

The Use of Project-Based Digital Comics on Social Science Content to Improve Learning Outcomes Students of 5th Grade Elementary School Students

N. K. Yuwika Ulandari^{1*}, I. W. Sujana² 

^{1,2} Elementary Education Department, Ganesha University of Education, Singaraja, Indonesia

ARTICLE INFO

Article history:

Received August 07, 2022

Revised August 10, 2022

Accepted October 09, 2022

Available online October 25, 2022

Kata Kunci:

Digital Comics, Projects,
Learning Outcomes, Social
Studies

Keywords:

Komik Digital, Proyek, Hasil
Belajar, Ips



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ABSTRAK

Minimnya variasi media yang digunakan dan kegiatan pembelajaran yang masih berpusat pada guru menyebabkan hasil belajar siswa menurun. Tujuan dari penelitian ini adalah untuk membuat media pembelajaran berupa komik digital berbasis proyek konten IPS untuk siswa kelas V sekolah dasar. Jenis penelitian ini adalah pengembangan dengan mengadaptasi model ADDIE. Subjek dalam penelitian ini adalah ahli yang terdiri dari 1 ahli desain, 1 ahli materi, 1 ahli desain, 1 ahli media, dan 2 ahli instrumen. Sedangkan siswa terdiri dari 3 siswa tes individu, 9 siswa tes kelompok kecil, dan 24 siswa tes keefektifan. Teknik analisis data yang digunakan adalah deskriptif kuantitatif dan analisis inferensial. Data diperoleh dengan menggunakan wawancara, kuesioner, dan tes. Hasil penelitian ini yaitu ahli materi pembelajaran mendapat skor 91,66% (sangat baik), ahli desain 90,00% (sangat baik), ahli media 87,50% (baik). Hasil uji coba individu 82,50% (baik), dan uji coba kelompok kecil 80,83% (baik). Hasil uji-t didapatkan bahwa komik digital berbasis proyek ini efektif meningkatkan hasil belajar siswa kelas V SD pada materi IPS. Disimpulkan bahwa media pembelajaran berupa komik digital berbasis proyek layak digunakan dalam proses pembelajaran. Implikasi dari penelitian ini adalah perlu adanya media pembelajaran komik berbasis proyek dalam kegiatan pembelajaran untuk meningkatkan minat dan hasil belajar siswa.

ABSTRACT

The minimal variety of media used and learning activities that are still teacher-centered prevent student learning outcomes from declining. This study aimed to create teaching media in the form of digital comics based on social studies content projects for fifth-grade elementary school students. This type of research is a development by adapting the ADDIE model. The subjects in this study were experts consisting of one design expert, one material expert, one design expert, one media expert, and two instrument experts. In comparison, the students consisted of three individual test students, nine small group test students, and 24 effectiveness test students. The data analysis technique used is descriptive quantitative and inferential analysis. Data were obtained by using interviews, questionnaires, and tests. The results of this study were that learning material experts scored 91.66% (very good), design experts 90.00% (very good), and media experts 87.50% (good). The results of the individual trials were 82.50% (good), and the small group trials were 80.83% (good). The results of the t-test found that this project-based digital comic effectively increased the learning outcomes of fifth-grade elementary school students in social studies material. It was concluded that learning media in project-based digital comics is appropriate for the learning process. This research implies the need for project-based comic learning media in learning activities to increase student interest and learning outcomes.

1. INTRODUCTION

A person with character is certainly considered to be able to form a quality human being. One area of education that can instill social values and shape character is social studies education (Amiruddin & Djuhan, 2021; Astutik et al., 2021). Social Science Education is a field that includes social sciences closely related to humans and their interactions with other aspects of life. In addition, Social Science is

also a subject that is considered very close to humans because the object of learning from Social Science education is humans and their world (Heryani et al., 2022; Natalia & Kristin, 2021). Social studies education contains the basics of the social sciences, which are an important provision for students to have to be able to adapt to their social environment (Dewi et al., 2022; Prayoga et al., 2022). Social science education has become one of the subjects that are mandatory and important to apply since elementary education. In addition, by learning Social Sciences education, students are expected to grow with good character and high social spirit. Thus, social studies learning must be carried out properly so that it can be well embedded in each student's self for the provision of life in the future. Not only in the form of knowledge but also a social skill that needs to be mastered by students. In the social studies education learning process, there are challenges for teachers, namely choosing methods and ways to be able to condition their students to concentrate and focus on participating in ongoing learning so that social studies learning can run optimally (Agustien et al., 2018; Krismon et al., 2020).

For learning to run optimally, it is necessary to carry out a process of interaction between teachers and students by applying approaches, models, and learning media that suit the needs of students (Poerwanti & Mahfud, 2018; Pramana et al., 2020). Learning media is a teacher's tool in conveying learning messages and facilitating students' understanding of the material (Erwin, Vini Ariani, 2019; Munthe, 2019). Social Science is also one of the broad subjects, and there is much memorization, so the material's abstract nature makes students sometimes feel difficult and easily bored in understanding the material. Therefore the role of learning media is very important to concretize the material (Ružičić, 2021; Suhendro, 2020). Achieving an optimal learning process certainly requires support to expedite the learning process, one of which is using information and communication technology (Amadea & Ayuningtyas, 2020; Rahmatika et al., 2021). Technological advances that are currently happening in the world of education make it easier for students to meet their knowledge needs by searching, evaluating, organizing, and communicating the information obtained to solve the problems they face and facilitate the ongoing learning process (Amanullah, 2020; Indrawati, 2020). world of education is currently also required to equip students with 21st-century skills. The skills in question are skills for students to think critically and solve problems, be creative and innovative, and be skilled in using information technology (Anggraeni et al., 2021; Lieung, 2019). Teachers must utilize innovative technology so that the learning process can run optimally. In addition, teachers can also explain or provide material to students using digital-based learning media. In developing learning media, of course, it must be adapted to the existing curriculum to achieve learning objectives.

However, based on the results of an interview with one of the teachers in the elementary school, it was found that students still need to be more active in every subject, especially social science, because these subjects are considered very boring and too complex (much memorization). The characteristics of students there could be more conducive and more manageable to concentrate. It is due to the lack of student interest in both the lesson and the learning methods used by the teacher at the school. Learning that takes place only sticks to the general guidebook. The use of instructional media in teaching social studies is also less varied. Most students do not understand the material if they do not use interesting and relevant learning media. Teachers need to be fully able to utilize technology in the learning process. In this way, it can be concluded that students' learning characteristics must use as a tool related to learning material. Besides being able to provide a fun and meaningful learning experience, with the help of relevant learning media, it indirectly involves students so that students become more active. The involvement of these students will lead to constructivist learning (Sanchez & Weber, 2019; Zhang et al., 2020). It proves that using learning media in the social studies learning process is very effective and can be tried to increase the learning interest of fifth-grade students. Seeing these problems, the solution obtained is using learning media in the social studies learning process. Learning media can be a tool that functions as a channel for messages from educators to students to convey instructional messages from educators to students who intend a teaching (Arifin et al., 2021; Daryanes & Ririen, 2020b). Learning media has many advantages and effectively conveys information or learning material. Learning media can attract students' interest in learning and increase their understanding through concrete visualization. The presentation of interesting material can motivate students to learn the material presented by the teacher (Agnesti & Amelia, 2021; Burenge, 2020).

However, learning media adjustments must be made to study the subject matter to maximize information delivery through learning media. During this technological era, instructional media can be designed in digital form and should be accessible to students easily by utilizing adequate technology. One of the interesting digital-based learning media that can be applied, especially in social studies learning, namely learning media in the form of digital-based educational comics. Digital comics were chosen with the intent and purpose of helping instill a culture of literacy in students (Kurniawati & Koeswanti, 2021; Nazhiroh et al., 2021). The advantages of digital comics are that they can foster students' interest in

learning, make the subject matter more attractive, and help students understand still abstract concepts (Putra & Milenia, 2021; Utomo, 2021). In this digital comic learning media, students can easily access it wherever and whenever they want because comics can be accessed via a device or laptop. In addition, this visual comic can also contain all learning materials, but it also depends on the teacher's creativity in designing the material. Digital comics can attract the interest of everyone from all walks of life and ages because they provide a new experience from reading regular comics. The presentation of social studies material needs to be structured so that utilizing the media makes learning more interesting. Comics can present social studies stories more concretely for students (Ayu et al., 2021; Syahmi et al., 2022).

In addition to the use of media, so that learning can make students active and build their knowledge, it is necessary to apply a learning model, one of which is project-based learning. Project-based learning is learning that uses media. With this approach, students will be guided to explore, assess, and be free to understand and learn something in their way (Ivers & Barron, 2002; Saputra & Manuaba, 2021). The main feature of project-based learning is the active involvement of students in learning because learning takes place through a process of creating or completing a product or project by students, which of course, has relevance to the subject matter discussed (Octariani & Rambe, 2018; Ramadhani et al., 2021). Project-based learning models, in addition to being able to hone student creativity and increase student activity in the learning process, project-based learning is also recommended in the 2013 curriculum. Project-based learning opens opportunities for students to broaden their knowledge and skills so that learning becomes much more meaningful and learning activities be more interesting (Hasyim, 2020; Krismona Arsana & Sujana, 2021).

So the preacher needs a learning media that can adapt learning models such as project-based digital comics. The difference between this media and the others is that it is project-based with the material taken, namely types of economic activities in fifth grade. This research aims to create learning media in the form of digital comics in which the preparation of learning activities in the media uses or adapts to one of the learning models, namely projects. With the content taken, namely Social Science for fifth-grade elementary school students, with the hope that the learning media created can overcome problems in learning activities.

2. METHOD

This type of research is development research (*research and development*) by adapting from the ADDIE research development model. The ADDIE model is used to create project-based digital comic learning media. The advantage of using this model is that each step of making a product is structured and systematic. It is said to be systematic because every stage or step of this model has an evaluation so that in making or creating a product, it can minimize errors so that the product created can be more ready for use. In addition to being systematic, the stages of the ADDIE model are also structured. It is said to be structured because the stages are interrelated, so it can help solve problems in the learning process, especially regarding learning resources (Tegeh & Sudatha, 2019; Widiarti et al., 2021). The ADDIE development model consists of 5 stages, starting from the analysis, design, development, implementation, and evaluation stages.

The product manufacturing stage begins with carrying out analysis activities. The purpose of this stage is to find out the needs of students and teachers in the learning process. to find out the needs of students and teachers can carry out activities such as analyzing learning needs, analyzing material, analyzing basic competencies and learning indicators. Before ending this stage, an evaluation phase is carried out. The evaluation stage is carried out to determine whether the analysis stage follows the teacher's and student's needs during the learning process. The next stage can be implemented if it is appropriate and without revision.

The next stage design. At this design stage, the aim is to make it easier when making digital comic media. The design stage consists of several activities, such as determining the hardware (*Hardware*) and software (*Software*), planning to build digital comic media, planning *flowchart* and *storyboard*, preparing learning implementation plans, as well as compiling product assessment instruments that will be given to research subjects, namely experts and students. After that, carry out the evaluation stage to determine whether the draft prepared is following the analysis stage. If so, then the next stage can be carried out. The next stage is development. This development stage requires several steps that must be carried out, including making cover designs and contents of comics, uploading comics, making product validity questionnaires for media design experts, making product validity questionnaires for learning material experts, and validation from media experts and learning material experts. The next stage is evaluation. If so, the next step is implementation. This stage aims to determine the effectiveness of the product made using test instruments.

Next is the evaluation stage. This stage is the most important in product development. The evaluation stage is carried out at each stage of the ADDIE model, starting from the analysis stage to the implementation stage, which aims to improve the product that has been made based on the results of the subject's review. The subjects in this study consisted of experts and fifth-grade students. Data were collected using interviews, observation, and questionnaires. The function of the questionnaire instrument is to measure the results of the validity of the products that have been created. The scores are given to experts and students. The following is a validation instrument for experts and students, shown in Table 1, Table 2, Table 3, Table 4, and Table 5.

Table 1. Grids of Building Planner Instruments

Aspect	Indicator
Development Model Used	1) The suitability of the development model used with the characteristics of the product produced
	2) Appropriate reasons for selecting the development model
Clarity, Practicality, and Consistency	1) Conformity of the development stages is carried out using the development model.
	2) The accuracy of the description of the stages of development.
Formative Evaluation	1) Clarity of development stages based on the development model used.
	2) Clarity of development stages based on the development model used.
	3) The sequence of steps of the bearer.
	4) The accuracy of the experimental subjects involved.

(Astri et al., 2022)

Table 2. Learning Material Expert Instrument Grid

Aspect	Indicator
Curriculum	1) The suitability of the material with basic competence
	2) Material suitability with indicators
Theory	1) The suitability of the material with the learning objectives
	1) The material contains the correct concept.
	2) The material in digital comics is presented systematically
	3) The material presented by two students covers the material for class V students
	4) The material contains important concepts that students need to know
	5) The right media support the material
language	6) The examples used in digital comic media follow the material concept
	1) Training questions follow learning indicators
	1) The language used follows the characteristics of students
	1) Conformity with the rules of the Indonesian language.

(Astri et al., 2022)

Table 3. Learning Design Expert Instrument Grid

Aspect	Indicator
Purpose	1) The material presented follows the learning objectives
	2) Learning on digital comic learning media is formulated following the ABCD format.
Strategy	1) Submission of material provides logical learning steps
	2) Submission of material according to the project learning model
	3) Submission of material is delivered with real and clear examples
	4) Submission of material in digital comic learning media motivates students to learn.
Evaluation	3) The presentation of instructions for using the media is clear
	1) The questions given are according to learning indicators
	2) The instructions for working on the questions are clear
	1) Presentation of practice questions aligned with the material.

(Astri et al., 2022)

Table 4. Learning Media Expert Instrument Grid

Aspect	Indicator
Design	1) Text can be read clearly
	2) Appropriate use of images
	3) Precise image placement
	4) Selection of colors with the right combination.

Aspect	Indicator
Qualifications	1) Selection of digital comic media according to student characteristics 2) Suitability of digital comic media with learning indicators
Up-to-date, accuracy, and clarity.	3) Suitability of digital comic media with learning objectives 1) Media updates presented in digital comic media 2) The material presented in digital comic media is accurate 3) The material presented in digital comic media is clear

(Astri et al., 2022)

Table 5. Individual and Small Group Test Instrument Grids

Aspect	Indicator
Appearance	1) Attractive digital comic display 2) The text in digital comics is easy to read. The clarity of the images 3) The displayed image is easy to see and clear 4) Layout accuracy in digital comics 5) The color selection in digital comics is interesting
Theory	1) The material in digital comics is easy to understand. 2) The material presented in the comic is sequential 3) The description of the material contained in the comic is clear
Motivation	1) This digital comic adds motivation to learning
Operation	1) This digital comic is easy to use

(Astri et al., 2022)

Before the instrument was given to the respondent, the instrument's validity was first tested. Each instrument item is consulted with experts to study the suitability of the measuring instrument items with the grid in testing the instrument's content validity using the Gregory formula. The coefficient of content validity is determined by entering the results of research from several experts into cross-tabulation (2x2) consisting of columns A, B, C, and D. At the level of validity of the test. It can be determined by following the content validity criteria from Gregory, namely, with a validity coefficient of 0.8 - 1 having a very high level of validity, 0.6 - 0.79 with high validity, 0.40 - 0.59 with moderate validity, 0.20 - 0.39 has low validity, and 0.00 - 0.19 has very low validity (Source: (Iskandar & Rizal, 2018)). Test the validity of the digital comic learning media assessment involving one person judges, namely material experts, media experts, practitioners, and media users.

The results of the instrument validity test showed that this validity gets a value of 1, where the value is in the range of 0.80-1.00, which means that the instrument grid is declared valid with a very high level of content validity, therefore the instrument in the questionnaire can already be given to research subjects. To assess the validity of the learning media created. The data analysis technique used in this study uses quantitative analysis and inferential statistics. Quantitative analysis is a way of processing the data reviewed by the respondents presented in numbers (A. A. G Agung, 2018; Astuti et al., 2020). Scores obtained from experts and students are then converted using guidelines. The following is a rating scale *Likert*, namely the value of number 4 with the letter A indicating "very good," the value 3 with the letter B indicating "good," the value for number 2 with the letter C indicating "not good," and the value for number 1 letter D indicating "very bad" (Sumber: Sukardi, 2019). After the score results are obtained, the next stage is to establish criteria to give meaning to the score obtained as a form of decision-making using the conversion guideline for the level of attainment on a scale of five.

Inferential statistical analysis is data processing that aims to test the hypothesis of a study using inferential statistical formulas to conclude research (A. A. Gede Agung, 2018; Prayoga et al., 2022). The technique is used to determine product effectiveness by analyzing the results of test measurements before and after using learning media in digital comics. Data was collected using pre-test and post-test on the target group of students. The pre-test and post-test results were then analyzed using a correlated t-test to determine the difference between the pre-test and post-test results. Before testing the hypothesis using a correlated t-test, it is necessary to carry out prerequisite tests, namely the normality and homogeneity tests.

3. RESULTS AND DISCUSSION

Results

The product produced in this study is a project-based digital comic on social studies content material on types of businesses and economic activities for fifth-grade elementary school. The resulting

product uses the stages of the ADDIE model. The first stage is analysis. At this stage, carry out activities to analyze needs in learning, and determine basic competencies and learning indicators.

Based on the results of interviews with the homeroom teacher for fifth grade, he said that the lack of variety of digital learning media owned by the teacher was one of the things that made learning objectives unable to be achieved perfectly because the teacher only taught using books or ordinary media so that student learning interest was greatly reduced and this affected the results student learning. Therefore, based on the analysis of the needs of teachers and students, the media suitable for solving these problems is project-based digital comics. After knowing the media to be created, the next activity is to analyze the material and curriculum used. The material used is about the types of businesses and economic activities. The material was chosen because beforehand, they had made observations and interviews with teachers. Students need help remembering social science material. Therefore the material is chosen in this learning video. Basic competence and the indicators used are described in [Table 6](#).

Table 6. Basic Competency and Competency Achievement Indicators

Basic Competency	Indicators of Competence Achievement
4.3 Presenting the results of an analysis of the role of the economy in improving the welfare of people's lives in the social and cultural fields to strengthen the unity and unity of the nation	4.3.1 Make a mind map of the types of businesses and economic activities.

After the analysis phase, the next stage is the evaluation stage. At this stage, re-analyze whether it is following the needs of teachers and students during the learning process. Because the analysis stages are appropriate and interrelated, the next stage, design, can be carried out. The next stage in the ADDIE model is designed. At this stage, the activities carried out are writing story scripts. The script is an important component in digital comics because the script is the storyline in the digital comic being developed. The script must be made in great detail, and at this stage, it also determines the figures, characters, and dialogues that each character in the digital comic will play. The next activity is determining hardware and software. The hardware that will be used is a laptop or computer. At the same time, the software used is Adobe Illustrator for setting the background, text, characters, and Microsoft word to combine each comic page and then convert it into PDF form for the final result. The next activity is the design of digital comic media. The design of this digital comic needs to be made of a design to make it easier to arrange the layout of the content that will be included in the digital comic by making the design in the form flowchart and storyboard. Next is the preparation of the lesson plan. The preparation of the lesson plan is carried out so that the learning activities are arranged systematically and are well-directed. The next activity is compiling product assessment instruments. The instruments made were questionnaires and tests to be given to experts consisting of learning content experts, learning design experts, learning media experts, and fifth-grade elementary school students to test the validity of the product. After the design stage, the next stage is the evaluation stage. At this stage, re-analyze whether this stage is following the analysis stage. Because the design stage is appropriate and interrelated, the next stage, development, can be carried out.

The next stage in the ADDIE model is the development stage. The first activity, namely what was carried out in this activity, was making the cover design and contents of the comic. The cover contains the title of the comic, pictures of the characters, and the name of the comic writer. Covers are created using the Adobe Illustrator app. Then the contents of the comic contain material on the types of businesses and economic activities that have been developed following the texts that have been made. The next activity is storing digital comics in the form of PDF files. This stage is carried out to package each comic page into one file. This stage is done by compiling each comic page on Microsoft word and then saved in PDF format. The following are the results of digital comic products that have been made, which can be seen in [Figure 1](#).



Figure 1. Project-Based Digital Comic Display

The next activity is the manufacture of product validation packages. Preparation of a morning questionnaire for experts, this stage is needed to validate the media according to the aspects that need to be assessed, such as a questionnaire for assessment adjusted to the expert field of the validator, namely design experts, material experts, learning design experts and media experts as well as questionnaires for individual trials and tests Try small groups given to students. The next activity is making questions *pre-test* and *post-test* to test the results of the effectiveness of products that have been created. The next activity is to carry out product validity tests. The product validity test results can be seen in [Table 6](#).

Table 6.Percentage of Project-Based Digital Comic Validity Results

Trial Subjects	Result Validity (%)	Percentage Qualification	Information
Building Planner	90.90%	Very good	No need to revise
Learning Materials Expert	91.66%	Very good	No need to revise
Learning Design Expert	90.00%	Very good	No need to revise
Learning Media Member	87.50%	Good	Revised As Necessary
Individual Trial	82.50%	Good	Revised As Necessary
Small Group Trial	80.83%	Good	Revised As Necessary

Based on the results of the product validity test in [Table 6](#). The results show that project-based digital comics are valid for learning activities because the material, design, and media aspects get very good qualifications. After carrying out development activities, the next stage is evaluation in the form of revised results given by respondents to be used as product improvements. After getting input from experts, make improvements according to the input given so that the product created is perfect and ready to be given to students. The development and evaluation stages have been carried out, so the next stage is implementation.

The next stage is implementation. At this stage, media is used to test the effectiveness of learning media on learning outcomes. At this stage, give questions *pre-test* and *post-test*. Furthermore, a summative evaluation is carried out by collecting data on the implementation phase results by analyzing the pre-test and post-test scores using *t-test sample dependent*. Before testing the hypothesis, a prerequisite test is carried out by conducting a normality test using a correlated t-test. In the homogeneity test, the calculated F value of 1.02 is smaller than the F table of 4.05, so it can be concluded that the data is declared homogeneous. At the same time, the results of the t-test showed that the calculated T value of 19,08 is greater than the T table of 1.68. then it can be concluded that H₀ is rejected and H₁ is accepted. So this project-based digital comic is effectively used in learning activities because it can improve the learning outcomes of fifth-grade elementary school students on social studies content.

Discussion

The product produced in this study is project-based digital comics on types of businesses and economic activities for fifth-grade elementary school students. In creating this media, the design used adapts to the stages of the ADDIE development model. The advantage of using this model is that each step of making a product is structured and systematic. It is said to be systematic because every stage or step of this model has an evaluation so that in making or creating a product, it can minimize errors so that the product created can be more ready for use. In addition to being systematic, the stages of the ADDIE model are also structured. It is said to be structured because the stages are interrelated, so it can help solve problems in the learning process, especially regarding learning resources ([Tegeh & Sudatha, 2019](#); [Widiarti et al., 2021](#)). This digital comic learning media is different from other media because it is based on a learning model, namely a project. In creating this product, of course, it has referred to the results of the needs of teachers and students. That way, the product created can be a solution that can be used to overcome obstacles during the learning process. This digital comic is valid to use or apply in the learning process because the learning material aspects get very good qualifications. Acquisition of very good qualifications can be obtained because this media refers to the curriculum so that learning objectives can be achieved there ([Lai et al., 2019](#); [Weng et al., 2018](#)). The material must be guided by the curriculum so that a lesson is not broad and the teacher can be helped to know the boundaries of the material being taught ([Octariani & Rambe, 2018](#); [Saputra & Manuaba, 2021](#)). This statement has been supported or clarified by previous research, which states that in the process of teaching activities, if the teacher has adjusted the material to the curriculum by looking at basic competencies, indicators, and learning objectives, then this can help students understand material and the teacher will also be assisted in limiting a material ([Octavyanti & Wulandari, 2021](#); [Ran & Jinglu, 2020](#)). In digital comic media, the material created has been structured, starting from teaching the concept first. A material, if first explained about

the concept being taught, can help students easily understand the material without memorizing it (Coles, 2019; Irwanti & Zetriuslita, 2021). In addition, in this digital comic, language is an important matter apart from paying attention to the preparation of material. The use of language in the material in digital comics has been adjusted to the characteristics of elementary school children, especially fifth-grade elementary school. The KBBI dictionary guides it, so the writing and language follow EYD. The use of language is very important to note because if the use of language is not appropriate for the child's age, it will be difficult to understand the meaning of each (Kühl, 2021; Marwanto, 2021).

Apart from the material aspect, this digital comic was declared valid because it received good learning design qualifications. This media is designed by considering the characteristics and needs of teachers and students in the learning process. This media can be used as an innovation for teachers to create more varied learning media. Media that is made by taking into account the characteristics of students, students as media users can be attracted to learning, and student motivation will increase (Kurniawati & Koeswanti, 2021; Moll-Khosrawi et al., 2021). This digital comic has visuals that can make students learn independently because they are equipped with instructions. The concepts contained in the video have been adapted to the life or environment around students. The material presented in this digital comic has presented real examples. Real examples in the material can make it easier for students to remember learning material for a long time (Candra Dewi & Negara, 2021; Kurniawati & Koeswanti, 2021). This digital comic is also designed by adopting or based on the steps of one of the learning models, namely, a *project* with the active involvement of students in learning because learning takes place through a process of creating or completing a product or project by students, which of course has relevance to the subject matter discussed (Anggredi & Negara, 2021; Widiatsih et al., 2020). The use of project learning models besides being able to hone student creativity and increase student activity in the learning process, the use of project learning models on media can hone creativity and increase student learning motivation, can improve critical thinking skills to solve a problem, and foster social attitudes, cooperation, responsibility and collaborative, so that ongoing learning can run meaningfully and can improve student learning outcomes (Putu Erna Yunita Pratiwi et al., 2018; Saputri, 2021). In addition to having material, this media is also equipped with evaluation questions and instructions for answering questions that measure students' knowledge and skills related to the material provided. Students can work on evaluation questions independently. The goal of completing evaluation questions on digital comic media can help students know more about the extent of the knowledge abilities possessed by students (Daryanes & Ririen, 2020a; Lauc et al., 2020).

Apart from being reviewed from the design and material aspects, this digital comic is valid to use in the learning process because the learning media aspects get good qualifications. This project-based digital comic can increase student learning enthusiasm because components such as audio, text, and images have been adapted to student characteristics. The components contained in the media can help students to concretize abstract material. This statement is reinforced by the results of research which state that material that is difficult for students to understand can be clarified by using learning media, one of which is digital comics (Gellerstedt et al., 2018; Kurniawati & Koeswanti, 2021). The components contained in the comic have been adapted to the age of fifth-grade elementary school students. In this way, students are more enthusiastic about learning, and learning can run fun (Mohd Saiboon et al., 2021; Wisada et al., 2019). Based on the results of the effectiveness test involving 24 students, it was found that the results *pre-test* were smaller than the *post-test*. It shows students' learning outcomes after using project-based digital comics have increased. Based on the results of the research that has been done, project-based digital comics are valid and effective in learning activities. This finding is also reinforced by previous research results stating that project-based digital comic media is more effective than audio-only media (Syahmi et al., 2022; Utomo, 2021). The advantage of this product is that students can use it in both online and offline learning. This media can also make students learn independently because it has been equipped with supporting components. In addition, this learning video can also help students in measuring students cognitive and psychomotor because it has been equipped with practice questions. This research implies that using digital comic media can improve student learning outcomes so that learning activities become more effective and innovations for teachers in developing learning media. This digital comic is only limited to material economic activities for fifth-grade students. It is hoped that other researchers can develop learning media using a project basis with different materials.

4. CONCLUSION

In the research on the development of learning media in the form of project-based digital comics, this was successfully created by adopting the stages of the ADDIE model, which produces learning media

in the form of digital comics that are valid to be applied in the learning process and are effective in improving class V student learning outcomes in social studies content.

5. REFERENCES

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