



Development of Multimedia Learning Educational Games to Develop Religious and Moral Values in Early Childhood Children

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ABSTRACT

The development of children's religious and moral values must be instilled from an early age. This is very important because religious and moral values are the initial foundation for children's further development. A new development in education is utilizing technology in learning to make learning interesting, fun, and meaningful. This research produces learning multimedia that is tested for validity and practicality. The research method uses a combination of the Alessi & Trollip development model and formative evaluation from Tessmer. The research was conducted at Muthiah Islamic School Kindergarten in Kayuagung, Ogan Komering Ilir Regency, South Sumatra. Data obtained through walkthroughs, questionnaires, and observations were analyzed descriptively. Learning multimedia products were validated by material experts and media experts. Then it was tested in one-to-one, small group, and field tests to test its practicality and ease of use. The results showed that the learning multimedia developed was tested for validity and practicality, as evidenced by the average result of 90.33% with a very good category. The implications of the results of this study can provide an alternative learning resource for early childhood education teachers.

Keywords: Development; educational games; learning multimedia; religious and moral values

I. INTRODUCTION

The development of children's religious and moral values must be instilled from an early age. This is very important to do because religious and moral values are the initial foundation for further child development. This is in line with the opinion of Yani (2011: 43), which states that the development of morals and religion in early

childhood is very important for children's education to undergo further education, which is expected to be well embedded in every child from an early age. Kohlberg (1979) states that the most basic level of moral development in preschool children is called pre-conventional moral reasoning. Children have not yet fully demonstrated moral values. However, some children already have high sensitivity to responding to the environment, both positively and negatively. To develop religious and moral values in children, various interesting media are needed for an effective teaching and learning process. Learning media can help teachers bring the outside world into the classroom, making abstract and unfamiliar ideas concrete and easily understood by children, so that the learning process runs effectively through learning media that function appropriately and professionally. For this reason, early childhood education teachers should have and use professional and comprehensive abilities in choosing learning media effectively and appropriately so that learning materials are interesting, interesting for children, and fun, in line with the principle of early childhood education, namely learning while playing.

The utilization of technology by children can be used as a new development in carrying out learning activities. The use of technology with interesting visualizations is one of the fun learning models to improve children's ability to absorb the material provided by the teacher. Early childhood has a limited ability to receive information. Children generally have a high imagination by visualizing the information they receive in the brain. Therefore, early childhood education teachers must be able to deliver material in a real form that can be described through visualization.

The utilization of technology with a combination of interactive game elements can be



used as one of the most fun learning methods for children. The development of computer-based learning multimedia is one solution that can be used by early childhood education teachers in the learning process. One of the results of the development of the computer world is multimedia. According to Tamami (2014), the advantage of computer-based learning media is that it provides vivid and interesting visual effects, animations, and sounds. Children will be interested in following the lessons delivered with these visual effects. One of the menus that children like on computers is games. Games are not only used to entertain but also as a medium that provides learning, called educational games or games that contain education. Handriyantini (Delima et al., 2016) explains that educational games are games that are arranged or made to stimulate cognition, increase concentration, and solve problems. The time used by children will not be wasted playing educational games. Educational games also have enormous benefits for the development of good morals, mental attitudes, emotions, and personalities in children, as conveyed by Ismail (Lestari, 2013). In addition, educational games can also help develop aspects of child development when adapted to the characteristics of children and the characteristics of the material being taught, so that the educational games developed are useful as dynamic and interesting learning media for early childhood.

II. METHODOLOGY

This study used the research and development methods of the Alessi&Trollip development model and Tessmer's formative evaluation. The Alessi and Trollip development stages include three stages, namely the planning, design, and development stages. Figure 1 is a flowchart of research on the development of educational game-based multimedia learning.

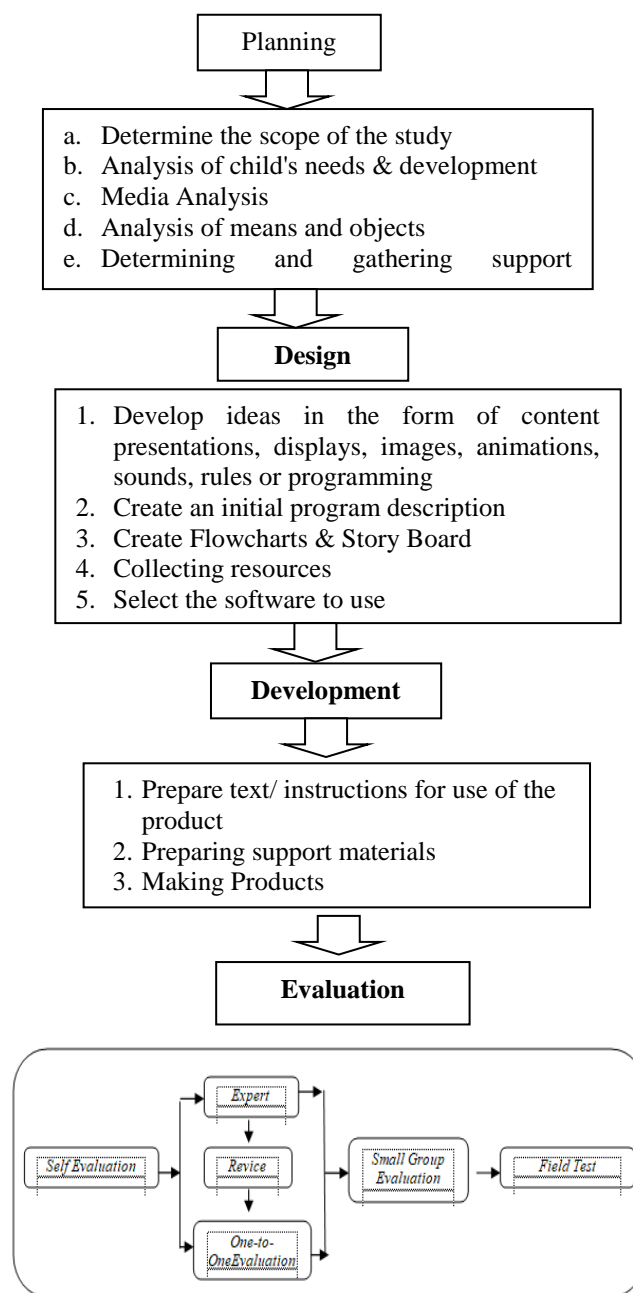


Figure 1. Flowchart of development research

Data was collected using various techniques, namely walkthroughs, questionnaires, and observation. The data collection instruments can be seen in Table 1.



Table 1. Data collection techniques

No	Data collection techniques	Instruments	Data
1	Walkthrough	Questionnaire	Primer
2.	Questionnaire	Questionnaire	Primer
3.	Observation	Observation Sheet	Primer

Source:Media Program Evaluation Criteria (Warsita, 2008:252-253)

The data analysis technique in this research is the analysis of walkthrough data results with experts, who are analyzed descriptively. The results of this data are used to improve educational multimedia. The input was written on a Likert-scale validation sheet given to experts. Four types of Likert scales include very poor, poor, good, and very good. The questionnaire data obtained in the field will be compiled using a Likert scale. In Likert, both positive and negative statements are rated by respondents in the categories of very good, good, not good, and very bad. Observation data during the trials at the one-to-one evaluation, small group evaluation, and field test stages was used to see children's behavior during the learning process using educational game learning multimedia.

III. RESULTS AND DISCUSSION

The results of research on the development of educational game learning multimedia to develop aspects of religious and moral values in early childhood are carried out in three stages. The three stages of this development research are planning, design, and development. The stages of product development are adapted from the modified Alessi&Trollip (2001: 409–413) development model with Tessmer's (1993: 16) development evaluation. The researcher developed six material indicators in the product of educational games about religious and moral values.

Planning Stage

Based on the description of the needs analysis and student characteristics, there are no learning resources for kindergarten students to develop aspects of religious and moral values that can be used in learning and in accordance with the principles of early childhood learning in the form of learning CDs. The utilization of learning media has not been developed, and no teacher has taken the initiative to develop lesson media that can produce interactive presentations of material. The results of these observations and interviews are the

basis for developing learning media in the form of PowerPoint for children aged 5–6 years.

Design Stage

In the design stage of educational learning multimedia, researchers design the material starting with making flowcharts and story boards that will be used as a guide to the development of educational games in terms of appearance, layout, and navigation, which is then called the first prototype. Furthermore, the collection of resources to fill the educational game in the form of images or animations, music or songs, audio, text, and other materials related to religious and moral values is for the next stage. The program used to design this educational game-learning medium is Microsoft PowerPoint. The story board program instructions page can be seen in Figure 2.

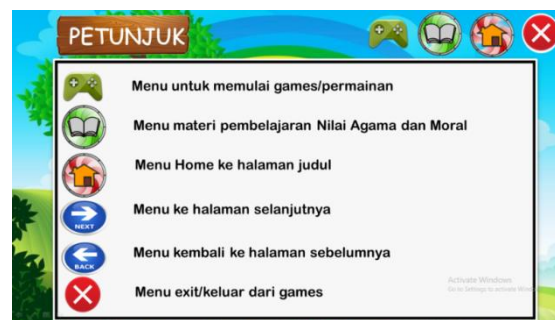


Figure 2. Story board design of the learning multimedia instruction page

Development Stage

At the stage of developing learning multimedia, researchers prepare instructions for using educational games and texts presented in educational games about religious and moral values in the form of PowerPoints. After compiling the content of learning media, the next step is to produce educational games of religious and moral values in the form of PowerPoint. The materials that have been compiled are converted into educational games using PowerPoint, and then the layout and content of each material are designed. Each material refers to the core competencies and basic competencies for the ability to develop religious and moral values in children aged 5–6 years in the 2013 PAUD curriculum. Images and illustrations are adapted to the material used. The production process of this product is based on the flowchart and storyboard designs that have been made previously.

At the development stage, evaluation tools were also prepared to assess educational games of



religious and moral values in the form of powerpoints, material validation, media, and observation sheets to assess children's behavior towards the use of educational games of religious and moral values in the form of powerpoints. The product produced at this stage is then called the first prototype. To measure the validity, practicality, and potential effects of its use, researchers conducted an evaluation by following Tessmer's formative evaluation procedure with steps consisting of self-evaluation, expert review, one-to-one evaluation, small group evaluation, and field test.

The initial stage that the researcher did was to conduct an assessment conducted by the researcher himself on the six materials in the multimedia learning game that teaches religious and moral values in the form of a PowerPoint for children aged 5–6 years that had been developed. According to the results of the self-evaluation assessment conducted by the researcher, all criteria have been met in the learning multimedia of educational games of religious and moral values, so that the learning multimedia is categorized as very good.

Next, the educational multimedia is validated by experts (expert review). Expert review is a stage to see the validity of content or material based on Rusman's modification (2014) and the design of educational game media with religious and moral values learning material developed by researchers inspired by Warsita (2015). This stage was carried out by two experts, namely content and material experts, namely Prof. Dr. Sri Sumarni, M.Pd., PG PAUD lecturer at Sriwijaya University, and multimedia design experts, namely Dr. KetangWiyono, M.Pd., FKIP lecturer at Sriwijaya University. Based on the score obtained by the validation of content and material experts, namely 3.83, and media experts 3.77, after seeing that the category of the average validity level of 3.25–4.00 is a very valid category, it is concluded that the learning multimedia products that researchers develop are feasible to be tested with revisions according to suggestions. Prototype I that the researchers developed has been declared very valid and ready to be tested.

Table 2: Assessment results of content or matter validators

No	Indicator	Skor	Total
1	Clarity of the learning objectives	4	4
2	Consistency of material objectives with learning tests	4	4
3	Suitability of the material to the curriculum	4	4
4	Supporting literature	4	4
5	Providing exercises for concept understanding	3	3
6	Actualization of material	4	4
7	Depth of material	3	3
8	Breadth of material	4	4
9	Accuracy of illustrations to the material	4	4
10	Sufficiency of examples for the material	4	4
11	Providing examples based on the needs and characteristics of children	4	4
12	Systematization of material presentation	4	4
13	Clarity of test instructions	3	3
14	Clarity of material description	4	4
15	The usefulness of the material for the target	4	4
16	Accuracy of language style with children's characteristics	4	4
17	The language used in the material is clear and precise	4	4
18	Clarity of language in material instructions	4	4
Average / Total		3.83	69

Table 3. Media expert validator assessment results

No	Indicator	Skor	Total
1	Clarity of the learning objectives	4	4
2	Consistency of material objectives with learning tests	4	4
3	Suitability of the material to the curriculum	4	4
4	Supporting literature	4	4
5	Providing exercises for concept understanding	3	3
6	Actualization of material	4	4
7	Depth of material	4	4
8	Breadth of material	4	4
9	Accuracy of illustrations to the material	3	3
10	Sufficiency of examples for the material	4	4
11	Providing examples based on the needs and characteristics of children	4	4
12	Systematization of material presentation	4	4
13	Clarity of test instructions	4	4
14	Clarity of material description	4	4
15	The usefulness of the material for the target	4	4
16	Accuracy of language style with children's characteristics	4	4
17	The language used in the material is clear and precise	3	3
18	Clarity of language in material instructions	3	3
Average / Total		3.77	68



An overview of the revisions to the learning multimedia products developed can be seen in Figures 3 and 4.



Figure 3. Before the revision

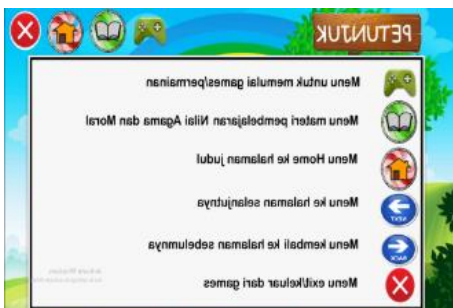


Figure 4. After revision

After the expert review stage of prototype 1 was carried out and revised, the next stage was the one-to-one evaluation, which aimed to see the practicality of prototype 1 that had been validated by experts. At this stage, the respondents were three children aged 5–6 years randomly chosen to represent the target population by looking at the final grades on the child's report card, namely MA representing children with low abilities, AFR representing children with moderate abilities, and MM representing children with high abilities. The three children were taught alternately, one by one, using the revised prototype 1. During the learning process using prototype 1, they were observed by the researcher, who aimed to directly see and assess the children's activities and behavior towards prototype 1. Data analysis of the one-to-one evaluation trial conducted on three children concluded that the use of six materials on educational games of religious and moral values in the form of PowerPoints has very practical criteria for children in accordance with the observation assessment indicators and is easy to use for children, as evidenced by the average results of children's observations of six materials of 87% in the excellent category.

In the small group evaluation stage, prototype 2 was tested on a group of nine children. At the end of the small group evaluation trial, children were observed again for their activity towards prototype 2, which was being developed. Based on the results of the observations of nine children, it can be concluded that the use of six educational game materials for religious and moral values in the form of PowerPoints has very practical criteria for children in accordance with the category of observation assessment indicators and is easy to use for children, as evidenced by the average results of the children's observations of six materials of 90% in the excellent category. Furthermore, prototype 2 was revised into prototype 3, which was then tested at the field test stage. At the field test stage, prototype 3 was tested on all children in group B1 of TK Muthiah Islamic School Kayuagung, totaling 20 children in groups.



At the end of the field test, children were observed again for their activity towards the prototype 3 that was being developed. Based on the results of the observations of 20 children, it can be concluded that the use of six educational game materials for religious and moral values in the form of PowerPoint has very practical criteria for children.

The use of six educational game materials in the form of power points has very practical criteria for children in accordance with the category of observation assessment indicators and is easy to use for children, as evidenced by the average results of children's observations of six materials of 93% in the excellent category.

IV. CONCLUSION

The learning multimedia that has been developed is very practical and effective for learning. Based on the validation results of the content/material expert test, it is declared very valid, namely a score of 3.83, and media experts, namely a score of 3.77, are very valid categories. This shows that the educational game learning multimedia has tested its validity and is very feasible to use. Based on the results of the trial, it also shows the potential effect (practicality) to be used in the development of religious and moral values. The results of the one-to-one trial are in the 87.16% excellent category, the small group trial is in the 90.33% excellent category, and the field test trial is in the 93.57% excellent category. This is in accordance with the research objectives of producing valid and practical multimedia learning products. The product produced from this development research is a learning CD equipped with games that are used to train the memory and absorb the material they have learned after doing learning activities.

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