

Development of 3D Monopoly Media the Influence of the Environment on the Type of Livelihood of the Population of Class IV Elementary School

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Abstract

The purpose of this development research is to produce picture story media on kingdom material that is valid according to material experts and media experts, as well as interesting and practical for users. This type of research is Research and Development (RnD). The ADDIE model used in this research consists of five stages: analysis, design, development, implementation, and evaluation. Based on the results of product validation by material experts and media experts, the final scores were 100% and 93,75%, respectively. In addition, based on the final assessment by users, namely teachers and students, regarding the practicality and attractiveness of the product, the final scores were 92.51% and 92.59%, respectively. Based on the results of the validation and assessment, this research and development of picture story media produces media that is feasible, practical, and interesting for grade IV elementary school students..

Keywords: Social Studies; Learning Media; Monopoly 3D

1. Introduction

Education is a conscious effort that is planned to realise the learning process so that students can develop abilities in attitudes, spirituality, personality, skills, intelligence, and self-control and society (Kurniawan 2015). Indonesian Law No 20 of 2003 article 4 paragraph 4 explains that education is organised by setting an example, building willingness, and developing students' creativity. Education at the primary school level in Indonesia currently uses the independent curriculum, which was issued by the Ministry of Education and Culture through Permendikbud No. 56 of 2022. This curriculum provides freedom for teachers and students to innovate and learn independently and creatively, with the aim that learning becomes comfortable, fun, and pressure-free, and can develop students' natural talents (Aisyah 2023). Primary school students aged between 6-13 years are in a phase of cognitive development that requires concrete and interesting objects to understand learning materials (Pratiwi, Rokmanah, and Syachruroji 2023). Abstract material requires interesting learning media so that information can be received and understood well by students, making learning more meaningful (Bujuri 2018).

Based on the results of observations and interviews conducted at SDN Panggungrejo 1 Kepanjen, obtained information related to the continuity of learning activities in the classroom lack of active student involvement in learning, so that learning seems rigid and boring for students. In learning activities, especially in social studies content, the delivery of learning material is less effective and in-depth. The reason is because some learning materials in social studies content are complex and the lack of availability of learning media that can provide a real picture to students. This is in line with the opinion (Hamid et al. 2020) which explains the

important role of a learning media as a distributor of messages and learning information so that it can stimulate the feelings, interests and thoughts of students so that it can support the achievement of learning objectives well. The role or existence of this limited learning media makes it easy to get bored and their lack of interest in learning makes them play a less active role in learning.

The application of educational game-based learning media can make students interested in learning and students will play an active role in learning activities (Khadijah and Armanila 2017). Monopoly 3D media is an adaptation of the monopoly game with modified learning material content by adding 3-dimensional elements to the media. This is supported by the opinion (Kristina, Fatif, and Alfi 2023) that the application of 3-dimensional elements in learning media can attract students' attention to learning and stimulate students to think creatively and imaginatively. Learning media based on the monopoly 3D educational game is a learning media that can create interactive learning activities and can provide a real picture to students related to learning material.

Monopoly 3D Media in previous research and development, namely the use of local wisdom-based monopoly media on theme 4 'globalisation' for grade IV students, was successfully developed with the achievement of good and very good category levels and provided practical results, this can be seen based on the results of teacher and student response questionnaires (Aryanda 2022). Based on other research and development, namely the development of Medoli Suteka media (Monopoly Media Stacking Words, Guess the Word, Right Left) on Learning the Diversity of My Nation's Culture, the results are very feasible and effective in improving students' understanding of the subject matter (Saraswati 2022). This motivates researchers to conduct development research on learning media based on monopoly educational games that are added with three-dimensional elements and equipped with quizzes and practice questions in the form of game cards in the hope of increasing the active role of students in learning.

With the existence of several problems, it requires media development to support the success of learning objectives and activities. Based on the background of the problem, a development research will be carried out entitled 'Development of 3D Monopoly Media The Effect of the Environment on the Type of Livelihood of the Population of Class IV Elementary School'. The formulation and objectives of this development research are to develop and determine the feasibility level of learning media based on educational games.

2. Method

This research and development applies the R&D (research and development) method with the ADDIE model which consists of five stages, namely analyse, design, development, implementation, and evaluate (Branch 2009). The use of the ADDIE model is based on the development with the ADDIE model which is more relevant and flexible to be used for various forms of product development, such as the development of models, learning strategies, learning methods and teaching materials used in the learning process (Winarni 2018). In addition, the application of the ADDIE model based on (Branch 2009) at the stages carried out coherently and at each stage can be revised or evaluated on the media products developed. An explanation of the flow of research and development of 3D monopoly media on the influence of the environment on the types of livelihoods of the population using the ADDIE model is described in the following figure.

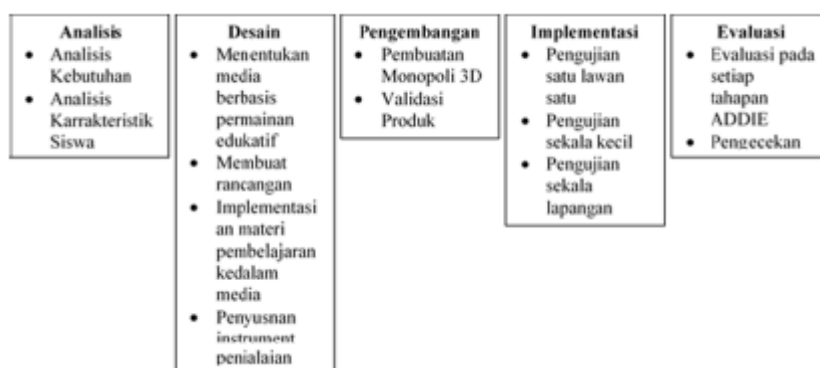


Figure 1. Flow of Monopoly 3D Media Development ADDIE Model

The subjects of this research and development are two fourth grade teachers and 36 fourth grade students of SDN Panggungrejo 1 Kepanjen which are divided into one-on-one testing by 4 students, small scale testing by 10 students, and field scale testing by 22 students. Data collection instruments in this research and development are based on observation, interviews, validation questionnaires, user response questionnaires (teachers) and students. The results of the data that have been obtained are then analysed in the form of qualitative data and quantitative data. Qualitative data used is based on suggestions and comments while quantitative data is based on the results of the assessment that has been carried out. The validity data analysis technique is in the form of validation questionnaire data analysis by media experts and material experts. The validity criteria use a Likert scale of 1-4 where the criteria 4 means strongly agree, 3 agree, 2 disagree, and 1 means strongly disagree. Assessment of validation questionnaire instruments by experts using a linkert scale. The data processing formula for the percentage value of expert validation results is as follows (Akbar 2013).

$$V - ah = \frac{TSe}{TSh} \times 100\%$$

The results of the analytical data that have been obtained can be interpreted using the following interpretation of feasibility.

Table 1. Criteria for the Validity of Media Development Product

Kriteria Validitas	Kualifikasi	Keterangan
90%-100%	Very Valid	Very Valid, No Revision Needed.
75%-89%	Valid	Valid, Usable With Minor Revisions.
65%-74%	Not Valid	Not Valid, Needs Major Improvement.
55%-64%	Invalid	Invalid, Cannot Be Used.
0-54%	Very Invalid	Very Invalid, Cannot Be Used.

Source: (Hassyah 2021)

Assessment of user (teacher) practicality questionnaire instrument, the number of expected scores divided by the number of scores achieved. Thus the calculation of the score value using the following formula.

$$MP - pg = \frac{TSe}{TSh} \times 100\%$$

Table 2. Criteria for the Practicality of Media Development Products

Kriteria Validitas	Kualifikasi	Keterangan
90%-100%	Very Practical	Very Practical, No Revision Needed.
75%-89%	Practical	Practical, Usable With Minor Revisions.
65%-74%	Not Practical	Not Practical, Needs Major Improvement.
55%-64%	Impractical	Impractical, Cannot Be Used.
0-54%	Very Impractical	Very Impractical, Cannot Be Used.

Source: (Hidayat 2022)

Assessment of the results of the questionnaire instrument of attractiveness by students at three stages of one-on-one testing, small-scale testing, and field-scale testing. Each of these tests is processed based on the expected score which is then divided by the number of scores achieved. so that the score value is obtained using the following formula.

$$MP - au = \frac{TSe}{TSh} \times 100\%$$

Table 3. Criteria for the Attractiveness of Media Developing Products

Kriteria Validitas	Kualifikasi	Keterangan
90%-100%	Very Interesting	Very Interesting, No Revision Needed.
75%-89%	Interesting	Interesting, Usable With Minor Revisions.
65%-74%	Not Interesting	Not Interesting, Needs Major Improvement.
55%-64%	Uninteresting	Uninteresting, Cannot Be Used.
0-54%	Very Uninteresting	Very Uninteresting, Cannot Be Used.

Source: (Suryani 2021)

3. Results and Discussion

3.1 Result

3.1.1 Analysis.

This development is based on the ADDIE model based on (Branch 2009) which includes the stages of analyse, design, development, implementation, and evaluation. In the first stage, namely analyse, the needs and characteristics of students were analysed. Based on the implementation of interviews conducted on the teacher SK as a homeroom teacher IV SDN panggungrejo 1 Kepanjen, obtained some information related to learning activities in class IV which tend to be less active role during learning activities so that learning seems rigid and boring for students. In learning activities, especially in social studies content, the delivery of learning material is less effective and in-depth. The reason is because some learning materials in social studies content are complex and the lack of availability of learning media that can provide a real picture to students. In the analysis of student characteristics based on the results of interviews conducted on several students who stated that learning social studies is very difficult because it is complex reading and memorising. Generally, in activities outside of school hours they play more often, this is inversely proportional to the characteristics of students during learning. The application of learning media based on educational games is considered very appropriate to channel student activeness during learning activities. This is in line with the opinion (Khadijah and Armanila 2017) that the application of educational game-based learning media can make students interested in learning and students will play an active role in learning activities.

3.1.2 Design

The next stage is design in the form of determining the concept of learning media based on 3D monopoly educational games to be made with the use of adobe photoshop, blender, canva applications, and adjusting the learning content into learning media products. At this stage, the preparation of product assessment instruments for validators, practicality questionnaires, and attractiveness questionnaires is also carried out.

3.1.3 Development

The third stage is development. At this stage, the manufacture of 3D monopoly media products is carried out, especially on the completeness of the game components or devices. The design of game components with two-dimensional shapes such as packaging, guidebooks, cards using adobe photoshop applications. While the manufacture of game components with three-dimensional shapes is divided into two ways of forming by crafting and using blender applications. The entire 3D monopoly media if in an arranged position is in the form of an equilateral triangle whose each side measures 88 cm. The following is the appearance of 3D monopoly media.



Figure 2. Monopoly 3D Media Display

The 3D monopoly media product that has been made is first carried out product validation with the aim of knowing the feasibility level of 3D monopoly media products before testing on users. The results of validation by experts can be seen in the following figure.

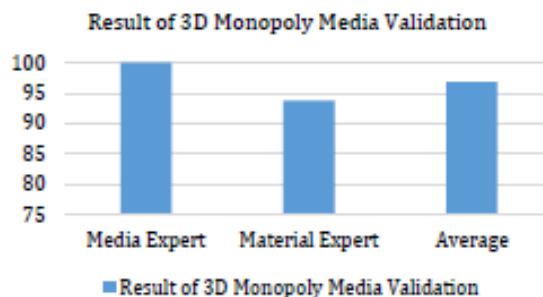


Figure 3. Media Validation Results

The results of validation by media experts obtained a percentage value of 100% with these results categorised as very valid and feasible to use without the need for revision. The

aspects that are assessed by media expert validators are physical appearance, diorama form, and game devices. This aspect is in line with the opinion of (Susanto 2019) which states that learning media must be interesting so that in teaching and learning activities a positive association can be created between users and the learning media or learning material. Based on the validation that has been carried out, the provision of suggestions and input by media experts can be used as a basis for improving or revising media products. The advice and input given by media experts is that overall the media is very good. The advice given is the addition of media identity related to the outer packaging of media products.

The results of validation by material experts obtained a percentage value of 93.75% with these results categorised as very valid and suitable for use without the need for revision. The aspects that are the focus of the assessment by the material expert validator are the suitability of the material, the presentation of the material, and the language. This aspect is in line with the opinion (Nurwidayanti 2022) that the cohesion and interrelationship of the learning media designed are aligned with the material and learning outcomes, this will create a strong connection between what students learn and ensure that there is no gap between the learning material that has been taught. Based on the validation that has been carried out, the provision of suggestions and input by material experts can be used as a basis for improving or revising media products. The advice and input given by the material expert is that overall the media is good. Alignment can be made regarding questions or questions contained in the media to be harmonised and focused on related learning objectives and do not need to cover too broad a discussion.

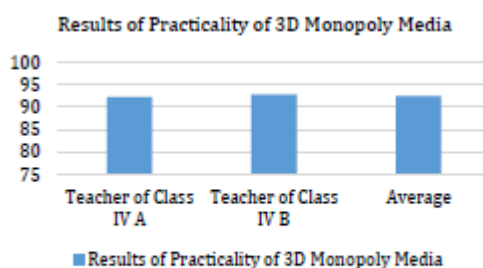


Figure 4. Media Practicality Result

The results of practicality by users (teachers) obtained a percentage value of 92.27% by teacher A, and 92.75% by teacher S with an overall average result obtained of 92.51%. These results are categorised as very valid and suitable for use without the need for revision. The aspects that became the assessment of practicality carried out by users (teachers) include six aspects namely the suitability of the material, presentation of material, and language, physical appearance, diorama form, and game devices. Based on the assessment of attractiveness that has been done, the provision of suggestions and input by users (teachers) can be used as a basis for improvement or revision of media products. Suggestions and input given by users (teachers) are related to the use of font information or instructions contained in the game components can be clarified again by using bold effects or changing the type of font used so that it can be read clearly related to the information and description text contained in the game device.

3.1.4 Implementation

The fourth stage, namely implementation or implementation of media products that have been developed, then testing media products on 36 fourth grade students of SDN panggungrejo 1 kepanjen. The implementation of the trial was carried out in three stages in the form of one-on-one testing of 4 students in class IV A, small-scale testing of 10 students in class IV A, and field-scale testing of 22 students in class IV B. This trial activity is based on obtaining and knowing data related to the attractiveness of 3D monopoly media products that have been developed. The results of attractiveness by students are presented in the following table.

Table 4. Trial Results on Class IV Students

Description	Results	Category
One-On-One trial	92,5%	Very Interesting
Small Scale Trial	93%	Very Interesting
Large Scale Trial	92,27%	Very Interesting
Average	92,59%	Very Interesting

In the implementation of one-on-one testing on 30 May 2024 by 4 students of class IV A SDN panggungrejo 1 kepanjen, each represented by students with high ability, medium ability, and low ability. The results obtained in this one-on-one test were used as a determinant for conducting the next stage of testing, namely small-scale testing. In the one-on-one test, the results of the attractiveness results were obtained with a percentage of 92.5%. The suggestions and comments by students at the time of testing are that students like learning by using 3D monopoly media, because it is very fun to play while learning so that learning is not boring. After conducting one-on-one testing with the acquisition of very good results, and categorised as very interesting without requiring improvements or revisions to media products. Furthermore, small-scale testing was carried out on 10 students of class IV A SDN Panggungrejo 1 Kepanjen with diverse student ability qualifications. The results of the attractiveness questionnaire that has been done by students get a percentage score of 93%. These results are categorised in media qualifications that are very feasible and interesting. After small-scale testing was carried out, it was continued with field scale testing on 5 June 2024 by 22 students of class IV B SDN Panggungrejo 1 Kepanjen by getting a percentage value of 92.27%, these results were categorised as very feasible and interesting. The suggestions and comments by students at the time of testing were that learning by using monopoly game media made it easier for them to understand the material studied, they felt happy because learning activities were carried out by cooperating with each other to answer challenges and gather as much knowledge as possible to win the game.

3.1.5 Evaluate

At this stage, the evaluation is carried out at the end of each study. Evaluation at the analysis stage is in the form of drawing conclusions based on the results of the analysis of the needs and characteristics of students for the media to be developed, so that a decision is obtained to develop 3D monopoly media on the material of environmental influences on the types of livelihoods of the population. Evaluation at the design stage is in the form of determining the concept of learning media based on 3D monopoly educational games that have been adjusted to learning materials into learning media products, and determining product assessment instruments for validators, practicality questionnaires, and attractiveness questionnaires that are consulted with supervisors. At the development stage, evaluation is

carried out in the form of product improvement or revision based on suggestions and input provided by media experts, namely related to the addition of media identity on the outer packaging of media products, and suggestions and input by material experts, namely adjustments and alignments related to questions or questions contained in the media to be aligned and focused on related learning objectives. At the implementation stage, the evaluation carried out is based on the student questionnaire assessment during the 3D monopoly media product testing which is carried out coherently starting from one-on-one testing, small-scale testing, and field-scale testing.

3.2 Discussion

Validity of 3D Monopoly Media

The validity of media products is based on 2 validators, namely media experts and material experts. The implementation of the 3D monopoly media product media validation process was carried out on Mr Arda Purnama Putra, S.Pd M.Pd as a media expert which was carried out on 27 May 2024. This is intended to obtain the level of validity of the product. Monopoly 3D The Effect of the Environment on the Type of Livelihood of the Population based on media experts obtained a percentage score worth 100% which can be declared very valid so that the media products developed can be used without requiring revision. However, improvements or revisions are still made which are based on suggestions and comments given by media validators. The state of the media before validation is that the outer packaging does not have the identity of the name and title of the media. After validating the media expert, a sticker was added containing the media identity in the form of the name of the media, the name of the maker, and the name of the relevant agency. The shape of the 3D monopoly media implements three-dimensional elements in the form of mini dioramas that have interesting shapes and are adjusted to the real picture related to the environment where people live. In line with the opinion (Mukhlishi 2017) which states that one of the objectives of learning media is to stimulate students' creativity and imagination so that they can think broadly and not be boxed in just one context. This is also supported by the opinion (Susanto 2019) that learning media must be interesting so that in teaching and learning activities a positive association can be created between users and the learning media or learning material.

The implementation of the 3D monopoly media product material validation process was carried out on Mr M Luthfi Oktarianto, S.Pd, M.Pd as a material expert which was carried out on 27 May 2024. This is intended to obtain the level of validity of the product. Monopoly 3D The Effect of the Environment on the Type of Livelihood of the Population based on material experts obtained a percentage score of 93.75% which can be declared very valid so that the media products developed can be used without requiring revision. However, improvements or revisions are still made which are based on suggestions and comments given by media validators. The state of media products before validation is that on the learning media there are still some questions or questions that cover too broad a discussion and are less focused on the discussion material. As well as input related to writing learning objectives in the game guidebook that uses the word 'through activities'. After being validated by the material expert, adjustments were made regarding the questions or questions contained in the 3D monopoly media game device and changing the writing of learning objectives contained in the game guidebook. In line with the opinion (Sapriyah 2019) the complexity of information received by students that is too technical will cause confusion and increase the burden on students'

cognitive capacity so that it can hinder the process of student understanding. The suggestions given by the material validator are related to the writing of the learning objectives sentence listed in the game guide book.

3.2.2 Practicality of 3D Monopoly Media

The practicality of 3D monopoly media is based on the results of the assessment of fourth grade teachers of SDN Panggungrejo 1 Kepanjen, namely teacher A and teacher S which was carried out on 30 May 2024 and 5 June 2024. The practicality score obtained by teacher A was 92.27% and the practicality assessment conducted by teacher S obtained a percentage of 92.75% with an overall average result obtained of 92.51%. These results are categorised as very practical and suitable for use without the need for revision. The homeroom teacher of SDN Panggungrejo 1, stated that in general the 3D monopoly media is very good and makes students happy with this method of playing while learning, besides that this 3D monopoly media also provides an overview to students about coastal, lowland, and mountain landscapes. Based on the suggestions and comments given by users (teachers), there are product improvements or revisions made, namely related to the use of font information and descriptions contained on game cards that are still difficult to read. So the researcher made improvements by changing the type of font used and adding a bold effect to the font so that it can be read clearly. Referring to (Farida 2022) the use of simple language and writing aims to assist students in understanding related learning materials better, when the language and writing are too complex or technical, students will have little difficulty in understanding the concepts taught. As well as in line with the design of 3D monopoly media made by considering the use of language and content of learning materials that are simple and not too complex are intended to make it easier for users to explore related learning materials. In line with the opinion (Putriana 2019) that practical educational game-based learning media is closely related to accessibility or flexibility of use that provides convenience for users with limitations in technology and knowledge.

3.2.3 Attractiveness of 3D Monopoly Media

The attractiveness of 3D monopoly media products on the influence of the environment on the types of livelihoods of the population is based on three stages of testing that have been carried out, namely one-on-one testing with a percentage of 92.5%, small-scale testing with a percentage of 93%, and field-scale testing with a percentage of 92.27%. Overall, the three tests obtained an average result of 92.59% which was included in the very interesting category. In the questionnaire assessment of the media product's attractiveness, students stated that they were very happy with the 3D monopoly media because the learning was done by playing, learning became not boring and very fun, students also found it easy to learn because they could imagine related environmental conditions and livelihoods of the population. In line with (Mukhlishi 2017) that learning media designed to provide students with an overview of their environment is one of the important strategies for every educator in addition to creating relevant, contextual, and meaningful learning activities. In addition, embedding challenges in the form of question cards and knowledge cards in 3D monopoly media can provide excitement in the continuity of the game. This is in accordance with the opinion (Widiana, Parera, and Sukmana 2019) that the purpose of using learning media is also as a means of entertainment so that learning can run in a fun and cheerful manner.

4. Conclusion

Based on the results of research conducted at SDN Panggunrejo 1 Kepanjen, 3D Monopoly media has met the validity criteria based on the validation results of media experts and material experts with the suitability of the criteria set. Testing the validity of media products developed by media experts obtained a percentage result of 100% and by material experts obtained a percentage result of 93.75%. The percentage value obtained in the validation test is categorised as very valid and very suitable for use without requiring improvement. Practicality testing conducted by users (teachers) at SDN Panggunrejo 1 Kepanjen obtained a percentage value of 92.27% and 92.75%. Based on these results, the 3D monopoly media is categorised as very practical and feasible to use in learning activities. Testing the attractiveness of students was carried out with three stages of testing in the form of one-on-one testing of 4 students in class IV A, small scale testing of 10 students of class IV A, and field scale testing there are 22 students of class IV B. In testing the attractiveness by students to the attractiveness of 3D monopoly media developed at the one-on-one testing stage obtained a percentage score worth 92.5%, small scale testing obtained a percentage score worth 93%, and field scale testing obtained a percentage score worth 92.27%. The role of 3D monopoly media in learning activities is welcomed by teachers and students, students are very enthusiastic and play an active role in learning activities. Students are taught to develop their creativity and imagination in using learning media independently. Thus, 3D monopoly learning media can be used as an alternative or solution to learning media on the material of environmental influences on the types of livelihoods of the population.

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