



Application of Snakes and Ladders Game Media in Dance Learning

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Abstract. Efforts to preserve cultural diversity in the field of education is to include art education in the curriculum. Art education with the term cultural arts subjects covers 4 fields of art, namely dance, music, fine arts, drama arts and skills. Learning the art of dance is one of the lessons that uses motion media as its main element. Learning the art of dance at the Widyatama Batu Catholic Junior High School applies the 2013 Curriculum. The dance materials developed are adapted to the Basic Competence of knowing dance moves according to several elements, such as space, time and energy. The learning that has been done by the teacher is using the conventional way, namely by lecture and using textbooks as the main source. Students have not been able to do independent learning because there is no media that can support it. Based on these problems and of course to support the learning process with interesting and easy-to-use learning media, the researchers applied interesting learning media. This study focuses on the use of media in the learning process as a way to improve the results of the student learning process in arts and culture subjects. The research method is a modified Borg and Gall which has been modified. The result of this study is the use of application-based snake and ladder media provides an increase in the value of students. Before using learning media, only 10% of students scored above the KKM, after using learning media as many as 90% of students got scores above the KKM.

Keywords: Snake and ladders game · media

1 Introduction

The tangible form that schools are a means of cultural inheritance is the existence of cultural arts lessons. This cultural arts learning is very relevant to the cultural diversity in Indonesia. Research by [1] concluded that 50% of art in Southeast Asia can be found in Indonesia. The existence of an effort to preserve cultural diversity is what eventually resulted in art and culture lessons. Efforts to preserve art and culture are also carried out by Widyatama Batu Catholic Junior High School. At the Widyatama Batu Catholic Junior High School there is one sub-field of dance, in the arts and culture subjects. Learning the art of dance at the Widyatama Batu Catholic Junior High School applies the 2013 Curriculum with Basic Competence 3.1, namely knowing dance movements according to several elements of space, time and energy.

The method in learning used in arts and culture subjects is the method of discussion and demonstration. The minimum completeness criteria applied in schools for cultural arts lessons is 75 out of 100. In grade VII students are more likely to like fun learning such as games. Plus, since the Covid-19 pandemic, all students are studying at home. Educators are graduates of physical education and health, because they do not have a background in art or a bachelor of arts education, especially dance, educators only provide a little learning about the art of dance. The other is educational games, educational games or educational games are a form of activity in which the participants involved or the players act according to predetermined rules, to achieve a goal [2].

One of the practical media is application that the application is a ready-to-use program that can be used to execute commands from the user of the application with the aim of the application having the meaning of solving problems using one of the application data processing techniques which usually races in an application. Desired or expected computing or desired or expected data processing or desired data processing. One example of a game is snakes and ladders, which is a game that uses a board and is usually played by children in a duo mode (2 people) or more. The game board is divided into small squares and in some of the boxes are drawn a number of “ladders” or “snakes” that connect with other squares.

Research on learning media in the form of games has also been carried out by one of the students of Dance and Music Education at the State University of Malang, namely Karin Mirda Yuana, with a validation result of 90.1%. Research on games using pawns and boards has also been carried out by Athif Yuliati, a student of Dance and Music Education, State University of Malang, with a validation result of 92.5%, in the form of a monopoly game. Based on the description of the background, this study will conceptualize and realize effective and fun learning media as a tool in 2013 Curriculum-based learning. Furthermore, it is entitled “Learning Media Through Snakes and Ladders Instructional Game in Class VII Cultural Arts Lessons at Widyatama Catholic Middle School Batu City”.

2 Research and Method

The research design of the snake and ladder game learning media in this study was adopted from the developer model [3]. The Borg and Gall development model process includes: (1) Potential and problems, (2) Data collection, (3) Product design, (4) Design validation, (5) Design revision, (6) Product trial, (7) Product revision, (8) Usage trial, (9) Product revision (10) Mass production. Then the researcher modified the Borg and Gall research method according to research and development needs.

3 Result and Discussion

Potentials and problems are presented with empirical data. In particular, for students in class VII. The Basic Competence that will be used is KD 3.1 which is about knowing dance movements based on space, time and energy (knowledge). The indicator used is

3.1.1 explaining dance movements based on space elements. The results of the observations obtained from the Widyatama Catholic Junior High School in Batu City are that the teacher carries out the learning process using demonstration and discussion methods.

The process of collecting and managing data is designed after the potential and events are found, then it is necessary to collect some data that can be used for product design materials that can overcome the problems found previously. The interview stage with the teacher of dance culture at the Widyatama Catholic Junior High School which was conducted on March 22, 2020.

Game design is one of the stages in the game-making process and is in the pre-production stage [4]. The product design is in the form of steps in the stages of raw material, before being used as material in the form of application-based snake and ladder game learning media for seventh grade students of Widyatama Catholic Junior High School Batu City. The elements that exist in game design according to [4] include: the pre-production stage, the production stage, and the post-production stage.

Ultari (Ular Ladder Dance) is an educational game made based on the development of dance movement material based on KD 3.1, namely understanding dance movements based on the elements of space, time and energy. Ultari material implemented in this game. is the material of dance movement elements based on space which consists of facing direction, motion direction, and level. Learning media through this educational game has 1 game level. This game can only be played by one player, the game is presented with a display containing 25 boxes with ladders and snakes, the player must roll the dice first. Each player gets a ladder or a snake, it will automatically open a question, if the player can answer the question in the box containing the image of the snake's tail, the player will not come down from the box, and if the player cannot answer the question from the box containing the image of the snake's tail, the player will go down. From the box again.

Conversely, if the player can answer the question in the box containing the ladder image, then the player will go up past the previous box, if the player is in the box containing the ladder image and cannot answer the question then he cannot go up past the previous ladder. After answering the questions correctly or incorrectly, an information card will open that explains the questions that were previously opened, the card contains information about the elements of dance movements based on space elements which are equipped with pictures of dancers dancing the Sembromo Dance, a typical dance of the City. Stone to provide knowledge to students about the dances of the region (Table 1).

Learning media through this application-based snake and ladder educational game has 1 game level. The player is presented with a display containing 25 squares with ladders and snakes, the player must roll the dice first. After the dice is thrown, the player will move according to the number that comes out on the dice. Every player who gets a picture of a ladder or a snake will automatically open a question, the question refers to the material for the Cultural Arts sub-field of dance for class VII Basic Competence 3.1, namely understanding dance movements based on the elements of space, time and energy (knowledge), using Indicator 3.1.1 explaining dance moves based on space element. If the player can answer the question in the box containing the image of the snake's tail, then the player will not come down from the box, on the contrary if the player cannot answer the question in the box containing the image of the snake's tail then the player

Table 1. Game Overview

Product specification	Indicator
Title	Ultari
Hardware	Android
Types of games	Educational games
Types writing	Libarion
Language	Indonesia
Resolution	1920 × 1080 pixels
Formats	APK
Types graphics	2D
Apps	Unity
Size	25 MB

must go down past the original box, if the player can answer the question from the box containing the image stairs, then the player will go up past the original box, otherwise if the player is in a box containing a picture of a ladder and can't answer then he can't go up past the previous ladder.

After answering the questions correctly or incorrectly, an information card will open regarding open questions, the card contains information about the elements of dance movements based on space elements which are equipped with pictures of dancers dancing the Sembromo Dance. Typical of Batu City which is displayed to provide knowledge to students about the typical dance of the region.

The character elements were chosen from the local dance, namely the Batu City area, this dance is called the Sembromo Dance. Sembromo dance is a dance that is used as a welcome dance or welcome dance.

The development of the application-based snake and ladder game media in this cultural arts lesson is left to game makers who are divided into concept drafters, image designers, and programmers. The team composition is as follows:

- 1) Draftsman: Lina Putri Kusumaningtyas
- 2) Image designer: Daniel Sulung Mahardika and Isna Rofi'atul Ilmi
- 3) Programmer: Muhammad Bahauddin Alfian

Development of Validation Instruments is a tool to validate media in the form of a questionnaire that is used to determine the level of validity of the developed media and as a reference for improving the developed media.

There are three expert validators who were given a questionnaire to validate the media, namely, the media validator and two material validators. The questionnaire is equipped with a space for comments and suggestions from the validator on the validated media. In addition to the validation questionnaires given by the validators, questionnaires were also given to students who took part in the media trial.

Production in media development begins with determining the type of game, namely the snake and ladder game. Media production received assistance from Muhammad Bahauddin Alfian. The drawing design was assisted by Visual Communication Design student, State University of Malang, Daniel Sulung Mahardika and student of Fine Arts Education, State University of Malang, Isna Rofi'atul Ilmi.

Media creation begins with determining the background on each page, creating assets (images needed in game creation), determining the type of animation and font. The production stage in planning a game according to (Wardhana, 2013) one of which is the creation of game assets.

The product trial design uses 3 stages, namely self-evaluation, then the first stage of the trial, the second stage of the trial. The expert evaluation stage is carried out by media experts and material experts. Conducted by media experts who have mastered, the aim is to provide input on the quality of the media that has been produced. The material trial design was carried out by a lecturer at the State University of Malang who had special expertise in the field of games. In a small group trial, 5 students were randomly selected for class VIIB at the Widyatama Catholic Junior High School in Batu City. The large group trial was conducted on 20 students of class VII B of Widyatama Catholic Junior High School, Batu City.

The instrument used in the assessment of material, design, and small group experts is a questionnaire or questionnaire. The questionnaire used consisted of three types, the first questionnaire by material experts, the second questionnaire by design experts, and the third questionnaire by group trials. Data collection instruments for material experts, and design experts as well as product users are in the form of a questionnaire that is measured using a multilevel scale. The research scale consists of various statements developed in the instrument in the form of answers with a scale of 1 to 4. Each number is given the following meaning: 1 = Less Eligible/Revision, 2 = Fairly Eligible/Revision, 3 = Eligible/Not Revised, 4 = Very Lay/Not Revised.

This type of quantitative data was obtained using instruments in the form of a validation test questionnaire by material experts and media experts, small group product trials, large group trials, and pre-test and post-test questions. The results of the data are processed using a multilevel scale, namely a statement followed by columns indicating the levels. Criticisms and suggestions from the test subjects (material experts, media experts and students) were used as qualitative data types. Interview is a dialogue conducted by researchers with students and teachers to obtain information by using unstructured interviews.

The technique in analyzing the data in this study uses a technique by analyzing the data obtained by scoring the questionnaire and also several tests. For the questionnaire score obtained from the assessment by Material Experts, Media Experts, Resource Persons, and Teachers by calculating the percentage of answers. While the test scores were obtained from calculating the results of the pre-test and post-test. This quantitative data analysis technique is divided into two steps. The two steps include (1) data processing of content validation test results, construct validity, and practicality and (2) data processing of reliability test results. Quantitative data from the test results of content validity, construct validity, and practicality used the following formula adapted from [5].

The results of this development contain a description of the data from the test results of students. This application-based snake and ladder educational game learning media has been tested on prospective product users, namely class VII students of Widyatama Catholic Junior High School Batu City. The trial aims to see the feasibility of the learning media from the aspect of the feasibility of the material. The trial was carried out by displaying learning media to the validators and students. Learning media that have been tested are then revised and tested again. Researchers distributed questionnaires and input sheets, namely written suggestions and comments from test subjects as guidelines for product revision.

The small group trial was conducted by 5 students from class VII B. The selection of 5 students was chosen at random. The Small Group Trial was conducted on May 10 at 09.15 WIB at the Widyatama Catholic Junior High School, Batu City. Before the lesson took place, students were given a pre-test about KD 3.1 cultural arts materials to understand dance movements based on the elements of space, time, and energy consisting of 10 questions. After filling in the pre-test questions, the application-based snake and ladder game learning media was applied to students. After students study the material, students are given post-test questions about KD 3.1 cultural arts materials to understand dance movements based on the elements of space, time, and energy, totaling 10 questions, this is done to find out the comparison of the results of the student learning process before using learning media and after using application-based snake and ladder game media.

Based on the analysis of the results of the pre-test and post-test, it can be obtained that the test analysis of the results of the student learning process individually, the percentage of the results of the student learning process in the pre-test is 56%, while the percentage during the post-test is 98% so that there is an increase in the score of learning outcomes in the pre-test. Individual trials as a whole. The data in table 10 shows an increase in the percentage of students who meet the KKM (≥ 75). From the results of this previous study, it can be concluded that there is an increase in the results of the student learning process before using the media and after using the application-based snake and ladder game media.

Based on the analysis of the results of the pre-test and post-test presented in table 12, it can be obtained an analysis of the test results from the student learning process individually, the percentage of results from the student learning process in the pre-test is 61.5%, while the percentage during the post-test is 93, 5% so that there is an increase in the score of learning outcomes in individual trials as a whole. The data in the table shows an increase in the percentage of students who meet the KKM (≥ 75) as much as 95%. Based on these results, it can be concluded that there is an increase in learning outcomes and meet the product eligibility criteria [5] which has been described in table 2, then the application-based snake and ladder game learning media is included in the very feasible qualification.

4 Conclusion

Research on the development of learning media in this study resulted in a product in the form of application-based snake and ladder game learning media. This product was developed because there is no learning media that makes it easy for students to carry out

online learning activities due to the covid-19 pandemic. The application-based snake and ladder game learning media can be used on smartphones so as to provide convenience for users, because it can be used anywhere. This learning media also provides convenience to educators, especially educators at the Widyatama Catholic Junior High School in Batu City who are not graduates of art or arts education. The use of application-based snake and ladder media provides an increase in the value of students. Before using learning media, only 10% of students scored above the KKM, after using learning media as many as 90% of students got scores above the KKM.

References

1. J. R. Brandon and M. Banham, *The Cambridge guide to Asian theatre*. Cambridge University Press, 1997.
2. J. D. Latuheru, "Media pembelajaran dalam proses belajar mengajar masa kini," *Jakarta: Depdikbud*, 1988.
3. M. D. Gall, J. P. Gall, and W. Borg, "R.(2003)," *Educ. Res. An Introd.*
4. R. Karsidi, "Budaya lokal dalam liberalisasi pendidikan," *J. Soc. Media*, vol. 1, no. 2, pp. 19–34, 2017.
5. A. Suharsimi, "Prosedur penelitian suatu pendekatan praktik," *Jakarta: Rineka Cipta*, pp. 48–67, 2006.

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