offers a variety of music features to assist music educators in creating materials [14]. This application makes it easier for music teachers, especially in the field of piano instruments, to write the desired score, whether it is the result of transcripts, arrangements, or compositions for piano. Sibelius can be used as a friend to accompany the instrument that is being played by utilizing the sound produced by the application.

2.3 Piano Learning Materials

Playing a piano instrument certainly does not escape the name-reading scores or notations. Reading notation is a process in which a person who sings or plays a musical instrument translates various notation symbols into sounds that represent them [15]. The piano teacher's role in learning notation is very important. Because the skill of reading notation requires regular instruction and practice for students who learn it [16]. The piano teacher has a goal to foster and develop the potential of each student, in this case, each student has the potential and process which of course has different results. Piano teachers are required to be more creative in teaching and delivering material as well as adapting to the times.

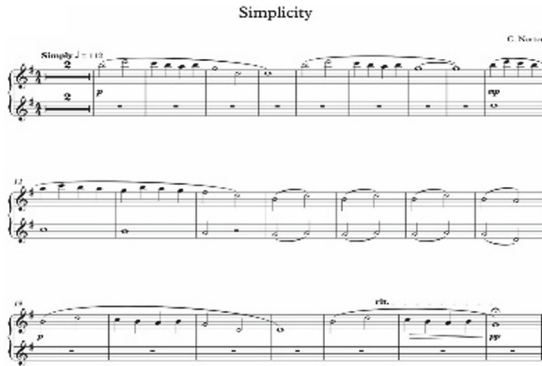


Fig. 1. Separate score design in the four-hands piano format in learning videos.

In the first stage, the author determines the work that will be used as material in the learning video. The selected material comes from the book *Microjazz Duets Collection 1* by Christopher Norton. This book contains several works that are numbered, and each work is not too long so that the learning video does not take up so much duration. Every element of playing the piano such as tonality, rhythm, dynamics, tempo, to the interval of each note is contained in this book. In one piece there is a sheet score for the first piano player (primo) and the second piano player (secondo) side by side. However, for the needs of learning videos, the author makes the primo and secondo sections into two scores into separate scores. This is adapted to the concept of a virtual four-hand piano (Fig. 1).

2.4 Virtual Piano Four-Hands

The format of the four-handed piano or piano duet is a very special piece because this format can generate interest and awareness of cooperation between piano players, especially in strengthening rhythm control [17]. Duet performance between students and teachers can also create a useful pedagogical model for music education for experiential learning [18]. If there are usually pictures of piano keys in piano learning videos, for this design the author does not provide this feature. Because if it is provided, users will only focus on the piano keys and not focus on learning music notation.



Fig. 2. Four-hands piano scores in Sibelius software.

The image shows a musical score for a piece titled "Simply J". It consists of two staves: Piano 1 (treble clef) and Piano 2 (bass clef). The score is annotated with blue boxes containing text. The first box, located above the Piano 1 staff, reads "<---the person who plays in this part is called 'primo'". The second box, located below the Piano 2 staff, reads "<---and thia part is called 'secondo'". The score includes dynamic markings such as *mp* and *p*, and various musical notations like notes, rests, and slurs.

Fig. 3. Learning video design results.

In the second stage, after entering the notation into the Sibelius software, the author does a screen recording which aims to record the sound and images of the beam notation contained in Sibelius (Fig. 2). Due to the limitations of additional software for Sibelius, namely in terms of sound, the author can only use MIDI sounds so that the piano sound that is issued does not sound natural. After getting the recorded video, the writer cut the features that were not needed in the learning video. So that you can see only the score and the sound (Fig. 3).

2.5 Multimedia Learning

Videos of four-hand piano playing can be found in various sources, especially the YouTube channel. There are several types of videos. Starting from four-hand piano playing that is played live to videos that only show the scores. After searching, the author has not found videos of four-hand piano works played separately, both for the primo and secondo versions. So the researcher thought why not make a virtual four-hands piano learning video instead? For the concept, it is almost the same as Minus one or MIDI which serves to help accompany singers or players of strung, wind, and percussion instruments. It's just that it's made in a video format that provides audio and music scores only.

The researchers applied this in a four-handed piano format. Where the user seems to play the piano instrument in pairs. Thus, piano music notation in a song written with the "Sibelius" application can be used as an accompaniment [19]. If the concept and purpose of the learning video design can be completed, then researchers can carry out a trial phase to find out how effective the media is for users, so that they can find out what needs to be added or reduced in the design (Fig. 4).

The image shows a musical score for a piece titled "Simply J". It consists of two staves: Piano 1 (treble clef) and Piano 2 (bass clef). The score is divided into two sections. The first section is labeled "Piano 1" and "Piano 2" and contains musical notation for both parts. The second section is labeled "Piano 1" and "Piano 2" and contains musical notation for both parts. The score includes dynamic markings such as *mp* and *p*, and various musical notations like notes, rests, and slurs.

Fig. 4. Four-hands piano format design for separate sections.

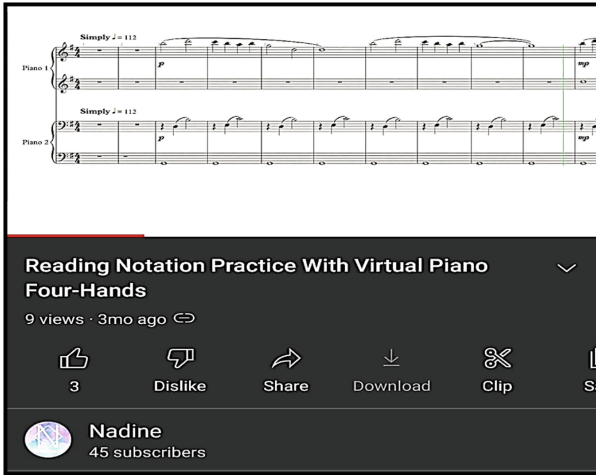


Fig. 5. Learning videos on a YouTube channel

In this learning video, there is a session where users can play scores according to the parts contained in the four hands piano format. In Sibelius, there is a feature where users can listen to the part they want to hear by putting a blue line on the score. This feature is what the author uses in the concept of a virtual four-handed piano, so users can play four-handed scores individually if not with a partner. If what is marked in blue is in the Piano 2 or secondo section, then only the second section reads. So that the user is tasked to focus on playing the Piano 1 or primo part, and vice versa.

The results of making this learning video are then uploaded to the YouTube streaming site (Fig. 5). However, this video is set by the author using the audience restriction feature because this video will only be tested on a small scale first. So that it can be found what are the advantages and disadvantages of this learning video. The target of the application of this video is students who have learned basic level notation on the piano instrument.

3 Conclusion

Seeing the development of technology that is increasingly advanced and continues to develop from time to time, many people are increasingly seeing and thinking that education outside of school, such as music course institutions, has a very important role to play in helping brain development. Especially the piano musical instrument is one of the musical instruments that are very popular with many people, but it is found that some people experience difficulties in reading musical notation skills so learning the piano feels “bored” to learn. The need for learning videos is increasing, especially in the digital 5.0 era. In addition, the Covid-19 pandemic has hampered the student learning process. Anticipation is done so that the learning process is not disrupted. These problems form the basis of the authors designing multimedia-based learning videos for piano practice. Therefore, the type of learning multimedia that will be used is media that refers to teacher instructions and tutorial media that are fun and easily accessible independently on various social media platforms for free.

It is hoped that this learning video can be a motivation for anyone who wants to learn the piano instrument or who has learned to practice the piano regularly so that their abilities will improve. In addition, this design can be a reference for other music educators in making learning strategies. Music educators must also be able to create and develop learning media and be able to operate various software and hardware that supports the creation of multimedia-based music learning media that is interesting to use.

References

1. Wright, C.: *Listening to Western music*. Cengage Learning (2016).
2. Toyoshima, K., Fukui, H., Kuda, K.: Piano playing reduces stress more than other creative art activities. *Int. J. Music Educ.* 29, 257–263 (2011).
3. Huang, Y.: Practice and Reflection on Piano Teaching Reform of Music Major in Colleges and Universities under Diversified Environment. *J. Environ. Public Health.* 2022, (2022)
4. Liu, G.: Study on Piano Assessment Model of Performance Taking the Place of Examination in Higher Normal Colleges under the New Situation. In: 3rd International Conference on Contemporary Education, Social Sciences and Humanities (ICCESSH 2018). pp. 123–126. Atlantis Press (2018).
5. Amir, Z., Sari, N.: The development of learning media based on visual, auditory, and kinesthetic (VAK) approach to facilitate students' mathematical understanding ability. In: *Journal of Physics: Conference Series*. p. 12129. IOP Publishing (2018).
6. Thompson, D.E.: Select Features in Sibelius 6 for Music Educators. *Gen. Music Today.* 25, 53–57 (2012).
7. Riley, A.H., Sood, S., Robichaud, M.: Participatory methods for entertainment–education: analysis of best practices. *J. Creat. Commun.* 12, 62–76 (2017).
8. Hauff, M., Laaser, W.: Educational Video and TV in Distance Education: Production and Design Aspects. *J. Univers. Comput. Sci.* 2, 456–471 (1996).
9. Lin, P.: Developing an intelligent tool for computer-assisted formulaic language learning from YouTube videos. *ReCALL.* 34, 185–200 (2022).
10. Aliyeva, I.: Music notation software and an authentic representation of the Azerbaijani mode's scales. In: 2010 IEEE 26-th Convention of Electrical and Electronics Engineers in Israel. pp. 347–348. IEEE (2010).
11. Arrosyida, A., Suprpto, M.T.: *Media Pembelajaran Interaktif Jaringan Komputer Menggunakan Macromedia Flash 8 Di SMK Negeri 1 Saptosari*. Lap. Penelitian. Fak. Tek. Univ. Negeri Yog-yakarta Yogyakarta. (2012).
12. Duvall, D.C.: Real-time MIDI performance evaluation for beginning piano students, (2008).
13. Aulia, S.M., Afriadi, P., Virganta, A.L., Purnomo, T.W.: *Optimalisasi Aplikasi Sibelius 7 Dalam Pembelajaran Seni Multi Budaya Berbasis Learning Outcomes*. *Elem. Sch. J. PGSD FIP UNIMED.* 11, 290–299 (2021).
14. Demski, J.: Music instruction goes digital. *Educ. Dig.* 76, 14 (2011).
15. Reifinger Jr, J.L.: Teaching pitch notation–reading skills. *Gen. Music Today.* 33, 21–28 (2020).
16. Dalby, B.: Teaching movable du: Guidelines for developing enrhythmic reading skills. *Music Educ. J.* 101, 91–99 (2015).
17. Lee, K.-Y.: The Interpretations and Pedagogical Strategies of Piano Ensemble Music. In: 7th International Conference on Arts, Design and Contemporary Education (ICADCE 2021). pp. 58–65. Atlantis Press (2021).

18. Fu, R.: Research on the Rhythm Training of the Piano Duet. In: 2015 3rd International Conference on Education, Management, Arts, Economics and Social Science. pp. 61–64. Atlantis Press (2015).
19. Mona, D., Hidayat, H.A.: Utilization Software Sibelius Basic Vocals in Department of Sendratasik Universitas Negeri Padang. In: Ninth International Conference on Language and Arts (ICLA 2020). pp. 354–358. Atlantis Press (2021).

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

