The Effort to Develop *Krumpyung* Musical Instrument Multimedia as a Reference For Music Arts Learning Materials in Elementary Schools

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Abstract. This study aims to explain the procedure of developing interactive multimedia of Krumpyung musical instrument as learning material for music art education. There were three stages, namely; a) research and information collecting, data collection was carried out at the Seneng Seni studio in Hargowilis village, Kokap sub-district, Kulon Progo regency; b) planning, determining material relevant to learning music art education in schools, making flowcharts and storyboards; c) developing preliminary form of product, the stage of product development starts with material management, adding sound, images, editing screen views, and finally producing multimedia learning using Macromedia Flash applications. The results of this multimedia development were; At the beginning of the developed multimedia,there was the main screen display as background. To begin operating, it was enough to select the "Main Menu" display which contains the following menus; Introduction which contains the background of why and what are the benefits of developing this multimedia. Learning objectives contain the design of student achievement. Learning material contains history, roles and functions, forms, and tutorials on how to play the Krumpyung musical instrument properly. Learning evaluation in the form of question and answer quizzes and assessments. Then the last developer profile.

Keywords: Developing multimedia, Krumpyung musical instrument, Music arts education.

1   Introduction

Indonesia is making progress in the field of technology very rapidly. Nevertheless, there are contradictions in technological developments faced by the Indonesian people. If we observed at it from the positive side, Indonesia's original culture is more easily known through social media. However, if observed from the negative side, the original culture of Indonesia has continued to decline, this is because Indonesian people tend not to be able to withstand cultural acculturation that occurs. One solution that can be done to maintain the culture of the Indonesian nation is to teach it to the young generation through learning arts and culture at the educational level. On the subject of this discussion, the study of art and culture at the level of formal education is focused on the art of music. Based on the facts in the field, the learning of music through art and culture and crafts in elementary school has some serious obstacles, namely the learning of music taught by teachers to students is not optimal. This is due to several factors including; 1) the interest and motivation of students in elementary schools to learn the art of music based on local wisdom of Indonesian culture began to decline; 2) music teachers in elementary schools do not quite understand the traditional music of the Indonesian people, so learning the art of music based on the local wisdom of Indonesian culture which is

applied to students in elementary schools is not optimal. Nevertheless, traditional music does not mean it cannot be taught to students in elementary schools. The first thing that can be done to fix the above problems is to develop multimedia art of music learning. This activity is carried out not without reason but also to adjust to existing problems empirically. There are several benefits can be felt in the development of multimedia in music arteducation, these benefits can be felt by students and teachers in elementary schools. Multimedia that is developed for students in elementary schools is expected to be useful to attract the interest and motivation of students to learn the art of music based on the local wisdom of Indonesian culture. As for the teacher, the benefits that can be felt from the development of music learning multimedia based on the local wisdom of Indonesian culture is the easy delivery of material and does not make students bored quickly so that learning music education in elementary schools becomes more optimal[1][2].

To preserve traditional arts, the government has established several policies in Curriculum13 related to the study of Cultural Arts and Crafts in Elementary Schools. This is expected to be implemented by teachers who teach in elementary schools. The policy can be seen in the 2013 Curriculum, on the basic competencies 3.5 & 3.6 Art and Culture subjects for grade VII students. The basic competence states that "understanding the study report on Indonesian art and culture with the help of teachers and friends as well as learning media using Indonesian language and Understanding the values inherent in the elements of regional culture in the local language". That way the government hopes that teachers in elementary schools can implement these basic competencies well so that efforts to preserve traditional arts through formal education can run optimally. However, it is unfortunate that there are still several schools that do not implement these basic competencies properly due to the lack of teacher understanding to create media for art and culture learning and crafts. The development of multimedia learning in music art that has been developed refers to the basic competencies 3.5 & 3.6 in Curriculum13 set by the government for Arts and Culture lessons in Elementary Schools. Therefore, the development of multimedia is based on local cultural wisdom found in the KulonProgo area, namely Krumpyung art. The reason for choosing Krumpyung art as a reference for making material was because Krumpyung art was the pre-eminent art of KulonProgo whose existence declining over time. Besides that, some elementary schools in the KulonProgo and Purworejo areas were still learning conventional music and do not prioritize the local wisdom of Indonesian culture so that the developmentofmultimedia in music artisexpectedtobe a reference material for learning music in the area.

Based on its history Krumpyung art was a traditional art created by Mr. Sumitro in 1973. In the beginning the creation of Krumpyung art developed in the village of Hargowilis, Kokapsub-district, KulonProgoregency[3][4]. Krumpyung art formally has been recognized by the Regent of KulonProgo, Dr.HastoWardoyo on August 8, 2014, as one of the special superior arts from KulonProgo. [5][6]Krumpyung art was usually played asan accompaniment to some of KulonProgo's superior arts such as *incling* or independently played in various traditional rituals. Musical instruments in Krumpyung art were representations of Javanese gamelan instruments because the notes in the Krumpyung musical instruments were adjusted to the *pelog* and *slendro* tones of Javanese gamelan in RRI[7]. The thing that distinguishes Krumpyung musical instrument from Javanese gamelan was the basic material used to create the instrument. In Javanese gamelan, the raw material used was metal while the Krumpyung musical instrument uses bamboo as a form of representation of the socio-cultural life of the KulonProgo community.

Based on the problems outlined above, it is necessary to develop multimedia learning instrument of Krumpyung that provides information related to the early history of Krumpyung

art development, the role and function of Krumpyung art for the community, the form of Krumpyung musical instruments, and how to play Krumpyung musical instruments properly and correctly. Besides, cognitive evaluation features also need to be provided as feedback on the learning that was passed[8][9]. Although the developed multimedia has not passed the stage of due diligence, the development of Krumpyung musical instrument multimedia is expected to be a reference for the students' teachers to be developed independently in their respective schools.

2   Method

Data collection was carried out at the SenengSeni studiolocated in the Sermo Tengah hamlet, Hargowilis village, Kokap sub-district, KulonProgoregency. Interviews with several informants and observations were held at the SenengSeni Studio on December 20, 2017, to March 19, 2018. The object of this study was the Krumpyung artists at the SenengSeni Studio. Data collection techniques used was participant observation, interviews, and documentation. Data analysis techniques in this study include the stage of data reduction, data presentation, and concluding[10][11]. According to[12]the formulation of learning objectives is the initial step as a barometer for the formulation of the material to be presented. The material presented to students must certainly consider several things that must be met such as the level of validity of the material that can and will be packaged into the material displayed, the usefulness of the material presented to students, and whether the material presented can attract interest student children. Some of these things become considerations for the development of Krumpyungmusical instrumentsmultimedia as a reference material learning materials for music art education in elementary schools. Some data that have been obtained at the time of observation include the early history of the development of Krumpyung art until it was determined as the pre-eminent KulonProgo art, the role and function of Krumpyung art for the community, the form of Krumpyung musical instruments, and how to play Krumpyung musical instruments properly and correctly. All data that has been deduced then converted into multimedia learning that is developed.

In this paper, the development of multimedia used the procedure for developing a modified model of "Borg & Gall" which only reaches the third stage, namely the Develop preliminary form of theproduct[13][14]. This was due to time constraints so that it has not yet reached the stage of product feasibility testing. Nevertheless, the products that will be explained in this next chapter can be used as reference material for music art education learning materials. Thispaperaimedto explain the procedure for developing the Krumpyungmusical instrumentmultimedia as reference material for learning music education that can be taught in elementary schools. The steps for developing multimedia are as follows:

Fig. 1. Procedure for developing [13]

Based on the picture above, the development stage of Krumpyung musical instrument multimedia goes through 3 stages namely; 1) research and information collecting, data collection was carried out at the SenengSeni studio in Hargowilis village, Kokap sub-district,

KulonProgoregency. The object of this research was the Krumpyung artists in the SenengSeni Studio. Data collection techniques used was participant observation, interviews, and documentation. Data analysis techniques in this study include the stages of data reduction, data presentation, and drawing conclusions; 2) planning, determining material relevant to learning music art education in schools with consideration of the usefulness of learning materials for students and whether the material to be displayed can attract students' interests, then making a storyboard especially in order to assemble a general picture of the media to be developed which includes display designs, multimedia icons, and navigation buttons. Furthermore, the compilation of flowchart to design what sequence will be run on the developed multimedia; 3) develop a preliminary form of product, the stage of product development starts with material management, adding sound, images, editing screen views, and finally producing multimedia learning using Macromedia Flash applications.

The data collection that was carried out during the observation at SenengSeni Studio was useful to determine the material to be converted in the development of Krumpyungmusical instruments multimedia. Documentation in the form of photos and videos also goes through a selection stage so that the display of images displayed on the developed multimedia can attract the attention of students. Based on observations made at the SenengSeni studio, there are 9 musical instruments in Krumpyung art which were documented. The Krumpyungmusical instruments can be seen as follows:

Fig. 2. *Saron*musical instrument, [3].

Fig. 3. *Demung*musical instrument, [3].

Fig. 4. *BonangBarung*musical instrument, [3].

Fig.5. *BonangPanerus*musical instrument, [3].

Fig. 6. *Gambang*musical instrument, [3].

Fig.7. *Kempul Gong* musical instrument, [3].

Fig. 8. *Kendhang* musical instrument, [3]. **Fig. 9**. *Gambang*musical instrument, [3].

Documentation in the form of photos as described above was converted into multimedia developed and entered into the introduction of Krumpyungmusical instruments. The

documentation in the form of videos was converted into multimedia that was developed in the tutorial materialon how to play the Krumpyung musical instrument properly and correctly. The students can find out what the shape of the Krumpyung musical instrument is and how to play it through Krumpyung musical instrument introduction material and video tutorials[15][16].

3   Results and Discussion

The development of Krumpyungmusical instrument multimediawas a merger of technology with local wisdom of Indonesian culture. Using technology because multimedia was designed and created using some software on a computer, while local wisdom was based on Indonesian culture because the material designed in multimedia that has been developed refers to the results of qualitative research in the previous Krumpyung art. Multimedia that has been developed refers to the needs analysis in several elementary schools around KulonProgo and Purworejo which were local areas for the development of Krumpyung art. The learning material contained in the developed multimedia has been adapted to the ability level of elementary school students. Multimedia that has been developed contains material about Krumpyung art, namely about the early history of Krumpyung art development, the role and function of Krumpyung art for the community, Krumpyung musical instrument forms, and video tutorial material to answer questions about how to play Krumpyung musical instruments properly and correctly. This multimedia characteristic was designed for grade VI elementary school students, with a cartoonish appearance and the use of diverse colors to attract the interests and motivations of students to learn it[17][18]. The opening music used astheback songwas a combination of Krumpyung musical instruments that are played together and will give the distinctive feel of Krumpyung musical instruments. This was done to provide musical experiences to students that are adjusted between the background, nuances, and learning material provided. Here are some examples of multimedia displays that have been developed and are accompanied by explanatory descriptions:

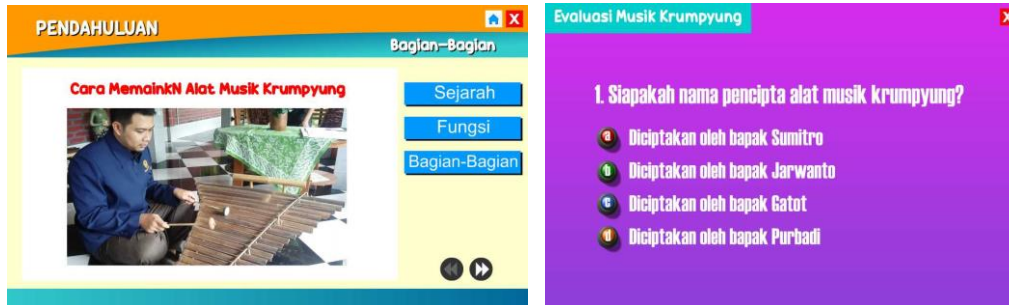Fig. 10. Home Screen

Fig. 11. Main Menu

Fig. 10. Multimedia displays

At the beginning of the developed multimedia, there was the main screen display which contains the display of cartoon images with various colours on the background to attract the interest and motivation of students to learn the multimedia further. Then to start using multimedia that has been developed, each student can point the mouse at the "Start" button then press the left mouse click on the button. After being selected, students will be directed to the next display, the "Main Menu" which contains several menu choices, namely: Introduction, Learning Objectives, Learning Materials, Learning Evaluation, and Developer Profile. [19]Tooptimallyfelt the benefits of using multimedia that have been developed, students are advised to open a menu in sequence starting from 1) Introduction, 2) Learning Objectives, 3) Learning materials, 4) Evaluation of learning, and 5) Developer profile. Each menu contains content, among others; Introduction which contains a general description of the problem why multimedia was developed and what might be the benefits of developing theKrumpyung musical instrument multimedia. Learning objectives contain what will be achieved by students after using multimedia that has been developed. Learning material is prepared based on the results of qualitative research conducted by researchers that the material provided is valid according to the facts found in the field. Then the learning material designed in this developed multimedia has been adapted to the ability of grade VI elementary school students both in terms of cognitive and psychomotor understanding so that the benefits of developing this multimedia can be felt significantly, while the learning material in the form of early history krumpyung art development as in in 1973 Mr. Sumitro created the Krumpyung musical instrument inspired by angklung that had been created by Mr. GunoKaryo before, the development of this instrument was finally accepted by the people of KulonProgo and its surroundings until it was finally established by the Regent of KulonProgo as one of the superior arts of KulonProgo on August 8, 2014. Evaluation of learning contains a question and answer a quiz about evaluation about learning material that has been taught before, for example in the first question on multimedia that has been developed namely "Who created the Krumpyung musical instrument?","What year was theKrumpyungmusical instrument invented?",Then there were several answer options presented after the students 'answers to these questions at the final stage of this quiz could display directly the students' grades so that there was no manipulation of grades from the teacher. Then the last was the developer profile that contains a brief biodata such as name, place of birth date, and educational background.

This multimedia was developed using several softwaresand the entire process of content creation was done using a computer. The initial step of developing this multimedia was to establish a storyboard in advance to design an overview of the media to be developed which includes display designs, multimedia icons, and navigation buttons. This process was done by using some software, for editing the appearance of background images using Adobe Photoshop CS4. Then for sound editing was done with Adobe Audition CC 2018 software, while editing videos with Kinemaster software. After the process was passed, then the flowchartwas arranged to design what sequence will be run on the developed multimedia. After the whole storyboarding and flowchartmaking process was passed, the design and content then assembled into a single unit using Macromedia Professional Flash 8 software[14].

Based on the results and evaluation of the development of multimedia that was developed, this multimedia learningofKrumpyung musicalinstrument has several advantages compared to conventional learning conducted by some teachers in elementary schools at the time of observation. When compared with conventional learning, multimedia that has been developed was able to give a new nuance in learning the art of music. This was because the delivery of the material was not done by the teacher only by lecturing, but also equipped with interesting drawing features. As a prelude to the opening of this material on multimedia, for example, it teaches the basics of Krumpyung art which begins with the history of its development first. If the teacher usually presents music history in a lecture in front of the class, it was different from when using this multimedia which describes the history of the development of Krumpyung art created by Mr. Sumitro in 1973 in the village of Hargowilis equipped with picture and music features that make students calm and focus on learning. The nextstagewasthe introduction of any musical instrument in Krumpyung art. If the introductionwasconventionallyconveyed by the teacher then what happenedwas the increasing boredom of the students to take part in the musiclearning. At this stage, the introduction of the Krumpyung musical instrument was complemented by pictures of the musical instrument, a brief description of how to play it, and a video tutorial on how to play the Krumpyung musical instrument properly and correctly. That way, students will be fullof experience and if they have to practice on Krumpyung musical instruments that they already have a visualization of how to play it. The most important thing at the end of multimedia that has been developed was the evaluation of learning in the form of questions and answers as an evaluation to find out the extent of students' understanding when learning Krumpyung art. Some questions asked by the developer to students as examples of these questions are as follows; 1) "Who created the Krumpyung musical instrument?"; 2) "What year was theKrumpyungmusical instrument invented?"; 3) "What year waskrumpyung art determined asKulonProgo's pre-eminent art?". The students' results scorewillimmediatelycome out when they have pressed the finish button so that the score obtained directly can be known by the teacher and students.

The development of Krumpyung art multimedia was not only as a support for the government's efforts in preserving Krumpyung art but also as a solution for teachers who teach in elementary schools so that learning in the classroom becomes more varied and not boring[20]. Multimedia display with various cartoon images and colours and Krumpyung music as a back song give a natural feel so that the developed multimedia was able to create a soothing and enjoyable learning atmosphere, so that the learning of music art education in Arts and Culture subjects in class VI Elementary School can be implemented optimally.

4   Discussion

Krumpyung musical instrument multimedia development was still very simple and has not gone through the process of product feasibility testing. The developers hopethatlater the products that have been developed can be used as reference material for making music art learning materials in the subjects of Art CultureandCraftsfor teachers in Elementary Schools which can then be developed independently by the teachers in their respective schools.

5   Conclusion

In this modern era, the development of technology in Indonesia was increasingly advancing. It was undeniable that if we do not try to keep up with the flow of technological developments, wewillbe increasingly out of date. We can feel this through the decreasing interest of the younger generation to study regional art because there were many more interesting things to see through their smartphones. For this reason, to support government programs in preserving traditional arts through the application of Curriculum13 based on local cultural wisdom, it was important to mix technology development with local cultural wisdom as learning material in elementary schools. In the multimedia that has been developed, krumpyung art was chosen as music art learning material. The selection of Krumpyung art as a multimedia learning material was developed based on observations in severalKulonProgo and Purworejo Elementary Schools and refers to the basic competencies 3.5 & 3.6 contained in Curriculum13 which require to include local regional arts as learning material. Multimedia that has beendeveloped has many limit at ionssuch as the lack of images to support the designed content, andthis multimedia can only berunon a computer device because it was fix atedon the Macromediaflash 8 application, and multimedia developed has not gone through a product feasibility test. Never the less, some benefits from the media have been developed such as being able to provide alternativ elearning Krumpyung musical instrument swithaninterestingnuance and being able to provide musicale xperience both in theory and practice to students in elementary schools. The developers hope that the products that have been developed can be used as reference material for making music art learning materials in the subjects of Art Cultureand Craftsfor teachers in Elementary Schools which can then be developed independently by the teachers in their respective schools.

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