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Increasing Elementary School Students' Interest And Engagement In Learning Through An Educational Media-Based Community Service Program At Sehati Private Elementary School In Kota Pari Village

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Abstract

Purpose: This community service activity aimed to increase elementary school students' learning interest and engagement through the use of interactive educational media at Sehati Private Elementary School, Kota Pari Village, Pantai Cermin District, Serdang Bedagai Regency. The activity addressed the limited use of interactive media in learning.

Method: The activity employed Participatory Action Research (PAR), involving needs identification, planning, media development, implementation, evaluation, and reflection. The media included pop-up books, flashcards, educational puppets, and an educational snakes-and-ladders game. Media feasibility was assessed by three validators, while student responses were evaluated before and after implementation.

Practical Applications: The results showed an average media feasibility score of 90.69%, categorized as highly feasible. Student responses in the Strongly Agree category increased from 46.25% to 68.75%, while Disagree decreased from 5.00% to 0.00%.

Conclusion: The use of educational media increased students' enthusiasm and participation while providing teachers with sustainable alternatives for creating interactive, engaging, and meaningful learning.

519) Increasing Elementary School Students' Interest And Engagement In Learning Through An Educational Media-Based Community Service Program At Sehati Private Elementary School In Kota Pari Village, Andri Zainal,Regita Amelia, Nayla Sufina Muslim Hutagalung, Anggita Uli Angel Gultom, Hizkia Hosiana Simatupang, Romaulika Situmorang

Introduction

Real Work Lecture (KKN) is a form of implementation of the tridharma of higher education which requires students to be directly involved in the development and empowerment of the community through education, research, and service. Article 1 Paragraph 9 of Law Number 12 of 2012 concerning Higher Education emphasizes that the tridharma is the obligation of universities to organize education, research, and community service. Through KKN, students can apply the knowledge that has been learned directly in the community, as well as hone their social sensitivity and leadership spirit. One of the areas that is of concern in the implementation of KKN is education, because good quality education is the main foundation in preparing the young generation who are intelligent and able to compete in the digital era.

The implementation of KKN Group 1 of the State University of Medan (UNIMED) in Kota Pari Village, Pantai Cermin District, Serdang Bedagai Regency is divided into several program areas according to the needs of the village, one of which is the field of Education and Literacy implemented by the Education and Literacy Group. This group formulated its own program focus with the theme "Smart Village", in line with the policy direction of the Ministry of Villages, Development of Disadvantaged Regions, and Transmigration (Kemendes PDTT) which makes Smart Villages or smart villages as a priority program for village development. Smart Villages are defined as the concept of digital data-based development for village management, improvement of basic services, and empowerment of human resources in an inclusive and sustainable manner (Ministry of Villages, Development of Disadvantaged Regions, and Transmigration of the Republic of Indonesia, 2024). One of its pillars, Smart Society, is a reference for the Education and Literacy Group in formulating its program.

Kota Pari Village is a coastal village in Pantai Cermin District with most of the children coming from fishing families whose access to innovative learning media is still limited. Based on initial observations and discussions with schools and community leaders, the learning process at Sehati Pantai Cermin Private Elementary School is still widely carried out conventionally with limited media, so students' interest in learning tends to be low. The limitations of interactive learning media are the main cause of low student learning participation, especially at the elementary school level which psychologically still requires concrete visualization. Learning media has an important role in increasing the interest and motivation of elementary school students because it is able to simplify the delivery of material and create a pleasant learning atmosphere.

Departing from these problems, the main educational program is designed through the use of interactive learning media in the form of interactive snakes and ladders, educational puppets, interactive pop-ups, and flashcards for students of Sehati Pantai Cermin Private Elementary School. Interactive snakes and ladders have been proven to increase students' interest in reading, motivation, and understanding of concepts through a learning while playing approach (Muntu & Yanti, 2023; Mulyadi et al., 2025; lamada et al., 2025). Educational puppets are used as literacy media that combines stories and local wisdom to foster children's creativity and literacy interest (Sari, 2023). Interactive pop-ups were chosen because they present interesting visualizations that increase reading literacy (Fitri, 2025), while flashcards are effective in enriching vocabulary and basic literacy skills through a simple visual approach (Susantini & Kristiantari, 2021; Komariah et al., 2025). The activity was complemented by the collection of student and teacher responses through questionnaires, as well as the submission of media to schools so that they can be used sustainably.

In addition to the main education program, literacy activities are carried out through reciting and tutoring for coastal children, both in coastal areas and at KKN posts, as a form of learning assistance. Recitation activities strengthen the religious literacy of coastal children, while tutoring held on the coast and at KKN posts helps children complete schoolwork and deepen their understanding of the material, which is tailored to the needs of participants so that they are interactive and complement each other in the main educational program.

Through this series of programs, education and literacy activities are expected to provide an interactive and meaningful learning experience for children, as well as long-term benefits for schools in the form of reusable learning media. This article discusses the implementation of the program, the challenges faced, the responses of students and teachers, and its impact on increasing children's interest in learning and literacy in Kota Pari Village, as well as being a recommendation for the development of KKN programs in the field of Education and Literacy in the future.

Method

Community service activities were carried out at Sehati Private Elementary School, which is located in Pari City Village, Pantai Cermin District, Serdang Bedagai Regency. The subject of this community service activity was a student and a teacher from Sehati Private Elementary School who were involved in the use of interactive learning media. This activity was carried out by the education group of the Medan State University KKN program through the "Smart Village" program. The main program includes the creation and use of four interactive learning media, namely: flash cards, interactive pop-ups, interactive snake and ladder games, and educational puppet puppets.

The method used in this study is Participatory Action Research (PAR), which involves the school in all stages, from identifying needs, planning, implementing, to evaluating activities. These activities include the following steps: (1) identifying and mapping needs through observation and discussion with the school; (2) planning and developing media; (3) validating media; (4) using media in teaching; (5) monitoring and evaluating through student observation and questionnaires; and (6) submitting media to the school as part of the program's sustainability. A similar approach is used in community-based service activities, where need identification, planning, implementation, and evaluation are considered the main steps (Wijayanto et al., 2024).

Data collection was collected through observations, interviews with the school, documentation, media validation sheets, and student response questionnaires. Observation and interviews were used at the need identification stage, while documentation was used to record the program implementation process. Validation sheets were used to determine the suitability of a learning medium based on the assessment of three validators.

Student survey data were analyzed using a descriptive quantitative method by calculating the frequency and percentage of answers in each category: Strongly Agree (SS), Agree (S), Disagree (TS), and Strongly Disagree (STS). Meanwhile, the results of media validation are calculated using the percentage of conformity based on a comparison between the score obtained and the maximum possible score, then categorized according to the level of suitability. The validation instruments used in this activity have a range of categories ranging from inappropriate to very suitable.

Result

The community service process through the Real Work Lecture (KKN) program is carried out in stages and structured to respond to the needs of interactive learning media in partner elementary schools. The dynamics of the mentoring process began with the active involvement of the KKN team in the School Environment Introduction Period (MPLS) activities and the implementation of teaching backups in Class II and Class IV. Direct involvement in this class is a means for the team to observe learning dynamics, the level of student involvement, and the availability of real learning support facilities. This stage is the implementation of the identification and mapping stage of needs as described in the flow of service implementation (Figure 1), which is carried out through direct observation of learning conditions in schools.

Photo 1. Teaching Assistance and Observation of the Classroom Atmosphere by the KKN Team



Source: Private Documentation, 2026.

Based on the results of real observations in the field when accompanying the learning process in the classroom as seen in Photo 1, it is identified that teaching-learning interactions are still dominated by conventional methods based on lectures and dependence on textbooks. This condition has a direct impact on the lack of use of concrete and interactive teaching media, especially when delivering abstract concept materials such as Fractions in Mathematics and Verbs in English. The limitation of visual means triggers the emergence of learning boredom and triggers a decrease in student concentration in the classroom. In order to map this problem in a measurable way, the team distributed a questionnaire of initial needs to students before the application of media (8 respondents). The results of the questionnaire showed that 48.75% of students expressed Agree and 46.25% expressed Strongly Agree with the importance of learning media variation, while the remaining 5.00% expressed Disagree. This observation data and initial needs questionnaire became the basis for the team to formulate media development needs at the stage of identifying and mapping these needs.

In order to solve these problems, the KKN team designed technical actions in the form of making 4 (four) types of interactive learning media

1. Pop-Up Book on Fractional Mathematics Class IV material to visualize abstract concepts into 3-dimensional shapes.
2. Flashcards on English Verb (Verb Vocabulary) material to train students' visual memory.
3. Educational Puppets on the material "Diversity in My Country" (Bahasa Indonesia) to introduce socio-cultural values in a communicative manner.
4. Educational Snake and Ladder as a medium for evaluation and repetition of cross-subject material in groups.

Photo 2. Creation of Interactive Learning Media



Source: Private Documentation, 2026.

The process of designing and physically assembling the media is carried out independently and collaboratively by the KKN team by utilizing materials such as visual printing paper, used cardboard, glue shots, wooden sticks, and folding paper as shown in Photo 2. The determination of the type of media with the school is a form of participatory

planning stage, while the design process to physical assembly is part of the media development and validation stage in the flow of service implementation.

Photo 3. Teaching Media Practice Process



Source: Private Documentation, 2026.

Furthermore, the KKN team implemented and directly practiced the use of interactive learning media with students in the classroom as shown in Photo 3. This hands-on practice shows students' enthusiasm when interacting with the media, both in understanding visual materials and when solving group challenges. This activity is a form of implementation of the learning implementation stage as described in the flow of the implementation of service.

Before being implemented in the classroom, the KKN team first practiced and simulated the use of Educational Snake and Ladder media as seen in Photo 3. This simulation aims to ensure that the flow of the game, the clarity of the question cards, and the technical durability of the media can run optimally when played by students. In addition, all media are also tested for feasibility by 3 (three) validators/experts consisting of teachers and education practitioners. The assessment is carried out to ensure the validity of the material and the technical quality of the media. The testing and assessment process by this validator is part of the media development and validation stage, the results of which are calculated based on the percentage of suitability as presented in Table 1

Table 1. Recapitulation of Validation Results of Interactive Learning Media Experts

Yes	Types of Learning Media	Material/Subject	Average Percentage	Category Eligibility	Recommendations
1	Pop-Up Book	Fractions (Mathematics Class IV)	89,95%	Highly Worth It	No Revision
2	Flashcard	Verbs/Vocabulary (English)	90,22%	Highly Worth It	No Revision
3	Educational Movies	Diversity in My Country (Bahasa Indonesia/PPKn)	91,24%	Highly feasible	No Revision
4	Educational Snake Ladder	Cross-Subject Evaluation	91,24%	Highly Worth It	No Revision
	Average Overall		90,69	Highly Worth It	No Revision

Source: Private Documentation, 2026.

Based on Table 1, the validation results showed an overall average feasibility of 90.69% with the category "Very Feasible" without major revisions. Small inputs such as the addition of a variety of interactive elements to the pop-up book and lamination on the flashcard were immediately accommodated to increase the durability of the media. The program action continued to the implementation and scanning stage. Class IV functioned as a pilot class in the initial stage of the trial. To ensure the sustainability of the program's impact, the KKN team carried out collaborative actions through teaching assistance with teachers in Class III and Class VI. In this stage, teachers not only observed, but were also trained directly in operating the media and integrating it into the Teaching Module/RPP.

Photo 4. Submission of Interactive Learning Media Products to Schools and Teachers



Source: Private Documentation, 2026.

The completion of the entire series of media development and trials ended with the symbolic handover of learning media products to the school and teachers as shown in Photo 4. The submission of this product is the foundation for the sustainability of the use of media in the daily teaching and learning process in schools. This handover activity is the implementation of the reflection and media submission stage, as the final stage in the flow of service implementation, as well as part of the sustainability of the program.

The final stage of this service is the evaluation of changes in behavior and student acceptance rates through response questionnaires after the application of media (16 indicators, 8 respondents). A comparison of student responses before and after the application of media is presented in Table 2.

Table 2. Comparative Recapitulation of Student Responses Before and After Media Application

Yes	Answer Categories	Before Application(%)	After Adoption (%)	Change (%)
11	Strongly Agree (SS)	46,25%	68,75%	+22,50%
22	Agree (S)	48,75%	31,25%	-17,50%
33	Disagree (TS)	5,00%	0,00%	-5,00%
44	Strongly Disagree (STS)	0,00%	0,00%	0,00%

Source: Private Documentation, 2026.

The implementation of this program action has succeeded in triggering social changes and new awareness in the school environment. From the student side, there has been a significant increase in enthusiasm and active participation. The data in Table 2 shows an increase in the percentage in the Strongly Agree category by 22.50% (from 46.25% to 68.75%), as well as reducing the number of disagreement (Disagreement) from 5.00% to 0.00%. Students who were previously passive became more courageous to ask questions, actively discussed, and were able to work together in groups. These findings are the result of the monitoring and evaluation stage of the program through observation and student questionnaires as described in the research method.

In addition to changes in student behavior, this activity also provides changes to the learning process at school. Through mentoring and the use of interactive learning media, teachers get alternatives in delivering materials that require visual assistance and direct activities. Teachers are also starting to see that the use of more interactive media can help make learning activities more interesting for students. In addition, teachers gain experience in

using media that has been developed so that it can be an alternative learning media that can be used in teaching and learning activities after the KKN program is completed.

Discussion

community through the KKN program in the field of Education and Literacy is carried out in accordance with the stages that have been planned, starting from location surveys and initial observations, classroom observation observations, interviews with teachers/homeroom teachers, initial questionnaire work by students, design and work on learning media, improvement and preparation of learning media, practice/application of learning media in the classroom, practice and assistance in the use of media with teachers, final questionnaire work by students, evaluation and improvement of learning media. Handover of Learning Media to Schools. This series of activities was carried out collaboratively by the KKN team together with the principal, teachers, and students of Sehati Private Elementary School in Kota Pari Village. The school's involvement from the initial stage ensures that the teaching materials developed are adjusted to the conditions, needs, and characteristics of students, as well as the learning materials that are currently being studied.

Photo 5. The learning process



Source: Private Documentation, 2026.

Preliminary observations show that the learning process still tends to rely on conventional methods, with a high dependence on textbooks and limited use of learning media. This situation results in students lacking concrete and diverse learning experiences, especially when learning abstract concepts such as fractions in mathematics, vocabulary verbs in English, as well as topics related to diversity in Indonesian and Pancasila language education. In fact, elementary school students are still at a developmental stage that requires learning experiences through concrete objects, visualizations, hands-on activities, and social interactions. Therefore, the use of interactive learning media is a relevant strategy to help students understand the material while increasing their involvement in the learning process.

The development of interactive pop-ups, flashcards, educational puppets, and educational snake and ladder games is an adaptation of learning media to the characteristics and learning needs of students. Interactive pop-ups are used to visualize fractional concepts through a three-dimensional display, so that concepts that were originally abstract can be observed more concretely. Flashcards are used to help students recognize and remember English verb vocabulary through a combination of pictures and words. Educational puppets are used as a storytelling medium to present the lesson "Diversity in My Country" in a communicative and fun way. Meanwhile, educational snake and ladder games are used as learning and assessment tools that allow students to repeat material while collaborating in groups.

These findings are in line with the research of Fitri (2025), which shows that interactive pop-ups can help improve reading literacy by providing attractive visuals that are able to attract students' attention. The use of flashcards is also in line with the views of Susantini and Kristiantari (2021) and Komariah et al. (2025), who state that visual card-based media can

help students enrich their vocabulary and strengthen their memory through the presentation of simple, concise, and easy-to-understand information. Thus, the media used in this activity not only serves as a tool to convey content, but also as a visual stimulus that helps students connect new information with a more concrete learning experience.

The validation results of the three validators showed that all media achieved an average suitability percentage of 90.69%, which falls into the "very suitable" category, with recommendations not to make major revisions. Educational snake and ladder games and educational puppets achieved the highest suitability percentage, which was 91.24%, while flashca reached 90.22% and interactive pop-ups reached 89.95%. These results show that the developed media has met the criteria of content suitability, visual presentation, readability, ease of use, and the potential of media to support student engagement. Nonetheless, some technical suggestions were given, such as adding more interactive elements to pop-up books and laminating flashcards to make them more durable.

Media validation plays an important role in ensuring that the products used in learning are not only visually appealing but also aligned with the learning objectives. Effective learning media must ensure harmony between the content, presentation format, student development level, and learning activity objectives. In this activity, the validation process also serves as a reflection stage for the KKN team to improve the quality of media before being used directly in the classroom. Thus, the applied media has gone through an evaluation and refinement process, so that it is better prepared for use by teachers and students.

Photo 6. Interactive media actors by teachers



Source: Private Documentation, 2026.

The application of interactive learning media showed a positive change in student responses and engagement. Based on the survey results, the percentage of students in the "Strongly Agree" category increased from 46.25% before the implementation of media to 68.75% after its implementation. Meanwhile, the "Disagree" category decreased from 5.00% to 0.00%. This change showed that the majority of students responded more positively after participating in learning using interactive media. In addition to the survey data, observations also showed that students became more enthusiastic, more willing to ask questions, actively participated in discussions, and were able to collaborate in groups.

This increase in student engagement can be explained by the characteristics of the media, which provide students with opportunities to learn through hands-on practical activities. Students not only listen to the teacher's explanations, but also observe pictures, operate the media, answer questions, play games, tell stories, and discuss topics with peers. These activities create a more participatory learning experience because students engage cognitively, affectively, and socially. The use of the game Snake Ladder, for example, allows students to repeat the material in a fun atmosphere, while educational puppet shows provide students with the opportunity to develop confidence in speaking as well as their ability to

convey ideas.

These results reinforce the findings of Muntu and Yanti (2023), Mulyadi et al. (2025), and Lamada et al. (2025), who state that the Snake and Ladder game can increase student interest, motivation, understanding, and participation through a game-based learning approach. Educational games can also reduce boredom because students gain a learning experience that is not only task-oriented, but also involves interaction, challenge, and collaboration. In the context of these activities, the Snake and Ladder educational game serves as a tool to reinforce and evaluate cross-curricular material so that students can learn while repeating the concepts they have learned.

Positive changes are seen not only in students, but also in teachers and the learning process in schools. Through classroom mentoring at the third and sixth grade levels, teachers gain experience in using the developed games and integrate them into teaching modules or lesson plans. Teachers also acquire alternative teaching strategies to deliver materials that require visual aids, group activities, and hands-on experience. This shows that community service activities do not end with the use of media by the KKN team, but also aim to strengthen teachers' capacity so that the program can continue after the KKN activities are completed.

From a community empowerment perspective, involving teachers in the process of using and delivering learning materials is a crucial part of the sustainability of this program. Learning materials submitted to schools can be reused in future lessons, either for the same subject matter or with specific adjustments. This sustainability ensures that the impact of the program is not only felt during community service activities, but also provides long-term benefits to these schools. Teachers can develop variations of questions, game rules, or card content according to the needs and ability level of students.

However, this activity still has some limitations. The number of respondents who participated in the questionnaire was relatively small—eight students—so the results obtained could not be generalized to represent the conditions of all elementary school students. The measurement of change was also primarily based on student responses and observational findings, and did not include a comprehensive assessment of learning achievement through pre- and post-activity tests. In addition, the limited duration of the program made the long-term impact of the use of such media unobservable.

Given these limitations, similar activities in the future should involve a larger number of participants, longer mentoring periods, and a wider range of evaluation tools. Evaluations can include learning outcome tests, teacher interviews, student engagement observation sheets, and documentation of the continuous use of educational media. The development of educational media can also be directed to a wider range of subject matter and grade levels so that more students can benefit from it. With these improvements, educational media-based community service programs are expected to make a greater contribution to improving the quality of learning, student learning interest, and student engagement in elementary schools.

Overall, this community service activity shows that the use of interactive learning media can be the right solution to overcome the limitations of media at Sehati Private Elementary School in Kota Pari Village. The media developed has proven to be suitable for use, received positive feedback from students, and helped teachers create a more engaging and participatory learning experience. These changes show that the development of media that is carried out in a participatory manner and based on the needs of schools can encourage social change in the educational environment, especially in the form of increasing awareness of the importance of concrete, creative, and student-centered learning.

Conclusion

Community service activities through the Education and Literacy Group KKN program at Sehati Private Elementary School, Pari City Village, showed that the lack of interactive learning media is the main reason why elementary school students' interest and participation in learning is low, especially in abstract materials. The development of four media, namely

pop-up books, flashcards, educational puppets, and educational snake and ladder games, using the Participatory Action Research (PAR) approach succeeded in improving its quality. The validation results by experts reached an average of 90.69%, which is included in the very feasible category. In addition, the student response, which was initially 46.25% stating "Strongly Agree", increased to 68.75%, while the previous "Disagree" response of 5.00% was reduced to 0.00%.

In theory, these findings support the idea that elementary school students are still in the developmental stage of thinking that requires real experience and visual imagery before they can understand abstract concepts in accordance with the concrete operational stages in the theory of thinking development as well as the principles of learning while playing that are often applied in elementary school education. Media such as pop-up books and educational puppets act as bridges to display abstract ideas in simpler visual and symbolic forms, making them easy to see and change directly. Meanwhile, flashcards and snake and ladder games use repetition methods and game elements to improve word memory and understanding of concepts learned in various fields of science. Thus, the success of this program is not only tangible evidence in the field, but also strengthens theories about the use of visualization-based learning media and educational games in primary education, especially in coastal areas that previously lacked access to innovative learning facilities.

However, the limitation of the number of participants (eight students), the short duration of the program, and the assessment tool that cannot measure learning achievement as a whole, make these results only indicative and cannot be applied in general. Therefore, it is recommended that similar service programs in the future: (1) involve more participants so that the results are more representative; (2) extend mentoring time to see the long-term impact of media use; (3) add evaluation instruments in the form of learning outcome tests (pre-test and post-test) and in-depth interviews with teachers; and (4) expand media development to various subjects and other grade levels. With these measures, service programs that use educational media are expected to provide greater scientific and practical benefits to improve the quality of learning in elementary schools, especially in areas where access to education is still lacking, such as Kota Pari Village.

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