

Development of Teaching Materials for Dance Music Courses Based on Project Based Learning Containing QR Codes

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ABSTRACT

This research aims to develop Project Based Learning-Based Teaching Materials containing QR Codes for the Dance Music course that are valid and effective in improving the learning outcomes of Dance and Performing Arts Study Program students. The research method used is development research with a 4D (Four-D) development model which consists of four stages, namely: 1) Define, 2) Design, 3) Development and 4) Disseminate. The data collection techniques that will be used are expert validation sheets, response questionnaires and student learning outcomes instruments. The results of this research are as follows (1) Producing Project Based Learning-Based Teaching Materials containing QR Codes in the Dance Music course which are suitable for use with an average percentage of expert validation results of 89.28% in the "very good" category while the percentage is average -The average in individual tests, small groups and limited field tests was 95.20% in the "very good" category. (2) The effectiveness of using teaching materials that have been developed in learning shows that there is a prominent difference between learning outcomes before using and after using teaching material products. This is based on data processing using the SPSS 20 application, obtained $t_{count} > t_{table}$ or $42.32 > 2.05$ with $df = 25$, the learning outcomes after using teaching materials are 77.42% higher than the learning outcomes before using teaching materials which are 64.46%. So, it is concluded that the teaching materials developed are effective in improving student learning outcomes.

KEYWORDS

*Teaching Material
Dance Music
Project Based
Learning
QR Code*

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INTRODUCTION

The Dance Music course is a lesson that discusses the understanding of the relationship between music and dance of various types, the background of music as dance music, as well as the function of music as dance music but also requires students to be able to design, compose and create creative dance music compositions that meet the needs of students demands. Currently, creative dance has a theme, so apart from functioning as an accompaniment, dance music must also be able to visualize the atmosphere of the theme contained in a dance work. However, the obstacle that many teachers and students face is the lack of dance music teaching materials that are able to provide understanding other than theory and practice. This results in less than optimal learning outcomes which require each student to be able to independently produce musical works accompanied by dance. The teaching materials circulating and used so far only provide theoretical understanding by providing examples that don't make sense because music is audio in nature, whereas students will understand learning better if they are given concrete and real time examples.

In learning dance music, a condition is found where not all students have the same

musical ability base so that in this learning many students are aware of their own limitations (Rifandi, 2022: 329). To overcome these limitations, researchers and the team tried to find solutions to address these limitations. Apart from that, the limitations referred to by researchers are also related to today's technological developments. Of course, it would seem paradoxical if we put together a proposition that behind infinity there are limitations.

Learning technology that offers unlimited solutions but students are limited in accessing it, either from paid accessibility or not knowing how to access it. Researchers assume that creating a shortcut is an appropriate learning solution for today's generation of students, or what could be called the 'fast-paced generation'. In today's learning curriculum development, the term project-based learning is known, which emphasizes learning on projects. However, the main emphasis is on how students go through certain processes to produce their learning products.

Learning that emphasizes students being able to produce a product through systematic process stages is the goal of project-based learning or often known as PjBL (Project based learning). Project-based learning provides students with the opportunity to organize and manage their own activities or task completion activities, thereby training students to become independent, and can provide students with a deeper understanding of concepts or knowledge. One way to apply technology to student learning resources is to include Quick Response Code technology or what can be called QR Code into textbooks. Rouillard in Sulistyono & Supriyanto (2014) states that QR Code is a two-dimensional matrix image that has the ability to translate stored data at high speed. Durak, Orkezin, and Ataizi (2016) stated that compared to ordinary barcodes, QR Codes can accommodate more information. Apart from that, printed teaching materials, which are still very much needed by students, combined with QR Code technology add significant and interesting functions for students. Apart from that, Rikala and Kankaaranta (2012) stated that QR Codes attract students' interest because they are different and provide a learning atmosphere that is no longer limited to textbooks. Apart from that, QR Codes are also suitable for use in independent and collaborative learning.

Based on the existing reality, it is felt necessary to develop teaching materials that can help students, especially dance and performing arts students, understand and analyze concepts, techniques and procedures and work in creating dance music without being limited by space and time. . Apart from that, students can also learn independently interactively using their Android or iOS using QR Code technology in learning the Dance Music Accompaniment course. Therefore, in this case the researcher intends to conduct research on the development of project-based learning materials containing QR Codes in the Dance Accompaniment Music course as a solution to problems in learning the Dance Accompaniment Music course at Medan State University.

Teaching materials are an important part of the learning process. Iskandarwassid and Dadang Sunendar (2011:171) reveal that teaching materials are a set of information that students must absorb through enjoyable learning. This shows that in preparing teaching materials it is hoped that students will really feel the benefits of the teaching materials or materials after they have studied them. Dance accompaniment music is a form of accompaniment music that has patterns of time, harmony, tempo, dynamics, rhythm and melody. To form a dance accompaniment, musical instruments, both instrumental and vocal, are used to accompany the dance movements. The relationship between dance and accompanying music can be expressed in form, style, rhythm, atmosphere, etc., or a combination of these aspects. Fathurrohman (2016:119) states that project-based learning is

a learning model that uses projects/activities as learning tools to acquire attitudes, knowledge and skills. This learning replaces learning that is still teacher-centered. The focus of this type of learning is on student activities that lead to meaningful and useful products at the end of their studies. QR code is a type of matrix code or 2-dimensional bar code developed by Denso Wave, a division of Denso Corporation which is a Japanese company and published in 1994 where its main function is to be easily read by scanners. QR is an abbreviation for quick response or response. fast, which is in accordance with the aim of providing information quickly and obtaining a fast response (Soon, 2008).

METHOD

The type of research used is development research and the development model used is the 4-D development model (Define), design, development and Disseminate. The definition stage is needs analysis and formulation of learning objectives. Obtaining data in research can be divided into two parts, namely primary and secondary data (Rifandi, 2021: 219). The data used in this research is secondary data obtained from reading sources such as books, supporting documents such as studio archive videos and teaching material documents that researchers have collected with the research team.

At the design stage, namely providing and collecting project materials, at the development stage, namely developing topics, preparing drafts, producing prototypes of one type of product which will be used to study and evaluate the product until it reaches feasibility and effectiveness, while the disseminate stage is disseminating products that are deemed to have been completed. valid and effective in use. Data collection techniques using the walkthrough interview technique are data validation involving several experts aimed at evaluating products and questionnaires used to find out students' opinions regarding the practicality of using digital-based teaching materials. The data analysis technique uses a 1-4 Likert scale to measure opinions and values converted into percentages. The research was conducted at the UNIMED Sendratasik Department with the research sample being dance and performing arts students.

RESULTS AND DISCUSSION

Packaging Teaching Materials

In completing this research, the researcher conducted a literature study related to how the role of music is very important in learning dance, especially in studying dance music. Music provides an opportunity for the body and mind to experience perfect relaxation (Astuti and Merdekawati in Rosalina, 2023). Preparing learning materials or more specifically, researchers can say that the most important thing in preparing teaching materials is to make students understand what the purpose of learning dance music is. First, the researcher wants to emphasize the important role of music in dance learning, namely that music functions as a motivational driver. When dancers listen to accompanying music, soulfulness, enthusiasm and motivation will appear in their movements. Usually, when listening to music, dancers will feel so intense that the movements they make are not just movements but have a clear meaning or motivation. Strong motivation is the key to progress in the art of dance. The second function is to determine or provide rhythm. Music that has a clear and regular rhythm can help dancers or dance students organize and coordinate dance movements to match the rhythm of the dance.



Figure 1. Provides understanding related to music and dance

After carrying out an understanding process related to music and dance, it was found that there was an increase in students' body movement skills. However, the main aim of this course is not how students understand and master movement skills but rather how students can create music. Music is a very important element in dance performances and even in the learning process so that in the learning process the emphasis is on producing a positive contribution from illustrative music to the development of body movement skills (Rosalina, 2023: 376).

Apart from that, the author also carried out a research process involving an arts group that carried out a training process using music as a training medium, namely the Aka Bodi Theatre group. Aka Bodi Theatre is an art group that uses dance movements as a form of artistic aesthetics that it promotes or it could be said that this group carries the aesthetics of body theater (Tika, 2023: 5). In the process of developing this teaching material, the researcher and team also of course also considered the sustainable effects of the research findings so considering partners who can help with sustainability is one of the indicators in this research.



Figure 2. Conducted an FGD with the Aka Bodi Theatre group

Design the Product

The define stage consists of five analysis steps, namely front end analysis to understand the basic problems in the Dance Music Accompaniment course. The second stage is student analysis to determine the characteristics and cognitive development of students to be taken into consideration in compiling and designing teaching materials. Next is task analysis which aims to find out what skills students need to acquire and master throughout the learning process. The next step is concept analysis to analyze the content and material in the teaching materials developed so that they are in line with the course learning outcomes (CLO) contained in the course. And the last thing is to determine learning objectives as students' achievements in learning.

The design stage is the stage of designing and compiling teaching materials. The first step is to choose the format of teaching materials so that they are in line with learning needs. The format of the teaching materials used is the format from BSNP (2014) and is modified according to needs. The application of the Project Based Learning learning model is expressed through the stages of project implementation material in producing dance music accompaniment. Stages of project implementation material in producing dance music accompaniment in Project Based Learning-Based Teaching Materials containing QR Codes in the Dance Music Accompaniment Course which can be seen in the image below:

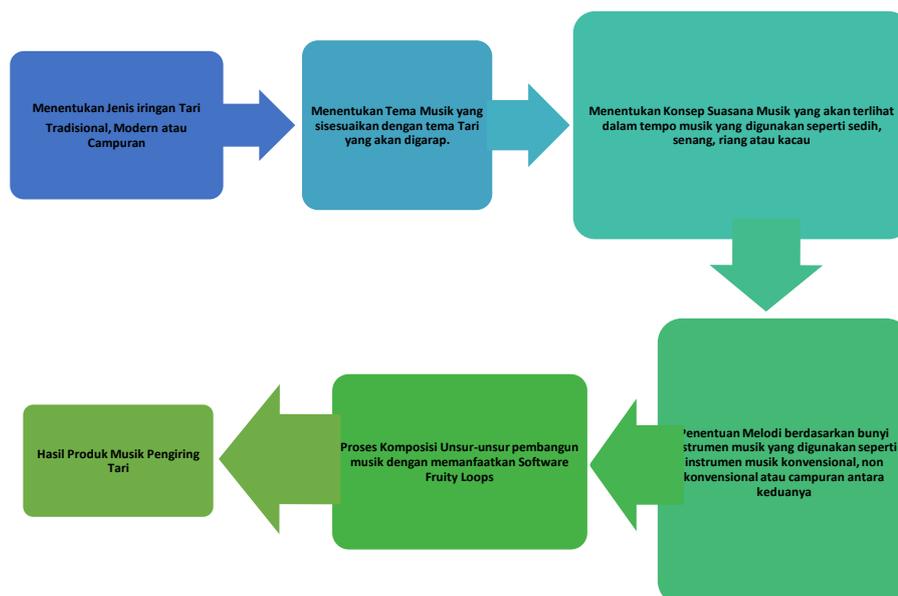


Figure 3. Scheme of Project Based learning stages in Dance Music Teaching Materials

The next stage after determining the format of teaching materials is to design teaching materials according to the chosen format. The teaching materials that have been prepared will produce a draft which will then be analyzed by each expert. In the product development stage, researchers have carried out topic development and collected materials that will be used as a draft prototype for Project Based Learning-Based Teaching Materials containing QR Codes for the Dance Music Accompaniment course. The materials collected are material from Dance Accompaniment Music which is equipped with examples of images and video tutorials on online video platforms in the form of links which are the main ingredients for making QR Codes. Where the material collected is tailored to the needs of learning material,

especially Dance Accompaniment Music material. In the process of creating Project Based Learning Materials containing QR Codes in the Dance Music Accompaniment course, many use words of direction or appeals so that readers are motivated to try to carry out or practice the procedural steps for creating dance music accompaniment that are in accordance with the desired concept. For this reason, teaching materials are equipped with several work tables according to the stages of the process of creating dance music accompaniment. After the process of making teaching materials, the next step is the process of converting the image link into a QR Code so that it can be scanned by *QR Scanner* software, where in this process the QR Code must have a high level of image clarity so that it can be captured and read by an Android scan camera when applying the software.

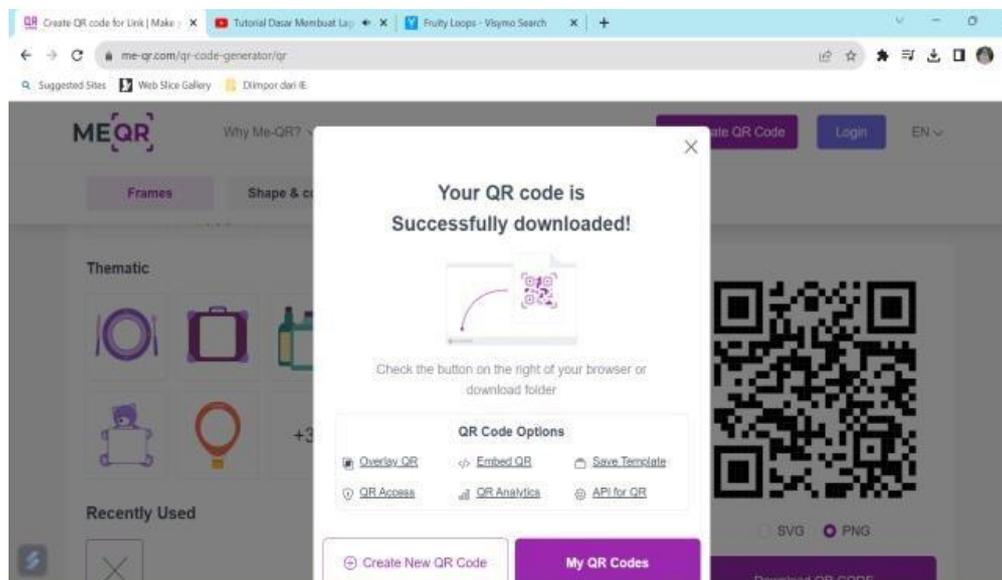


Figure 4. Display of the process of converting an online video link into a QR code

After the product development stage, the next step is the product evaluation stage, which in this research is the evaluation stage. In the results of the product feasibility test, the researcher only carried out the expert review stage which became the reference for the researcher to determine the advantages and disadvantages of the teaching material product. Based on the results of the material feasibility test on Project Based Learning-Based Teaching Materials containing QR Codes in the Dance Accompaniment Music course, it was declared valid with a score percentage of 90.63% in the "very good" category. Then in the material quality aspect it was declared valid with a score percentage of 86.25% in the "very good" category, in the language and typography aspects it was declared valid with a score percentage of 93.75% in the "very good" category. To make the score more clear, you can see it in the following diagram:

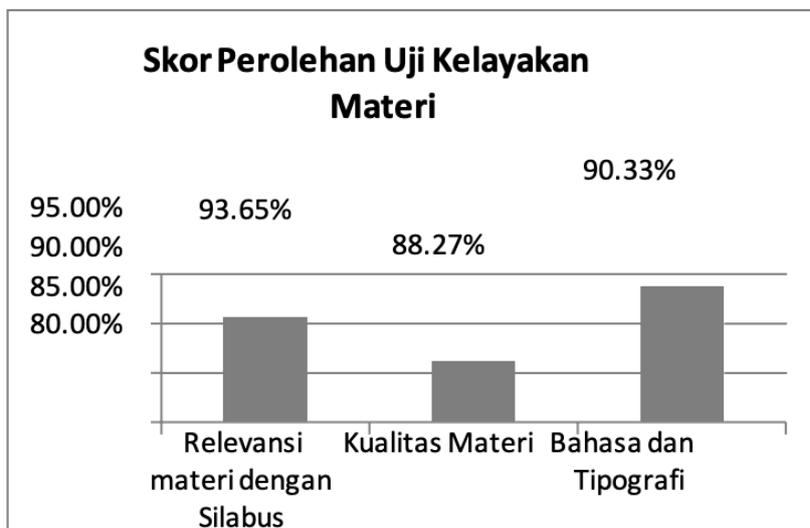


Figure 5. Diagram of scores obtained from material feasibility tests on Project based learning based teaching material products containing QR Codes in dance music courses

Meanwhile, the media expert's assessment stated that Project Based Learning-based teaching materials containing QR Codes in the Dance Accompaniment Music course, seen from the aspect of the function and benefits of the learning media, were declared valid with a score percentage of 83.33% in the "very good" category. In terms of the visual aspect, the media received a score of 91.67% in the "very good" category. In the typography and language aspect, the score was 91.67% in the "very good" category, while in the programming aspect, the score was 83.33%, still in the "very good" category.

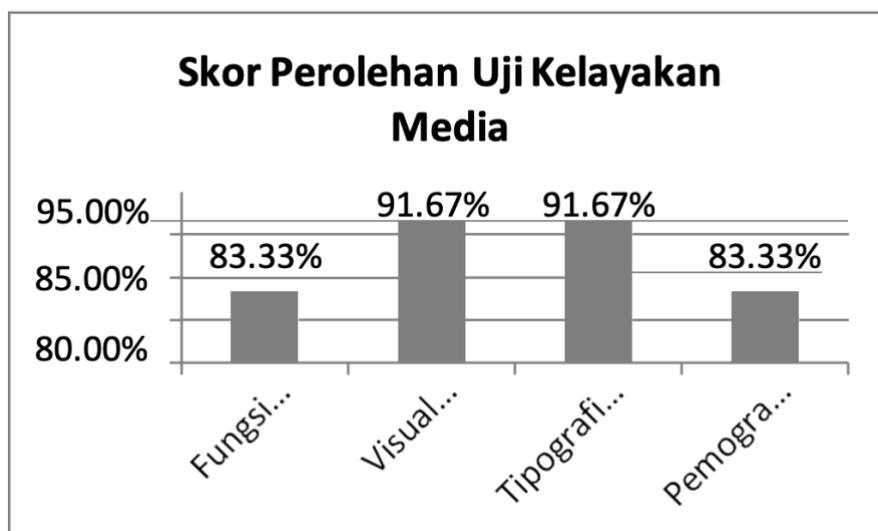


Figure 6. Diagram of scores obtained from media feasibility tests on Project based learning based teaching material products containing QR Codes in dance music courses

In testing the product's practicality, the researcher continued the Tessmer formative evaluation method, namely the one to one evaluation stage, the researcher used 4 respondents by providing answers to the questionnaire on a scale of 1-4 and obtained a score of 96.35% in the "very good" category. At the small group evaluation stage, researchers used 10

respondents and obtained a score of 93.75% in the "very good" category. Then at the field trial stage the researchers used 36 respondents and obtained a score of 98.15% in the "very good" category.

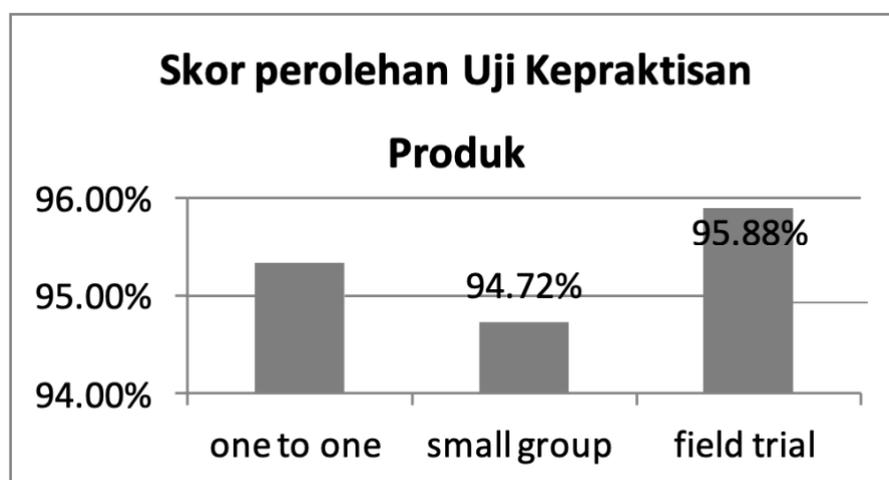


Figure 7. Diagram of the scores obtained from the practicality test for using Project based learning based teaching material products containing QR Codes in dance music courses

Preparation Of Learning Tasks

Assignments come from routine tasks (RT), CJR and CBR. CBR and CJR must be based on questions formulated by the lecturer, so that students can find (discovery learning) in books and Journal read. Literature reviews carried out through CJR and CBR will produce an interesting topic or theme or even raise a problem or difference between the sources reviewed, necessitating further research.

Therefore, what emerges from the results of routine tasks, CBR and CJR, is that there are problems. This is where the case study approach or learning is used, which is the basis for conducting mini research. From the results of the mini research, an overview of the problems at the beginning will emerge, and will produce new ideas and recommendations based on the results of the research carried out in the mini research. Therefore, these ideas are collected, called idea engineering, and made as a basis for implementing project tasks and/or team based projects (TBP). TBP must be traced from the initial problem to the implementation of mini research and the existence of ideas for implementing project tasks. So what is collected at the end of the lesson is only the project assignment, but in the background the results of RT, CJR, CBR, mini research and idea engineering are presented which are arranged in one flow.

For routine assignments, students are directed to create descriptions related to dance music that can be watched on YouTube or at the address embedded in the application. To follow up on the FGD that was carried out with the Aka Bodi Theatre group, the researcher also encouraged students to review the music used in theater performances that convey the aesthetics of body theater. This relates to how to create music for body-based performances. Furthermore, for CJR assignments, researchers recommend that students read scientific articles or journals related to how music functions in dance, the creation of dance music and a small part related to organology. Most of these journals are associated with the QR Code

designed in this research.

Likewise with CBR, researchers recommend that students read books related to dance creation and analyze the process of exploring the body using music. Apart from that, other books that can be read are books related to the process of creating music. The researcher realized that in the learning process on campus, students experienced limited time in managing other lectures, so the researcher limited the CBR assignment to a minimum of 2 books and a maximum of 4 books. These limits were created to help lectures run optimally.

Idea engineering tasks are directed by utilizing the principles of observe, imitate and modify. This principle was applied because the researcher realized that there were limitations to music creation in dance classes, so the researcher suggested that students listen to dance music that was interesting to students and carry out an imitation process before creating a musical concept that could be used in a dance performance. The results of this idea engineering are the results of learning or what is usually called a project assignment. This project assignment is carried out by dividing students into several groups and creating simple dance music projects that can be used in dance performances or body movement-based theater performances. The assignment assessment process is based on the quantity and quality of project guidance which must be carried out at least 3 times. The final result of the assignment must be rendered along with the dance work supported by the music.

CONCLUSION

The process of developing the e-book product Basic Composition Guide for Creative Dance must begin with collecting materials according to the material that will be contained in it, then arranging them systematically. Before importing into the UniteAR software, the material must be in the form of an FBX, OBJ MAX file. Editing of teaching materials in the UniteAR software/application is done online because this software cannot operate without an internet network, so it requires a stable internet network. In the feasibility test which was carried out by material experts and media experts, the product of Dance Stage Lighting for Performing Arts containing Marker Based Augmented Reality received the "very good" category because the assessment score obtained was an average of 89.65%. Meanwhile, in the practicality test, the use of teaching material products for Stage Lighting for Dance Performance Arts containing Marker Based Augmented Reality received the "very good" category because the average assessment score obtained was 96.08%. Therefore, it can be stated that the teaching materials for Stage Lighting for Dance Performing Arts containing Marker Based Augmented Reality are suitable and practical for use in learning Stage Lighting for Performing Arts.

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