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Role Play Game-Based Learning Multimedia for Elementary School Students

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Abstrak

Seiring dengan berkembangnya ilmu pengetahuan dan teknologi, media pembelajaran kini telah berkembang dengan memanfaatkan fleksibilitas komputer untuk memecahkan masalah-masalah belajar. Permasalahan yang melatarbelakangi penelitian ini adalah kurangnya media pembelajaran bagi siswa pada mata pelajaran IPA sehingga hasil belajar kurang maksimal. Penelitian ini bertujuan untuk mengembangkan media pembelajaran berupa multimedia berbasis role play game. Penelitian ini merupakan penelitian pengembangan (research and devlopment). Subyek uji coba penelitian adalah siswa kelas IV. Instrumen pengumpulan data yang digunakan berupa lembar evaluasi (angket). Analisis data menggunakan analisis deskriptif kualitatif dan deskriptif kuantitatif. Hasil penilaian terhadap produk Multimedia Pembelajaran Berbasis Role Play Game (RPG) ini dilaksanakan berdasarkan enam aspek, yaitu: ditinjau dari aspek desain pembelajaran dengan persentase tingkat pencapaian 87.60% predikat layak; ditinjau dari aspek uji coba perorangan,dengan persentase tingkatpencapaian 94,65% pedikat sangat layak; uji coba kelompok kecil, dengan persentase tingkat pencapaian 94,65% predikat sangat layak;dan ditinjau dari aspek uji coba lapangan dengan persentase tingkat pencapaian 95.00% predikat sangat layak. Dengan demikian produk berupa Multimedia Pembelajaran Berbasis Role Play Game (RPG) ini memiliki tingkat validitas yang baik dan layak untuk digunakan dalam proses pembelajaran pada mata pelajaran IPA.

Kata Kunci: *Media Pembelajaran, Multimedia Pembelajaran,* Role Play Game (RPG)

Abstract

Along with the development of science and technology, learning media has now developed by utilizing the flexibility of computers to solve learning problems. The problem behind this research is the lack of learning media for students in science subjects so that learning outcomes are less than optimal. This study aims to develop learning media in the form of multimedia based on role play games. This research is a research and development (research and development). The subjects of the research trial were grade IV students. The data collection instrument used was an evaluation sheet (questionnaire). Data analysis used descriptive qualitative and quantitative descriptive analysis. The results of the evaluation of the Role Play Game (RPG) Based Learning Multimedia product were carried out based on six aspects, namely: in terms of the learning design aspect with an achievement level percentage of 87.60% worthy; in terms of the aspect of individual trials, with a percentage of the achievement rate of 94.65%, the rating is very feasible; small group trials, with a percentage of achievement level of 94.65% predicate very feasible; and in terms of the aspect of field trials with a percentage achievement level of 95.00% predicate very feasible. Thus the product in the form of Role Play Game (RPG) Based Learning Multimedia has a good level of validity and is suitable for use in the learning process in science subjects.

Keywords: Learning Media, Learning Multimedia, Role Play Game (RPG)

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1. INTRODUCTION

In the current Covid-19 pandemic situation, education is one of the fields that has been affected, including in the education sector. Learning process activities during the Covid-19 pandemic situation are carried out online or distance learning (Erawati et al., 2021; Wulandari & Agustika, 2020; Wulandari et al., 2020). This online learning causes boredom in students, because students are used to interacting with their friends and teachers (Hutauruk & Sidabutar, 2020; Safithri et al., 2021; Satyawan et al., 2021). In addition, online learning

causes students to get bored quickly, if learning is only done by giving assignments every day (Fikri et al., 2021; Primasari & , Zulela, 2019). The saturation that occurs in students during online learning can be overcome by utilizing learning media that are suitable for student characteristics, to increase student learning motivation.

The characteristics of elementary school students who still like to play cause teachers to be proficient in developing learning media that contain game elements and provide opportunities for students to be directly involved in learning (Afandi, 2015; Muslihatun et al., 2019; Sari et al., 2019). If traced in terms of cognitive development, elementary school students aged 6-12 years are still in the concrete operational stage (Agung, 2019; N. P. W. P. Dewi & Agustika, 2020; Juwantara, 2019; Rahmaniar et al., 2021). At this stage students' cognitive abilities are still limited to things that are concrete, so that students experience difficulties when learning abstract things, especially in learning science. Science as one of the subjects studied by elementary school students is a subject that students must understand (Ariyani & Ganing, 2021; Melliyanti & Suniasih, 2022; Mertasari & Ganing, 2021). One of the materials in science subjects taught in grade IV of elementary school is about object forces which consist of frictional forces, gravitational forces, magnetic forces, muscle forces and spring forces. Science learning requires a media that helps students learn. This is reinforced by previous findings which state that teachers in teaching science materials need the help of instructional media in order to clarify the material presented (Latifah et al., 2020; Melliyanti & Suniasih, 2022; Permana & Nourmavita, 2017).

However, the current problem is that there are still many teachers who have difficulty developing media. Previous research findings also state that teachers have difficulties in developing innovative media (Hendriawan & Septian, 2019; I. M. J. Putra, 2021; Rubini et al., 2018). Other research findings also state that the lack of learning media has an impact on students who have difficulty learning (Qistina et al., 2019; Zarkasi & Taufik, 2019). Based on the results of pre-research conducted through observation and interviews with teachers and students at SD Dwijendra Denpasar, the following information was obtained. First, based on the results of observations and interviews with teachers, it is known that the use of mathematics learning media for material circumference and area of flat shapes in grade IV elementary school students is still limited to flat shapes and video shapes for online learning. In addition, teachers experience difficulties in making variations of learning media that are suitable for online learning due to a lack of understanding related to making learning media that uses technology, so teachers tend to only make learning media in the form of videos. From the results of teacher observations while carrying out online learning using the help of learning media in the form of videos, there are some students who do not watch videos and do not see instructions for the assignments given, students tend to only rely on information from their parents.

The results of interviews with several students found that during online learning students felt bored because the learning was carried out monotonously in the provision of material and assignments and the lack of variety of learning media used, so students were less motivated to learn. In addition, information was obtained that students used cell phones as a means of online learning (personally owned or parent-owned cell phones), there were several students who owned and used laptops as a means of online learning. There are limitations to the internet quota when online learning is carried out through meetings using the Zoom or Google Meet application, and students feel more interested when learning is carried out using game media (games) rather than just using media in the form of videos or being fixated on material in books or sent via *WhatsApp* application.

From the results of the pre-research, it can be seen that there is already the use of learning media for Style material in grade IV of elementary school. However, because learning is now carried out online or distance learning, development is needed in the form of

learning multimedia that can be used by students directly or online according to student characteristics and can motivate students to learn. Learning media has now developed by utilizing the flexibility of computers to solve learning problems (Fahyuni et al., 2020; Muyassaroh et al., 2022). The flexibility of the computer provides many benefits in the development of learning media because it can include video, audio and graphic elements, display forms and the learning process (Arif & Mukhaiyar, 2020; Permana & Nourmavita, 2017; Riwu et al., 2018). One of the learning multimedia models that can be used is game-based multimedia. This game model is a motivational approach that aims to emphasize developing, strengthening, and discovering new things for students in learning (Lee et al., 2014; Mascio et al., 2013; Tinedi et al., 2018). In addition, this game model is flexible and fun because it is done by playing and not fixated only on material and questions. This game model can also build a good sense of competition among students.

This multimedia development is based on the Hannafin and Peck model which consists of three main stages, namely the needs assessment stage, the design stage, and the development and implementation stage. All stages in this model involve evaluation and revision processes (Boangmanalu et al., 2018; Saputra & Putra, 2021). The choice of Hannafin and Peck's model was based on consideration of the output produced by this study, namely a learning multimedia product based on Role Play Games. The selection of a model that focuses on product development by analyzing needs and there is an evaluation and revision process at each stage of its development. Previous research findings also state that learning multimedia can assist students in learning (Arif & Mukhaiyar, 2020; Dwiqi et al., 2020; Paranna & Airlanda, 2020). Other research findings also reveal that multimedia can increase students' enthusiasm for learning (Kao & Luo, 2020; Prasetyo et al., 2020; T. A. J. Wulandari et al., 2019). Other research also states that multimedia can improve student learning outcomes (R. Dewi et al., 2018; Nugraha & Wahyono, 2019). Based on this, it can be concluded that multimedia can help students in learning. There has been no study on Style Role Play Game (RPG) Based Learning Multimedia for Grade IV Elementary School Students. Based on this, the purpose of this study is to develop a Style-Based Role Play Game (RPG) Learning Multimedia for Grade IV Elementary School Students.

2. METHODS

This type of research uses development research methods or research and development. The development research method serves to validate and develop a product. Validating means that existing products are tested for effectiveness and validity. While developing is mean creating new products or updating existing products so that they are more effective, efficient and practical. Research on the development of Role Play Game (RPG)-based learning multimedia for Style material for grade IV elementary school students uses the Hannafin and Peck development research model. The Hannafin and Pack stages include needs analysis stage, design stage, and development implementation stage (Tegeh, 2014).

The research subjects used were fourth grade students at SD Dwijendra Denpasar, totaling 30 students. The Hannafin and Peck model consists of three main stages, namely needs assessment stage, design stage, and development implementation stage, where all stages in this model involve an evaluation and revision process. (Tegeh, 2014). Product trials were carried out by three experts namely content experts, learning media experts, and learning design experts to determine the feasibility of the product. The type of data used in this research is quantitative and qualitative data. Data collection methods used in this study are observation, interviews, and questionnaires. The data collection instrument used in this development research was a closed questionnaire. The data analysis technique used is descriptive qualitative and quantitative analysis. Qualitative descriptive analysis was used to

analyze the input provided by experts. Quantitative descriptive analysis is used to analyze the scores given by experts.

3. RESULTS AND DISCUSSION

Result

The development of learning multimedia based on Role Play Game (RPG) for Style material for grade IV elementary school students consists of several stages, namely: Needs Assessment Stage. : 1) Analysis of Learning Problems (Instructional Analysis) From the results of pre-research conducted at Dwijendra Elementary School with observations and interviews, information was obtained, namely: a.) Learning media is not yet available according to the characteristics of students who like to play, c.) Learning multimedia is not yet available which can be used directly or independently by students during online learning, d.) Online learning that has been carried out so far tends to be monotonous in providing learning videos, materials and questions. After obtaining information about the need for product development, the next step is the design stage. At this design stage, the RPG Maker MV program was used to create this Role Play Game (RPG) based learning multimedia. The first stage is the Mapping stage (Mapping is the process of making a map or setting for the game. Making the background is adjusted to the storyline made on the story board. Story boards are made by determining the characters, dialogues, material and questions inserted in the picture).

The second stage is Database Using (a collection of various data used in games such as characters, animations, sounds, dialogs that can be changed during game creation). The third stage is Eventing (which is an important element in the game, because it can make the game look more alive. Setting events is similar to the control structure in programming). At this stage of development and implementation there are several stages, namely: (1) Merging between the storyboards that have been made with the characters, dialogues, materials and questions inserted in the game, then proceed with creating events in the game. (2) Adjustment to the game so that the resulting Role Play Game (RPG) based learning multimedia product is in accordance with the learning objectives to be achieved. (3) Consultation with supervisors to obtain criticism and suggestions for improving Role Play Game (RPG)-based multimedia products, then make revisions according to the supervisor's directions. (4) After being approved by the supervisor, a feasibility test of multimedia learning based on the Role Play Game (RPG) material around and area of flat shapes for grade IV elementary school students is carried out by content experts, media experts and learning design experts. Then individual trials, small group trials and field trials were carried out.

In evaluation and revision stage evaluation and revision phase can be carried out repeatedly and continuously in three main stages until the product has been developed and declared feasible by experts. After the media development stage is complete. Next is the testing phase. The test subjects on the development of learning multimedia based on Role Play Game (RPG) Object Style material for fourth grade elementary school students are presented in Table 1.

Table 1. Results of Role Play Game (RPG) Based Learning Multimedia

Trial Subjects	Result Validity (%)	Explanation
Learning design expert test	87.60	Good/Feasible
individual trials	91.50	Very Good/Very Feasible
Small Group Trial	94.65	Very Good/Very Feasible
Field Trials	95.00	Very Good/Very Feasible

At the expert review stage, the trials were carried out by three experts consist of content experts, learning media experts, and learning design experts to determine the feasibility of the product. One content expert is a civil servant (PNS) teacher who is in charge of mathematics in elementary schools and has a certificate as a mathematician Olympiad question maker. One learning media expert is a lecturer who has a minimum educational background of Masters in the field of learning technology. One learning design expert is a lecturer who has expertise in the field of learning design. The average value obtained is 86.00%

At individual trial stage, the subjects used in individual trials were three grade IV students at Dwijendra Elementary School with the category of one student who had high learning ability, one student who had medium learning ability and one student who had low learning ability. This category is seen based on the value of student learning outcomes in report cards in the previous semester. After being tested, the results were 91.50%. In the small group trial phase, the subjects used in the small group trial were nine fourth grade students at Dwijendra Elementary School. The group consists of a category of one group of students consisting of three people with high learning abilities, one group of students consisting of three people with moderate learning abilities and one group of students consisting of three people with low learning abilities. This category is seen based on the value of student learning outcomes in report cards in the previous semester. After being tested, the results were 94.65%. At the field trial stage, the subjects used in the field trial were all fourth-grade students at SD Dwijendra, totaling 40 people. After being tested, the results were 95.00%. Based on the results of product trials, it can be concluded that learning multimedia based on Role Play Games (RPG) is feasible to use in learning.

Discussions

The results of data analysis show that learning multimedia based on Role Play Games (RPG) is feasible to use in learning. This is caused by several factors. First, learning multimedia based on Role Play Game (RPG) can increase student motivation. The learning multimedia based on Role Play Game (RPG) that was created is one of the digital learning media that is currently booming in the world of education. Learning media are generally used with the aim of making the learning process more effective and efficient in accordance with the desired learning objectives (Dewi et al., 2018; Suyitno, 2016; Widyaningsih et al., 2020). In order for learning media to be more interesting, supporting applications must be added so that the learning process becomes more interesting, innovative, and interactive (Cucus et al., 2016; Li & Ren, 2018; K. W. B. Putra et al., 2017). Learning media is important to use, because the use of learning media will arouse students' interest and motivation, reduce verbalism, as a channel of information, give encouragement to students, and increase knowledge retention in learning (Audhiha et al., 2021; Maharani et al., 2018; R. Wulandari et al., 2017). Learning success can be influenced by the use of selected learning media. In general, the benefits of learning media are to facilitate interaction between teachers and students so that learning activities are more effective and efficient (R. Dewi et al., 2018; Putri & Muhtadi, 2018; Suyitno, 2016; Widyaningsih et al., 2020).

Second, learning multimedia based on Role Play Game (RPG) helps students in learning. Learning media plays an important role in the learning process, because learning media is a tool or message distributor that can represent the teacher in conveying information in a more thorough, clear and interesting way (Chen et al., 2018; A. P. Putra et al., 2019). In addition, the media makes it easier for students to understand the learning material presented (Nazalin & Muhtadi, 2016; Susiana & Wening, 2015). Learning media is anything that can be used to convey or distribute messages from a source in a planned manner, resulting in a conducive learning environment where the recipient can carry out the learning process

efficiently and effectively. Learning media is a tool or tool that functions as an intermediary to convey learning messages. So that it can stimulate the thoughts, feelings, attention, and willingness of students so that they can encourage the learning process in students (Hendriawan & Septian, 2019; Kuswanto & Walusfa, 2017; Widyatmojo & Muhtadi, 2017).

Third, this Role Play Game (RPG) based learning multimedia is considered very suitable to be given to students in material about the Style of Science subjects. This is because this media can increase student interest and is more interesting so it is not boring and can be used even though learning is carried out online. This is reinforced by previous findings which state that multimedia can help students learn science (Dwiqi et al., 2020; Putri & Muhtadi, 2018; Saputra & Putra, 2021). This learning media has several advantages. These advantages include learning Multimedia based on Role Play Game (RPG) in the form of learning media that utilizes information technology, Multimedia learning based on Role Play Game (RPG) can have a concrete effect on learning. This media can be compiled with multimedia applications because it can combine various media in the form of text, images, graphics, music, animation, video, and interactions into digital files, and are used to convey messages to users. In addition, the amount of teaching time can be reduced and the learning process can be done anywhere and anytime (Hendriawan & Septian, 2019; Yasa et al., 2021; Zarkasi & Taufik, 2019).

4. CONCLUSION

Based on the results of validation by experts and field trials, it can be seen that the quality of learning Multimedia based on Role Play Game (RPG) developed is very good/very feasible. Based on the results of the due diligence it can be concluded that Multimedia learning based on Role Play Game (RPG) suitable for use in science learning. The use of Role Play Game (RPG)-based learning Multimedia is considered very suitable to be given to students in material about the Style of Science subjects.

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