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Community Service of PGMI Students in Strengthening IPAS Learning Materials through Canva at MI Miftahul Huda 2 Palangka Raya

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Abstract: *Community service represents a tangible contribution of higher education institutions in improving the quality of learning at the elementary level. This service activity was carried out collaboratively by lecturers and students at MI Miftahul Huda 2 Palangka Raya with the aim of enhancing the quality of IPAS (Ilmu Pengetahuan Alam dan Sosial) learning through the development of interactive teaching materials based on Canva. The program applied the Asset-Based Community Development (ABCD) approach, which emphasizes the empowerment of existing assets within the school community. The implementation involved mentoring sessions, technical guidance, and direct classroom application of the developed materials. Effectiveness was evaluated through pretests and posttests, showing an increase in students' understanding from an average pretest score of 55.19 to a posttest score of 77.04, with an average N-Gain of 0.47 (moderate category). Validation results from subject matter experts (96%), design experts (97%), and classroom teachers (89%) confirmed that the developed media were appropriate in terms of content, visual quality, and language use. In addition to improving learning outcomes, the use of technology-based teaching media also increased student motivation and teacher engagement during the learning process. The outcomes of this program not only provided direct benefits to the partner school but also demonstrated the potential for broader application as a participatory and sustainable model for digital innovation in basic education.*

1. INTRODUCTION

The development of digital technology has brought major changes in various aspects of life, including in the world of basic education (Hakim & Yulia, 2024). The Merdeka Curriculum, which emphasizes contextual and learner-oriented learning, provides opportunities for teachers and students to explore various approaches to learning. In the midst of this transformation, the utilization of interactive and digital-based learning media is one of the strategic efforts to improve the quality of students' learning experience, especially in Natural and Social Sciences (NSP) subjects (L. Rahmawati et al., 2024). The use of technology in learning not only provides access to wider and more interesting content but also supports a more participatory and meaningful learning process.

Natural and Social Sciences (NSP) subjects are a form of integration between science and social studies that demands a learning approach that is not only cognitive, but also contextual and visual (Lita, 2024). IPAS learning requires a strategy that is able to bridge abstract concepts with students' real experiences (Taroreh, 2024). Therefore, the preparation of teaching materials based on interactive visual media is important to encourage student involvement in the learning process.

In this context, one of the challenges still faced in basic education is how to make the learning process more meaningful and relevant to students' lives. At MI Miftahul Huda 2 Palangka Raya, teachers and students have tried to implement learning optimally. However, in its implementation, there are still challenges in delivering Natural and Social Sciences (NSP) material that is abstract and requires visualization assistance to be more easily understood by students. This is reflected in the pretest results in class IV which show that students' understanding of force and motion material is still at a level that needs to be improved.

Through a community service program conducted in class IV C for 27 students of MI Miftahul Huda 2 Palangka Raya, PGMI students took the initiative to develop and implement Canva-based IPAS teaching materials. This platform was chosen because it provides a variety of design features that are easily accessed and used by educators, including motion simulations, videos, and other visual elements that can help convey material in an attractive way (Idawati et al., 2022). The developed teaching materials utilize printed media equipped with QR codes connected to digital content such as learning videos and interactive pages, so as to strengthen student understanding through integration or merging between conventional and digital learning (Putra et al., 2023)

Through this activity, PGMI students act as facilitators and innovators who assist teachers in designing and implementing Canva-based IPAS teaching media. The objectives of this PKM activity are: (1) increase teachers' and students' understanding of the use of simple digital-based teaching media, (2) produce interactive and contextual Canva-based IPAS teaching materials for grade IV, and (3) improve student learning outcomes through the use of digital media integrated with print learning and interactive website pages. With this approach, the service activities are expected to make a real contribution to improving the quality of learning in Madrasah Ibtidaiyah and supporting the implementation of the Merdeka Curriculum in a more creative and applicable manner.

2. METHODS

This community service activity uses the Asset-Based Community Development (ABCD) approach, which focuses on community empowerment by utilizing and optimizing assets or resources that already exist in the community (Setyawan et al., 2022). ABCD aims to increase the capacity of communities to be independent and sustainable in managing existing changes. This approach does not emphasize the problems or shortcomings that exist in the community, but rather identifies and maximizes local potential, such as knowledge, skills, social relationships, and physical resources that exist in the community (A. Rahmawati et al, 2024)

Media development was conducted collaboratively by involving partner teachers as resource persons in terms of materials and media design, to ensure suitability with students' needs and the applicable curriculum. Furthermore, the media that has been developed is validated by material experts, learning design experts, and gets an assessment from the class teacher before being applied in the learning process. The implementation stage is carried out directly by students by utilizing the validated media as a tool in delivering motion and friction force material in IPAS learning.

After the implementation, evaluation, and reflection are carried out with partner teachers to review the effectiveness of media use, as well as identify the impact of activities on improving the quality of learning in the classroom (Zunaidi, 2024). Thus, the ABCD approach in this activity provides two-way benefits: students gain contextual teaching practice experience, while schools get strengthened in learning using digital media that is innovative and in accordance with learning needs.

3. RESULTS AND DISCUSSION

Results

The service activity carried out at MI Miftahul Huda 2 Palangka Raya is one of the strategic efforts in integrating digital technology into the learning process through Canva-based interactive teaching materials/media in class IV IPAS subjects. The learning media developed is a printed book that is integrated with digital technology through the QR code feature. This feature connects students with interactive content such as learning videos and supporting web pages, so as to enrich the learning experience visually and contextually. Students of the PGMI IAIN Palangka Raya acted as implementers of activities as well as facilitators in the learning process, involving classroom teachers as collaborative partners and students as learning subjects.

The first step is to validate the content of the learning materials. The expert validators are the lecturers of IAIN Palangka Raya: M.Syabrina, M.Pd, Sulistyowati, M.Pd, Zaitun Qamariah, M.Pd, and Hadma Yuliani, M.Pd. The purpose of this step is to ensure that the content compiled in the interactive learning media is in accordance with the quality standards set (Al Azka et al., 2019). The validation results are presented in the form of diagrams that represent the assessment and suggestions from material experts on various important aspects of the learning media. The aspects assessed include content feasibility, presentation feasibility, language feasibility and contextual feasibility.

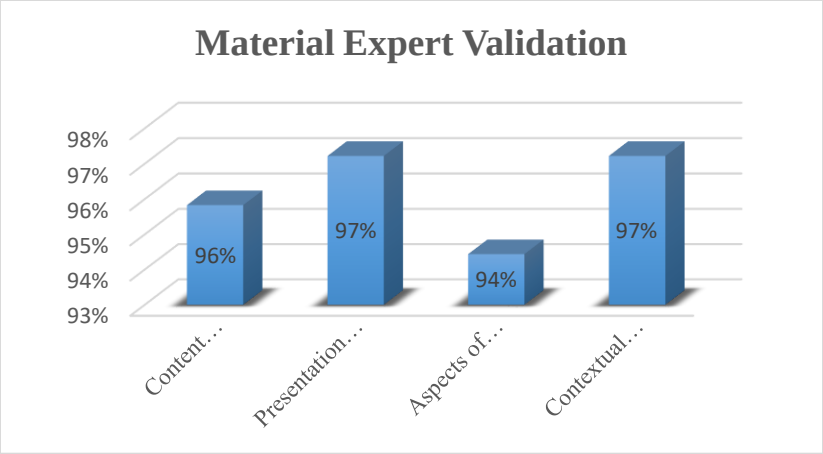

Figure 1. Diagram of Material Expert Assessment

The next step is validation by design experts. The assessment given is summarized in a diagram that presents an overall picture of the quality of the appearance of teaching materials, including aspects of model size, cover design, and content design tailored to learning needs. Advice from design experts plays an important role in ensuring that teaching materials are not only visually appealing but also have an optimal function in supporting the effectiveness of the student learning process (Prayoga et al., 2024).

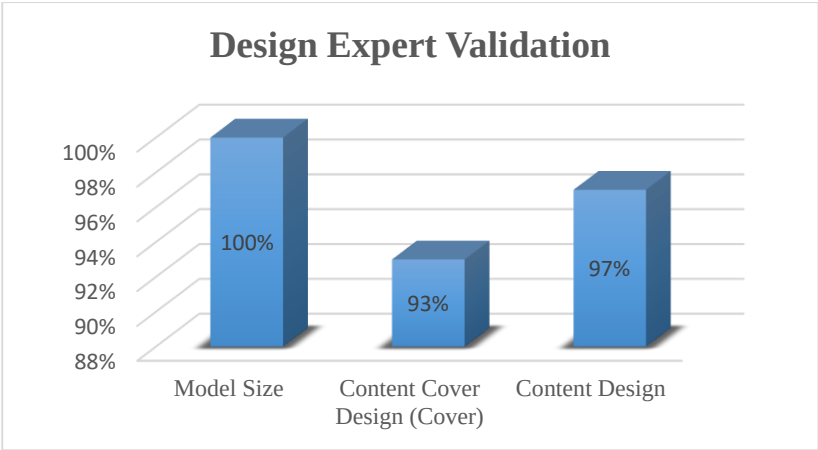

Figure 2. Diagram of Design Expert Assessment

Assessment of the developed teaching materials is also carried out by the teacher as a party directly involved in learning practices. The teacher evaluates the extent to which the teaching materials can meet the learning needs in the classroom and their suitability for the level of student understanding. The evaluation results are presented in the form of a diagram covering various aspects, such as interest, material, and language.

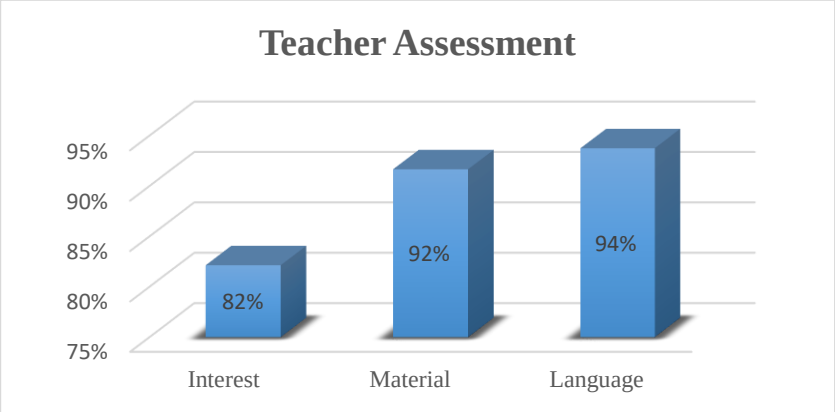

Figure 3. Diagram of Teacher Assessment

A total of 27 students in class IV C were given the test as part of the field trial. The results of the test were then summarized and presented in the form of a graph displayed in the following figure.

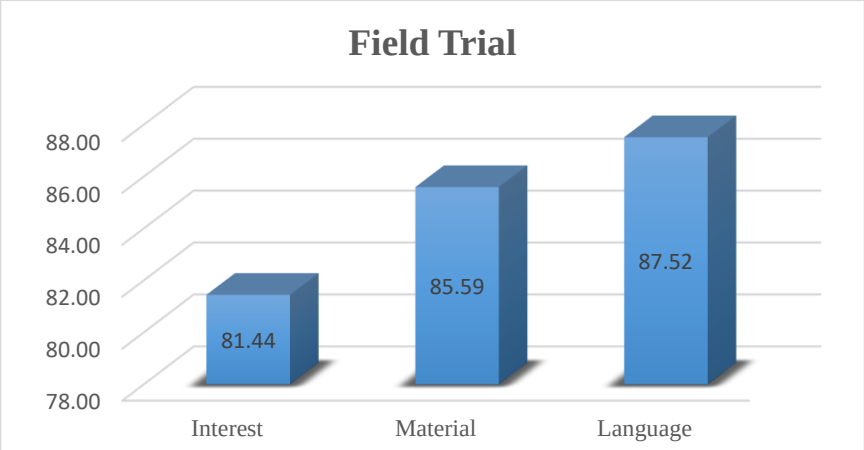

Figure 4. Diagram of Field Trial

Based on the data in the diagram, the teaching materials developed received positive responses from students, characterized by high percentages in the aspects of interest, clarity of material, and language suitability to their level of understanding. Furthermore, the results of students' pretest and posttest were analyzed to measure the effectiveness of the teaching materials used. The test was given to 27 students before and after learning. The calculation results showed that the average score of students' pretests was 55.18 increased to 77.03 during the posttest. This increase indicates a positive influence of the use of teaching materials on

student understanding in IPAS material.

To determine the level of improvement more specifically, N-Gain analysis was used. The N-Gain test is used to determine the extent to which there is an increase in learning outcomes using learning outcomes. The pretest and posttest results show an increase in learning outcomes. The following data on the improvement of student learning outcomes are shown in Table 1:

Table 1. Pretest, Posttest, N-gain scores

Student No.	Pre-Test	Post-Test	N-Gain	Criteria
1	35	65	0,4615385	Medium
2	70	80	0,3333333	Medium
3	40	75	0,5833333	Medium
4	70	80	0,3333333	Medium
5	55	85	0,6666667	Medium
6	70	80	0,3333333	Medium
7	75	90	0,6	Medium
8	35	75	0,6153846	Medium
9	35	80	0,6923077	Medium
10	85	90	0,3333333	Medium
11	55	70	0,3333333	Medium
12	80	90	0,5	Medium
13	55	70	0,3333333	Medium
14	35	65	0,4615385	Medium
15	40	65	0,4166667	Medium
16	75	80	0,2	low
17	50	75	0,5	Medium
18	55	75	0,4444444	Medium
19	80	90	0,5	Medium
20	40	60	0,3333333	Medium
21	35	75	0,6153846	Medium
22	55	80	0,5555556	Medium
23	55	75	0,4444444	Medium
24	40	75	0,5833333	Medium
25	25	60	0,4666667	Medium
26	75	90	0,6	Medium
27	70	85	0,5	Medium
Maximum	85	90	0,6923077	
Minimum	35	60	0,2	
Average	55,1852	77,037	0,471874	

N-Gain Score Category:

Table 2. N-Gain Score Distribution Categories

N-Gain Value	Category
$g > 0,7$	High
$0,3 \leq g \leq 0,7$	Medium

The results of the analysis of pretest and posttest scores from 27 students showed an average increase from 55.19 to 77.04 after using Canva-based teaching materials. The average N-Gain value obtained is 0.471874 and is included in the moderate category, which indicates that teaching materials are quite effective in improving student learning outcomes. Most students experienced a significant increase in understanding, supported by interactive features such as QR codes that facilitate access to additional materials independently and attractively.

Discussion

Community service activities carried out at MI Miftahul Huda 2 Palangka Raya showed a significant achievement in improving the quality of IPAS learning through Canva-based interactive teaching materials. Quantitatively, students' pretest and posttest results showed an average increase from 55.19 to 77.04, with an average N-Gain value of 0.471874, which is included in the moderate category. This indicates that the developed teaching materials are effective in improving students' understanding of the material "Muscle Force and Friction Force". Validation from material experts (96%), design experts (97%), and classroom teachers (89%) shows that teaching materials are considered very feasible to use, both from the aspects of content, visual appearance, and language. In addition, teacher and student responses also showed enthusiasm for a more interactive and interesting learning model.

Figure 5. Students working on the Pre Test

Concrete evidence of positive changes can be seen from the increased participation of students in the learning process and paying attention to explanations related to the material. Students seem more active in asking, answering and listening to the exploration of materials from printed teaching materials to QR codes that link to learning videos and supporting web pages. Although not all students have personal digital devices to access QR codes while at school, this feature can still be accessed at home using parents' devices, so learning can still be continued independently outside of class hours. Teachers also felt that the use of this teaching

material helped them explain abstract concepts more visually and contextually. This is in line with research (Syabrina & Sulistyowati, 2020), which states that visually appealing learning media can improve student focus and retention in understanding the subject matter.

Some of the factors that influence the success of this activity include the active involvement of teachers as partners in developing teaching materials, easy access to simple technology (projectors, internet networks, etc.), and support from schools in providing time and space for testing teaching materials. This is in line with the results of research (Wahyudi & Jatun, 2024), which states that community involvement and utilization of local potential are important factors in the success of community-based programs, especially in the context of basic education. However, the obstacle faced is the limited time of PKM implementation, which is quite short.

Figure 6: Handover of Teaching Materials

Reflectively, the method used, namely a collaborative approach based on *Asset-Based Community Development (ABCD)* proved to be quite effective in raising local potential, especially teacher skills and student enthusiasm (Ansori *et al*., 2021). This approach encourages direct involvement of the school community in every stage of the activity, from planning to evaluation. The implication is that this kind of activity not only improves students' competence in field practice, but also makes a real contribution to schools in the form of innovative and sustainable learning media.

In the future, the use of teaching materials like this can be applied to different themes and grade levels, tailored to the needs and potential of each student. Thus, this service not only has a direct positive impact on schools, but can also be a model for developing more participatory and technology-based education in the future. Previous research, (Marpaung, 2024) shows that the use of technology in learning can increase interactivity and effectiveness of learning and provide space for teachers and students to innovate in the teaching and learning process.

4. CONCLUSIONS

The conclusion of this article shows that the community service carried out at MI Miftahul Huda 2 Palangka Raya succeeded in having a positive impact in improving the quality of IPAS learning through interactive teaching materials. A significant increase in students' pretest and posttest results, with an average pretest score of 55.19 and posttest 77.04, as well as an average N-Gain value of 0.471874 which is included in the moderate category, indicates that this teaching material is effective in improving students' understanding of the material "Muscle Force and Friction Force". In addition, validation from material experts (96%), design experts (97%), and classroom teachers (89%) showed that this teaching material was considered very feasible to use, both from the aspects of content, visual appearance, and language. The enthusiasm of teachers and students in using this technology-based learning media was also felt, showing great potential in the application of a more interactive and technology-based learning model

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