

DEVELOPMENT OF EDUCATIONAL POSTERS BASED ON THE CONCEPT OF GAMIFICATION AS AN INTERACTIVE LEARNING MEDIA ON SCIENCE MATERIAL FOR CLASS VI PRIMARY SCHOOL

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Abstract. This research aims to (1) produce educational posters based on the concept of gamification as an interactive learning medium for science material that are valid and practical, and (2) test the effectiveness of educational posters based on the concept of gamification as an interactive learning medium for science material. The research subjects were media and materials experts, 56 class VI students at SD Negeri 4 Ungasan and 2 teachers. Collection methods include questionnaires and tests, research instruments in the form of validity questionnaire sheets, practicality questionnaire sheets, and science learning outcomes tests. Data analysis uses percentage calculations and one sample t test. The research results show that (1) The validity of educational posters based on the concept of gamification as an interactive learning medium regarding science material through material experts is 90.7% very valid and the validity of media experts is 95% very valid. (2) Educational Posters Based on Gamification Concepts as Interactive Learning Media on Science Material by 97.3% of teachers and 100% of students are very practical and suitable for use (3) Educational Posters Based on Gamification Concepts as Interactive Learning Media in Science Learning are effective in increasing the average Science learning outcomes at SD Negeri 4 Ungasan.

Keywords: Posters, learning media, science

I. INTRODUCTION

Humans and education cannot be separated, because education is the key to the future of humans who are equipped with reason and thought. Education has an important role in ensuring the development and survival of a nation because education is a vehicle for improving and developing the quality of human resources (Kamardana et al., 2021). Good education is the basis of a nation's progress. Through education, humans can improve the quality of their lives. Education is a forum for creating quality human resources (Kurniawati & Koeswanti, 2020). Education is also the key to building a dignified generation, namely a generation that is not only intellectually intelligent but also morally intelligent (Rohim & Rahmawati, 2020).

The implementation of an interesting learning system continues to be studied, this could be because each student has different abilities in receiving information and learning styles. Even basic information. So learning media tends to be needed during the teaching and learning process to facilitate the process of conveying information. Especially in Natural Science (IPA) subjects at the elementary school (SD) level.

Media is a tool that makes it easier for teachers to teach and convey knowledge to students so that they understand the concepts being taught more easily (Miftah, 2013). The

importance of media here is defined as developing students' visualization abilities to understand complex things into simple ones and difficult things into easy ones (Fatharani et al., 2022). He added that an important aspect of the biggest source of learning is technological media (Riegel & Mete, 2017). However, in Indonesia itself, the development of science and technology (IPTEK) is not spread evenly. Students also have different abilities in receiving good and correct information. Cost-effective learning media is an option for several areas that do not have adequate access to technology and increases student attention in the teaching and learning process to simplify the process of conveying information to students. One of these media is educational posters.

There is a need for alternative problem-solving. One learning media that is still rarely developed by teachers so that science learning becomes interactive is poster media. Elementary school-age children tend to prefer observing pictures, playing, and understanding what is in the pictures rather than reading subject books. Apart from that, there needs to be an interesting concept on the poster to increase students' understanding, such as including game elements to increase students' motivation in capturing interactive learning material. This concept is known as Gamification. This is proven in research by Sudana et al., (2021) that the use of learning

media with the concept of gamification can help explain abstract things and provide a realistic picture of the material to be taught as well as increase understanding and motivation for students to take part in science learning on the material. how animals reproduce.

Gamification is a program using game-based work patterns, aesthetics, and game thinking to engage other people, motivate action, promote learning, and solve problems (Kapp, 2012). Kapp (2012) further proposed one type of Gamification based on the game elements used, namely Content Gamification. Content gamification is the use of game elements and game thinking patterns in learning material, this aims to ensure that the presentation of learning material resembles a game display.

Based on the results of observations in January in class VI at SD No. 4 Ungasan, South Kuta, it is known that the school uses poster media during the face-to-face learning process as a supporting tool in the ongoing learning process. However, the poster media used by the school is still too simple or less attractive to students.

So researchers are interested in developing educational poster media, it is hoped that it can improve the cognitive abilities of pupils and students, for this reason, it is felt necessary to know the validity of the poster media used, whether it is good or not. With good media validity, it is hoped that this gamification-based educational poster media can become material. effective and efficient learning. Based on the background above, the researcher raised the title "Development of a Gamification-Based Educational Poster as an Interactive Learning Media on Grade VI Elementary School Science Material".

II. RESEARCH METHODS

This type of research is development research. The product produced is an educational poster based on the concept of gamification as an interactive learning medium regarding science material for grade VI elementary schools using the ADDIE model which consists of five steps as shown in the following chart. The ADDIE development model consists of five main steps, namely: (1) analysis, (2) design, (3) development, (4) implementation, and (5) evaluation (Wicaksana et al., 2019).

III. RESULTS AND DISCUSSION

The media validity testing stage is a stage that is carried out after gamification-based educational poster media in science learning for class VI elementary school. The purpose of this media validity test is to test the suitability of the educational poster media that has been developed both from the media aspect and the material aspect. The feasibility test (validity) of poster media from the learning media aspect was assessed by 2 experts, namely I Made Candiasa, and Prof. Dr. Ida Bagus Putrayasa, M.Pd. Meanwhile, the feasibility test for gamification-based educational posters based on material experts was assessed by Dr. I Made Citra Wibawa, S.Pd., M.Pd and Dr. I Gede Margunayasa, S.Pd., M.Pd. The

following are the results of validity (feasibility) from material experts and media experts



Figure 1. Results of Gamification-based Educational Poster Development.

(1) Poster Media Validity Test Results According to Media Experts

This media validity test uses an assessment on a scale of 1 to 5 with the criteria very poor (1), poor (2), sufficient (3), good (4), and very good (5). The results of media validity for the two experts are presented in Table 1.

Table 1. Results of the Validity of Poster Media among Media Experts

| No | Assessment Indicators | Assessment Items | Evaluation (Scale 1-5) | | Amount |
|----|-----------------------|-------------------------------------|------------------------|----------|--------|
| | | | Expert 1 | Expert 2 | |
| 1 | Design | 1. Background design | 5 | 5 | 10 |
| | | 2. Background attraction | 4 | 5 | 9 |
| | | 3. Clarity of images and animations | 5 | 5 | 10 |
| | | 4. Attract | 4 | 5 | 9 |

| | | | | | |
|---------------|------------|--|----|----|----|
| | | iveness of images and animations | | | |
| | | 5. Suitability of images and animations used | 5 | 5 | 10 |
| | | 6. Layout accuracy | 5 | 5 | 10 |
| | | 7. The colour composition is attractive and proportional | 5 | 5 | 10 |
| | | 8. Colour suitability to student characteristics | 4 | 5 | 9 |
| | | 9. Accurate use of icons and symbols | 4 | 5 | 9 |
| 2 | Typography | 10. Clarity of letters | 5 | 5 | 10 |
| | | 11. Appropriate font size | 4 | 5 | 9 |
| | | 12. Suitable font type | 4 | 5 | 9 |
| | | 13. Appropriate space size | 4 | 5 | 9 |
| | | 14. Variations in letter size | 5 | 5 | 10 |
| Amount | | | 63 | 70 | |

| Percentage | 90% | 100% |
|---|-----|------|
| Total Percentage Achievement Level | 95% | |

This result shows that the percentage of validity of poster media developed based on media expert assessments is 95%. The results of the validity percentage conversion according to Tegeh and Jampel (2014) prove that the percentage of 95% is in the "Very valid" category with the poster description suitable for use without revision. The results of this percentage state that the gamification-based educational poster product on animal breeding material for science learning in class VI elementary school is suitable for use.

(2) Poster Media Validity Test Results According to Material Experts

The poster validity test from material experts is carried out by providing an expert questionnaire sheet accompanied by a rating scale from 1 to 5 with score criteria, namely very poor (1), poor (2), sufficient (3), good (4), very good (5). The assessment indicators include 4 assessment indicators, namely (a) suitability of the material to KD and learning objectives; (b) accuracy of the material; (c) quality of explanation of material concepts; and (d) linguistics. The results of the validity assessment by material experts can be presented in Table 2.

Table 2. Results of the Validity of Poster Media among Material Experts.

| No | Assessment Indicators | Assessment Items | Evaluation (Scale 1-5) | | Amount |
|----|---|---|------------------------|----------|--------|
| | | | Expert 1 | Expert 2 | |
| 1 | Suitability of material to KD and learning objectives | 1. Material completeness | 4 | 4 | 8 |
| | | 2. Material freedom | 4 | 5 | 9 |
| | | 3. Depth of material | 5 | 5 | 10 |
| 2 | Material accuracy | 4. Accuracy of concepts and definitions | 5 | 4 | 9 |
| | | 5. Example accuracy | 5 | 4 | 9 |
| | | 6. Accuracy of images and illustrations | 5 | 4 | 9 |
| | | 7. Suitability of material with scientific developments | 5 | 5 | 10 |

| | | | | | |
|---|---|--|----|----|----|
| | | 8. Images and animation corresponds to everyday life | 4 | 3 | 7 |
| 3 | Quality of explanation of material concepts | 9. Ease of students' understanding of learning material | 5 | 5 | 10 |
| | | 10. Suitability of material descriptions to students' level of thinking | 5 | 4 | 9 |
| | | 11. The accuracy of the animation with the material | 5 | 4 | 9 |
| 4 | Language | 12. Appropriateness of language to the developmental level of sixth-grade elementary school children | 5 | 5 | 10 |
| | | 13. Use communicative language | 4 | 5 | 9 |
| | | 14. Use language that conforms to Indonesian rules | 4 | 5 | 9 |
| | | Amount | 65 | 62 | |
| Percentage | 92.85% | 88.55% | | | |
| Total Percentage Achievement Level | | 90.7% | | | |

Table 2 shows the results that the validity of the material experts from two experts on the resulting gamification-based

educational poster media received a percentage of 90.7%. The total percentage results, if converted according to the conversion table according to Tegeh and Jampel (2014), can be categorized in the "Very Valid" category with the statement suitable for use without revision. The results of the poster's validity percentage in the very valid category show that the product results in the form of educational posters about animal breeding in the science subject for class VI elementary school are suitable for use in learning activities.

(3) Results of Media Practicality in Gamification-Based Educational Poster Media in Science Learning

The practicality test is useful for determining the level of practicality of the educational poster media that has been developed. This practicality test was assisted by practitioners, namely 3 teachers and 5 students. The practicality test is obtained through the results of filling in the practicality questionnaire sheet with several assessment aspects, namely (a) attractiveness, (b) use; and (c) language. The results of this practicality test can be shown in Table 3.

Table 3. Teacher Practicality Test Results for the Poster Media that was developed

| No | Assessment Aspects | Assessment Items | Evaluation (Scale 1-5) | | | Amount |
|----|--------------------|--|------------------------|----------------|----------------|--------|
| | | | Practitioner 1 | Practitioner 2 | Practitioner 3 | |
| 1 | Attractiveness | 1. Media display | 5 | 5 | 5 | 15 |
| | | 2. Text type, size, font and colour | 5 | 5 | 5 | 15 |
| | | 3. Use of relevant animations and images | 4 | 4 | 5 | 13 |
| | | 4. Provide enthusiasm for | 5 | 5 | 5 | 15 |

| | | | | | | |
|---|--------------|---|--------|-----|------|----|
| | | learn ing | | | | |
| 2 | Use | 5. Posters are easy to use for learning | 5 | 5 | 5 | 15 |
| | | 6. Posters help understand the material | 4 | 5 | 5 | 14 |
| | Langu age | 7. Suitability of language to students | 5 | 5 | 5 | 15 |
| | | 8. Use of clear and precise language | 5 | 5 | 5 | 15 |
| | | 9. Accuracy in writing | 5 | 4 | 5 | 14 |
| | | 10. Sentence effectiveness | 5 | 5 | 5 | 15 |
| Amount | | | 48 | 48 | 50 | |
| Percentage | | | 96% | 96% | 100% | |
| Total Percentage Achievement Level | | | 97.33% | | | |

Table 3 prove that the practical value of the gamification-based educational poster media developed has been assessed as practical by 3 expert practitioners. This can be seen in the total percentage of achievement levels obtained in the practicality test by teachers who obtained a percentage score of 97.33%. Following the conversion table compiled, it can be classified that the practical value of poster media by teachers is in the "Very Practical" category. Therefore, it can be simply interpreted that the poster media developed is very practical for use in science learning for class VI elementary school

Apart from practical tests from teachers as practitioners, the results of practical tests from students can also be presented in Table 4.

Table 4. Results of Student Practicality Tests on the Poster Media that was developed

| No | Assesme nt Items | Rating (Scale 1-5) | | | | | Amo unt |
|----|--|--------------------|----|----|----|----|------------|
| | | S1 | S2 | S3 | S4 | S5 | |
| 1 | Attractiveness | | | | | | |
| | 1. Media display | 5 | 5 | 5 | 5 | 5 | 25 |
| | 2. Text type, size, font and colour | 5 | 5 | 5 | 5 | 5 | 25 |
| | 3. Use of relevant animations and images | 5 | 5 | 5 | 5 | 5 | 25 |
| | 4. Provide enthusiasm for learning | 5 | 5 | 5 | 5 | 5 | 25 |
| 2 | Use | | | | | | |
| | 5. Posters are easy to use for learning | 5 | 5 | 5 | 5 | 5 | 25 |
| | 6. Posters help understand | 5 | 5 | 5 | 5 | 5 | 25 |

| | | | | | | | |
|---|--|------|------|------|------|---|----|
| | the material | | | | | | |
| 3 | Language | | | | | | |
| | 7. Suitability of language to students | 5 | 5 | 5 | 5 | 5 | 25 |
| | 8. Use of clear and precise language | 5 | 5 | 5 | 5 | 5 | 25 |
| | 9. Accuracy in writing | 5 | 5 | 5 | 5 | 5 | 25 |
| | 10. Sentence effectiveness | 5 | 5 | 5 | 5 | 5 | 25 |
| Amount | 50 | 50 | 50 | 50 | 50 | | |
| Percentage | 100% | 100% | 100% | 100% | 100% | | |
| Total Percentage Achievement Level | 100% | | | | | | |

Table 4 shows that the practicality scores of 5 students regarding the gamification-based educational poster media developed obtained a percentage score of **100%**. Based on the conversion table compiled, it can be classified that students' practical value towards poster media is in the "Very Practical" category. So, it can be stated that this gamification-based animal breeding poster media is very practical for use in science learning for sixth-grade elementary school students

This research was carried out to determine the design, as well as the level of validity, practicality and effectiveness of gamification-based educational poster media in improving science learning outcomes for class VI students at SD Negeri 4 Ungasan. Based on the results of development using the ADDIE model, educational poster media products about animal breeding based on the gamification of "snakes and ladders" have been obtained which can be used in A1 print form or accessed in digital applications such as .pdf and .jpg. As a result of the design of this poster media, it can be stated that the design of this educational poster media has been designed based on the components contained in the poster such as the poster title, poster background, material information, image illustrations, gamification elements, interaction elements and conclusions/calls to action.

The process of creating poster media designs is carried out in the stages of analysis, design and development. At the analysis stage, it was found that class VI students at SD Negeri 4 Ungasan needed interesting teaching media to improve science learning outcomes. Based on this analysis, a poster media design was then developed. The development of this poster design was assisted by the Canva application, resulting in animal breeding educational poster media that contains interesting gamification elements.

After obtaining the design results, a feasibility test is carried out to determine whether or not the resulting product is suitable as a learning resource/media. The validity test results were obtained by giving questionnaires to 2 material experts and media experts. The results of the media validity test stated that the gamification-based educational poster product developed was suitable for use in the **very valid category**. These results can be seen in Table 4.2, where the 2 assessment indicators in the validity test obtained a total percentage of 95%. Based on the assessment of 2 media experts, the resulting poster is suitable for use without requiring further revision.

The level of validity of the media on educational posters was found to be very valid for several reasons. First, the components in the poster design are following the needs, development goals and characteristics of elementary school students. Judging from the design indicators, this gamification poster media is designed using an attractive, clear background and following the characteristics of sixth-grade elementary school students. Apart from that, the accurate layout of the material information and gamification elements on the poster can make it easier for students to understand the content of the material interestingly. Another thing that supports this poster media is the use of images accompanied by color composition which can attract students' motivation to learn about animal breeding. Meanwhile, judging from typography indicators, this poster media is made with letter elements, *font size*, and good use of spacing. Accurate use of typographic elements helps readers to read and understand the contents of the poster. This component makes the educational poster product considered valid and very feasible. This is following the opinion explained by Zaharah et al., (2017) that media, whether posters or other media, must use appropriate typographic design and arrangement.

Furthermore, the results of the material validity test stated that this gamification-based educational poster product **was very valid** and therefore suitable for use. These results are following Table 4.3 where from the 4 assessment indicators a total percentage of 90.7% is obtained. Based on the assessment of Material Expert 1, this poster product is suitable for use, however, in the assessment of Material Expert 2 there are several suggestions for improvements that are needed. In the results of the material expert 2 validity test, the suggestions for improvement included (a) improvements to the instruction sentences and use of words according to EYD; (b) improvements to the consistency of the explanation of the material contained on the poster; and (c) improvements to poster components such as adding developer identity,

learning objectives, and so on.

Even though in terms of material validity it still requires several suggested improvements, the results of the poster media product developed are still categorized as very valid and therefore suitable for use. The very valid results in this material test were because the material content developed on the poster was following the students' needs in the needs analysis carried out previously. The poster media produced follows the basic competencies and learning objectives in science development learning for class VI students at SD Negeri 4 Ungasan. This is following the opinion of Aspahani et al., (2020) that the material content in developing poster media must be presented following KD and learning objectives. The second reason for obtaining a very high level of validity of the material is because this poster media is based on gamification where the material is presented and deepened through the process of playing while learning. These results are in line with previous research that gamification-based learning media can increase students' interest in learning science material.

Apart from that, judging from the accuracy indicators of the material, it can be seen that the material contained on the poster uses material concepts appropriate to everyday life accompanied by illustrations and examples. Therefore, students can learn concepts easily through exposure to material and examples on the poster media provided. The very valid validity of the material can also indicate that the use of language in the material is very appropriate to the level of development of sixth-grade elementary school children and follows the correct Indonesian EYD rules. Ideal poster media needs to have material accuracy, a quality explanation of material concepts, and a good appearance of the material.

In simple terms, it can be concluded that the results of the validity of the material and media are very high because the poster developed meets the criteria for a good poster so it is suitable for use. The posters developed are designed to be simple, present material according to learning objectives, have attractive colours, use clear typography, and have varied designs. These findings follow the criteria for good and correct poster media according to Hess and Brook (1998) ideal poster media must meet the criteria of simple, colourful, clear ideas with a main purpose, innovation and variety in design.

In the results of the practicality test, the level of practicality was " **very practical** ", both from teacher practitioners and students. These results mean that poster media is very practical to use in the learning process, especially animal breeding material. This very high percentage of practicality value is contributed by the elements on the poster which make it easy to use. One of them is the use of interactive elements, namely QR codes on poster media. The QR code in this poster can connect students to the Quizziz application so that after studying the material on the poster, students can hone their understanding through the quizzes provided. Apart from quiz questions, the QR code also helps students connect to assignments provided by teachers on the Quizziz Platform. Then, based on the product format, this poster media can be used in print or digital form,

so teachers can choose a more practical way to use posters in classroom learning.

Several other reasons cause the level of practicality of media to be very practical, namely that it has advantages in the aspects of attraction, use and language used. In the poster media produced, teachers and students as a whole assessed that this gamification-based educational poster media had good appeal, was easy to use, and the language used was communicative so it was stated to have high practicality. One of the attractions that motivates students is the element of gamification in the poster media that has been created. Students not only learn the material through posters, but they can also practice understanding through the Snakes and Ladders game provided on the poster. This Snakes and Ladders game contains several questions so that in certain positions, students will be challenged to answer the questions listed in the box.

In simple terms, it can be interpreted that this gamification element helps increase practical value because it contains an attraction that motivates students. This statement follows the opinion of Hidayat et al., (2021) and Satrio and Rini (2022) that the concept of gamification is quite important in media development because it provides benefits, namely providing additional motivation and guaranteeing participants to participate in learning. In a development, practical value becomes important, with a high practical value it means that the media being developed can be used practically in learning.

Posters are a visual medium that is very useful for the learning process in the classroom. Educational poster media was developed by combining the visual use of colour with the information in question to increase the attention of passersby long enough to embed meaningful ideas in their memory. In this development research, the educational posters developed have used a combination of colours and presentation of material information that is appropriate to the learning objectives. This educational poster supported by the gamification concept has been implemented in class VI science learning at SD Negeri 4 Ungasan.

Based on the results of the effectiveness test, it can be stated that the use of gamification-based educational poster media in breeding material is effective in improving the science learning outcomes of class VI students at SD Negeri 4 Ungasan. These results can be observed in the analysis as evidenced by an increase in the average value of students' science learning outcomes before and after using poster media in their learning. The increase in students' science learning outcomes after using poster media was caused by several elements of educational posters which were useful for increasing students' understanding and motivating students to learn better. This is following Daryanto's (2016) theory which states that poster media is useful as an incentive and motivates students to be involved in the learning process.

Apart from that, the effectiveness of using the gamification-based poster media that was developed is very effective because implementing gamification-based educational poster media provides a more meaningful and

more creative experience so that learning does not seem classical or monotonous. This is following the findings of several studies which state that educational poster media is effective in improving student learning outcomes because poster media has advantages such as (a) attracting students' attention so that the material is easy to teach; (b) creating an efficient learning atmosphere (Sadiyah & Reznia, 2023) ; (c) improving students' science learning outcomes (Habeahan et al., 2023; Salmitha, 2021) ; (d) increasing mastery of concepts by being innovative. The high effectiveness of poster media products on science learning outcomes is also caused by the function of poster media which can facilitate students in learning effectively and efficiently. Nurfadillah et al., (2021) stated in their research results that poster media provides a clear picture of learning material so that learning becomes more effective and efficient.

Apart from contributing to poster media, the concept of gamification and QR codes that connect students to Quizziz is also considered to help increase the effectiveness of poster media to improve student learning outcomes. This finding is supported by the research results of Efendi et al., (2023) which prove that gamification through Quizziz can improve mastery of the material, increase motivation and increase student activity in learning because it is easy to use. These results also follow the findings of several studies which explain that the concept of gamification in learning can improve student learning outcomes. The concept of gamification can have a positive impact on learning because gamification contains elements of challenge, which encourage students to be more participative and motivated to learn so that their learning experience becomes meaningful.

This gamification-based educational poster media product can be declared valid, practical and effective for improving science learning outcomes. These findings follow previous research. The results of this research are in line with the findings of Nandini and Agung (2022) which show that the poster media product developed is valid, practical and effective in improving science learning outcomes on energy source materials. Fiteriani et al., (2021) explained that poster media is very suitable for use as a science learning medium in elementary schools. Similar results were also found by research by Nurfadillah et al., (2021) that the development of visual media in the form of posters is suitable for use because it makes it easier to implement the learning process. Research by Az' Zahra et al., (2021) also found that the *Android-based interactive poster media* developed was valid and practical for use in learning science content for sixth-grade elementary school students. The same results were obtained in the development researched by Ayuni et al., (2020) that poster media products about the conservation of living things in learning were considered suitable for use in science learning.

The gamification-based educational poster media developed in this research also has various advantages so that it is suitable for use in class VI science learning. The

resulting poster media contains material on animal breeding, both ovivar, viviparous and ovoviviparous, accompanied by examples, thereby helping students master the components of breeding material well according to the expected goals. Apart from that, providing elements of gamification is another advantage of this poster media. With the addition of gamification, students are not only invited to learn but also have fun playing. Another advantage is that this poster media is arranged with colour layout, writing and image illustrations that are appropriate to children's development so they are suitable for use in classroom learning. Apart from its accessibility and easy use, this poster media has advantages compared to other educational posters, namely providing a QR code which enables students to connect to the Quizziz platform. With these various advantages, there are also disadvantages to this poster media, namely that the posters developed are only specifically for breeding material and can only be used by students at the sixth-grade level. Therefore, it is necessary to develop educational poster media with other material scopes so that improvements in class VI student learning outcomes can occur in each material.

Based on these results and discussion, it can be concluded that the development of gamification-based educational poster media is valid, practical and effective in improving science learning outcomes for class VI students at SD Negeri 4 Ungasan. Thus, this poster media is suitable for application in the learning process.

IV. CONCLUSIONS

The conclusions in research on the development of Gamification-Based Educational Posters in Science Learning are as follows: Gamification-based science educational poster design for learning breeding material in class VI elementary schools. The material contained in this gamification-based educational poster media is adapted to two indicators of science learning for class VI elementary schools, namely (1) Separating examples of animals based on how they reproduce well. oviparous, valvular or ovoviviparous (C4); and (2) Determine and report animal characteristics based on oviparous and viviparous reproductive methods (C5) designed to help teachers provide material on Animal Breeding. The Effectiveness of Gamification-Based Science Education Posters in Science Learning " There is an increase in pretest and posttest learning outcomes for Class VI Science material at SDN 4 Ungasan by using Educational Posters Based on Gamification Concepts on Science Learning" is accepted. Thus, it can be said that the gamification-based poster media developed has been effective in improving the science learning outcomes of class VI students at SD Negeri 4 Ungasan.

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