Development of Diversity Monopoly Game Smart Board Learning Media to Improve IPAS Learning Outcomes of Grade IV Elementary School Students

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Abstract: Based on the results of the pre-research, the problem was the lack of use of learning media at SDN Sembaturagung 02 which affected the low learning outcomes of students. This study aims to develop, test the feasibility, and effectiveness of the Diversity Monopoly Game Smart Board. This study uses a Research and Development (R&D) approach that refers to the Borg and Gall model. The population in this study was 35 students with 10 small-scale subjects from class IV SDN Sembaturagung 01 and 25 large-scale subjects from class IV SDN Sembaturagung 02. The data collection techniques used were tests (pretest-posttest) and non-tests in the form of observations, questionnaires, interviews, and documentation data. The validation results by media and material expert validators showed that the Diversity Monopoly Game Smart Board met the criteria of being very feasible with a percentage of 90% from media experts and 88.75% from material experts. Based on the results of the pretest-posttest, it is known that the Diversity Monopoly Game Smart Board is quite effective in improving student learning outcomes, indicated by an average increase of 31.68 with an N-Gain test result of 0.6640 which is in the moderate and quite effective category. The responses of teachers and students were very positive with an average percentage of 92% indicating practicality. It can be concluded that the Diversity Monopoly Game Smart Board is feasible, practical, and quite effective in improving the learning outcomes of IPAS subjects on cultural diversity and local wisdom.

Keywords: Diversity monopoly game smart board; IPAS; Learning outcomes

Introduction

IPAS is one of the subjects studied in elementary schools in the independent curriculum. The independent curriculum is a curriculum that is implemented as a refinement of the 2013 curriculum which was the previously implemented curriculum. The independent curriculum is more flexible, flexible, and not rigid. The independent curriculum tends to focus more on the process than the results. This independent curriculum aims to create a pleasant learning atmosphere for teachers, students, and parents (Al-Zu'bi et al., 2024). In the context of the Independent Curriculum, the Science Subject refers to the Integration between Natural Sciences and Social Sciences. IPAS is an acronym for Natural and Social Sciences. This subject aims to integrate the concepts of natural science (IPA) and social science (IPS) so that students can understand the relationship between natural phenomena and social aspects in everyday life. IPAS is one of the impacts of the implementation of the independent curriculum in elementary schools. The combination of the two aims to

make students more holistic in understanding the environment. In this way, students will be able to manage the natural and social environment simultaneously (Otto & Pensini, 2017).

By combining science and social studies subjects into IPAS, the objectives of IPAS learning are as follows: MI/SD students have the ability to see the situation as a whole; they have the ability to develop holistic thinking about the social and natural environment; and improve the profile of Pancasila students. However, in practice, there are still problems at the elementary school level, especially in IPAS learning on the material of Indonesian cultural diversity, where the material is difficult for students to understand so that learning becomes less effective (Hutami et al., 2023). This problem arises due to the lack of application of innovative learning models. In addition, this problem also arises because the use of learning media in IPAS learning is not optimal, so it affects student learning outcomes (Rahman et al., 2022). In addition, another problem that arises is the difficulty of students in memorizing the complex, complicated and less interesting material on Indonesian Cultural Diversity (Putra, 2020). Therefore, efforts need to be made to increase students' interest and understanding of the IPAS studies content of the social studies subject (Azis, 2023).

The researcher also identified the above problems in class IV of SDN Sembaturagung 02, Pati Regency. Based on observations and interviews, the researcher found problems in IPAS learning, namely the limited use of media which caused a lack of student motivation in maximizing their learning outcomes. The learning media used for IPAS learning are only in the form of pictures, Youtube videos, and concrete objects from the surrounding environment. In addition, teachers have not used a less innovative learning model. These various problems have an impact on student learning outcomes in social studies. There are several students whose scores have not reached the KKTP set in social studies learning. The recapitulation of student grade data at SDN Sembaturagung 02 revealed that out of 25 students, 20 students (80%) did not meet the KKTP, while 5 students (20%) met the KKTP, which was set at 70. Developing a learning media is a solution to the above problems. Learning media can be interesting, create meaningful learning experiences, activate, and please children (Aura et al., 2021). The use of appropriate and enjoyable media can improve student performance and motivation in learning.

The importance of learning media requires teachers to be more innovative in using it to achieve learning goals (Febriyandani & Kowiyah, 2021). Interesting game-based learning media is one type of effective learning media that increases children's interest and learning outcomes. This is supported by previous research showing that monopoly game media can make learning fun while improving student learning outcomes.In addition, other studies explain several roles and benefits of educational games, namely, being able to increase learning motivation, learning outcomes, student activity, and creating a pleasant learning environment. In accordance with the characteristics of elementary school students who like to play, the learning process can be carried out through a game, so that it can help students absorb the information that has been conveyed. Through game media, students will be able to think critically, arouse curiosity, like to group together and like to ask questions.

Digital game-based learning has been identified as a potential pedagogical approach to enhance learning in the digital era where the learning process using digital games shows positive empirical results and a major influence in terms of intrinsic motivation, game features, and the overall learning experience (Ishak et al., 2023). Therefore, to increase the effectiveness of the media, teachers must be able to combine games to make learning interesting and fun. One of the creative and innovative game-based media that has been developed by the author is the "Diversity Monopoly Game Smart Board". Digitalization in this game can be seen in the use of barcodes containing materials that can be accessed with smartphones. This Diversity Monopoly Game Smart Board learning media presents various ideas about the diversity of Indonesian tribes and cultures, such as traditional houses, traditional weapons, traditional clothing, and traditional dances. With the diversity monopoly learning media, students can play while learning, which makes learning more effective and fun compared to previous learning where teachers only taught with posters or pictures.

Students find it easier to obtain information and are motivated to learn if learning media in the form of games are used (Haloho et al., 2023). Other studies explain that the use of game-based media can foster positive and enthusiastic responses to learning because it can help them learn independently. Student learning outcomes can be improved through the use of game learning media (Jamalludin et al., 2023). The results of field trials from other studies show that the use of game-based learning media can help and improve the knowledge and skills of children with special needs ADHD. Field trials also show that game-based learning media can produce effective learning and motivate students to learn (Agustini et al., 2020). Previous studies found that the use of monopoly game media can affect the learning outcomes of Hindu Buddhist material before and after using the media, so it is said to be effective for use in

science learning. In addition, other studies have shown that monopoly media can increase student motivation and learning outcomes (Anggraini & Kristin, 2022). In addition, monopoly game media is stated to be very effective for use in learning IPAS on the material of the function of animal and plant body parts. Then, monopoly media is considered to have a positive effect on the ability to understand social studies learning outcomes. Other studies explain that educational game media that can be played in groups or multiplayer builds good relationships between students and teachers and between students and each other. In addition, it is also able to create an educational experience that is more engaging and prepares students (Coleman & Money, 2020). Alternative media such as games will combine education with challenges and entertainment. Thus, learning becomes fun, more comfortable, and more efficient (Gounaridou et al., 2021). Monopoly media is able to foster new desires and interests in learning and motivate students to play while learning (Dwivedi et al., 2022). Therefore, playing while learning will make learning more fun and learning activities more interesting.

As a result, this monopoly media can improve students' understanding and learning outcomes (Hermawati et al., 2024). Ideal education is student-centered and provides equal access for all students, and supports their social, emotional, and moral development. In addition, ideal education utilizes 21st-century technology and skills to create a safe and comfortable learning environment for students. This statement is in accordance with Permendikbudristek No. 16 of 2022 concerning Process Standards stating that student-focused learning is very important to maximize student potential, as well as the use of technology in learning to increase the accessibility and effectiveness of education. However, in reality, to achieve ideal education, it is often faced with various problems for both teachers and students. Among them, one of the causes of low achievement of student competencies and learning outcomes is a teacher-centered learning approach that does not actively involve students. This approach causes students to tend to be passive, less motivated, and easily bored, thus hindering their learning experience (Imsa-ard, 2024).

Therefore, it is necessary to implement a student-centered learning model and encourage the participation of all students. An example is the JIGSAW type Cooperative learning model applied by the author and combined with monopoly game media. In another study, it was mentioned about several advantages of implementing the JIGSAW model, namely, the first is proven to be able to improve student grades; second, it is able to increase the activity or activeness of teachers

and students, third, its implementation received a very good response from students (Cansiz & Cansiz, 2022). The results of another study also showed that using the JIGSAW model improved student learning outcomes in class V SDN 1 Gemiring Kidul. In the cycle, student learning outcomes were 41.37% of 29 students. Learning outcomes in cycle I were 44.82% with 16 students achieving completion. Learning outcomes in cycle II were 79.31% with 23 students achieving completion (Fauzi et al., 2023). Based on the background above, the researcher conducted a study by developing a game-based learning media in the form of a Diversity Monopoly Game Smart Board to improve the IPAS Learning Outcomes of Grade IV Elementary School Students. The purpose of this research and development is to develop a product, test the feasibility, practicality, and effectiveness of the product being developed.

The development of the Diversity Monopoly Game Smart Board was designed using the Canva application. The researcher developed 5 monopoly boards, namely the Java Island monopoly; Sumatra Island; Kalimantan Island; Sulawesi Island, Bali, NTT, and NTB; and Maluku and Papua Islands. Each game board is packaged in a chessboard equipped with various components in the form of cards (learning, challenges, and ownership), pawns, guidebooks, and appreciation cards. The learning card contains material that can be accessed via barcode scanning. The challenge card contains questions. And the ownership card contains a sign of ownership of the cultural box. The development of the Diversity Monopoly Game Smart Board can make it easier for students to understand the IPAS subjects of the social studies content of Cultural Diversity and Local Wisdom.

Method

The type of research used in this study is Research and Development (R&D) which aims to produce Diversity Monopoly Game Smart Board learning media to Improve IPAS Learning Outcomes of Grade IV Elementary School Students. In the research and development of the Diversity Monopoly Game Smart Board media, the researcher refers to the Borg and Gall Model which consists of 10 steps, namely: potential and problems; data collection; product design; design validation; design revision; product trial; product revision; usage trial; product revision; mass production (Sugiyono, 2016). Due to time and cost constraints, the research and development of the Diversity Monopoly Game Smart Board media is limited to step 8, namely the Usage trial. The research scheme is depicted in Figure 1.

The potential and problem stage is intended for researchers to find out the obstacles and problems that

occur in the field by conducting interviews, observations, and documentation of the learning outcomes of grade IV students of SDN Sembaturagung 02. The next stage is to collect data and information as a guideline for developing the Diversity Monopoly Game Smart Board media product. The media needs questionnaire was distributed to teachers and students to identify the problems found. The data and information obtained were then analyzed to plan the product to be developed. The next stage is product design where researchers design products according to the problems found in the field. Researchers develop the Diversity Monopoly Game Smart Board media design based on data analysis from teacher and student needs questionnaires.
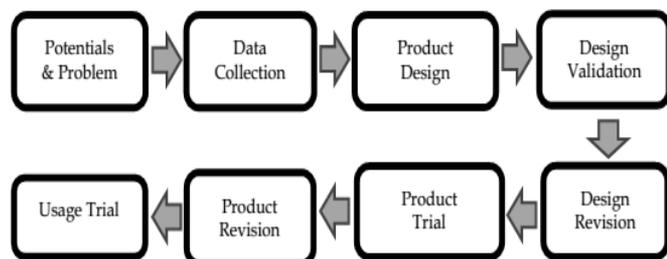

Figure 1. Modified from the Borg and Gall model

The material and product design are adjusted to the learning achievement (CP) and learning objectives to be achieved, namely students can analyze cultural diversity through the Diversity Monopoly Game Smart Board media. After the product is made, the next stage is design validation carried out by validators who are media experts and material experts. After that, the researchers revised the media according to the suggestions given by the expert validator. The next stage is testing the results of the product revision on a small scale. The small group trial stage with the Diversity Monopoly Game Smart Board media was carried out at SDN Sembaturagung 01 by taking a sample of 10 students. The sample selection was carried out using a purposive sampling technique which was chosen based on the criteria for students' cognitive differences. In the small-scale trial stage, students took a pretest before the learning activity began, then carried out learning activities using the prepared product, and took a posttest after the learning activity was completed. After the learning activity was completed, teachers and students were asked to fill out a questionnaire regarding the use of the Diversity Monopoly Game Smart Board learning media.

The results of the responses were then analyzed and used as evaluation and revision materials in a large-scale trial. After that, the media revision and learning implementation stages were carried out. In the final stage, product usage trials are carried out on a large scale

or group. The product trial was carried out in class IV of SDN Sembaturagung 02 with a total of 27 students. In the large-scale trial stage, students took a pretest before the learning activity began, then carried out learning activities using the prepared product, and took a posttest after the learning activity was completed. After completing the learning, teachers and students were guided to fill out a response questionnaire on the use of the Diversity Monopoly Game Smart Board learning media.

The results of the pretest and posttest were then analyzed to determine the effectiveness of the product developed based on student learning outcomes. The results of the pretest and posttest were then analyzed using the SPSS 22 application to determine the effectiveness of the product. In addition, the results of the response questionnaire must also be analyzed to determine the level of practicality of the product that has been developed. The types of data used in this study are quantitative and qualitative data. Qualitative data in this study were obtained from the results of observations, interviews, and questionnaires conducted at SDN Sembaturagung 02. Quantitative data in this study were obtained from the learning outcomes of grade IV students of SDN Sembaturagung 02 in the subject of IPAS and from the pretest and posttest assessments conducted. Data collection techniques in this research and development use test and non-test techniques. The test technique consists of 25 multiple-choice pretest and posttest questions, while the non-test technique includes observation results, interview results, questionnaires, and document data.

The 25 questions used for the pretest and posttest are selected questions that have met the criteria after the implementation of the trial questions carried out in class V SDN Sembaturagung 02 with a total of 29 students. The questions used in the trial questions amounted to 50 questions. After analyzing the validity of the questions, the reliability of the questions, the level of difficulty of the questions, and the discrimination power of the questions using excel, the questions that meet the criteria for use in the pretest and posttest are 25 questions. To determine the feasibility of the product, product validation was carried out by material experts and media experts using a Likert scale. To determine the practicality of the product, a questionnaire of teacher and student responses was used after using the developed product. To determine the effectiveness of the product, data analysis was carried out using the n-gain test based on the pretest and posttest scores of students on a large scale.

Result and Discussion

Potential and Problems

At the potential and problems stage, the researcher used data from interviews, observations, and documentation to obtain information about the potential and problems at SDN Sembaturagung 02. Interviews and observations were conducted with Mrs. Pantini, S.Pd. as a grade IV teacher. Based on these activities, several problems were found in SDM Sembaturagung 02, namely the lack of use of media in learning. In addition, many grade IV students' learning outcomes have not met the Learning Objectives Achievement criteria (KKTP) in the subject of IPAS. Of the 25 students, 20 students (80%) have not met the KKTP in the subject of IPAS, while only 5 students (20%) have met the KKTP. In addition, students also have difficulty in understanding the material on cultural diversity and local wisdom because the scope of the material is quite broad.

Data Collection

In the second stage, the researcher collected data that was used as a reference for developing the Diversity Monopoly Game Smart Board media product. The questionnaire distributed showed that teachers and students needed media that increased student motivation and learning outcomes. The result There is no more innovative and interesting media for students that will encourage them to learn this material that requires a lot of memorization. This causes students to have difficulty understanding the material and lack motivation in learning activities, Teachers strongly agree if researchers develop this Diversity Monopoly Game Smart Board media, in order to increase students' interest and attraction to learn this material and will have an impact on improving student learning outcomes.

Product Design

At the product design stage, researchers analyze the needs of teachers and students and compile a draft of the Diversity Monopoly Game Smart Board media product. The Diversity Monopoly Game Smart Board is designed according to the learning achievements and objectives to be achieved in the IPAS subject of Cultural Diversity and Local Wisdom. The Diversity Monopoly Game Smart Board is designed with a game concept that contains components in the form of a monopoly game board, learning cards, challenge cards, cultural property cards, guidebooks, pawns, dice, etc. The Diversity Monopoly Game Smart Board contains text and animated images that are in accordance with the characteristics of students so that they are easy for them to understand. The Diversity Monopoly Game Smart Board is made by preparing materials and designing through the Canva application. Materials that need to be prepared include pawns, dice, houses and media packaging. For components that need to be designed with Canva include game boards and cards. After being designed with the Canva application, they will be printed into concrete forms. For the game board, it will be printed with a glossy sticker measuring 36 x 36 cm. While for learning cards, challenges, and cultural property rights are printed with 5 x 7 cm Art Cartoon paper. And for the guidebook, it is printed with thick HVS paper measuring A5. In the end, the game board will be presented on a chess board. The chess board here is repurposed as packaging for the Diversity Monopoly Game Smart Board.

Game Board

Researchers developed 5 monopoly game boards, namely the Java Island monopoly board; Kalimantan Island; Sumatra Island; Maluku & Papua Island; and Sulawesi Island, NTT, NTB, and Bali. This Monopoly Board will be played by each group. Researchers grouped students into 5 groups. This board is designed with a size of 36 x 36 cm. The monopoly board is printed with Glossy sticker paper. After printing, the sticker will be attached to the chess board. This chess board is used as a board and packaging in the Diversity Monopoly Game Smart Board media. Inside the monopoly board there are several boxes consisting of cultural diversity boxes, learning boxes, challenge boxes, etc.

Figure 2. Java island board

Figure 3. Kalimantan island board

Figure 4. Sumatra island board

Figure 5. Sulawesi, NTT, NTB, and Bali island boards

Figure 6. Maluku and Papua Island Board

Learning Cards

Learning cards are components that contain materials on the diversity of Indonesian culture. Learning cards are presented in the form of barcodes where students can access the material by scanning the barcode on the learning card. This learning card can be obtained when the player stops at the learning box. This learning card is designed in yellow and printed on 5 x 7 cm art cartoon paper.

Figure 7. Learning card

Challenge Card

The challenge card is a component that contains questions related to the form of Indonesian cultural diversity. The challenge card is presented in the form of questions that players will get when they stop at the challenge box. The challenge card is designed in green and printed on 5 x 7 cm art cartoon paper.

Figure 8. Challenge card

Ownership Card

This Ownership Card is a component that will be used as a sign of ownership if the player successfully answers the name of the culture presented in the cultural box where their pawn stops. When stopping at a cultural box, the player can look for the answer to the name of the culture on this ownership card.

Figure 9. Ownership card

Dice, Pawns, Houses

Each game board will be equipped with 2 dice, a bucket, 5 pawns, and a house. The dice are used to determine the number of moves a player must play. The two dice are shaken together using a bucket. The pawns are used as pieces, and the house is used as a marker for the cultural squares that have been successfully answered.

Figure 10. Dice, pawns, and houses

Appreciation Card

Appreciation cards are cards that will be given to players who can answer questions in the challenge cards. Each player competes to collect appreciation cards to get rewards from the teacher.

Figure 11. Appreciation card

Guidebook

This manual is a component that contains instructions for using the Diversity Monopoly Game Smart Board media. This manual contains the preparation and steps of the game. This manual is printed on A5 paper with thick HVS.

Figure 12. Guide book

Validation of Diversity Monopoly Game Smart Board Media Design

The learning media that has been developed will be validated to test the feasibility of the product. Validation is carried out by expert validators of material and media, namely lecturers of the Elementary School Teacher Education Study Program, Faculty of Education, Semarang State University. After the product is developed, the researcher will revise the developed product according to the suggestions given by the expert validator.

Table 1. Results of the Diversity Monopoly Game Smart Board Expert Validator Assessment

Feasibility Aspect	Validation Index(%)	Information
Media	90	Very Valid
Material	88.75	Very Valid

Table 1 shows that the validation results given by the validator are very valid and fall into the very feasible criteria. The Diversity Monopoly Game Smart Board is declared valid in terms of media suitability, design aspects, media usage aspects, and overall excellence aspects and is ready to be tested. This is in accordance with other studies which show that the validation results of the Development of Monopoly-Based Social Studies Learning Media from media experts obtained a score of 89.97%, and from material experts obtained a score of 87.5% (Pratama et al., 2024). These results indicate that the monopoly game media is feasible and can be used as an alternative media in the IPAS studies learning process in Elementary Schools. The results of other studies state that the validation results of the development of monopoly media in the material on the Functions of Animal and Plant Body Parts in the Classroom for Grade 4 Elementary School Students from media experts obtained a score of 77%, from media experts obtained a score of 97% where for media validation it got a feasible category and material validation got a very feasible category (Rahmadani et al., 2023).

Another study stated that the validation results of monopoly media based on culturally responsive learning obtained very valid criteria, from media experts it got a percentage of 95% and from material experts it got a percentage of 90%. So the media developed can be tested (Anjaswuri et al., 2023). According to another study, monopoly game-based learning media is effective and feasible to be used as a learning medium. The media validation results reached 93% and material validation reached 94% (Ardhani et al., 2021). In addition, previous research on monopoly development showed that material validation had a score of 91.7% and media validation had a score of 90.6%, both of which are in the very feasible category (Ansyorie et al., 2022). The results of previous studies stated that the level of eligibility of game application learning media according to material experts was categorized as valid with a score of 86, media experts were categorized as very valid with a score of 91, and language experts were also categorized as valid with a score of 83.

Overall, the results of the study showed that the level of eligibility of game application learning media was categorized as valid with a score of 86.7 (Zainuddin et al., 2022). According to other studies, the validation of material experts obtained a score of 82.7% and the validation of media experts obtained a score of 80.2%, each of which was in the feasible category (Haeruman et al., 2022). Other studies show that the Augmented Reality-Based Monopoly Game media obtained a percentage of 87.37% from media experts, and 86.58% from subject matter experts so that it is very suitable for use as a practical medium in learning the concept of Physics Magnetism (Permana & Nugroho, 2023).

Design Revision

The product that has been developed must be revised according to the suggestions given by the material expert and media expert. The suggestions given by the material expert are in the form of adding local wisdom or culture in the Pati area. Meanwhile, the media expert said that the media had met the criteria set so that no revision was needed. Based on the validation results by the media expert lecturer, the Monopoly Diversity Game Smart Board media had met all aspects of the validation that were tested. Therefore, at the design revision stage, no changes or improvements were made. From the results of the media expert validation, the media obtained an average score of 90% in the 'Very Eligible' category. However, because there were no suggestions for improvement from the media expert, the media was still used as the initial design without any revisions in the trial.

Diversity Monopoly Game Smart Board Media Product Trial

The product trial was carried out twice, namely a small-scale trial and a large-scale trial. The product trial in the form of the Diversity Monopoly Game Smart Board media was implemented with a combination of the JIGSAW Type Cooperative learning model. This JIGSAW type learning model is suitable for application in learning with group game media and can improve social studies learning outcomes in the material of Social, Cultural, Economic, Ethnic, and Religious Diversity (Sulhan, 2020). In the game, first students will be divided into 5 groups where each group will play one monopoly board according to the island obtained from the draw. Before playing the game, the researcher distributed LKPD in the form of a cultural diversity table to each group. LKPD can be filled in during the game process. First, each group must complete the LKPD according to

the island they are playing. The group that completes the LKPD the fastest will be the winner. After all groups have successfully completed the LKPD Cultural Table according to the island they are playing, the group leader divides its members into expert groups. Each group divides its members into traditional house experts, traditional clothing experts, traditional dance experts, and traditional weapons experts. After that, the expert members from each group join together according to their respective job descriptions. Each member must explore other cultural information from this discussion activity, the results of which will be written in the LKPD.

After that, the expert group members will return to their original groups and share information with their friends. In a small-scale trial, 10 students from grade IV of SDN Sembaturagung 01 were selected based on their ability levels, namely 3 students with the highest scores, 4 students with medium scores, and 3 students with the lowest scores. After the learning activities with the developed product are completed, teachers and students will be given a response questionnaire with a Likert scale that must be filled in based on observations of the application of the product that has been developed by the researcher. The response questionnaire distributed to teachers and students to test the feasibility of the product has 4 assessment aspects, namely the material aspect, the language aspect, the media design aspect, and the usage aspect. The assessment criteria for the response questionnaire are: 76%-100% with very positive criteria; 51%-75% with positive criteria; 26%-50% with negative criteria; 0%-25% with very negative criteria. To calculate the percentage of responses to the questionnaire responses are as follows:

$$NP = \frac{R}{SM} \times 100\% \qquad (1)$$

Table 2. Result of Teacher and Student Responses on a Small Scale

Respondent	Assessment(%)	Information
Teacher	88.75	Very Positive
Student	91	Very Positive

Table 2 shows that the developed product received a very positive response in the small-scale trial because it scored above 75%. The Diversity Monopoly Game Smart Board learning media was declared practical overall both in terms of material and media quality and ready to be used in learning. There were only notes regarding improvements in learning time management.

Table 3. Results of Teacher and Student Responses on a Large Scale

Respondent	Assessment(%)	Information
Teacher	92.60	Very Positive
Student	95	Very Positive

Table 3 shows that the developed product received a very positive response in the large-scale usage trial because it scored above 75%. Overall, the Diversity Monopoly Game Smart Board media was declared practical both in terms of material content and media quality and was ready to be used in learning. This is in line with research conducted by Alfauziah Rahmadani, et al., which explained that the monopoly game media developed received a positive response from students, making the learning atmosphere fun, students were enthusiastic about participating in learning and became more active. Research conducted by Nurhayati et al. (2022). also explained that the product developed, namely socio-cultural monopoly (Mosida), obtained an average score of 84.2% which can be said to be very positive and in the very practical category. Add supporting research (Janah et al., 2023). Other studies state that monopoly game media get student response results in small group trials of 85% (Istiningsih et al., 2021). Previous research shows that Smart Monopoly (MONCER) media produces positive responses from students, with a response percentage of 91.94%. MONCER media is practical to be a tool that is worthy of use and effective in increasing students' interest and desire to learn (Rahayuningsih et al., 2024). Another study stated that the development of monopoly media resulted in a teacher response with a percentage of 100% and students also had a positive attitude towards this media with a percentage of 82.17%. Teachers and students agreed that monopoly media based on culturally responsive learning on ecosystem material was valid and worthy of use. Another study explained that the Augmented Reality-Based Monopoly Game media obtained a percentage of 87.37% from media experts, and 86.58% from subject matter experts.

Effectiveness of Diversity Monopoly Game Smart Board Media

A large-scale trial was conducted to determine the effectiveness of using Diversity Monopoly Game Smart Board learning media in the subject of IPAS on Cultural Diversity and Local Wisdom based on student learning outcomes. The research design used was a one-group pretest-posttest design which included a pretest before treatment and a posttest after treatment.

Table 4. Results of Large-Scale Student Pretest and Posttest

Test Type	Average	Average Difference
Pretest	51.04	
Posttest	82.72	31.68

Table 4 shows that the average student learning outcomes showed an increase of 31.68 in the large-scale trial. From these data, it shows that there is a difference in learning outcomes before and after using the Diversity Monopoly Game Smart Board learning media in the IPAS subject of Cultural Diversity and Local Wisdom. To determine the criteria for increasing the average pretest and posttest, an N-Gain test was carried out by comparing the difference in SMI (Ideal Maximum Score) and pretest. The next data analysis is a normality test to determine changes in IPAS learning outcomes. Before the main analysis is carried out, a normality test is first carried out to assess whether the data is normally distributed. The decision is based on the significance value: if the significance value is <0.05 then the data is not normally distributed; if the significance value is >0.05 then the data is normally distributed. The results of this normality test are summarized in table 5.

Table 5. Results of Data Normality Test

Normality Test			Shapiro-Wilk
	Statistics	Df	Sig.
Pretest	0.955	25	0.325
Postest	0.958	25	0.370

Based on table 5, it shows that the pretest and posttest data have a significance value of > 0.05 so that the data is normally distributed and can be calculated using parametric statistics. This is supported by other studies which state that the results of the normality test of the study using monopoly media obtained a significance (Sig) of 0.086 > 0.05, thus the distribution of the pretest and posttest normality tests was normally distributed (Kamelia & Wulandari, 2024). The next test carried out was the Paired Sample T-test. The decision in this test is based on the significance value (2-tailed). If the significance value is <0.05, then there is a significant difference in the average learning outcomes of grade V students between the pretest and posttest. Conversely, if the significance value is > 0.05, then there is no significant difference in the average learning outcomes. Furthermore, because the data is normally distributed, the data will be analyzed using a paired sample test which can be seen in table 6.

Table 6. Paired Sample Test Results (T-Test)

Paired Sample Test			
	T-Statistic	Df	Sig.(2-Tailed)
Pretest	-20.48	24	0.000
Postest		24	

Based on the results of the analysis in table 6, the data shows a significance value (2-tailed) of 0.000 <0.05, so it can be concluded that there is a significant difference between the pretest and posttest values with the use of the Diversity Monopoly Game Smart Board media. Previous research has shown that there is a significant effect of the use of monopoly game learning media on the learning outcomes of students in IPAS subject of Indonesian cultural wealth material for grade IV, this is evidenced by the results of the paired sample t-test with sig. (2-tailed) which is 0.000 and tcount> ttable which is 7.379> 2.120 (0.05/2) so that H0 is rejected and Ha is accepted (Devi et al., 2023). In addition, this is also proven through the average increase test (N-gain) by comparing the increase in pretest and posttest results calculated using the N-gain index analysis in table 7.

Table 7. Average N-Gain Test Results

Average Difference	N-Gain	Information
31.68	0.66	Medium

Based on table 7, the average difference of 31.68 in the large-scale product trial shows that the grades of fourth-grade students of SDN Sembaturagung 02 experienced an average increase of 0.6640 with a percentage of 66.40% which is included in the moderate and quite effective criteria. The increase in learning outcomes is still in the moderate category because it is known that not only media can influence learning outcomes, but different student characteristics, fairly complex materials, and lack of time result in the increase in learning outcomes not being able to reach the high category. However, the average increase has shown that the use of the Diversity Monopoly Game Smart Board media in learning the material on Cultural Diversity and Local Wisdom in the IPAS for grade IV students of SDN Sembaturagung 02 has been effective in improving their learning outcomes. This finding is in line with other studies showing that the development of Mobuya (Culture-Based Monopoly) learning media can attract students' attention and improve their learning outcomes on cultural diversity material (Syamsijulianto, 2020).

In addition, the development of the ASEAN Monopoly Game Learning media has succeeded in improving student learning outcomes (Mahesti & Koeswanti, 2021). Furthermore, other studies have shown that the application of monopoly game-based media can improve student learning achievement. Then there is another study that states that monopoly game

media can cause changes and create successful learning activities and learning outcomes. The study found that students experienced an increase in learning outcomes of 80% or more and student learning outcomes scored ≥. Furthermore, previous studies have shown that the use of monopoly learning media can increase students' desire to learn. With monopoly, students can play and learn at the same time, which encourages them to win the game by understanding all the material in the Learning media (Kurniawati, 2021). Other studies state that learning using monopoly can help attract children's interest in learning so that it has an impact on improving student learning outcomes.

Previous studies also show that contextual learning models using monopoly media can improve students' social studies learning outcomes because they allow students to develop and discover their own knowledge. The results show that learning models and media are very helpful in learning, with an N-gain Score of 61 indicating a "quite effective" category (Radya et al., 2023). In another study, the pretest-posttest results showed that monopoly learning media improved learning outcomes, as indicated by an increase in the average pretest score from 54.67 to 80.33 at the time of the posttest, and an N-Gain test value of 0.58, indicating a moderate classification. Then another study stated that based on field trials, the developed product could increase students' learning motivation from an average score of 3.19 which was in the "sufficient" category to 4.39 which was in the "very high" category.

In addition, there is another study stating that the Effectiveness Test showed an average pretest score of 57.62 and a post-test score of 81.18. Using the Paired Sample T-Test, the calculated t value for student learning outcomes in both the pretest and posttest was -23.104, accompanied by a significant probability of Sig. (2-tailed) 0.000, which is less than the threshold of 0.05. These results indicate the rejection of the null hypothesis (H0). This implies that there is a substantial impact resulting from the use of educational game media on student learning outcomes (Amran, 2023). Other studies state that the application of the Teams Game Tournament type cooperative model with the help of monopoly game media has increased significantly. With an average value obtained at the pre-cycle stage of 16.67%, the first cycle stage of 86.11%, and at the second cycle stage of 88.89% (Fardani, 2023).

Conclusion

Based on the results of the research conducted, it can be concluded that the Diversity Monopoly Game Smart Board learning media can improve the learning outcomes of fourth grade students of SDN Sembaturagung 02 in the subject of IPAS, especially in the material of cultural diversity and local wisdom. This is evidenced by the results of the product validation assessment obtained by media experts of 90% with the category of "very feasible" and by material experts of 88.75% with the category of "very feasible". The responses given by teachers and students showed a very positive response. The results of the pretest and posttest scores increased with an average difference of 31.68 and the N-gain of 0.66 included in the moderate criteria with a percentage of 66.40% with a fairly effective interpretation. The increase in learning outcomes is still in the moderate category even though the results of the media validation received a very feasible category and the responses of teachers and students were very positive because it is known that not only media can affect learning outcomes, but also different student characteristics, fairly complex materials, and lack of time have resulted in the increase in learning outcomes not being able to reach the high category. This shows that the Diversity Monopoly Game Smart Board learning media is quite effective in improving student learning outcomes in the subject of IPAS, especially in the material on Cultural Diversity and Local Wisdom.

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