Development of KOMIDI ALPROF (Komik Digital Mengenal Profesi) to Enhance Learning Interest of Grade IV Students

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ABSTRACT

This research originated from the issue of low learning interest among fourth-grade students at SDN Pakuwon I, with 28 students as the subjects of the study. The aim of this research is to develop a digital comic-based learning media that can enhance students' interest in learning IPS (Social Studies) material in the 4th-grade class at SDN Pakuwon I. The developed media, named Komidi Alprof (Komik Digital Mengenal Profesi), introduces various professions related to different types of landscapes, in line with the students' everyday life context. The research method used is Research and Development (RnD) with the ADDIE model and a One-Group Pretest-Posttest Design from Pre-Experimental Design. The digital comic media underwent several feasibility tests, including a first material validator with a score of 92.5%, a second material expert with a score of 100%, and a media expert with a score of 91.67%. All three tests indicated that the media was considered "Very Feasible." The small group trial received a positive response of 84%, the large group trial scored 85%, and the trial in the target school reached 88%, all falling within the "Very Feasible" category. The improvement in students' learning interest was measured using the N-Gain calculation, showing an average pretest score of 46.29% and a posttest score of 67.29%, with a Normalized Gain score of 0.31, categorized as "Moderate." The results indicate that the Komidi Alprof media is effective in increasing students' interest in learning IPS.
Keywords: learning interest; digital comics; social studies (IPS); ADDIE model

ABSTRAK

Penelitian ini bermula karena permasalahan kurangnya minat belajar siswa kelas IV di Sekolah Dasar Negeri I Pakuwon dengan subjek penelitian sebanyak 28 siswa. Penelitian ini bertujuan untuk membuat media pembelajaran berbasis komik digital yang mampu meningkatkan minat belajar siswa pada materi IPS di kelas IV SDN Pakuwon I. Media yang dikembangkan disebut Komidi Alprof (Komik Digital Mengenal Profesi), yang mengenalkan berbagai profesi yang terkait dengan ragam bentang alam, sesuai dengan konteks kehidupan sehari-hari siswa. Metode penelitian yang digunakan yaitu pengembangan (RnD) dengan model ADDIE dan desain *One-Group Pretest-Posttest Design* dari *Pre-Experimental Design.* Media komik digital melewati beberapa uji kelayakan, yaitu validator materi pertama dengan skor 92,5%, ahli materi kedua mendapatkan skor 100%, dan ahli media dengan skor 91,67%. Ketiga uji coba tersebut menunjukkan hasil yang menyatakan "Sangat Layak". Uji coba kelompok kecil memperoleh respons positif sebesar 84%, uji coba kelompok besar

bernilai 85%, dan uji di sekolah sasaran mencapai 88%, yang semuanya juga masuk dalam kategori "Sangat Layak". Peningkatan minat belajar siswa diukur dengan perhitungan *N-Gain*, yang menyatakan nilai persentase rata-rata pretest sebesar 46,29% dan posttest sebesar 67,29%, dengan skor *Normaize Gain* sebesar 0,31, yang tergolong dalam kategori "Sedang". Hasil ini mengungkapkan bahwa media Komidi Alprof efektif dalam meningkatkan minat belajar siswa terhadap materi IPS. kang permasalahan penelitian, tujuan penelitian, metode penelitian, hasil penelitian dan kesimpulan.
Kata Kunci: minat belajar; komik digital; ilmu pengetahuan sosial (IPS); model ADDIE

INTRODUCTION

The In the course of human life, education is a fundamental process that cannot be avoided in order to achieve optimal growth and development. Education aims to enhance knowledge, understanding, skills, and mastery of concepts in various aspects of life (Juneli et al., 2022). Through education, individuals can develop their knowledge, skills, and creativity, helping to reduce poverty and ignorance, as the knowledge and skills acquired equip individuals to face various life challenges (Lende, 2023). Integrating character values into education is essential for preparing students to face various challenges and life phases. Education is expected to create well-rounded, high-quality individuals who can actively contribute to society (Rina et al., 2020).

In line with the concept of Social Studies (IPS) education, it is one of the subjects taught at both elementary and secondary school levels. IPS integrates various disciplines in a cohesive manner to equip Indonesian citizens with an understanding of the rules governing social and national life (Rizki et al., 2022). However, under the *Merdeka* curriculum, Social Studies has been integrated with science subjects, and the term has been replaced with IPAS. The topic of the relationship between professions and geographical features is one of the IPS content areas closely related to daily life. This material not only provides conceptual understanding about the connection between occupations and environmental conditions, such as those in aquatic areas, lowlands, and highlands, but also enables students to relate their learning experiences to the social realities around them. Contextual learning, which connects educational content with the social environment, is one of the teacher's roles in changing students' perceptions that Social Studies is no longer boring; instead, it becomes more engaging and increases their interest in learning (Astutik et al., 2021).

Learning interest can be demonstrated through four indicators: a sense of curiosity, active engagement in learning, significant attention to the learning process, and intrinsic motivation to study without external pressure (Azizah, 2023). Without learning interest, students are unlikely to delve deeper into the material presented. When faced with difficulties, they tend to remain passive, as they do not find enjoyment in the learning activities. Factors contributing to low learning interest among students include their lack of active participation during the learning process, often influenced by low awareness and enthusiasm for learning. Additionally, the use of monotonous and less interactive teaching media exacerbates the issue (Setiawati et al., 2022).

The rapid advancement of technology over time has significantly impacted various fields, including education. In this modern era, the learning process must adapt to these advancements. Consequently, the education sector is encouraged to innovate, particularly in developing learning media that effectively support the learning process and align with

contemporary needs. The creation of learning media is carried out by teachers after aligning it with students' learning needs, making it easier for them to absorb the material being taught (Hanifah et al., 2023). However, a common issue encountered in elementary education is that many teachers do not fully understand the role and importance of learning media. They tend to rely solely on textbooks to find teaching materials and deliver lessons through traditional lecture methods (Masfufah & Rahman, 2021). This approach makes learning less engaging, as it does not incorporate technological advancements.

Based on a needs analysis interview with the Grade IV homeroom teacher at SDN Pakuwon 1, it was revealed that the lack of interest in learning IPAS, particularly IPS materials, is due to the suboptimal use of technology-based media. So far, the media used has been limited to PowerPoint presentations. Meanwhile, conventional media such as images from textbooks or flashcards remain the primary tools. This is mainly caused by the limited facilities and infrastructure available, making it challenging to implement innovative technology-based learning media effectively. On the other hand, students tend to be more enthusiastic about learning media that feature engaging visuals, rich in illustrations, and accompanied by storytelling elements. Such media allow them to understand the material more easily through observation and reading, making the learning process more enjoyable.

In line with the findings of Nadia Mardhatillah et al., (2022), the implementation of digital comics combined with a problem-based learning model has been shown to improve learning outcomes in IPAS subjects for Grade V students. Similarly, Mulia Yeremia Abdi, (2023) found that the use of digital comics enhances motivation and learning outcomes in Social Studies for Grade IV students. Additionally, Nadia Mardhatillah et al., (2022) demonstrated that Bali-themed digital video comics significantly increased the learning interest of Grade IV students.

Unlike previous studies, this research focuses on the innovation of technology-based learning media in the form of digital comics to enhance the learning interest of Grade IV students. Comics are a medium that presents visually appealing images with simple narratives and characters, aiding students in understanding the material during learning activities. With technological advancements, comics have transformed into digital formats, making them accessible without spatial or temporal limitations via electronic devices such as laptops, computers, or smartphones (Solihah et al., 2022). According to Kudadiri, (2023), digital comics have proven to effectively attract learning interest and can be utilized in learning processes both at school and at home. Furthermore, digital comics appeal to all age groups due to their simplicity, featuring easy-to-understand visuals and text in a straightforward language, making them accessible to everyone (Arief et al., 2022).

The innovation carried out in this research is the development of digital comics that are specifically designed to provide a more interesting and interactive learning experience. Unlike digital comics in general that only present dialogue-based stories, this comic is equipped with various advanced features designed to support the learning process. One of its superior features is an interactive link that directs users to important menus, such as instructions for use that provide detailed guidance on how to use this comic, learning objectives that help students understand the main focus of the material, and a structured table of contents to facilitate navigation between chapters. In addition, this comic has a special page that presents a detailed discussion of geographical characteristics and examples of relevant jobs based on local characteristics. This aims to link learning to real contexts that are close to students' lives,

so that they can more easily understand and apply the material. To further enhance the learning experience, this digital comic is also equipped with an interactive quiz designed as a form of direct feedback. This quiz not only measures students' understanding of the material that has been studied, but also motivates them to be more active in the learning process. With the combination of these features, this digital comic offers a new approach to learning media that is not only informative but also fun and effective.

Therefore, based on the identified problems, the researcher was motivated to develop Komidi Alprof (Komik Digital Mengenal Profesi) as an effort to increase learning interest among Grade IV students. The purpose of this study is to determine the extent of the improvement in learning interest after utilizing the Komidi Alprof media through the ADDIE stages. This research is expected to contribute an innovative learning medium that enhances the learning process, making it more relevant and impactful.

METHODS

Type and Design

This study employs Research and Development (R&D) with the ADDIE model. The ADDIE model consists of five stages of development, which can be illustrated as follows.
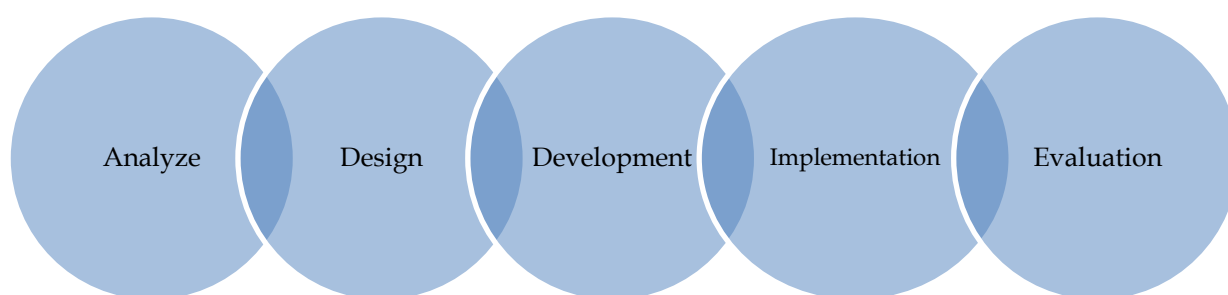

Figure 1. The ADDIE Procedure (Adrianus et al., 2023)

The quantitative research design employed in this study follows a pre-experimental approach, specifically the One-Group Pretest-Posttest Design. This design uses a single class as the research subject, where the class serves as the control group before the treatment and as the experimental group after the treatment is applied (Adnyani et al., 2019). This approach was chosen to observe the impact on students' learning interest after utilizing the Komidi Alprof media.

Pretest	Treatment	Posttest
O_1	X	O_2

Figure 2. One-Group Pre Test–Post Test Design

This design consists of three stages. Initially, students are given a questionnaire to assess their prior knowledge of social studies material. Next, students are exposed to an intervention by integrating the Komidi Alprof media into the learning process. Finally, a posttest is conducted to compare students' learning interest before and after using the media.

Data and Data Sources

The sample for this study consisted of 28 Grade IV students from SDN Pakuwon I during the 2024/2025 academic year. The sampling method used was purposive sampling, a non-

random technique selected based on specific considerations aligned with the research objectives.

Data collection technique

Data collection in this study utilized several techniques, as outlined below:

a. **Interview**

Interviews were conducted as an initial step to analyze the needs of students through discussions with Grade IV teachers. This aimed to identify students' difficulties in the learning process, particularly regarding the strategies and learning media implemented, to determine appropriate solutions. The interview guidelines were systematically structured and prepared in advance to ensure the relevance of the results obtained.

b. **Expert Validation Questionnaire**

Before Komidi Alprof was tested in the field, an assessment by material and media experts was necessary to evaluate its feasibility. The validation questionnaire utilized a Likert scale ranging from 1 to 4 to measure the standard quality of the developed media.

c. **Pretest and Posttest Questionnaires**

Data on the improvement in learning interest was obtained by comparing questionnaires completed before (pretest) and after (posttest) the use of Komidi Alprof.

d. **Student Response Questionnaires**

Student response questionnaires were distributed during small-scale trials involving 10 students, large-scale trials with 30 students, and direct implementation at the target school. This aimed to gather feedback on any weaknesses in the media before its broader dissemination.

Data analysis

Here are the two data analyses used in this study:

a. **Expert Validation and Student Responses**

The data from the expert validation questionnaires (material experts, media experts) and student responses will be categorized using a Likert scale ranging from 1 to 4. The categories are as follows:

Table 1. Likert Scale Categories

Score	Categories
4	Strongly Agree
3	Agree
2	Disagree
1	Strongly Disagree

(Sugiyono, 2020)

The scores obtained from the various questionnaires will be calculated using descriptive statistical formulas (Wijaya et al., 2020).

$$\text{Percentage} = \frac{\text{Total score obtained}}{\text{Maximum score}} \text{ x } 100\%$$

Then, the obtained percentage values will be classified according to the following score percentages.

Table 2. Digital Comic Assessment Criteria

Percentage Score (%	Criteria
<21%	Very Unacceptable
21% - 40%	Unacceptable
41% – 60%	Fairly Acceptable
61% - 80%	Acceptable
81% - 100%	Very Acceptable

(Rizki et al., 2022)

b. **Improvement in Learning Interest**

From the pretest and posttest that have been conducted, the extent of the improvement in learning interest resulting from the use of the Komidi Alprof media (Komik Digital Mengenal Profesi) will be determined using the following Normalize Gain formula.

$$\text{Normalize Gain} = \frac{\text{Posttest Score} - \text{Pretest Score}}{\text{Maximum Score} - \text{Pretest Score}} \text{ x } 100\%$$

(Yunanda Pradiani et al., 2023)

The results of the Normalize Gain calculation are used to determine the level of improvement in students' learning interest, which is then classified according to the established qualifications.

Table 3. Normalize Gain Score Qualifications

N-Gain Score Range	Qualification
g > 0,7	High
0,3≤ g ≤ 0,7	Medium
g < 0,3	Low

RESULTS AND DISCUSSION

This section explains the process and results of developing the Komidi Alprof (Komik Digital Mengenal Profesi) as an effort to increase students' learning interest in social studies material on professions and the diverse landscapes around them, following the stages of the ADDIE model. The description includes the following:

1. Analysis Stage

This stage involves analyzing issues present in the teaching and learning process through interviews with fourth-grade teachers. The analysis includes curriculum frameworks, learning environments, and the availability of facilities and infrastructure (Rostiani et al., 2023). Based on the interviews, it was revealed that the fourth-grade class of the 2024/2025 academic year is in a transitional phase from the previous 2013 curriculum to the recently implemented Merdeka Curriculum. This transition has caused gaps in understanding and applying the new curriculum structure, particularly in encouraging students to actively participate in learning. Additionally, technology-based learning has not been optimally implemented due to limited school facilities. Teachers mainly rely on lectures, images from textbooks, and flashcards as teaching media. During the interviews, the teacher also mentioned that fourth-grade students prefer image-based learning accompanied by storytelling. Based on these findings, the researcher was inspired to develop a digital comic medium that can capture students' interest in learning.

2. Design Stage

The next step is designing and structuring the framework for the digital comic to ensure that the developed media aligns with the learning objectives. The first step involves drafting the comic's narrative, which contains dialogues between the characters. The storyline is simple and depicts situations commonly encountered in daily life. The digital comic is divided into several sections, including walking home from school together, working on assignments together, learning about professions, and exploring future aspirations.

Next, the content to be included in the digital comic is developed. This includes definitions of various landscapes, the geographical areas of different landscapes, and examples of jobs that produce goods or services in lowland areas, highland areas, and coastal regions.

Finally, a storyboard is created based on the previously developed storyline using *Ibis Paint X*. The storyboard incorporates several key elements, such as the main characters, story settings, dialogue bubbles, and color schemes, to ensure that the digital comic is visually appealing and meets the needs of the students.

Figure 3. Example of Komidi Alprof Storyboard Before and After Coloring

3. **Development Stage**

   The development phase commenced after the digital comic design was finalized. During this stage, the prepared comic design was transferred to the *Canva* application for the addition of appealing elements, text, and supplementary illustrations. Hyperlinks were also embedded to enhance the interactive experience, making the digital comic more engaging and dynamic. Subsequently, the digitalization process was conducted using *Heyzine Flipbook*. The Komidi Alprof media was then distributed to fourth-grade students through an accessible link.

   Before implementing the Komidi Alprof media in the learning process, it was essential to conduct a feasibility test validated by experts. The aim was to evaluate the quality and appropriateness of the media, including its design, material content, and functionality (Ayu et al., 2021). The following section presents the assessment results in the form of a feasibility percentage from several expert validators.

   Table 4. Results of Expert Validation Feasibility Test

Expert Validation Test	Percentage	Kategori
Subject Matter Expert 1	92,5%	Very Acceptable
Subject Matter Expert 2	100%	Very Acceptable
Media Expert	91,67%	Very Acceptable

   Based on the feasibility results, the first subject matter expert provided a percentage of 92.5%, the second subject matter expert gave a rating of 100%, and the media expert assigned a percentage of 91.67%. All three scores fall under the "Highly Feasible" category. This indicates that the Komidi Alprof media is ready for trial implementation in schools without requiring further revisions.

4. **Implementation Stage**

   The digital comic, having met the criteria during the feasibility validation test, was implemented with a group of 28 fourth-grade students. This phase aimed to evaluate changes in students' interest in learning about the relationship between professions and the surrounding geographical features after using the Komidi Alprof media.

   Students were first given a pretest after the teacher introduced the Komidi Alprof media and explained its usage instructions. Subsequently, the students read the comic

story aloud together, with the teacher interspersing questions throughout the session. Many students actively participated by answering and sharing their thoughts about examples of professions encountered on each page they read. The teacher then reviewed the material collectively with the students.

Afterward, the students were given time to engage in discussions and present their findings regarding examples of professions they commonly observe in their surroundings, including identifying the goods or services produced by these professions. This session was followed by a group quiz, where student involvement was highly prominent. Many students actively participated, asking and answering questions, creating a more interactive and enjoyable learning experience.

The session concluded with a posttest and a student response questionnaire to gather feedback on their experiences.

Table 5. N-Gain Results on Learning Interest

Number of Grade IV Students	Average Pretest Score	Average Posttest Score	N-Gain Score	Criteria
28	46,29	67,29	0,31	Medium

Based on the calculations, the average posttest score was higher than the average pretest score. This indicates a significant increase between the pretest and posttest questionnaire scores, with a Normalize Gain score of 0.31. When classified, this value falls within the second range, $0.3 \leq g \leq 0.7$, indicating a moderate criterion. It can be concluded that the use of Komidi Alprof media successfully enhanced students' interest in learning, with a moderate level of improvement.

Several factors contributed to the moderate classification. These include limited time for the posttest implementation, as it was conducted near the end of the school day. Additionally, technical issues with the projector during the quiz session caused delays, preventing students from completing the questionnaire optimally.

5. **Evaluation Stage**

Feedback for this study was gathered through student response questionnaires administered during small-scale trials, large-scale trials, and implementation at the target school. The purpose of these questionnaires was to assess the usefulness, practicality, and acceptance of the Komidi Alprof media by students, with a focus on the aspects of visual design, material clarity, and active student participation during the learning process. Below is a summary of the feedback results from the three trials conducted.
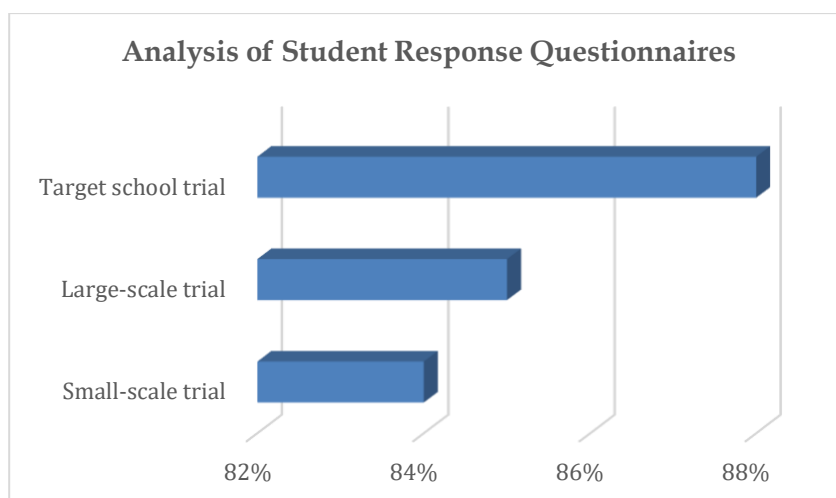
Figure 4. Results of Student Response Questionnaires

Based on the chart, it is evident that there was an improvement from the initial trial to subsequent trials after revisions were made to the Komidi Alprof media. In the small group trial involving 10 students, a percentage score of 84% was achieved. This activity aimed to introduce the Komidi Alprof media and gather initial impressions from the students. Feedback from the distributed student response questionnaires suggested enlarging the font size in the material sections. Subsequently, the large group trial, involving 30 students, achieved a score of 85%, with positive responses recorded for each statement. The final trial was conducted at the target research school, where students completed the response questionnaire at the very end, following the posttest. This trial yielded a percentage score of 88%. The results of these three trials indicate a "Highly Feasible" category, signifying that the Komidi Alprof media was well-received and proven effective in facilitating students' understanding of professions and the surrounding natural landscapes. The interpretation of this feasibility category refers to the interpretation of a certain percentage score in media development research according to Purwanto (Umah et al., 2023).

CONCLUSION

The development of the Komidi Alprof media is deemed highly suitable for supporting the learning process on the topic of the Relationship between Professions and Various Landforms. This conclusion is supported by several expert validations, including content and media experts, as well as the results from the small-scale trial, large-scale trial, and target school implementation, all of which fall under the "Highly Suitable" category. Based on the Normalize Gain analysis, the Komidi Alprof media has also been proven to enhance the learning interest of fourth-grade students with a moderate improvement category. However, this media has made a positive contribution to all aspects of student engagement, such as enthusiasm when reading the digital comics, active participation in discussions, asking and answering questions, and the ability to present their findings. Additionally, it has supported

students in mastering the material in a more straightforward and engaging way through visual and interactive learning, while providing a meaningful technology-based learning experience.

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