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Developing Flipbook-Based Electronic Instructional Materials to Improve Student Learning Outcomes in Social Studies

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Abstract: This study aims to develop flipbook-based electronic instructional materials for Social Sciences on the subject of Equitable Development and to determine the feasibility and effectiveness in improving student learning outcomes. The study used the Research and Development method with the ADDIE. The research subjects were 31 students of Class VIII B MTs Negeri 7 Malang. The research instruments included validation sheets of material and media experts, as well as learning outcome tests in the form of multiple choice questions with a one group pre-test and post-test design. Data were analyzed using normality tests and Paired Sample t-Test. The results indicate that the analysis phase identified need for interactive teaching materials for both teachers and students; the design steps produced a flipbook-based teaching material design aligned with learning outcomes and objectives; the development show the teaching materials were validated by subject matter and media experts, receiving ratings of "highly suitable". implementation step shows the flipbook was tested in the classroom, and the paired-sample t-test results demonstrate the product was effective improving student learning outcomes; the evaluation shows teachers and students responded very positively to the developed teaching materials. The implication is product can serve as an effective solution for improving student learning outcomes.

Keywords: electronic instructional materials; flipbook; learning outcomes

INTRODUCTION

The digital era and 21st-century globalization have driven the rapid development of information and communication technology, bringing about changes in the world of education. Learning processes that were previously conventional are now shifting toward greater flexibility and technology-based approaches (Siringoringo & Alfaridzi, 2024). These changes have led to the development of a wider range of more innovative teaching materials (Agustina et al., 2026). This makes instructional materials a crucial component of learning, as the success of the learning process is influenced by various factors, one of which is the instructional materials themselves (Adip, 2022).

The main purpose of teaching materials is to support the student learning process, provide a variety of instructional material options, and assist teachers in conducting learning activities (Hamdani, 2011). Furthermore, instructional materials form the core

of the curriculum and serve as a means to achieve learning objectives; thus, their presence is essential to the learning process (Sari et al., 2018). Therefore, teachers should not merely rely on existing teaching materials but also need to develop materials that suit the needs and characteristics of their students.

Before developing instructional materials, teachers need to understand what kind of open educational resources are appropriate and engaging for students. Amidst today's rapid technological advancements, electronic instructional materials have become highly popular among students (Irawan, 2021). Electronic teaching materials are a set of materials organized in a structured and systematic manner to meet the competency requirements that students must master, and are packaged in an interactive multimedia format (Sriwahyuni et al., 2019). The use of electronic learning materials is important in the learning process because it can help students who face difficulties in understanding the material and improve learning outcomes (Lastri, 2023; Mutmainnah et al., 2021).

Learning outcomes are the abilities or changes acquired by students after undergoing a learning experience (Nana Sudjana, 2006). These changes indicate positive progress and development compared to previous conditions (Hamalik, 2007). Learning outcomes indicate the extent to which students have achieved the established learning objectives. The success of learning is heavily influenced by what the teacher conveys to the students (solihul hadi, 2019). Therefore, to support successful instruction, teachers must align their choice of teaching materials with the students' needs. In practice, there are still educators who tend to use readily available teaching materials without adapting them to the students' needs (Adip, 2022). The selection of unsuitable teaching materials can lead to suboptimal student understanding during the learning process, thereby affecting student learning outcomes (Zuriah et al., 2016).

This issue is also evident at MTs Negeri 7 Malang. Preliminary survey results indicate that the school faces limitations regarding the availability of diverse open learning materials and underutilizes technology in the instructional process. Yet, the infrastructure to support technology-based learning is already in place, including LCD projectors in every classroom, a computer laboratory, Wi-Fi internet access, and the use of mobile phones for learning purposes. Unfortunately, these facilities have not been utilized to their full potential.

Based on interviews with teachers and students, the use of Social Studies teaching materials is limited to conventional government-recommended textbooks. Students reported difficulty understanding the content of these books. Social Studies teachers also noted that the available material is incomplete, necessitating additional references to clarify the subject matter prior to instruction. Consequently, student comprehension remains suboptimal, resulting in learning outcomes that fall below the established criteria for achieving learning objectives.

One solution is to develop electronic learning materials accessible via students' digital devices. Millati&Setyasto (2023) show that the use of engaging electronic learning materials plays a crucial role in the learning process, thereby positively impacting student learning outcomes. One form of electronic learning material that is easily accessible on students' devices is the flipbook.

A flipbook is a type of e-book learning medium developed with a digital electronic interface resembling a book and accessible via the internet (Apriliyani, S. W., & Mulyatna, 2021). The content of the flipbook is organized based on learning objectives and outcomes, integrating text, images, videos, quizzes, and educational links accessible via mobile phones or computers. Dianawati & Suputra (2022) demonstrates that flipbook

maker-based electronic teaching materials are proven to be highly valid and effective in improving student learning outcomes. Reinforced by Erniwati et al (2022), it is confirmed that flipbook-based e-modules are proven to be valid, practical, and effective for use in the learning process.

Although extensive research has been conducted on the development of flipbook-based teaching materials, studies focusing on Social Studies, specifically the topic of "Equitable Development" for 8th-grade junior high school students remain limited. Furthermore, Social Studies instruction at MTs Negeri 7 Malang has not yet utilized flipbook-based materials as a learning resource. This situation highlights the need for teaching materials that align with students' characteristics and help them grasp the subject matter in a more engaging and interactive way.

This study develops a flipbook-based electronic teaching material base on to the needs of teachers and students. The content is systematically developed and presented to help students gain a comprehensive understanding of the concept of equitable development. Furthermore, the material includes a discussion on the roles of banking and non-banking, financial institutions in supporting economic equity (a topic not specifically addressed in the teaching materials currently used in schools). The learning materials feature instructional videos, interactive quizzes, and other interactive elements that can be accessed directly on a single page via Flip PDF Corporate, eliminating the need to navigate to different pages to access these components. Based on this background, the study aims to develop a flipbook-based electronic teaching material on the topic of equitable development and to assess its feasibility and effectiveness in improving the cognitive learning outcomes of eighth-grade students at MTs Negeri 7 Malang.

METHOD

This study adopted a research and development (R&D) methodology, specifically aimed at creating a product in the form of flipbook-based electronic learning materials for social studies learning. The development process is guided by the ADDIE model, encompassing five stages: Analysis, Design, Development, Implementation, and Evaluation. This model was selected for its systematic and comprehensible structure, making it extensively utilized in the development of educational products (Pusposari, 2024). Furthermore, the ADDIE model provides a clear framework for the structured progression from needs analysis to product evaluation (Amalina & Azharotunnafi, 2025).

The research was conducted at MTs Negeri 7 Malang, focusing on a cohort of 31 eighth-grade students from Class VIII-B. Data for this study originated from both primary and secondary sources. Primary data were collected through validation results from material experts and media experts, alongside questionnaires assessing the responses of students and teachers, as well as student learning outcomes derived from pre-test and post-test. In contrast, secondary data were sourced from instructional materials, including social studies learning resources, teaching modules, student notes, and academic performance records.

The initial stage of the research involved conducting a needs analysis, during which the researchers delineated the challenges and requirements faced by students in the learning process. Findings derived from observations and preliminary studies indicated that flipbook-based instructional materials had not been previously utilized in social studies learning. Nonetheless, it is evident that students require interactive and readily accesible learning resources to enhance their comprehension of the materials.

Following the needs analysis, the subsequent stage was the design stage. At this

stage, the researchers initiated the development of instructional materials, including the selection and organization of content in alignment with predefined learning objectives. The researchers also formulated instructional modules intended to serve as comprehensive guides for both teachers and learners throghout the instructional process. Additionally, the visual components of the instructional materials were designed employing multimedia elements, such as images, videos, animations, and interactive quizzes, thereby ensuring that the resulting flipbook is both engaging and compatible with the characteristics of the target student demographic.

The development stage encompassed the creation of instructional materials in digital format utilizing Canva and Microsoft Word. These materials were subsequently transformed into a flipbook through the Flip PDF Corporate application. Flip PDF corporate was selected for its ability to integrate various learning components, such as course materials, images, videos, and interactive quizzes into a single digital medium. Additionally, the application offers navigation features that allow learners to access specific pages or content directly, without needing to browse through pages sequentially. The resulting product can be accessed via a web browser without the need for additional software installation, making it practical and flexible to use. These characteristics facilitate the development of e-learning materials that are interactive, practical, and easily accessible to learners.

The preliminary product underwent validation by two experts: one specializing in the material and another in media. Validation was conducted to assess the quality of the teaching materials regarding their identity, content, language, presentation, and graphic design. Each expert provided an assessment using a questionnaire with a 1–4 Likert scale. The assessment criteria for the Likert scale are presented in Table 1 below (Sugiyono, 2019)

Table 1. Product Validation Criteria

Skor	Criteria
4	Verry Good
3	Good
2	Fair
1	Poor

The validation data are explained using the following formula (Arikunto, 2018)

$$\mathbf{P} = \frac{\sum \mathbf{R}}{\mathbf{N}} \mathbf{X} \ \mathbf{100\%}$$

Description:
P : Percentage of target score
∑R : Total responses from validators
N : Maximum possible score

The validation criteria and the success rate of the developed product are shown in Table 2 below.

Table 2. Interpretation of Instructional Material Feasibility Percentage (Riduwan, 2018)

Percentage	Description
0%-25%	Not Feasible
26%-50%	Less Feasible
51%-75%	Feasible
76%-100%	Highly Feasible

Following the approval of the product's feasibility, the evaluation stage was carried out in Class VIII B of MTs Negeri 7 Malang. The objective was to assess both student and teacher responses to the utilization of flipbook-based instructional materials and to evaluate the effectiveness of these materials in enhancing student learning outcomes. Responses were gathered through a four-point Likert scale questionnaire. The data obtained were analyzed using the same methodology as employed in the validation stage, with the interpretations presented in Table 3 as follows:

Table 3. Interpretation of Responses Percentage of Instructional Materials (Arikunto, 2018)

Score	Description
76-100%	Very Good
56-75%	Good
40-55%	Fair
< 40%	Poor

To assess the effectiveness of the instructional materials in enhancing learning outcomes, a One-Group Pre-test -Post test research design was employed. This design included a pre-test administered prior to the instruction, an intervention stage utilizing a flipbook during teaching, and a post-test administered subsequent to the completion of instruction. The structure of this design is presented in Table 4 below.

Table 4. One Group Pretest-Posttest Research Design

Pre-test	Intervention	Post test
O_1	X	O_2

The analysis of the pretest and posttest score involved the implementation of the Shapiro-Wilk normality test to evaluate the distribution of the data. Should the data prove to be normally distributed, further analyses would be conducted using the Paired Sample t-Test and the N-Gain Score test. A Paired Sample t-Test would then be performed to determine whether there were significant differences in students' learning outcomes before and after the intervention art. The test result is considered significant if the Sig. (2-tailed) value is less than 0.05. The N-Gain Score test is used to determine the improvement in student learning outcomes after using flipbook-based electronic teaching materials. The N-Gain Score is calculated using Hake (1998) formula, as follows:

$$Normal\ Gain = \frac{Skor\ Post\ Test - skor\ Pre\ Test}{Skor\ Ideal - Skor\ Pre\ Test}$$

The criteria for the N-Gain Score are presented in Table 5 below:

Tabel 1 N-Gain Score Criteria

N-Gain Score	Category
$g > 0,7$	High
$0,3 \leq g \leq 0,7$	Medium
$g < 0,3$	Low

The concluding stage of the ADDIE model is evaluation. The evaluation was grounded in the results obtained from the product trial, alongside feedback provided by both teachers and students involved in the implementation process. Based on the input and suggestions received, final revisions was made to the instructional materials to ensure that the developed product is adequately feasible for use and contributes positively to the educational process and outcomes.

RESULTS AND DISCUSSION

Results

Development of Flipbook-Based Electronic Instructional Materials

This study aims to create flipbook-based electronic instructional materials specifically designed for the eighth-grade Social Studies (IPS) curriculum, with an emphasis on the topic of equitable development. Conducted at MTsN 7 in Malang City, this research evaluated both the feasibility of the proposed instructional materials and their effectiveness in enhancing student learning outcomes. The ADDIE model served as the framework for this development process and encompasses five stages: analysis, design, development, implementation, and evaluation.

Analysis Stage

During the analysis stage, a needs assessment was conducted through interviews with teachers and students from Grade VIII B at MTsN 7 Malang. The findings revealed that the learning process remained heavily dependent on traditional textbooks, perceived as incomplete and impractical. Teachers often sought additional resources to supplement the material, while students encountered difficulties in comprehending the material, indicating that the textbooks were not feasible to meet their educational needs. This situation contributed to inadequate levels of student understanding and suboptimal learning outcomes.

In addition, while the technological facilities at the school are considered adequate, their integration within the educational process has yet to reach optimal levels. Students have conveyed their interest in utilizing instructional materials that are more engaging, interactive, and enriched with visual and multimedia components. Informed by these insights, a solution was crafted in the form of electronic instructional materials based on flipbook technology, accessible on digital devices. The developed materials centres on the theme of “Equitable Development,” addressing the needs of the students and aligning with the existing curriculum.

Design Stage

The design stage was implemented following the findings from the needs analysis. This phase commenced with the establishment of specific learning outcomes and objectives pertinent to the “Equitable Development” material. These objectives provided a framework for the creation of the instructional material. The instructional elements were

systematically structured to include an introduction, usage guidelines, defined objectives, core content, activity sheets, assessment questions, a glossary, and a bibliography. Additionally, teaching modules were developed to facilitate learning. The outcomes of this design stage form the basis for the development of an interactive flipbook, serving as an electronic instructional materials enhancing learning and fostering student outcomes.

Development Stage

The development of instructional materials was meticulously aligned with the specific learning objectives and pertinent material pertaining to the core competencies of eighth-grade Social Studies. The resulting instructional materials, titled "Equitable Development," was created through an extensive review of the primary textbook, pertinent educational materials, and relevant scholarly journals. Furthermore, the compilation process integrated insights and feedback from material experts to guarantee alignment with the established learning outcomes. The materials are systematically organized to include text, illustrations, tables, videos, and interactive quizzes, all designed to cultivate students' engagement and enhance comprehension. The language utilized throughout the materials is deliberately clear and accessible, catering to the needs of junior high school (*SMP/MTs*) students.

The development process encompassed three primary stages and employed Canva, Microsoft Word, dan Flip PDF Corporate as key design tools. Canva was used to create visual elements, including cover designs and other graphic components formatted in A4 size. Microsoft Word served to comprehensively draft the material and layout of the instructional materials, addressing aspects such as image placement and question formulation. Upon completion, the document was converted into PDF format. Subsequently, it was imported into the Flip PDF Corporate application, allowing for the transformation into an interactive, flipbook-style electronic teaching resource. This application facilitates the incorporation of features such as instructional videos, quizzes, and a digital table of contents, thereby enhancing user navigation. The finalized instructional materials were then preserved and disseminated through a digital link, enabling students to access them on electronic devices.

Expert Validation

Prior to the pilot testing of the flipbook in the educational setting, a thorough validation process was conducted by material experts and media experts, to ensure the appropriateness of the material and the overall quality of the learning media. Subject matter experts are selected based on their academic backgrounds and expertise in economics relevant to the content of the developed instructional materials, whereas media experts are selected based on their expertise in media and instructional design. The primary goal of this undertaking was to solicit feedback that would facilitate the refinement of the learning materials before the implementation.

The assessment of the teaching materials' suitability was conducted using validation instruments developed based on established assessment criteria. The subject matter expert validation instrument covered aspects of material identity, content suitability, and language. The media expert validation instrument covered aspects of presentation and graphic design. Each indicator within the instruments was rated using a four-point likert scale as shown in table 1 and interpreted based on the suitability

categories presented in table 2. Subsequently, the validation results from the subject matter and media experts are presented in Tables 6 and 7 below.

Table 6. Results of Material Expert Validation Assessment

No	Indicator	∑R	N	%	Feasibility Criteria
1	Instructional Material Identity	12	12	100%	Highly Feasible
2	Material Feasibility	46	48	96%	Highly Feasible
3	Language Clarity	8	8	100%	Highly Feasible
Total		66	68	97%	Highly Feasible

The validation results reveal that the instructional materials attained a feasibility percentage of 97%, classifying them as highly feasible. Recommendations for enhancement included the incorporation of examples pertaining to non-bank financial institutions and the improvement of the coherence between subsections. Recommendations for enhancement included the incorporation of examples relating to non-bank financial institutions and the improvement of the coherence between subsections. A clear explanation of how banking and non-bank financial institutions support economic equality was provided. These improvements made the materials more contextual, structured, and understandable to students, thereby improving the quality of the teaching materials. Thus, after the necessary revisions, the teaching materials were declared suitable for use in learning.

Concurrently, the media expert validation focused on evaluating the presentation and graphic design elements. The findings from this validation process are illustrated in Table 7 below.

Table 7. Results of the Media Expert Validation Assessment

No	Indicator	∑R	N	%	Feasibility Criteria
1	Presentation	30	32	93%	Highly Feasible
2	Graphics	23	24	96%	Highly Feasible
Total		53	56	95%	Highly Feasible

The results of the validation process indicated that the instructional materials attained a commendable feasibility rating of 95%, signifying their high appropriateness for educational use. Revisions were implemented in response to the feedback received, including the adjustment of the font to either Calibri or Arial, the enhancement of the cover design, and the alteration of the page layout utilizing Microsoft Word. Following these modifications, the instructional materials were reaffirmed as highly feasible for incorporation into the learning process. The validation outcomes illustrate that these materials are not only feasible in terms of material but also in the media presentation. All expert feedback was systematically integrated into the revision process prior to the pilot testing, aiming to evaluate their impact on student learning outcomes. The implementation stage took place on April 11, 2025, in Class VIII B at MTsN 7 Kota Malang. Implementation was carried out in two meetings, each with a time allocation of 2 x 40 minutes. Prior to the lesson, subject teachers were given directions on the use of flipbooks to support the use of teaching materials in learning activities.

Implementation Stage

The implementation stage took began following the validation and revision of the instructional materials, based on the expert feedback. This activity took place on April 11, 2025, in Class VIII B at MTsN 7 Kota Malang, invloving 31 students, to evaluate the effectiveness of the flipbook in the context of social studies instruction. Prior to the lesson, the researchers meticulously prepared the necessary tools and instruments, including students' smartphones, electronic flipbooks, PowerPoint presentations, activity sheets, pre-tests, post-tests, and response questionnaires. The session began with greetings, followed by a short prayer and attendance recording, after which a pre-test was administered to gauge the students' initial proficiency. Subsequently, students accessed the flipbook through a shared link, followed by the presentation of instructional material and the viewing of an educational video. Students worked in groups to complete the activity sheets and engaged in an interactive quiz within the flipbook to reinforce their learning. The lesson concluded with the administration of a post-test and the completion of a response questionnaire regarding the instructional materials, followed by a closing prayer and farewell.

Evaluation Stage

In the evaluation stage, the analysis is grounded in the assessment of teacher and student responses to the implementation of flipbook throughout the learning process. The feedback from students regarding the use of these instructional materials has been summarized in Table 8.

Table 8. Results of Students Responses to the Flipbook

No	Indicator	∑R	N	%	Feasibility Criteria
1	Material Feasibility	328	372	88%	Highly Feasible
2	Language Clarity	230	248	93%	Highly Feasible
3	Presentation	336	372	90%	Highly Feasible
4	Graphics	231	248	93%	Highly Feasible
	Total	1125	1240	91%	Highly Feasible

Table 8 presents the responses of 31 students to the flipbook. The findings indicated that the materials received a commendable 91% rating within the "Very Good" category. Students reported that the materials were engaging, user-friendly, and contributed significantly to their understanding. Moreover, the accessibility of the materials at all times and the inclusion of interactive and multimedia features enhanced their overall learning experience.

In conjunction with the students' feedback, the social studies teacher also provided favorable evaluations, as depicted in Table 9 below.

Table 9. Teachers' Response to the Flipbook

No	Indicator	∑R	N	%	Feasibility Criteria
1	Instructional Material Identity	7	8	88%	Highly Feasible
2	Material Feasibility	46	48	96%	Highly Feasible
3	Language Clarity	7	8	88%	Highly Feasible
4	Presentation	20	20	100%	Highly Feasible
5	Graphics	11	12	92%	Highly Feasible
Total		91	96	95%	Highly Feasible

Table 11 illustrates the results of teacher evaluations concerning the Flipbook. According to the data, teachers rated the materials at 95% in the "Very Good" category, deeming the materials appropriate for use based on the material, presentation, language, and graphics. Furthermore, teachers highlighted that the teaching materials effectively support the attainment of learning objectives, are interactive, and recommended continued development for additional topics. The assessment was conducted by only one Social Studies teacher; consequently, the results are limited in scope and cannot yet be widely generalized. Therefore, these findings serve as an indication of the suitability of the developed teaching materials.

Results of the Pilot Test of Flipbook-Based Electronic Learning Materials in Enhancing Students Learning Outcomes

Normality Test Results

Prior to hypothesis testing, a prerequisite analysis was conducted, specifically a normality test, to ascertain whether the pretest and posttest data adhered to a normal distribution. This analysis was executed employing the Shapiro-Wilk test, utilizing IBM SPSS 25 for statistical computation. The criterion for decision-making within the normality test stipulates that if the significance value (Sig.) is > 0.05, the dataset can be deemed normally distributed (Nuryadi et al., 2017). The results of the normality test are delineated in Table 10.

Table 10. Results of the Normality Test

	Shapiro-Wilk		
	Statistic	*df*	*Sig*
Pre-test	0.969	31	0.484
Post-test	0.957	31	0.242

The results obtained from the normality test, as analyzed by IBM SPSS 25, resulted a significance value (Sig.) of 0.484 for the pretest and 0.242 for the posttest, with a sample size of 31 participants. The significance value is greater than 0.05, it's mean that the pretest and posttest data are considered to be normally distributed. This result indicates that further analysis can be conducted using a parametric test-specifically, the Paired Sample t-Test.

Paired Sample t-Test Results

The test result of paired sample statistics, paired sample correlation and paired sample test are in the table 11, 12 and 13 below.

Table 11. The Paired Samples Statistics

		Mean	***N***	***Std. Deviation***	***Std. Error Mean***
Pair 1	*Pre-test*	62.9032	31	11.88656	2.13489
	Post test	79.6774	31	9.21371	1.65483

The analysis results indicated that the average pretest score among students was 62.90, while the average posttest score exhibited a marked increase to 79.68. This

improvement of 16.77 points signifies a positive impact of utilizing the flipbook instructional materials on student learning outcomes.

Table 12. The Paired Samples Correlations

		N	*Correlation*	*Sig.*
Pair 1	*Pre-test-Post test*	31	.580	.001

Based on the Paired Samples Correlations results in Table 12, a correlation coefficient of 0.580 was obtained, with a significance value (Sig.) of 0.001. Since the significance value is less than 0.05 (0.001 < 0.05), it can be concluded that there is a positive, moderately strong, and statistically significant relationship between the students' pretest and posttest scores.

Table 13. The Result of the Paired Samples Test

		Mean	*t*	*Df*	*Sig. (2-tailed)*
Pair 1	*Pretest-Posttest*	-16.77419	-9.375	30	.000

The Paired Sample t-test results show a significance value (2-tailed) of 0.000, which is less than 0.05; therefore, the null hypothesis (Ho) is rejected. These results indicate a significant difference between the pretest and posttest scores of students in class VIII-B at MTsN 7 Malang before and after using flipbook-based electronic teaching materials. It can be concluded that the use of flipbook-based electronic teaching materials is effective and has a significant impact on improving student learning outcomes.

N-Gain Score Results

Following the effectiveness assessment using the paired-sample t-test, an N-Gain analysis was conducted to determine the improvement in student learning outcomes after using the flipbook-based electronic teaching materials. This analysis involved comparing the pretest and posttest scores obtained by the students. The distribution of N-Gain categories and the N-Gain test results are presented in Table 14 below.

Table 14. N-Gain Category Distribution of Learning Outcomes

Gain Category	Quantity
Low	8
Medium	19
High	4

Based on the N-Gain analysis results presented in Table 14, the improvement in students' learning outcomes falls into three categories. Eight students are in the low category, 19 students are in the medium category, and four students are in the high category. These figures indicate that the majority of students experienced an improvement in learning outcomes within the medium category after using the flipbook-based electronic teaching materials. Furthermore, the N-Gain calculation results are presented in Table 15 below.

Table 15. N-Gain Score Results of Student Learning Outcomes

Pre-test	Post test	N	N-Gain	N-gain Category
62,90	79,68	19	0,43	Medium

Based on Table 15, the average pretest score was 62.90, and the average posttest score was 79.68. The N-Gain test calculation yielded a value of 0.43.These results indicate that the use of flipbook-based electronic teaching materials effectively improved student learning outcomes regarding the topic of "Equitable Development" at a medium level.

Discussion

Feasibility of the Flipbook-Based Electronic Instructional Materials

The impetus for developing flipbook-based electronic teaching materials focused on “Development Equity” stems from the identified needs of students and teachers for engaging and comprehensible learning media. The selection of digital technology is posited as a viable solution to enhance the efficiency and effectiveness of social studies instruction. In alignment with the Cognitive Multimedia theory proposed by Mayer (2009), it is suggested that learning is optimized when information is conveyed through visual and auditory channels. Flipbooks effectively integrate text, images, videos, and interactive quizzes into a singular digital medium, thereby fostering students’ understanding.

The product development employed the ADDIE model consisting of five distinct stages. The Analysis stage was to identify educational needs, while the Design stage emphasized the creation of instructional materials. Following this, the Development stage encompassed the actual production and validation of the product. Subsequently, the Implementation stage entailed the implementation of the instructional materials within the classroom environment. Finally, the Evaluation stage involved collecting feedback from students and teachers. The results of expert validations indicated that the instructional materials are categorized as “Highly Feasible”, in material and media. Material validation focused on the identity of the materials, their appropriateness, and the clarity of the language used. In parallel, media validation evaluated the visual presentation and graphical elements. Wulandari and Oktaviani (2021) asserted that the effectiveness of instructional materials is assessed across these five key dimensions. Furthermore, Wahyuni et al., (2024) explained that instructional materials are deemed suitable have they been subjected to expert validation.

Empirical testing demonstrated that students exhibited enthusiasm towards the materials, inlcuding videos and quizzes provided in the flipbook format. This observation aligns with the perspective of Ilarmin (2024), who argue that visual media significantly enhances student comprehension. Additionally, Ulandari (2022) highlight that flipbooks are particularly advantageous for self-directed learning due to their accessibility, systematic presentation, and alignment with educational objectives. This situation demonstrates that flipbook-based electronic teaching materials have the potential to serve as an educational innovation and an alternative learning resource that supports students' understanding of Social Studies, both inside and outside the classroom.

The Effectiveness of Flipbook-Based Electronic Instructional Materials in Enhancing Student Learning Outcomes

Research results indicate that the use of flipbook-based electronic teaching materials is effective in improving student learning outcomes regarding the topic of equitable development. This effectiveness is demonstrated by the difference in learning outcomes observed before and after the use of the materials. A paired-sample t-test confirmed that this difference was statistically significant. Furthermore, N-Gain test results showed that the improvement in learning outcomes fell within the medium category. The majority of students experienced improvements in the medium category, while a smaller number fell into the low and high categories. These findings suggest that flipbook-based electronic teaching materials can help students effectively grasp the subject matter through a presentation that is engaging, interactive, and easily accessible. This assertion is supported by Edray (2024), stating that utilizing flipbooks within Pancasila Education materials can lead to advancements in students' cognitive learning outcomes.

In particular, the effectiveness of flipbook-based electronic instructional materials related to equitable development is evident in the learning pilot processes and the results of cognitive assessments. During the instructional stage, students engaged with videos, participated in discussions, and completed quizzes integrated within the flipbook format. The incorporation of visual, auditory, and interactive quiz components fosters an engaging learning environment that facilitates student comprehension. Research findings from Suci Indah Rahayu, Kartono, (2025) and Yulaika et al, (2020) further indicate that flipbooks can significantly enhance student engagement and overall learning outcomes. This reinforces the conclusions of the current study, suggesting that flipbooks serve as effective tools for addressing complex subjects that necessitate the use of visual aids to bolster student understanding.

These results substantiate the theory of learning outcomes as posited by Nana Sudjana (2006), asserting that an elevation in scores constitutes an indicator of new understanding acquired through instructional methods. The results of this study also reinforce multimedia cognitive by Mayer (2009) which states that learning is effective when information is conveyed through visual and auditory channels simultaneously. The use of videos, images, and interactive quizzes in the flipbook allows students to receive information through various forms of representation, thereby supporting improved learning outcomes.

The effectiveness of the flipbook is further enhanced by its multimedia features, this aligns with research by Saputra et al. (2024) which demonstrates that flipbooks incorporating multimedia and interactive elements facilitate understanding and improve student learning outcomes. Consequently, this flipbook-based teaching material can serve as an alternative Social Studies learning resource that supports instruction both inside and outside the classroom, while assisting teachers in presenting material more effectively and in a manner tailored to students' needs.

CONCLUSION

This study aimed to create flipbook-based electronic instructional materials intended to enhance student learning outcomes on the subject of equitable development within the social studies curriculum. The findings suggest that the instructional materials developed are feasible for classroom use, as affirmed by validation assessments conducted by martial experts and media experts. These evaluations encompassed critical

aspects such as identity, material feasibility, linguistic clarity, presentation effectiveness, and graphic design integrity. The content of the instructional materials aligns with established learning objectives and is organized in a systematic and engaging manner, supplemented by interactive features including videos, quizzes, and graphics that foster student engagement. The application of these materials facilitates students' comprehesion of complex topics, particularly those primarily presented through text warranting visual augmentation. Furthermore, the positive feedback obtained from teachers and students during the pilot testing stage indicate that the flipbook not only provides an enjoyable learning experience but also contributes to enhancing cognitive learning outcomes. Consequently, flipbook-based electronic instructional materials may serve as an innovative approach to support the social studies learning process and demonstarte potential for broader implementation aimed at elevating educational quality at the junior high school (SMP/MTs) level. However, this study has a limitation in that it employed a One-Group Pretest-Posttest design without a control group; consequently, the results reflect changes only within the treatment group, without comparison to another group. Furthermore, the study was limited to measuring students' cognitive learning outcomes within a single class. Future research is recommended to involve a larger sample size, utilize an experimental design that includes a control group, and implement the flipbook-based electronic teaching materials in different classes and schools to verify the consistency of the findings.

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